Leading through Change

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Update from Headquarters

By Mark McDougall,
HL7 Executive Director

January Meetings

An impressive number of 546 attendees participated in our January Working Group Meeting held in Orlando, Florida from January 9-15, 2016. Over 50 HL7 work groups met in Orlando, of which 29 conducted co-chair elections. Meeting attendees also took advantage of 24 tutorials that week.

HL7 also produced its 3rd HL7 Payer Summit in Orlando on January 14-15. HL7 payer summits provide an intensive two-day snapshot of current work in standards development and how those efforts intersect with the needs of payer organizations. Seventy-two attendees participated in this event, which was also sponsored by the six organizations listed below. The payer summit presentations covered a range of topics such as:

- Care planning in the age of patient engagement
- Consolidated CDA templates release 2.1 – raising the bar on interoperability
- Real world impact of HL7 FHIR
- Argonauts and SMART on FHIR
- The innovation landscape of payer IT – enterprise applications platforms, data liquidity and analytics
- Consumer-centric meaningful data in the brave new world of population health: how data, analytics, mobile/wearable devices might engage an informed member
- Payers experience the burn at the HL7 FHIR connectathon

> **Available Online:**
> The January Payer Summit Executive Summary
> http://bit.ly/1SKhc8S

Meeting Sponsors

I am pleased to recognize the following organizations that sponsored key components of our recent January Working Group Meeting in Orlando:

- AEGIS
- Akana
- Gevity
- Hi3 Solutions
- iNTERFACEWARE
- Qvera Interface Engine
- PenRad Applicadia

We are also pleased to recognize our Payer Summit sponsors:

- Akana
- Edifecs
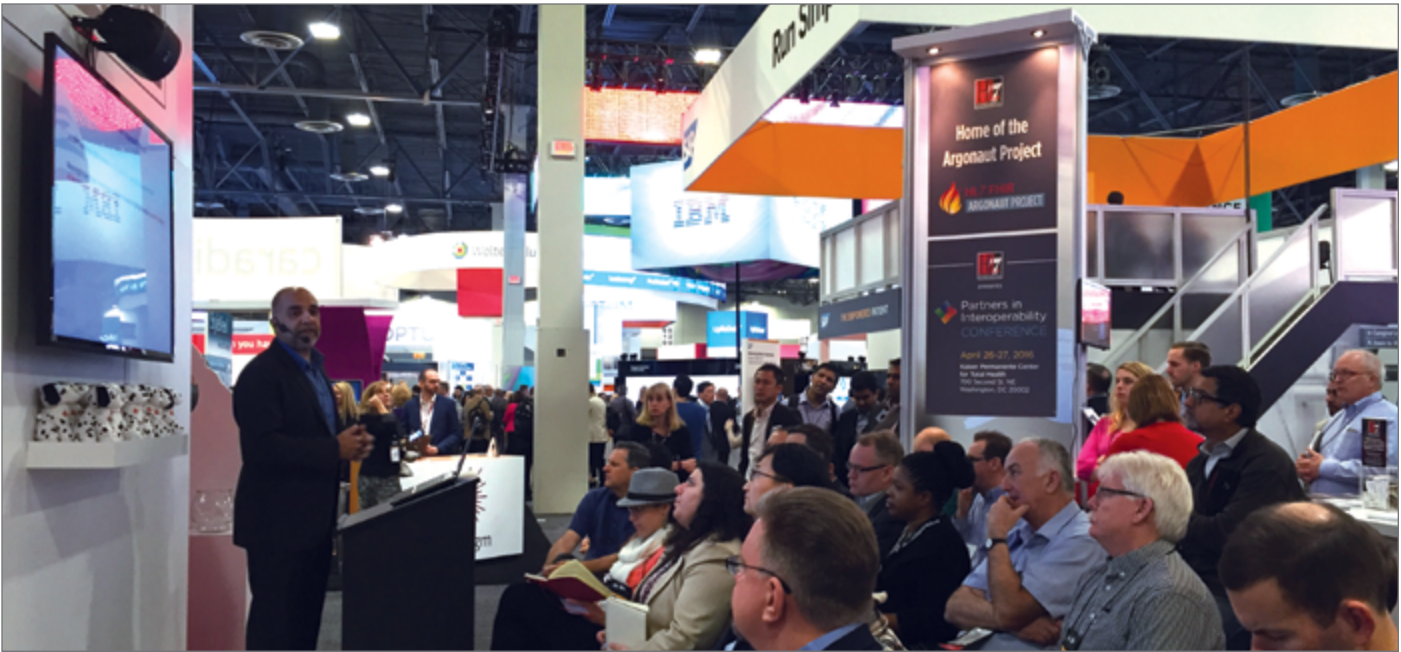- NaviNet
- Orion Health
- Sequoia Project
- Zeomega

We were pleased to recognize these representatives from the January meeting sponsors. The additional sponsorship support provided by these organizations contributes heavily to HL7's meeting budget and is much appreciated.

Micky Tripathi discusses the latest developments in the Argonaut Project to the HL7 HIMSS16 exhibit audience.

HIMSS16

For over 25 years, HL7 has exhibited each year at the annual conference of the Healthcare Information and Management Systems Society (HIMSS). This year's HIMSS convention convened in Las Vegas, Nevada during the week of February 29, 2016 and reportedly attracted over 40,000 people.

HL7's Director of Communications, Andrea Ribick, oversaw the production of 33 thirty-minute presentations on HL7 standards and relevant topics. The majority of the presentations attracted standing room only crowds. HL7 also hosted a HIMSS education session on the Argonaut Project as well as a session on FHIR in the Interoperability Showcase.

I wish to express sincere thanks to all those who volunteered to staff our booth and/or make presentations in our booth, including:

Gil Alterovitz, MD	Joginder Madra
Hans Buitendijk	Ken McCaslin
Jean Duteau	David Susanto
Floyd Eisenberg, MD	AbdulMalik Shakir
Brad Genereaux	Dave Shaver
Grahame Grieve	Howard Strasberg, MD
Stan Huff, MD	Sandy Stuart
Chuck Jaffe, MD PhD	Walter Suarez, MD
Robert Jenders, MD	Micky Tripathi
Ewout Kramer	Michael van Campen
Wayne Kubick	Patricia Van Dyke, RN
Russ Leftwich, MD	Grant Wood
Josh Mandel, MD	

HL7 CEO Charles Jaffe, MD, PhD presents to a full house at the HL7 HIMSS booth

Available Online:

PDF version of all the HIMSS presentations are available online at
http://www.hl7.org/events/himss/presentations.cfm

HL7 2016 Board of Directors

The New Year brought a change at the helm of the HL7 board of directors. We welcomed Patricia Van Dyke, RN, to the start of her two year term as Board Chair. We also recognized the many contributions of outgoing Board Chair, Stan Huff, MD. It has been a pleasure working with Stan during his second two-year term as chair and we thank him for his leadership and calmness that he brought to any situation we faced. Stan will continue serving on the board in 2016 as the Vice Chair.

At our January Working Group Meeting we recognized four outgoing board members who served multiple terms: Calvin Beebe, Mayo Clinic; James Ferguson, Kaiser Permanente, Diego Kaminker, HL7 Argentina; and Austin Kreisler, Leidos. All four have contributed heavily toward many important and valuable roles for the HL7 organization for more than a decade. I would also like to add sincere thanks to Calvin for his many years of valuable service as the HL7 treasurer and leadership on the HL7 Finance Committee with whom I work closely.

As previously announced, we are pleased to welcome three new directors on the HL7 Board of Directors: Keith Boone, GE Healthcare; Beat Heggli, HL7 Switzerland; and Mary Ann Slack, Food and Drug Administration. Also, Russell Leftwich, MD, InterSystems, was elected to serve as the board treasurer. Floyd Eisenberg MD, iParsimony; Liz Johnson, Tenet Healthcare; and Ken McCaslin, Accenture were re-elected or re-appointed to another term on the HL7 board. We look forward to working with the entire membership of the 2016 HL7 Board of Directors that is listed on page 34. On behalf of the entire HL7 organization, I thank each member of the HL7 board for their ongoing leadership and contributions to HL7.

Outgoing Board Chair Stan Huff passing the gavel to incoming Board Chair Pat VanDyke.

Outgoing Board Members

Calvin Beebe

James Ferguson

Diego Kaminker

Austin Kreisler

HL7 CTO Changes

John Quinn's 30 years of service

During the January WGM, we also recognized John Quinn's incredible contributions to HL7 over the last 30 years. John was one of the founding members of HL7 and served the organization in many capacities on the Board of Directors for almost three decades. He was the second Chairman of the Board of Directors in 1989. John also served as the Chair of the Technical Steering Committee for two decades. Since 2007, he served as HL7's Chief Technology Officer, a position from which he retired at the end of 2015. John is one of the most intelligent individuals in our industry. As a small token of appreciation, we presented him with a leather bound book containing hand written notes from many in the HL7 community. We will miss his leadership, wisdom and his piano playing at all hours of the day.

HL7 CTO Emeritus John Quinn with wife Coyne at the January Working Group Meeting.

Wayne Kubick hired as HL7's CTO

Wayne R. Kubick HL7 Chief Technology Officer

Wayne R. Kubick was hired as HL7's new Chief Technology Officer (CTO) effective February 28, 2016.

In this position, Kubick is responsible for advancing HL7's mission and strategic plan. He will help to lead HL7 work groups to develop and maintain HL7's product lines. Wayne also serves as a technical advisor, liaison and spokesperson for the organization. The CTO also oversees the HL7 Terminology Authority, is the vice chair of the Technical Steering Committee (TSC) and an active member of the Architectural Review Board (ARB).

Wayne has more than 25 years of leadership experience in life sciences research and development. Most recently he served as CTO for the Clinical Data Interchange Standards Consortium (CDISC). Wayne has also held senior-level positions at Oracle Health Sciences, Phase Forward Lincoln Safety Group, PAREXEL International Corporation and BBN Software Products.

Kubick is an experienced public speaker, journal author, columnist and blogger who frequently presents at conferences on clinical development, technology, standards, regulatory and drug safety. He holds a B.A. from the University of Illinois and a M.B.A. from Boston University.

HL7 Staff Changes

HL7 FHIR Product Director

Grahame Grieve has joined the HL7 staff as the FHIR Product Director. Given the demands for Grahame's time and expertise, the HL7 Board approved hiring him effective January 1, 2016.

Benefactors and Gold Members

I would like to recognize the impressive list of HL7 benefactors and gold members who are listed on page 19. Their support of HL7 is very much needed and sincerely appreciated. We are pleased to provide additional recognition of our benefactors in all of our HL7 newsletters, on the HL7 website, in all of our HL7 press releases, and at all of our HL7 working group meetings. A special thank you is extended to our 2016 HL7 benefactors and gold members.

Organizational Member Firms

As listed on pages 20-23, HL7 is very proud to recognize our organizational member companies for their ongoing support of HL7 via their organizational membership dues.

In Closing

Having just enjoyed my favorite sporting event (the annual basketball tournament in the US that involves teams from 68 universities over four weeks participating in "the dance" or "March Madness"), may you and your loved ones be blessed with a winning season and plenty of fun dancing.

Mark C. McDougall

Explaining The "Why" Of Healthcare Information Standards

The Case for Formal Standardization in Large-Scale eHealth Deployment

Standards development organizations often assume the reasons for adoption of standards are well understood. However, the fragmented adoption of incompatible standards is also quoted as a key obstacle to large-scale eHealth deployment.

Within the eStandards project, we have developed the case for formal standardization to support large-scale deployment of eHealth from four distinct perspectives that entail a balance of roles with different interests, costs, and benefits.

Each perspective reveals a compelling case for formal standardization that can be empowered by collaboration and coordination among standards development and profiling organizations and their constituencies at all levels. It is the resulting trusted dialogues that will lead to co-creation in interoperability and nurture large-scale eHealth deployment. The four perspectives are:

1. Citizens as consumers of health services

2. The workforce in the delivery and administration of health services

3. The eHealth market, where eHealth solutions and services are traded

4. The health system where care is delivered and cost, quality, and access decisions are made

By Robert Stegwee, PhD, FHL7, Chair CEN/TC251, Brussels, Belgium; Past Chair, HL7 Netherlands

Catherine Chronaki, Secretary General, HL7 Foundation, Brussels, Belgium
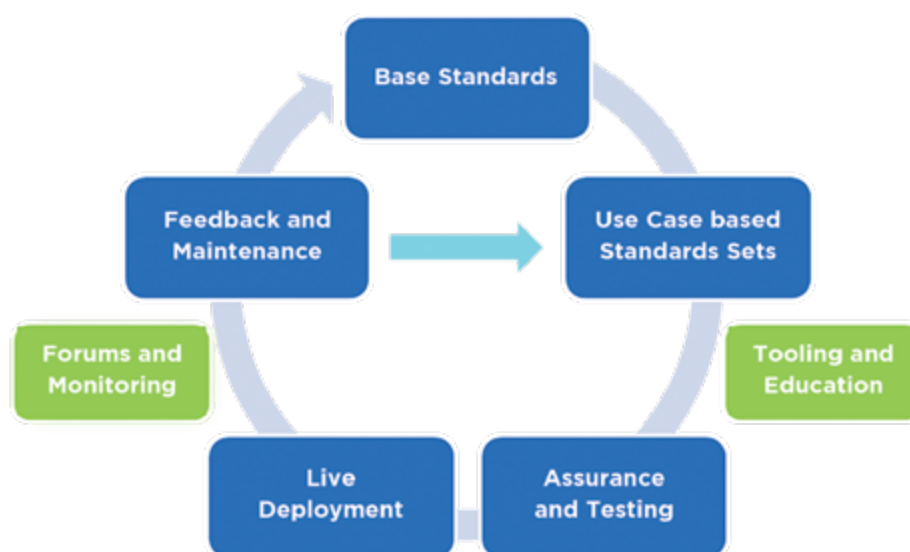
Citizens as consumers of health services

Citizens navigate the health system (or systems) looking for prevention, care, and wellness. They wish to be actively involved and engaged in health maintenance and decisions on their care and for that they need standards that make sense and they can trust.

The workforce in the delivery and administration of health services

The health workforce needs to communicate and coordinate care by sharing relevant and trusted information within and across health systems making the most of new technologies. Sharing relevant and trusted information can create knowledge that is the key for better decisions at the point of care.

The eHealth market, where eHealth solutions and services are traded

In an increasingly data driven market, standards create opportunities for new health and IT services, while expanding the choices for providers and consumers. Well established standards make procurement easier and predictable.

Standards development lifecycle, adapted from "Tools for interoperability - Time for eStandards" Workshop at MedInfo 2015

The health system where care is delivered and cost, quality, and access decisions are made

Finally, with standards, health systems can rely on evidence-based rules and guidance for sustainability and innovation. Standards can facilitate public health reporting, surveillance, and analysis as well as communication and coordination across health systems.

However, to reap these benefits, actions need to be taken to promote cooperation and coordination across standards developing organizations, while promoting the development of standards sets and tools that work together throughout the life cycle for development, deployment, testing, certification, monitoring adoption, and eventual revision.

The eStandards Project (www.estandards-project. eu) aims to create a roadmap for the cooperative creation of essential standards and stardards sets for the delivery of use cases in the context of the revised European eHealth Interoperability framework, exploring strategic options and policy implications. It will take into account the work of the Joint Initiative Council on standards sets and evidence collected for 17 case studies throughout Europe. The first debate of the roadmap was scheduled for April 21, 2016 in Berlin, in the frame of the CONHIT conference and trade show. The roadmap will be presented in Amsterdam in June 8-10, 2016 as part of the premier eHealth event of the Dutch presidency of the European Union. ■

Available Online:

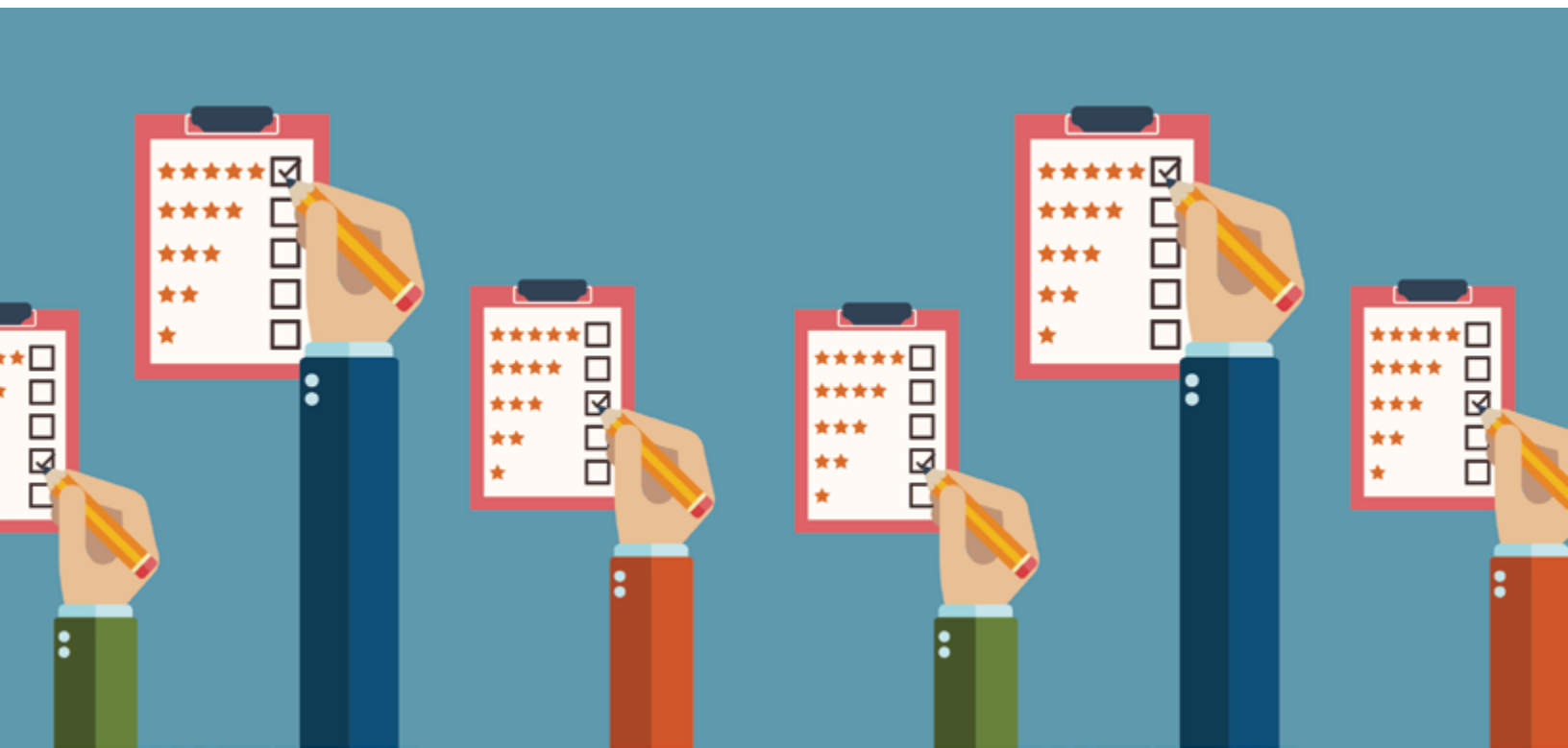Case for standardization full report:
http://tinyurl.com/estandards

First eStandards Conference: Next steps for standardization in health information sharing

http://www.estandards-project.eu/index.cfm/news/save-the-date-1st-estandards-conference/

Standards Development Organization Collaboration
to Enhance Standards Alignment, Testing and Measurement

ONC Testing Grant Awarded to HL7

While many of our members are aware of the ONC grant to improve C-CDA implementation, the ONC also awarded HL7 with a modest grant to develop a plan to ensure that conformance testing is available across its portfolio of implementation guides (IGs).

Note that the grant deliverable is a plan and does not include implementation of the plan. While the grant is modest, if implemented, it has the potential to drastically improve and make implementation easier as conformance tooling could be developed concurrently with our standards.

Before applying for the grant, we spent some time talking with our CEO Dr. Chuck Jaffe, our then CTO John Quinn, TSC chair Ken McCaslin, and Calvin Beebe about an approach to providing conformance testing across our portfolio of IGs. Generally,

the group felt that HL7 should not be in the business of developing tooling to test conformance to its own work. Instead, the group agreed that HL7 should provide conformance statements within its IGs and then certify those organizations wishing to use those statements to provide conformance testing.

Early on, Dave and I had conference calls with HL7's Conformance & Guidance for Implementation/ Testing (CGIT) Work Group, as conformance to the standards is under their purview. We briefly discussed the grant, its deliverables and our proposed approach with CGIT. In turn, they were very helpful in assisting us with clarifying some points with ONC and in identifying information we might wish to collect relative to the available tooling.

By Karen Van Hentenryck,
HL7 Associate Executive
Director

Dave Hamill, Director
of the HL7 Project
Management Office

Based on the information provided by CGIT, Dave and I clarified the scope of the project with ONC, which includes all HL7 International IGs, not just the US Realm IGs.

HL7 Headquarters undertook the first deliverable, which was to create the catalog of in-scope IGs and their publication date. To get an initial sense of which implementation guides are most widely used, Dave and I consulted an HQ-generated report that indicates the number of times each document has been downloaded from the website. While not "scientific" in its approach, the report, which provided data for the previous 12 months, did provide a means for prioritizing the catalog entries. In total, there are over 50 IGs in the catalog.

> **"(the plan) has the potential to drastically improve and make implementation easier as conformance tooling could be developed concurrently with our standards."**

Once the catalog was finalized, we released an RFP. We hired Gevity to undertake a project to identify the conformance tooling currently available for each IG in the catalog, to prioritize the need for tooling, and to provide a means of rating the available tools. Gevity's work should be completed at the end of March and will include recommendations for the prioritizing tooling work going forward.

Early in February, we met with the TSC to discuss the grant. In particular, we are seeking their input on the approach, specifically:

- **The need for a new policy that requires conformance statements in all HL7 IGs.** These conformance statements would be available for industry tool smiths interested in developing HL7 conformance testing tools. At the moment, HL7 does not have such a policy nor do we have a definitive document that provides guidance to the work groups on how to build a conformance statement.

- **If we produce a conformance statement guidance document, which HL7 work group would be responsible for its creation and ballot?** Or, should the creation of this document be outsourced?

- **Once we have a policy in place and the needed document written, we need to incorporate the conformance statements in our work.** Requiring conformance statements in all new IGs is relatively straightforward, but how do we handle existing IGs that are used in the industry and in need of conformance testing tools? Would we require the responsible work groups to update their IGs to include the needed conformance statements and if so, in what timeframe (e.g., one year, two years) should that work be completed?

- **Do we need to create a program to certify those companies that wish to offer conformance testing against HL7 IGs?** If so, should this work be undertaken by one of our work groups or outsourced?

As part of this grant, HL7 is also being asked to suggest a means whereby we can report implementation and use of our IGs on an annual basis. This is a complicated undertaking if it is to be accurate.

An HL7 Standards Maturity Model is being developed within HL7 and we may be able to leverage that work to get the metrics that ONC is seeking. We've also had discussions with a polling company who does this type of work on a regular basis and has the expertise not only to collect the data but to develop the methodology to ensure the accuracy of the data. We are still working through some possible scenarios for this deliverable and will be discussing the options with the TSC as well.

We will ultimately ask the TSC to make a recommendation at some point in the future on the approach and its related details that can be taken to the Board for approval. This will ensure that the final report reflects the thinking and desires of the HL7 Board.

The initial report was due April 1. Thankfully, the initial report is not intended to commit the organization to the approach but allows us to describe the work accomplished to date, our current thoughts on how we would enable conformance testing across our portfolio of standards, and our thoughts on the timeline and cost for executing the plan.

Getting our thoughts organized on paper also allows us to continue the needed discussions both internally and with ONC. The final report is due at the end of September. ■

Member Spotlight on Riki (Ulrike) Merrick

Riki was born in Berlin, Germany and lived there until she graduated from medical school in 1992. In 1993, she moved to the San Francisco Bay area. She was informed that she would have to attend medical school again in the United States if she wanted to take the US Boards. However, she now had children and chose to instead focus on finishing her thesis on intestinal spirochetes in HIV-infected patients, but couldn't keep up with the changing methods for classification without re-testing the samples back in Berlin. But since she was raising her two children, first in San Francisco, and later in Sacramento, and her husband is an engineer, she worked in construction management instead.

Riki returned to school and obtained a Master of Public Health degree from the University of California Davis in 2004. In 2005, she began working on implementing electronic lab reporting. This was her first exposure to HL7, LOINC and SNOMED CT. Riki has been working on HL7 implementations through the Association of Public Health Laboratories (APHL) since 2006, first as a contractor and most recently as an employee. She also maintains a consulting business.

Riki joined HL7 in 2008. The first HL7 event she attended was a November 2008 educational summit in Los Angeles and her first working group meeting was in May 2013 in Atlanta. She has been a co-chair of the Orders and Observations Work Group since 2015 and was a project lead on Terminfo, US Lab Realm implementation guides, and the specimen Domain Analysis Model (DAM). She regularly attends harmonization. Riki also participates in several work groups: Vocabulary, Public Health and Emergency Response, Conformance & Guidance for Implementation/ Testing, Electronic Health Records, and Healthcare Standards Integration.

In addition to her work with HL7, Riki is also involved in other standards development organizations. She participates as an IHE Lab / PaLM Planning co-chair, attends Lab LOINC committee meetings and the IHTSDO organism project. She also co-chairs the Laboratory and Messaging Community of Practice, which is a forum for laboratorians from state and federal public health labs, commercial labs and professional organizations exploring and discussing best practices in use of standards for lab related data exchange.

Outside of work, Riki participates in her neighborhood association park renovation project. She also enjoys horseback riding with her daughter, playing with her granddaughter and hiking and exploring around Sausalito with her husband. ◾

Member Spotlight on Craig Gabron

Craig Gabron joined HL7 in 2001, participating in the Attachment Special Interest Group (ASIG) with an interest in supporting the imminent attachment regulation.

Since then, Craig has developed a broad understanding of numerous HL7 work groups and has worked to develop relationships with HL7 members to promote shared healthcare industry goals.

In 2012, HL7 initiated a membership committee comprised of various healthcare industry stakeholders. Craig became the membership spokesperson for the payer community. At that time, payers were not well represented or informed regarding HL7 standards. As the payer representative, Craig showcased current HL7 standards to the payer community demonstrating the value of participation in HL7 and its products and services.

In 2014, Craig inspired HL7 to host its first Payer Summit in Chicago. This new venue continues to attract payer community interest and is spreading the word on HL7's newest standard Fast Healthcare Interoperability Resources (FHIR®).

Craig's initial training was in the field of education, which provided sound communication and analytical skills that were transferable to roles of programmer, system designer, business analyst and management.

In 1996, Craig began his healthcare career in the information technology department of BlueCross and BlueShield of South Carolina where he managed the TRICARE West contract for the TRICARE line of business.

Passionate about making a difference, Craig took on the role of co-chair for the HL7 Attachments Work Group. He also became active in the Workgroup for Electronic Data Interchange (WEDI) as a co-chair for the Snip Sub-Work Group for Claims Attachments.

As a co-chair in WEDI, Craig promotes HL7 and ASC X12 standards to educate the industry on claims attachments, to provide possible implementation approaches and to assist with adoption of a new regulation.

Craig grew up in Bethlehem, Pennsylvania, a major steel town made famous by Billie Joel's Allentown song. His dislike of the cold weather and the smog made Craig's decision to move to the south an easy one.

Craig and his wife enjoy traveling. They have visited many European countries where they sampled some of the world's best food and wine. All of this travel sparked his interest in photography, which has culminated in multiple albums, slideshows and movies. ◾

By Gil Alterovitz, PhD, Co-Chair, HL7 Clinical Genomics Work Group; Assistant Professor and Director, Biomedical Cybernetics Laboratory, Center for Biomedical Informatics, Harvard Business School; and Professor, Boston Children's Hospital

David Kreda, Business Translation Consultant, SMART Platforms Project, Harvard Medical School/Boston Children's Hospital

Heming Yao, Researcher, Biomedical Cybernetics Laboratory, Harvard Medical School/Boston Children's Hospital

Over 20 FHIR Genomics Pilots Now Underway

Piloting Precision Medicine via Connectathon: FHIR Genomics

At the January 2016 HL7 Fast Healthcare Interoperability Resources (FHIR®) Connectathon in Orlando, the genomics track ("FHIR Genomics") was successful in bringing people together from diverse organizations and geographic locations (North America, Europe, and Asia). While the connectathon focused on FHIR genomics specifications for interchanging data, it was followed by a tutorial during the HL7 Working Group Meeting that focused on SMART on FHIR Genomics and creating apps ("Clinical Genomic Apps via FHIR: From Design to Deployment").

Participant survey results confirmed that the connectathon was successful in several areas: in quantitatively increasing FHIR genomics knowledge; in getting feedback from sample app development (e.g. for diagnostic orders and reports); the adoption of an open-source FHIR resource editor (FRED) to genomics; and by the development of more than 500 lines of test scripts to test reference servers for FHIR genomics conformance using the FHIR test resource.

Interest in this track was strong not only because it was the first time a test-ready reference server was available, but also because conventional genetics testing is in need of a fully elaborated place for FHIR to address existing clinical needs. The business case for addressing near-term next generation sequencing (NGS), although still a small part of clinical practice, appears to be at an inflection point. Next generation vendors are already beginning to supply 'document' results and are working with some EMR

vendors to get structured data into these systems as well too. In addition to the support the White House Office of the National Coordinator (ONC) has given to FHIR overall, SMART/FHIR Genomics specifically has been cited in the Precision Medicine Task Force (in September 2015) and in the National Institutes of Health's (NIH) Precision Medicine Cohort Program announcements (in November 2015).

FHIR Genomics is a concise list of additions evolving under the purview of the HL7 Clinical Genomics Work Group (CGWG). In its current version, it provides specifications for a half-dozen profiles on existing FHIR resources to produce payloads able to include or point to genetics and genomics test results. The ongoing work (summarized in fhirgenomics. org) targets three core needs:

1. Simplify the genetics profile on Observation in response to feedback on the DSTU2 ballot results;

2. Furnishing changes to existing FHIR resources to give genetics results the same "standing" in FHIR as other laboratory results; and

3. Establishing a new resource for containing the detailed ("raw") sequence data that NGS vendors can report back to healthcare providers.

Comments by FHIR Genomics Connectathon Participants

Jeffrey Danford, Allscripts

"We started a partnership with Nanthealth [and] in working with them we've been using the FHIR resources and it's been really nice because those resources have allowed us to really start to structure what we need to get from our partners, what kind of the data we need to be getting, how it needs to be structured, [and] how it needs to be passed back and forth."

Larry Babb, Partners Healthcare, GeneInsight team

"I would like to say that my eight years or so of dealing with HL7 and being involved with the Version 2 standards and Version 3 standard development, that I am very excited about FHIR...I think it is incredibly useful to quickly build apps using this FHIR specification and get some results out there so that people can learn and figure out what should truly be standard out there."

Wei-Lun Hsu, Novartis

"FHIR Genomics RESTful API fits within the cutting-edge of software architecture and developing environment. I think it will be very easy to use and adopt."

Joey Yang, Hefei Institute of Technology, China

"China has also realized the importance of genomic information, so many companies in China have been established to analyze this genomics information. Based on this fact, our lab is aiming to build a platform based on FHIR standard and FHIR Genomics standard."

David Hay (from fhirblog.com):

"I have to say that the clinical genomics guys have to be the most organized work group that I have yet come across! (If there was the equivalent of the Harley Awards for being organized, then they would be the first recipients from me!)."

Josh Mandel, MD, Harvard Medical School/Boston Children's Hospital

"We have had a bunch of folks working on beginning to share sequencing results and the interpretations of sequencing results and it's really exciting to think about how these results are going to actually start showing up in the clinic and becoming available at the point of care... for particular kinds of exchange like an application that is going to display genomic results."

Richard Ettema, AEGIS.net, Inc., Developer of Touchstone, a Testing as a Service Solution

"One of the highlights for me at the HL7 FHIR Connectathon and Working Group Meeting in Orlando was working with Gil Alterovitz and the Clinical Genomics Work Group. Gil's enthusiasm and energy were a catalyst to help me prepare the test definitions used in Touchstone at the Connectathon."

Winning connectathon app team wearing Orlando hat from January 2016 Orlando HL7 WGM (pictured are Professor Ning An, Joey Yang, Eric Wang, and Lionel Jin of Hefei University of Technology in China; not pictured are Bowen Gong and Rong Duan). Professor An's group created a diagnostic genomic test ordering and reporting apps using FHIR Genomics.

Affiliate Spotlight: HL7 Norway

HL7 Norway was formed in 2010, shortly after a delegation of six met at the January Working Group Meeting in Phoenix, AZ.

All six wore t-shirts displaying the Norwegian flag that was sponsored by Version 3 consultant Rene Spronk. The delegation certainly captured the attention of meeting attendees that week!

What is the most successful HL7 implementation in Norway?

In 2009, Norway began implementing a set of core Version 3 services, more specifically a series of services for person and patient demography and encounter information.

These services were developed in the western region, but were later considered to be a national standard and are now implemented across the country.

After the implementation of the new DIPS EHR at Oslo University Hospital in 2014, around 50 different systems now use these services to access person and patient demographic information from the EHRs.

This is making it easier for new integrations as many of the systems available in the Norwegian market already are supporting these core services.

HL7 Norway expert team, May 2010.

What HL7 other implementations are currently underway in Norway?

There is currently a lot of interest and activity related to FHIR in Norway, and the first services were in production in the fall of 2015. These services support the transfer of diagnosis and procedures registered in specialty systems to the EHR which is functioning as the master for DRG-reporting.

Since that time, there has been activity on supporting interfaces for prescriber registry, and for querying laboratory results and analysis. Implementation guides have been developed and implementations are underway.

In addition, there has been such a high level of interest and activity among many other stakeholders that, for the first time, HL7 Norway finds it a challenge to have an overview over all activities. Several times, we have received information in retrospect about proof of concepts that have been tried out in different parts of the sector after they are well underway. We believe this challenge arises due to the easy accessibility and implementability of FHIR.

National programs related to welfare technology have tested out FHIR, and we also have projects that have been playing with FHIR documents.

What HL7 standards are used most frequently in Norway?

Norway is currently considering IHTSDO membership and the use of SNOMED CT. An announcement regarding this is expected this summer. Our main EHR-vendor DIPS is basing their new version on openEHR archetypes, and a national profile of IHE/XDS.b has just been developed. In addition, we still have a fair level of national and international legacy standards.

Is HL7 Norway currently balloting any HL7 standards or implementation guides?

With regards to the use of HL7 Version 3, HL7 Norway TSK has had a procedure for quality assurance based on the HL7 Norway mailing lists, but these processes have been regarded as not agile enough for the current reality. We are working on developing new governing and balloting procedures for FHIR, and we need to take into account a balancing of the need for both agility and stability in the process for creating national FHIR-profiles and implementation guides.

What other activities does HL7 Norway participate in? Are you planning any meetings or taking part in any events?

HL7 Norway regularly attends HL7 working group meetings. Line Sæle is also co-chair in the Patient Administration Work Group. We are planning further educational sessions on FHIR, and have a course in connection with the yearly General assembly that is now drawing more than 60 participants.

What role do you see HL7 standards playing in Norway over the next 1-3 years?

We are very optimistic on behalf of HL7 due to the high interest in FHIR. Among other things, we see the national bodies considering FHIR instead of the traditional national message standards that have been used over the last 20 years. ■

Who are the current members of the HL7 WHERE Board?

Currently, the governing bodies of HL7 Norway include the Board and the Technical Steering Committee. Line Sæle in National ICT is the Chair of the board and Terje Halvorsen (Vali) is the treasurer.

In addition, the Board consists of Sigbjørn Skjærvold (Cerner Norway), Yngve Nyheim (DIPS), Bertil Reppen (Apertura), Magnus Alsaker (Norwegian Directorate of ehealth) and Øyvind Aassve (Oslo University Hospital). Øyvind Aassve is also Chair of the HL7 Technical Steering Committee.

Piloting Precision Medicine via Connectathon: FHIR Genomics

Since the January Connectathon, ongoing work on the FHIR Genomics specification in the new CGWG FHIR subgroup is resulting in numerous refinements to all of these FHIR artifacts. Some of the refinements include resolution of coding issues unique to genomics and/or addressing opportunities to converge structured data elements with the Institute of Medicine (IOM) work on HL7 Version 2 genetics reporting for single variants. Others are directed toward providing important support that will be valuable in the context of NGS results, including graph representation of alternative reference sequences as well as single individual sequences.

As envisioned, FHIR Genomics is intended to provide an efficient translational bridge to research genomics data standards being developed for whole genome/whole exome sequencing and enable precision medicine. Facilitated in part by the connectathon and resulting interactions, there are now over twenty piloting efforts in FHIR Genomics globally. ■

HL7 Wants You!
HL7 Elections: New Leaders, New Ideas

HL7 is like many other organizations in the way it selects its leadership – leaders are selected from and by the membership. The nomination and election processes are relatively simple but there are a few fine points that are designed to meet the unique needs of HL7.

By John Roberts,
TSC Representative
HL7 Nominations Committee,
with support from the
members of the
Nominations Committee

In past years, as few as 6.4% of voting members have decided Board elections. Although the trend seems to be higher participation, with a high of 20.8% for the 2014 special election, most members still choose not to participate.

Leadership Opportunities at HL7

There are several groups of leadership positions at HL7. All have specific responsibilities and the interactions between these leadership positions, the membership, and the HL7 staff is an ever-changing, evolving, interesting subject! Most of the leadership positions are elected but some are appointed by elected leaders.

This article deals with the Board member and officer positions.

	Elected:	Appointed:
Board Members and Officers	**Elected by HL7 individual members, representatives of organizational members and affiliates**	**Some Board members are appointed; others are ex officio members**
Technical Steering Committee	Elected by the steering divisions and other bodies, e.g. ArB	Some TSC members are appointed; others are ex officio members
Steering Division (Co-chairs)	Elected by the steering division members, i.e. the work groups in each SD	(none)
Work Group (Co-chairs)	Elected by the work group members	Temporary appointments: Acting and Interim

Board and Officer Positions

All elected positions have a term of two years except the Chair, who holds offices for four years: one year as Chair-Elect, two years as the Chair, and one year as the Immediate Past Chair. The positions of Chair-Elect and Immediate Past Chair are also known as the Vice-Chair.

The Bylaws define which positions are to be filled each year.

In even numbered years we nominate and elect:

- Chair-Elect, also known as the Vice Chair, who becomes the Chair after a year as Chair-Elect. At the end of a two year term as the Chair of HL7, becomes the Immediate Past Chair, also known as the Vice Chair, for one year
- Secretary
- Director at Large (two)
- Affiliate Director (one)

In odd numbered years we nominate and elect:

- Treasurer
- Director at Large (two)
- Affiliate Director (one)

In addition to these officers (4) and elected directors at large (4), affiliate director (2) positons, the Board also includes:

- Appointed director(s) (up to 3)
- Technical Steering Committee chair, *ex officio*, with vote
- *Ex officio* members of the Board, without vote
- Chief Executive Officer
- Chief Technical Officer
- Executive Director
- Chair Emeritus
- Chief Technical Officer Emeritus

Vacancies are handled by provisions of the Bylaws (Officers) or the Governance and Operations Manual (GOM) (Directors). In general, vacancies are filled by a pro tem or acting officer (the Immediate Past Chair to the vacant Chair in the first year of a term), beginning a term early (the Chair-Elect to the vacant Chair in the second year of a term), or by election (to replace a pro tem officer, a vacant Secretary or a vacant Treasurer).

Director vacancies may be filled by an interim appointment.

The Bylaws and GOM define term limits for specific leadership positions; for example, the Treasurer shall serve no more than two consecutive terms.

Nomination Committee

The Nomination Committee is convened to facilitate the Nomination Process for the HL7 Board of Directors and Officers nominated by the general HL7 membership. Other leadership and Board positions in HL7 are facilitated through various other processes as defined in the HL7 Governance and Operations Manual (GOM). The Nomination Committee consists of up to four members elected by the HL7membership at large, up to two members appointed by the TSC, up to two members selected by the International Council, one member selected by the Advisory Council if so chosen, one member selected by the Board of Directors if so chosen, and the Executive Director, serving *ex officio* with vote. The Executive Director shall appoint an HL7 staff member to support the committee.

Its duties are to oversee the nominations process for the Board of Directors; collect and validate petitions of nomination; actively recruit, if necessary, a viable, balanced slate of candidates; and prepare the slate for ballot.

In 2015 the Nomination committee stressed the "front end" of the nomination process more than in previous years, using the theme "New leaders, new ideas." The Committee sought to attract new people to run for leadership positions and made an effort to encourage others to prepare themselves to run for leadership positions in the future. The committee will continue using this theme in 2016.

Nomination and Election Process

The Nomination Committee meets at the first Working Group Meeting of the year, to organize, elect a Chair, review the Nominations and Elections efforts from the previous year, and plan for the upcoming year.

Each elected leadership position has specific qualifications requirements which are spelled out in the Bylaws and GOM. Experience is the single most common qualification and is satisfied by two or more years of service in roles such as a Work Group Co-chair, a Steering Division Co-chair, a TSC member, etc.

The nomination period is from May 1 through June 15 each year. During this time members who are interested in running for a Board Officer or Director position must do these two things:

- Secure 10 nominations during the nomination period, with no more than two nominations from people employed by the same organization.

- Complete a packet of "paperwork" that sets forth and documents qualifications, absence of conflicts of interest, understanding of the duties and responsibilities of the office, and employer support.

At any point during the nomination period should the Nomination Committee note a lack of nominees for any given position they may recruit nominees for said position(s). Those nominees, if any, recruited by the Nomination Committee, shall meet the criteria stipulated in order to be considered "in nomination".

After the nomination period, the Nomination Committee shall prepare the final slate of nominees and the nominee profiles will be loaded to the election site. In the event of a tie, there shall be a runoff election.

Summary:

Three types of leadership elections at HL7 are all designed to identify, nominate, elect, recognize, and empower leaders for volunteer service in one of the many roles that operate the organization. They have some procedural differences but share the goal of providing effective leadership to the organization using fair, transparent processes, befitting a Standards Developing Organization.

The Board Director and Officer Positions are elected by the HL7 Voting Members, HL7 Affiliates, or Representatives of the Organizational Members. They are responsible for providing for the health of the entire organization, which enables HL7 to fulfill its mission of empowering global health data interoperability by developing standards and enabling their adoption and implementation. ■

Election Schedule

May 1 - June 15
Nomination period

June 16 - 30
- **Final slate prepared by Nomination Committee**
- **Nominee profiles loaded to the election site**

July 1 - 30
Election period

August 7 - 21
 Run-off election (if needed)

September 21
Board Secretary announces the election results at the Annual Business Meeting

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HL7 Launches Digital Badges Recognizing Certification in the Standards

You may ask, what's a digital badge and what does it mean for me? A digital badge is an electronic representation of an icon or logo that signifies the knowledge and/or skills a person has earned. Each badge has unique data built into it that links back to the issuer, criteria and verifying evidence. The holder can post it to a website or other online venue, such as social media or professional sites like Facebook and LinkedIn, and it can become part of an electronic resume.

Digital badges are the latest way to capture and communicate your professional credentials and display them to your peers, clients – and for job seekers – potential employers. When someone clicks on the badge, they see exactly what knowledge and skills were required to achieve the badge.

HL7 has now associated digital badges with each of its certifications to acknowledge in a visual way your accomplishment. For HL7 digital badges, acquiring one or more depends upon providing evidence that you passed the certification exam associated with the badge. Simply go to the Digital Badge site and provide your name, type of certification you received and the date you received it. HL7 will verify the information and then approve your request within approximately three business days.

This "Green Credentialing" format offers you a portable, visual representation of your certifications that is viewable through online searches, making you more discoverable to communities of HIT professionals. Further, it showcases your certification more widely than paper certificates and pins ever could.

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By Sharon Chaplock, PhD, HL7 Director of Education

Laura Mitter, HL7 Web Developer

For more background information on digital badges, please use the following resources:

Finklestein, J., Knight, E., Manning, S. (2013, July).The Potential and Value of Using Digital Badges for Adult Learners. Retrieved from: https://lincs.ed.gov/publications/pdf/AIR_Digital_Badge_Report_508.pdf

7 Things You Should Know About...Badges. (2012) Educause. Retrieved from http://creativecommons.org/licenses/by-nc-nd/3.0/

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Congratulations to the following people
who recently passed the HL7 Certification Exam

Certified HL7 Version 2.x Chapter 2 Control Specialist

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Dennis Davila

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Alfonso Moreno Mosqueda

James Seagroves

Janis Huber

James Bruckart

Nidhi Sadh

Michael Patrick

Naga Nivedha Malli ChandraSekaran

Conchi Díaz Caballero

Jose Barba Martínez

Antonio Fornis Méndez

Juan Ignacio Nuñez Aguilar

David García García

Félix Sánchez Díez

JANUARY 2016

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KrishnaChaitanya Putta

Jainarine Balkaran

Matthew Grimes

Albert Graupera Díaz

Marc Gorriz Marcelino

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Rebecca Middaugh

Victor Varon

Aamer Abbas

Chris Schneider

Certified HL7 CDA Specialist

DECEMBER 2015

Santhosh K

JANUARY 2016

Ana Azpiazu Carmouze

Russell McDonell

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Certified HL7 Version 3 RIM Specialist

JANUARY 2016

Oyvind Aassve

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Partners HealthCare System, Inc.
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Quest Diagnostics, Incorporated
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Starwest Tech
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UMass Memorial Health Care
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CentriHealth
Cognosante, LLC
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Dapasoft Inc.
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Systex, Inc.
Vernetzt, LLC
Virginia Riehl
Whipple Consulting, LLC

GENERAL INTEREST

Academy of Nutrition & Dietetics
Advanced Medical Technology Association (AdvaMed)
Agence eSante Luxembourg
Alabama Department of Public Health
American Assoc. of Veterinary Lab Diagnosticians
American Clinical Laboratory Association
American College of Physicians
American College of Radiology
American College of Surgeons, NTDB
American Dental Association
American Immunization Registry Association (AIRA)
American Psychiatric Association
Arizona Department of Health Services
ASIP SANTE
Association of Public Health Laboratories
ASTHO
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California Department of Health Care Services
Cambia Health Solutions
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Centers for Medicare & Medicaid Services
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College of American Pathologists

College of Healthcare Information Mgmt. Executives

Colorado Regional Health Information Organization

Connecticut Department of Public Health

Contra Costa County Health Services

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Department of Developmental Services

Department of Health & Human Services

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ECRI Institute

Estonian eHealth Foundation

Florida Department of Health

GS1 US

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Healthcare Services Platform Consortium

HealtheConnections

HIMSS

ICCBBA, Inc.

IFPMA (as trustee for ICH)

Illinois Department of Public Health

Indian Health Service

Indiana Health Information Exchange

Iowa Department of Public Health

Japan Pharmaceutical Manufacturers Association

L.A. County Dept of Public Health

Mary Greeley Medical Center

Mercer University

Michigan Health Information Network

Michigan State University HIT

Minnesota Department of Health

Missouri Department of Health & Senior Services

NAACCR

National Cancer Institute

National Center for Health Statistics/CDC

National Centre for Healthcare Information Systems

National Council for Prescription Drug Programs

National eHealth Transition Authority (NEHTA)

National Institute of Standards and Technology

National Library of Medicine

National Marrow Donor Program

NCQA

New Mexico Department of Health

New York State Office of Mental Health

Oklahoma State Department of Health

Oregon Public Health Division

OSEHRA

Pathology Associates Medical Laboratories

Pharmaceuticals & Medical Devices Agency

Primary Care Information Project, NYC Dept Health

Provincial Health Services Authority

Radiological Society of North America

Ramsey County Public Health

Region Syddanmark

SAMHSA

Social Security Administration

Software Partners LLC

Strathmore University

Tennessee Department of Health

Texas Health Services Authority

The Joint Commission

The Sequoia Project

Twin Lakes Regional Medical Center

UCLA Arthur Ashe Student Health & Wellness Center

United Physicians

Universidad Distrital Francisco Jos? de Caldas

University of AL at Birmingham

University of Miami

University of Minnesota

University of Texas Medical Branch at Galveston

Virginia Department of Health

Washington State Department of Health

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Arkansas Blue Cross Blue Shield

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CareMore Health Plan

Delta Dental Plans Association

Healthspring

Highmark Health

Meridian Health Plan

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GlaxoSmithKline

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Albany Medical Center Hospital

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almerys

ARUP Laboratories, Inc.

Ascension Health Information Services

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Regenstrief Institute, Inc.

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Sparrow Health System

Spectrum Health

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Texas Health Resources
The Children's Hospital of Philadelphia
Trinity Health
Tuomey Healthcare System
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UNC Health Care System
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University of New Mexico Hospitals
University of Utah Health Care
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   Critical Care/IICRC
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Clinical Architecture LLC
Clinical Data Management
Clinical Software Solutions
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Compania de Informatica Aplicata
Computrition, Inc.
COMS Interactive, LLC
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Covidien
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MedicaSoft
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    Systems, Inc.
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Ken McCaslin, MAR
Accenture
Email: H.Kenneth.McCaslin@accenture.com

CHIEF TECHNICAL
OFFICER EMERITUS

John Quinn, FHL7
HL7 International
Phone: 216-409-1330
Email: jquinn@HL7.org

CHIEF TECHNOLOGY OFFICER

Wayne Kubick
Health Level Seven International
Phone: 847-842-1846
Email: wkubick@HL7.org

TSC Member Emeritus
George (Woody) Beeler, Jr., PhD
Beeler Consulting, LLC
Phone: 507-254-4810
Email: woody@beelers.com

ARB CHAIR

Anthony Julian, FHL7
Mayo Clinic
Phone: 507-266-0958
Email: ajulian@mayo.edu

ARB VICE CHAIR

Lorraine Constable
HL7 Canada
Phone: +1 780-951-4853
Email: lorraine@constable.ca

INTERNATIONAL
REPRESENTATIVES

Giorgio Cangioli
HL7 Italy
Email: giorgio.cangioli@gmail.com

Jean Duteau
Duteau Design Inc.
Phone: 780-328-6395
Email: jean@duteaudesign.com

DOMAIN EXPERTS CO-CHAIRS

Melva Peters
HL7 Canada
Phone: 778-228-4839
Email: mpeters@gevityinc.com

John Roberts
Tennessee Department of Health
Phone: 615-741-3702
Email: john.a.roberts@tn.gov

FOUNDATION & TECHNOLOGY
CO-CHAIRS

Russell Hamm
Lantana Consulting Group
Phone: 507-271-0227
Email: russ.hamm@lantanagroup.com

Paul Knapp
Knapp Consulting, Inc.
Phone: 604-987-3313
Email: pknapp@pknapp.com

STRUCTURE & SEMANTIC
DESIGN CO-CHAIRS

Calvin Beebe
Mayo Clinic
Phone: 507-284-3827
Email: cbeebe@mayo.edu

Gora Datta
CAL2CAL Corporation
Phone: 949-955-3443
Email: gora@cal2cal.com

TECHNICAL & SUPPORT
SERVICES CO-CHAIRS

Andy Stechishin
HL7 Canada
Phone: 780-903-0885
Email: andy.stechishin@gmail.com

Sandra Stuart
Kaiser Permanente
Phone: 925-519-5735
Email: sandra.stuart@kp.org

AD-HOC MEMBER

Freida Hall
Quest Diagnostics, Incorporated
Phone: 610-650-6794
Email: freida.x.hall@questdiagnostics.com

Austin Kreisler
Leidos, Inc.
Phone: 706-525-1181
Email: austin.j.kreisler@leidos.com

Steering Divisions

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Anesthesiology
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Biomedical Research Integrated
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Clinical Genomics
Clinical Interoperability Council
Clinical Quality Information
Community Based Collaborative Care
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Health Care Devices
Patient Care
Pharmacy
Public Health & Emergency Response
Regulated Clinical Research
    Information Management

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Clinical Information Modeling Initiative
Conformance & Guidance for
    Implementation/Testing
Implementable Technology Specifications
Infrastructure & Messaging
Modeling & Methodology
Security
Service Oriented Architecture
Templates
Vocabulary

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Electronic Services & Tools
Healthcare Standards Integration
International Mentoring Committee
Learning Health Systems
Process Improvement Committee
Project Services
Publishing

STRUCTURE &
SEMANTIC DESIGN

Arden Syntax
Clinical Decision Support
Clinical Statement
Electronic Health Record
Financial Management
Imaging Integration
Mobile Health
Orders & Observations
Patient Administration
Structured Documents

HL7 Work Group Co-Chairs

ANATOMIC PATHOLOGY

Victor Brodsky, MD
Email: victorbrodsky@gmail.com

John David Nolen, MD, PhD
Cerner Corporation
Phone: +1 816-446-1530
Email: johndavid.nolen@cerner.com

ANESTHESIA

Martin Hurrell, PhD
Phone: +44 7711-669-522
Email: martinhurrell@gmail.com

Ellen Torres
Email: etworks@outlook.com

John Walsh, MD
Partners HealthCare System, Inc.
Phone: +1 781-416-8526
Email: jwalsh@partners.org

APPLICATION IMPLEMENTATION & DESIGN

Peter Hendler, MD
Kaiser Permanente
Phone: +1 510-248-3055
Email: peter@javamedical.com

Rene Spronk, FHL7
HL7 Netherlands
Phone: +31 318-553812
Email: rene.spronk@ringholm.com

Andy Stechishin
HL7 Canada
Phone: +1 780-903-0885
Email: andy.stechishin@gmail.com

ARCHITECTURAL REVIEW BOARD

Lorraine Constable
HL7 Canada
Phone: +1 780-951-4853
Email: lorraine@constable.ca

Anthony Julian, FHL7
Mayo Clinic
Phone: +1 507-266-0958
Email: ajulian@mayo.edu

Wayne Kubick
Health Level Seven International
Phone: +1 847-842-1846
Email: wkubick@hl7.org

ARDEN SYNTAX

Peter Haug, MD
Intermountain Healthcare
Phone: +1 801-442-6240
Email: peter.haug@imail.org

Robert Jenders, MD, MS
Charles Drew University/UCLA
Phone: +1 323-249-5734
Email: jenders@ucla.edu

ATTACHMENTS

Durwin Day
Health Care Service Corporation
Phone: +1 312-653-5948
Email: dayd@bcbsil.com

Craig Gabron
Blue Cross Blue Shield of South Carolina
Phone: +1 803-763-1790
Email: craig.gabron@bcbssc.com

BIOMEDICAL RESEARCH INTEGRATED DOMAIN GROUP

Edward Helton PhD
National Cancer Institute
Phone: +1 301-480-4290
Email: heltone2@mail.nih.gov

Mary Ann Slack
Food and Drug Administration
Phone: +1 301-796-0603
Email: maryann.slack@fda.hhs.gov

CHILD HEALTH

Gaye Dolin, MSN, RN
Intelligent Medical Objects (IMO)
Phone: +1 847-613-6645
Email: gdolin@imo-online.com

Michael Padula, MD, MBI
The Children's Hospital of Philadelphia
Phone: +1 215-590-1653
Email: padula@email.chop.edu

Feliciano Yu, MD
St. Louis Children's Hospital
Phone: +1 314-454-2808
Email: yu_f@kids.wustl.edu

CLINICAL DECISION SUPPORT

Guilherme Del Fiol, MD, PhD
University of Utah Health Care
Phone: +1 801-213-4129
Email: guilherme.delfiol@utah.edu

Robert Jenders, MD, MS
Charles Drew University/UCLA
Phone: +1 323-249-5734
Email: jenders@ucla.edu

Kensaku Kawamoto, MD, PhD
University of Utah Health Care
Phone: +1 801-587-8001
Email: kensaku.kawamoto@utah.edu

Howard Strasberg, MD, MS
Wolters Kluwer Health
Phone: +1 858-481-4249
Email: howard.strasberg@
    wolterskluwer.com

CLINICAL GENOMICS

Gil Alterovitz, PhD
Boston Children's Hospital
Email: ga@alum.mit.edu

Siew Lam, MD, MSc
Intermountain Healthcare
Phone: +1 801-507-9630
Email: siew.lam@imail.org

Bob Milius, PhD
National Marrow Donor Program
Phone: +1 612-627-5844
Email: bmilius@nmdp.org

Amnon Shabo, PhD
Philips Healthcare
Email: amnon.shvo@gmail.com

Mollie Ullman-Cullere
Partners HealthCare System, Inc.
Phone: +1 617-817-1496
Email: mollie.ullmancullere@gmail.com

CLINICAL INFORMATION MODELING INITIATIVE

Linda Bird, BIT, PhD
IHTSDO
Email: ibi@ihtsdo.org

Stanley Huff, MD, FHL7
Intermountain Healthcare
Phone: +1 801-507-9111
Email: stan.huff@imail.org

Galen Mulrooney
U.S. Department of Veterans Affairs
Phone: +1 703-815-0900
Email: galen.mulrooney@jpsys.com

Harold Solbrig
Mayo Clinic
Email: solbrig.harold@mayo.edu
Clinical Interoperability Council

W. Edward Hammond, PhD, FHL7
Duke Translational Medicine Institute
Phone: +1 919-668-2408
Email: william.hammond@duke.edu

Dianne Reeves, RN
National Cancer Institute
Phone: +1 240-276-5130
Email: reevesd@mail.nih.gov

Mitra Rocca
Food and Drug Administration
Phone: +1 301-796-2175
Email : mitra.rocca@fda.hhs.gov

Anita Walden
Duke Translational Medicine Institute
Phone: +1 919-668-8256
Email: anita.walden@duke.edu

HL7 Work Group Co-Chairs (Continued)

CLINICAL QUALITY INFORMATION

Patricia Craig, MS, MIS
The Joint Commission
Phone: +1 630-792-5546
Email: pcraig@jointcommission.org

Floyd Eisenberg, MD
iParsimony LLC
Phone: +1 202-643-6350
Email: feisenberg@iparsimony.com

Christopher Millet
Lazy LLC
Email: cmillet@thelazycompany.com

Walter Suarez, MD, MPH
Kaiser Permanente
Phone: +1 301-801-3207
Email: walter.g.suarez@kp.org

CLINICAL STATEMENT

Hans Buitendijk, MSc, FHL7
Cerner Corporation
Phone: +1 610-219-2087
Email: hans.buitendijk@cerner.com

Rik Smithies
HL7 UK
Phone: +44 7720-290967
Email: rik@nprogram.co.uk

COMMUNITY BASED COLLABORATIVE CARE

Johnathan Coleman
Security Risk Solutions, Inc.
Phone: +1 843-442-9104
Email: jc@securityrs.com

Suzanne Gonzales-Webb
U.S. Department of Veterans Affairs
Phone: +1 619-972-9047
Email: suzanne.webb@engilitycorp.com

James Kretz
SAMHSA
Phone: +1 240-276-1755
Email: jim.kretz@samhsa.hhs.gov

Max Walker
HL7 Australia
Phone: +61 412-312-416
Email: maxtangles@bigpond.com

CONFORMANCE & GUIDANCE FOR IMPLEMENTATION/ TESTING

Nathan Bunker
American Immunization Registry Association
Phone: +1 435-635-1532
Email: nbunker@immregistries.org

Frank Oemig, PhD, FHL7
HL7 Germany
Phone: +49 208-781194
Email: hl7@oemig.de

Ioana Singureanu, FHL7
Eversolve, LLC
Phone: +1 603-870-9739
Email: ioana.singureanu@gmail.com

Robert Snelick
National Institute of Standards & Technology
Phone: +1 301-975-5924
Email: robert.snelick@nist.gov

EDUCATION

Fernando Campos
HL7 Argentina
Email: fernando.campos@ hospitalitaliano.org.ar

Diego Kaminker, FHL7
HL7 Argentina
Phone: +54 11-4781-2898
Email: diego.kaminker@kern-it.com.ar

Virginia Lorenzi, FHL7
New York-Presbyterian Hospital
Email: vlorenzi@nyp.org

Melva Peters
HL7 Canada
Phone: +1 778-228-4839
Email: mpeters@gevityinc.com

ELECTRONIC HEALTH RECORDS

Michael Brody
ICS Software, Ltd.
Phone: +1 516-766-2129
Email: mbrody@icssoftware.net

Gary Dickinson, FHL7
CentriHealth
Phone: +1 951-536-7010
Email: gary.dickinson@ ehr-standards.com

Reed Gelzer, MD, MPH
Provider Resources, Inc.
Phone: +1 203-506-5361
Email: r.gelzer@myfairpoint.net

Mark Janczewski, MD, MPH
Medical Networks, LLC
Phone: +1 703-994-7637
Email: mark.janczewski@verizon.net

John Ritter
Phone: +1 412-372-5783
Email: johnritter1@verizon.net

Diana Warner
American Health Information Management Association
Phone: +1 312-233-1510
Email: diana.warner@ahima.org

ELECTRONIC SERVICES AND TOOLS

Jeff Brown
American Society of Clinical Oncology
Phone: +1 571-483-1752
Email: jeff.brown@asco.org

David Burgess
Laboratory Corporation of America
Phone: +1 615-221-1901
Email: burgesd@labcorp.com

Dennis Cheung
Canadian Institute for Health Information (CIHI)
Email: dcheung@cihi.ca

Andy Stechishin
HL7 Canada
Phone: +1 780-903-0885
Email: andy.stechishin@gmail.com

Michael Van der Zel
HL7 Netherlands
Phone: +31 503619876
Email: m.van.der.zel@umcg.nl

Nat Wong
HL7 Australia
Email: nathaniel.wong@HL7.org.au

EMERGENCY CARE

Kevin Coonan, MD
Email: kevin.coonan@gmail.com

Laura Heermann Langford, RN, PhD
Intermountain Healthcare
Phone: +1 801-507-9254
Email: laura.heermann@imail.org

James McClay, MD
University of Nebraska Medical Center
Phone: +1 402-559-3587
Email: jmcclay@unmc.edu

Peter Park, MD
US Department of Defense, Military Health System
Phone: +1 202-762-0926
Email: peterjpark@mindspring.com

FHIR INFRASTRUCTURE

Grahame Grieve, FHL7
HL7 International; Health Intersections Pty Ltd
Phone: +61 3-98445796
Email: grahame@hl7.org; grahame@ healthintersections.com.au

Ewout Kramer
HL7 Netherlands
Email: e.kramer@furore.com

Josh Mandel, MD
Boston Children's Hospital
Email: joshua.mandel@ childrens.harvard.edu

Lloyd McKenzie
Gevity (HL7 Canada)
Email: lloyd@lmckenzie.com

FINANCIAL MANAGEMENT

Kathleen Connor
Edmond Scientific Company
Email: kathleen_connor@comcast.net

Beat Heggli
HL7 Switzerland
Phone: +41 44-297-5737
Email: beat.heggli@netcetera.ch

Paul Knapp
Knapp Consulting
Phone: +1 604-987-3313
Email: pknapp@pknapp.com

HEALTH CARE DEVICES

Todd Cooper
Healthcare Services Platform
Consortium
Email: toddcooperafc@gmail.org

Chris Courville
Epic
Phone: +1 608-271-9000
Email: ccourvil@epic.com

John Garguilo
National Institute of Standards
Email: john.garguilo@nist.gov

John Rhoads, PhD
Philips Healthcare
Phone: +1 978-659-3024
Email: john.rhoads@philips.com

HEALTHCARE STANDARDS INTEGRATION WORK GROUP

Todd Cooper
Healthcare Services Platform
Consortium
Email: toddcooperafc@gmail.org

John Donnelly, MS, MBA
IntePro Solutions Inc.
Phone: +1 732-943-7391
Email: jtdonnelly@intepro.biz

Laura Heermann Langford, RN, PhD
Intermountain Healthcare
Phone: +1 801-507-9254
Email: laura.heermann@imail.org

IMAGING INTEGRATION

Brad Genereaux
HL7 Germany
Phone: +49 700-7777-6761
Email: brad.genereaux@agfa.com

Elliot Silver, MSc
McKesson Corporation
Phone: +1 604-279-5422
Email: elliot.silver@mckesson.com

IMPLEMENTABLE TECHNOLOGY SPECIFICATIONS

Paul Knapp
Knapp Consulting Inc.
Phone: +1 604-987-3313
Email: pknapp@pknapp.com

Dale Nelson, FHL7
Accenture
Phone: +1 916-367-1458
Email: dale.m.nelson@accenture

Andy Stechishin
HL7 Canada
Phone: +1 780-903-0885
Email: andy.stechishin@gmail.com

INFRASTRUCTURE & MESSAGING

Anthony Julian, FHL7
Mayo Clinic
Phone: +1 507-266-0958
Email: ajulian@mayo.edu

David Shaver, FHL7
Corepoint Health
Phone: +1 214-618-7000
Email: dave.shaver@
corepointhealth.com

Sandra Stuart
Kaiser Permanente
Phone: +1 925-519-5735
Email: sandra.stuart@kp.org

INTERNATIONAL COUNCIL

Diego Kaminker, FHL7
HL7 Argentina
Phone: +54 11-4781-2898
Email: diego.kaminker@kern-it.com.ar

Francisco Perez
HL7 Spain
Phone: +34 637208657
Email: fperezfernan@gmail.com

Melva Peters
HL7 Canada
Phone: +1 778-228-4839
Email: mpeters@gevityinc.com

INTERNATIONAL MENTORING COMMITTEE

Diego Kaminker, FHL7
HL7 Argentina
Phone: +54 11-4781-2898
Email: diego.kaminker@kern-it.com.ar

John Ritter
Phone: +1 412-372-5783
Email: johnritter1@verizon.net

LEARNING HEALTH SYSTEMS

Russell Leftwich, MD
InterSystems
Phone: +1 617-551-2111
Email: cmiotn@gmail.com

Mark Roche, MD, MSMI
ONC HHS
Email: mrochemd@gmail.com

MOBILE HEALTH

Nathan Botts, PhD, MSIS
Westat
Phone: +1 760-845-8356
Email: nathanbotts@westat.com

Gora Datta
CAL2CAL Corporation
Phone: +1 949-955-3443
Email: gora@cal2cal.com

Matthew Graham
Mayo Clinic
Phone: +1 507-284-3028
Email: mgraham@mayo.edu

Harry Rhodes
American Health Information
Management Association
Phone: +1 312-233-1119
Email: harry.rhodes@ahima.org

MODELING AND METHODOLOGY

George (Woody) Beeler Jr., PhD, FHL7
Beeler Consulting, LLC
Phone: +1 507-254-4810
Email: woody@beelers.com

Jean Duteau
Duteau Design Inc.
Phone: +1 780-328-6395
Email: jean@duteaudesign.com

Grahame Grieve, FHL7
HL7 International; Health
Intersections Pty Ltd
Phone: +61 3-98445796
Email: grahame@hl7.org; grahame@
healthintersections.com.au

Lloyd McKenzie
Gevity (HL7 Canada)
Email: lloyd@lmckenzie.com

AbdulMalik Shakir, FHL7
Hi3 Solutions
Phone: +1 626-644-4491
Email: abdulmalik.shakir@hi3solutions.com

ORDERS/OBSERVATIONS

Hans Buitendijk, MSc, FHL7
Cerner Corporation
Phone: +1 610-219-2087
Email: hans.buitendijk@cerner.com

Lorraine Constable
HL7 Canada
Phone: +1 780-951-4853
Email: lorraine@constable.ca

Robert Hausam, MD
Hausam Consulting, LLC
Phone: +1 801-949-1556
Email: rrhausam@gmail.com

Patrick Loyd
Email: patrick.e.loyd@gmail.com

Ken McCaslin, MAR, FHL7
Accenture
Phone: +1 703-457-4729
Email: h.kenneth.mccaslin@accenture.com

Ulrike Merrick
Vernetzt, LLC
Phone: +1 415-634-4131
Email: rikimerrick@gmail.com

HL7 Work Group Co-Chairs (Continued)

ORGANIZATIONAL RELATIONS COMMITTEE

Scott Robertson, PharmD, FHL7
Kaiser Permanente
Phone: +1 310-200-0231
Email: scott.m.robertson@kp.org

OUTREACH COMMITTEE FOR CLINICAL RESEARCH

Ed Helton, PhD
National Cancer Institute
Phone: +1 301-480-4290
Email: heltone2@mail.nih.gov

PATIENT ADMINSTRATION

Alexander de Leon
Kaiser Permanente
Phone: +1 626-381-4141
Email: alexander.j.deleon@kp.org

Irma Jongeneel-de Haas, FHL7
HL7 Netherlands
Phone: +31 681153857
Email: jongeneel@vzvz.nl

Brian Postlethwaite, BaSc
HEALTH CONNEX
Email: brianpos@optushome.com.au

Line Saele
HL7 Norway
Phone: +47 9592-5357
Email: line.sele@nasjonalikt.no

PATIENT CARE

Stephen Chu, MD
eHealth; HL7 Australia
Phone: +61-731704942
Email: chuscmi88@gmail.com

Laura Heermann Langford, RN, PhD
Intermountain Healthcare
Phone: +1 801-507-9254
Email: laura.heermann@imail.org

Emma Jones
Allscripts
Phone: +1 919-859-8441
Email: emma.jones@allscripts.com

Jay Lyle
Ockham Information Services LLC
Phone: +1 404-217-2403
Email: jay@lyle.net

Michelle Miller
Cerner Corporation
Phone: +1 816-201-2010
Email: mmoseman@cerner.com

Michael Tan
NICTIZ
Phone: +31 7031-73450
Email: tan@nictiz.nl

PHARMACY

Marla Albitz, PMP
Wolters Kluwer Health
Email: marla.albitz@wolterskluwer.com

John Hatem
Oracle Corporation - Healthcare
Phone: +1 415-269-7170
Email: john.hatem@oracle.com

Melva Peters
HL7 Canada
Phone: +1 778-228-4839
Email: mpeters@gevityinc.com

Scott Robertson, PharmD, FHL7
Kaiser Permanente
Phone: +1 310-200-0231
Email: scott.m.robertson@kp.org

PROCESS IMPROVEMENT COMMITTEE

Liora Alschuler, FHL7
Lantana Consulting Group
Phone: +1 802-785-2623
Email: liora.alschuler@
   lantanagroup.com

Sandra Stuart
Kaiser Permanente
Phone: +1 925-519-5735
Email: sandra.stuart@kp.org

PROJECT SERVICES

Rick Haddorff
Mayo Clinic
Phone: +1 978-296-1462
Email: haddorff.richard@mayo.edu

Freida Hall, FHL7
Quest Diagnostics, Inc.
Phone: +1 610-650-6794
Email: freida.x.hall@questdiagnostics.com

PUBLIC HEALTH EMERGENCY RESPONSE

Erin Holt, MPH
Tennessee Department of Health
Phone: +1 615-741-3702
Email: erin.holt@tn.gov

Joginder Madra
Madra Consulting Inc.
Phone: +1 780-717-4295
Email: hl7@madraconsulting.com

Craig Newman
Northrop Grumman
Phone: +1 608-345-3606
Email: csnewman88@gmail.com

Laura Rappleye
Altarum Institute
Email: laura.rappleye@altarum.org

John Roberts
Tennessee Department of Health
Phone: +1 615-741-3702
Email: john.a.roberts@tn.gov

PUBLISHING COMMITTEE

George (Woody) Beeler Jr., PhD, FHL7-V3
Beeler Consulting, LLC
Phone: +1 507-254-4810
Email: woody@beelers.com

Jane Daus-V2
McKesson Corporation
Phone: +1 847-495-1289
Email: jane.daus@mckesson.com

Peter Gilbert-V2
Meridian Health Plan
Phone: +1 734-604-0255
Email: peter.gilbert@mhplan.com

Brian Pech, MD, MBA-V2
Kaiser Permanente
Phone: +1 678-245-1762
Email: brian.pech@kp.org

Andy Stechishin-V3
HL7 Canada
Phone: +1 780-903-0885
Email: andy.stechishin@gmail.com

REGULATED CLINICAL RESEARCH INFORMATION MANAGEMENT

Ed Helton, PhD
National Cancer Institute
Phone: +1 301-480-4290
Email: heltone2@mail.nih.gov

John Kiser, MS, BS
Phone: +1 847-937-3725
Email: john.kiser@abbvie.com

Vada Perkins
Food and Drug Administration
Phone: +1 301-827-7784
Email: vada.perkins@fda.hhs.gov

SECURITY

Kathleen Connor
Edmond Scientific Company
Email: kathleen_connor@comcast.net

Alexander Mense
HL7 Austria
Phone: +43 01-1-333-40-77-232
Email: alexander.mense@hl7.at

John Moehrke
GE Healthcare
Phone: +1 920-912-8451
Email: john.moehrke@med.ge.com

Patricia Williams, PhD, MSc
HL7 Australia
Phone: +61 863045039
Email: trish.williams@ecu.edu.au

SERVICES ORIENTED ARCHITECTURE

Stefano Lotti
HL7 Italy
Phone: +39 06-421-60685
Email: slotti@invitalia.it

Vince McCauley, MBBS, PhD
Emerging Systems Telstra Health
Phone: +61 298-186493
Email: vincem@bigpond.com.au

Diana Proud-Madruga
U.S. Department of Veterans Affairs
Phone: +1 727-519-4607
Email: diana.proud-madruga@va.gov

Ken Rubin
Hewlett-Packard Enterprise Services
Phone: +1 301-613-3104
Email: ken.rubin@hp.com

**STANDARDS
GOVERNANCE BOARD**

Calvin Beebe, FHL7
Mayo Clinic
Phone: +1 507-284-3827
Email: ken.rubin@hp.com
Paul Knapp

Knapp Consulting Inc.
Phone: +1 604-987-3313
Email: pknapp@pknapp.com

STRUCTURED DOCUMENTS

Calvin Beebe, FHL7
Mayo Clinic
Phone: +1 507-284-3827
Email: cbeebe@mayo.edu

Gay Dolin, MSN RN
Intelligent Medical Objects (IMO)
Phone: +1 847-613-6645
Email: gdolin@imo-online.com

Rick Geimer
Lantana Consulting Group
Phone: +1 650-209-4839
Email: rick.geimer@lantanagroup.com

Austin Kreisler, FHL7
Leidos, Inc.
Phone: +1 706-525-1181
Email: austin.j.kreisler@leidos.com

Brett Marquard
River Rock Associates
Email: brett@riverrockassociates.com

Mark Roche, MD, MSMI
ONC HHS
Email: mrochemd@gmail.com

TEMPLATES

Kai Heitmann, MD, FHL7
HL7 Germany
Phone: +49 172-2660814
Email: hl7@kheitmann.de

John Roberts
Tennessee Department of Health
Phone: +1 615-741-3702
Email: john.a.roberts@tn.gov

Mark Shafarman, FHL7
Shafarman Consulting
Phone: +1 510-593-3483
Email: mark.shafarman@earthlink.net

VOCABULARY

Jim Case, MS, DVM, PhD, FHL7
National Library of Medicine
Phone: +1 301-412-9287
Email: james.case@mail.nih.gov

Heather Grain
eHealth Education
Phone: +61 3-956-99443
Email: heather@lginformatics.com

Russell Hamm
Lantana Consulting Group
Phone: +1 507-271-0227
Email: russ.hamm@lantanagroup.com

Robert Hausam, MD
Hausam Consulting, LLC
Phone: +1 801-949-1556
Email: rrhausam@gmail.com

William Ted Klein, FHL7
Klein Consulting Informatics LLC
Phone: +1 307-883-9739
Email: kci@tklein.com

Robert McClure, MD
MD Partners, Inc.
Phone: +1 303-926-6771
Email: mcclure@mdpartners.com

Upcoming International Events

Date	Event	Website	Location
May 8-13, 2016	HL7 May Working Group Meeting	www.HL7.org	Montréal, Quebec, Canada
May 24-25, 2016	eHealth2016	www.ehealth2016.at	Vienna, Austria
June 5-8, 2016	e-Health 2016 (Canada)	www.e-healthconference.com	Vancouver, British Columbia, Canada
June 8-10, 2016	eHealth Week 2016	www.ehealthweek.org	Amsterdam, The Netherlands
June 13-15, 2016	16th International HL7 Interoperability Conference (IHIC) 2016	ihic2016.eu	Genoa, Italy
June 25-29, 2016	NI2016	ni2016.org	Geneva, Switzerland
July 25-27, 2016	HIC2016	hic2016.org	Melbourne, Australia
August 28-September 2, 2016	HEC 2016 (Includes MIE 2016)	hec2016.eu	Munich, Germany

HL7 Facilitators

MODELING AND METHODOLOGY FACILITATORS

George (Woody) Beeler, Jr., PhD, FHL7
Beeler Consulting LLC
Facilitator-at-Large
Phone: +1 507-254-4810
Email: woody@beelers.com

Charlie Bishop
HL7 UK
Clinical Statement
Phone: +44 7989-705-395
Email: hl7@bishops-online.net

Kathleen Connor
Edmond Scientific Company
Financial Management
Email: kathleen_connor@comcast.net

Kevin Coonan, MD
Emergency Care
Email: kevin.coonan@gmail.com

Jean Duteau
Duteau Design Inc.
Patient Care; Pharmacy
Phone: +1 780-328-6395
Email: jean@duteaudesign.com

Hugh Glover
HL7 UK
Medication
Phone: +44 0-7889-407-113
Email: hugh_glover@
    bluewaveinformatics.co.uk

Grahame Grieve, FHL7
HL7 International; Health
    Intersections Pty Ltd
Infrastructure & Messaging
Phone: +1 61-3-9844-5796
Email: grahame@hl7.org; grahame@
    healthintersections.com.au

Alexander Henket
HL7 Netherlands
Patient Administration
Email: henket@nictiz.nl

William "Ted" Klein, FHL7
Klein Consulting Informatics LLC
Vocabulary
Phone: +1 307-883-9739
Email: kci@tklein.com

Austin Kreisler, FHL7
Leidos, Inc.
Structured Documents
Phone: +1 706-525-1181
Email: austin.j.kreisler@leidos.com

Patrick Loyd
Orders & Observations
Email: patrick.e.loyd@gmail.com

Joginder Madra
Madra Consulting Inc.
Immunization, PHER
Phone: +1 780-717-4295
Email: hl7@madraconsulting.com

Dale Nelson, FHL7
Accenture
Implementable Technology Specifications
Phone: +1 916-367-1458
Email: dale.m.nelson@accenture.com

Lloyd McKenzie
HL7 Canada
Facilitator-at-Large
Email: lloyd@lmckenzie.com

Craig Parker, MD
Intermountain Healthcare
Clinical Decision Support
Phone: +1 801-891-6124
Email: craigparkermd@gmail.com

Amnon Shabo, PhD
Philips Healthcare
Clinical Genomics
Email: amnon.shvo@gmail.com

AbdulMalik Shakir Sr., FHL7
Hi3 Solutions
*Clinical Interoperability Council;
    Modeling & Methodology*
Phone: +1 626-644-4491
Email: abdulmalik.shakir@
    hi3solutions.com

Ioana Singureanu, FHL7
Eversolve, LLC
CBCC; Health Care Devices
Phone: +1 603-870-9739
Email: ioana.singureanu@gmail.com

Corey Spears
Electronic Health Records
Email: spears.corey@gmail.com

D. Mead Walker, FHL7
Mead Walker Consulting
RCRIM
Phone: +1 610-518-6259
Email: dmead@comcast.net

PUBLISHING FACILITATORS

Becky Angeles
ESAC Inc.
RCRIM
Email: rebecca.angeles@esacinc.com

Douglas Baird
Boston Scientific Corporation
Templates
Phone: +1 651-582-3241
Email: douglas.baird@guidant.com

Lorraine Constable
HL7 Canada
Orders & Observations
Phone: +1 780-951-4853
Email: lorraine@constable.ca

Mike Davis
US Department of Veterans Affairs
Security
Phone: +1 760-632-0294
Email: mike.davis@va.gov

Jean Duteau
Duteau Design Inc.
PHER
Phone: +1 780-328-6395
Email: jean@duteaudesign.com

Isobel Frean
Bupa Group
Clinical Statement
Phone: +44 207-656-2146
Email: isobelfrean@btinternet.com

Peter Gilbert
Meridian Health Plan
Structured Documents
Phone: +1 734-604-0255
Email: peter.gilbert@mhplan.com

Robert Hallowell
Cerner Corporation
Medication; Pharmacy
Phone: +1 610-219-5612
Email: robert.hallowell@cerner.com

Alexander Henket
HL7 Netherlands
Patient Administration
Email: henket@nictiz.nl

Anthony Julian, FHL7
Mayo Clinic
Infrastructure & Messaging
Phone: +1 507-266-0958
Email: ajulian@mayo.edu

Margaret (Peggy) Leizear
Food and Drug Administration
RCRIM
Phone: +1 301-796-8495
Email: peggy.leizear@fda.hhs.gov

Mary Kay McDaniel
Cognosante, LLC
Financial Management
Email: marykay.mcdaniel@cognosante.com

Dale Nelson, FHL7
Accenture
*CMET; Implementable
   Technology Specifications*
Phone: +1 916-367-1458
Email: dale.m.nelson@accenture.com

Frank Oemig, PhD, FHL7
HL7 Germany
German Realm
Phone: +49 208-781194
Email: hl7@oemig.de

Craig Parker, MD
Intermountain Healthcare
Clinical Decision Support
Phone: +1 801-891-6124
Email: craigparkermd@gmail.com

John Ritter
Electronic Health Records
Phone: +1 412-372-5783
Email: johnritter1@verizon.net

Ioana Singureanu, FHL7
Eversolve, LLC
CBCC
Phone: +1 603-870-9739
Email: ioana.singureanu@gmail.com

Margarita Sordo
Partners HealthCare System, Inc.
Gello
Phone: +1 781-416-8479
Email: msordo@partners.org

Anita Walden
Duke Translational Medicine Institute
Clinical Interoperability Council
Phone: +1 919-668-8256
Email: anita.walden@duke.edu

Grant Wood
Intermountain Healthcare
Clinical Genomics
Phone: +1 801-408-8153
Email: grant.wood@imail.org

VOCABULARY FACILITATORS

Paul Biondich, MD
IU School of Medicine
Child Health
Phone: +1 317-278-3466
Email: mollewis@iupui.edu

Kathleen Connor
Edmond Scientific Company
Financial Management, Security
Email: kathleen_connor@comcast.net

Kevin Coonan, MD
Emergency Care
Email: kevin.coonan@gmail.com

Guilherme Del Fiol, MD, PhD
University of Utah Health Care
Clinical Decision Support
Phone: +1 919-213-4129
Email: guilherme.delfiol@utah.edu

Christof Gessner
HL7 Germany
Health Care Devices
Phone: +49 172-3994033
Email: christof.gessner@gematik.de

W. Edward Hammond, PhD, FHL7
Duke Transitional Medicine Institute
Templates
Phone: +1 919-668-2408
Email: william.hammond@duke.edu

Monica Harry
HL7 Canada
PHER
Email : monicah1533@gmail.com

Robert Hausam, MD
Hausam Consulting LLC
*Orders & Observations;
   Structured Documents*
Phone: +1 801-949-1556
Email: rrhausam@gmail.com

Joyce Hernandez
Clinical Genomics
Email: joyce.hernandez_0029@yahoo.com

Wendy Huang
Canada Health Infoway
Patient Administration
Phone: +1 416-595-3449
Email: whuang@infoway-inforoute.ca

Julie James
Blue Wave Informatics
Medication; Pharmacy; RCRIM
Email: julie_james@
   bluewaveinformatics.co.uk

William "Ted" Klein, FHL7
Klein Consulting Informatics LLC
Modeling & Methodology
Phone: +1 307-883-9739
Email: kci@tklein.com

Susan Matney
3M Health Information Systems
Patient Care
Phone: +1 801-447-9294
Email: samatney@mmm.com

Robert McClure, MD
MD Partners, Inc.
CBCC
Phone: +1 303-926-6771
Email: rmcclure@mdpartners.com

Sarah Ryan
Ockham Information Services
Clinical Interoperability Council
Email: ryansaraha1@earthlink.net

Harold Solbrig
Mayo Clinic
Modeling & Methodology
Email: solbrig.harold@mayo.edu

Harry Solomon
GE Healthcare
Imaging Integration
Phone: +1 847-277-5096
Email: harry.solomon@med.ge.com

Sandra Stuart
Kaiser Permanente
Infrastructure & Messaging
Phone: +1 925-519-5735
Email: sandra.stuart@kp.org

Pat Van Dyke, RN
Delta Dental Plans Association
Electronic Health Records
Phone: +1 503-780-7414
Email: patricia.vandyke2@gmail.com

HL7 ARGENTINA
Fernando Campos
Phone: +54 11-4781-2898
Email: fernando.campos@
hospitalitaliano.org.ar

HL7 AUSTRALIA
Nat Wong
Email: chair@HL7.org.au

HL7 AUSTRIA
Stefan Sabutsch
Phone: +43 664-3132505
Email: standards@sabutsch.at

HL7 BOSNIA AND HERZEGOVINA
Samir Dedovic
Phone: +387 0-33-721-911
Email: samir.dedovic@medit.ba

HL7 BRAZIL
Marivan Abrahao MD
Phone: +55 11-5573-9580
Email: marivan@mac.com

HL7 CANADA
Melva Peters
Phone: +1 778-228-4839
Email: mpeters@gevityinc.com

HL7 CHINA
Professor Baoluo Li
Phone: +86 010-65815129
Email: liblpumch@gmail.com

HL7 CROATIA
Miroslav Koncar
Phone: +385 99-321-2253
Email: miroslav.koncar@oracle.com

HL7 CZECH REPUBLIC
Libor Seidl
Phone: +420 605740492
Email: seidl@hl7cr.eu

HL7 DENMARK
Lene Nielsen
Phone: +45 39966101
Email: ln@ds.dk

HL7 FINLAND
Juha Mykkanen, PhD
Phone: +358 403552824
Email: juha.mykkanen@thl.fi

HL7 FRANCE
Nicolas Canu
Phone: +33 02-35-60-41-97
Email: nicolas.canu@wanadoo.fr

HL7 GERMANY
Sylvia Thun, MD, PhD
Phone: +49 221-4724-344
Email: chair@hl7.de

HL7 GREECE
Alexander Berler
Phone: +30 2111001691
Email: a.berler@gnomon.com.gr

HL7 HONG KONG
Chun-Por Wong
Phone: +852 3488-3762
Email: chair@HL7.org.hk

HL7 INDIA
Chandil Gunashekara MBBS,MHA
Email: chairman@HL7india.org

HL7 ITALY
Giorgio Cangioli
Phone: +39 06-42160685
Email: giorgio.cangioli@gmail.com

HL7 JAPAN
Michio Kimura, MD, PhD
Phone: +81 53-435-2770
Email: kimura@mi.hama-med.ac.jp

HL7 KOREA
Byoung-Kee Yi, PhD
Phone: +82 234101944
Email: byoungkeeyi@gmail.com

HL7 NETHERLANDS
Bert Kabbes
Phone: +31 653485366
Email: kabbes@wxs.nl

HL7 NEW ZEALAND
David Hay, MD
Phone: +64 9-638-9286
Email: david.hay25@gmail.com

HL7 NORWAY
Line Saele
Phone: +47 9592-5357
Email: line.sele@nasjonalikt.no

HL7 PHILIPPINES
Michael Hussin Muin, MD
Phone: +63 928-554-3435
aEmail: mikemuin@gmail.com

HL7 ROMANIA
Florica Moldoveanu
Phone: +40 21-4115781
Email: florica.moldoveanu@cs.pub.ro

HL7 RUSSIA
Sergey Shvyrev MD, PhD
Phone: +7 495-434-55-82

Email: sergey.shvyrev@gmail.com

HL7 SERBIA
Filip Toskovic
Phone: +381 65-2515188
Email: filip.toskovic@lastbajt.com

HL7 SINGAPORE
Adam Chee
Email: hl7@binaryhealthcare.com

HL7 SLOVENIA
Brane Leskosek, PhD
Phone: +386 543-7775
Email: brane.leskosek@mf.uni-lj.si

HL7 SPAIN
Francisco Perez
Phone: +34 637208657
Email: fperezfernan@gmail.com

HL7 SWEDEN
Mikael Wintell
Phone: +46 736-254831
Email: mikael.wintell@vgregion.se

HL7 SWITZERLAND
Marco Demarmels MD, MBA
Phone: +41 712791189
Email: HL7@lakegriffin.ch

HL7 TAIWAN
Yu-Ting Yeh
Phone: +886 2-2552-6990
Email: yuting@tmu.edu.tw

HL7 UK
Philip Scott, PhD
Phone: +44 8700-112-866
Email: chair@hl7.org.uk

HL7 URUGUAY
Julio Leivas, MD
Phone: +598 095229291
Email: jleivas@adinet.com.uy

2016 HL7 Staff

Chief Executive Officer

Charles Jaffe MD PhD
+1 858-720-8200
cjaffe@HL7.org

**Chief
Technology Officer**

Wayne Kubick
+1 847-842-1846
wkubick@HL7.org

Executive Director

Mark McDougall
+1 734-677-7777 x103
markmcd@HL7.org

**Associate
Executive Director**

Karen Van Hentenryck
+1 734-677-7777 x104
karenvan@HL7.org

Director of Meetings

Lillian Bigham
+1 989-736-3703
lillian@HL7.org

Manager of Education

Mary Ann Boyle
+1 734-677-7777 x141
maryann@HL7.org

Director of Education

Sharon Chaplock PhD
+1 414-778-2167
sharon@HL7.org

**FHIR Product
Director**

Grahame Grieve
+1 734-677-7777
grahame@HL7.org

**Director of Global
Partnerships
and Policy**

Ticia Gerber
+1 202-486-5236
tgerber@HL7.org

**Director, Project
Management Office**

Dave Hamill
+1 734-677-7777 x142
dhamill@HL7.org

Director of Marketing

Melanie Hilliard
+1 734-677-7777 x101
melanie@HL7.org

**Director of Membership and
Administrative Services**

Linda Jenkins
+1 734-677-7777 x170
linda@HL7.org

**Director of Technical
Services**

Tamara Kamara
+1 734-677-7777 x125
tamara@HL7.org

**Director of Technical
Publications**

Lynn Laakso, MPA
+1 906-361-5966
lynn@HL7.org

Web Developer

Laura Mitter
+1 740-963-9839
laura@HL7.org

Director of Communications

Andrea Ribick
+1 734-677-7777 x165
andrea@HL7.org

HL7 Project Manager

Anne Wizauer
+1 734-677-7777 x112
anne@HL7.org

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BOARD CHAIR	**VICE-CHAIR**	**CHAIR EMERITUS & BOARD SECRETARY**	**BOARD TREASURER**	**TSC CHAIR**

Patricia Van Dyke
Delta Dental Plans Association
+1 503-243-4492
patricia.vandyke@modahealth.com

Stanley Huff, MD
Intermountain Healthcare
+1 801-507-9111
stan.huff@imail.org

W. Edward Hammond, PhD
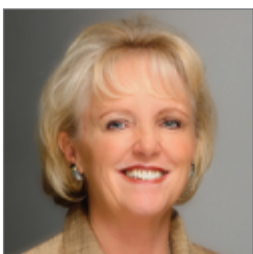Duke Translational Medicine Institute
+1 919-668-2408
william.hammond@duke.edu

Russell Leftwich, MD
InterSystems
+1 617-551-2111
cmiotn@gmail.com

Ken McCaslin, MAR
Rene Harvey and Associates
hkenmccaslin@gmail.com

APPOINTED

AFFILIATE DIRECTORS

Liz Johnson, MS, RN-BC
Tenet Healthcare
+1 4698932039
liz.johnson@tenethealth.com

Mary Ann Slack
Food and Drug Administration
+1 301-796-0603
maryann.slack@fda.hhs.gov

Jeremy Thorp
Health and Social Care Information Centre
+44 113-397-3145
jeremy.thorp@hscic.gov.uk

Beat Heggli
HL7 Switzerland
+41 44-297-5737
beat.heggli@netcetera.com

Frank Oemig, PhD
HL7 Germany
+49 208-781194
hl7@oemig.de

DIRECTORS-AT-LARGE

Keith Boone
GE Healthcare
+1 617-640-7007
keith.boone@ge.com

Hans Buitendijk
Cerner Corporation
+1 610-219-2087
hans.buitendijk@cerner.com

James Case, MS, DVM, PhD
National Library of Medicine
+1 301-412-9287
james.case@mail.nih.gov

Floyd Eisenberg, MD
iParsimony LLC
+1 202-643-6350
feisenberg@iparsimony.com

NON-VOTING MEMBERS

Charles Jaffe, MD, PhD
HL7 CEO
+1 858-720-8200
cjaffe@HL7.org

Wayne Kubick
HL7 CTO
+1 847-842-1846
wkubick@HL7.org

John Quinn
HL7 CTO Emeritus
+1 216-409-1330
jquinn@HL7.org

Mark McDougall
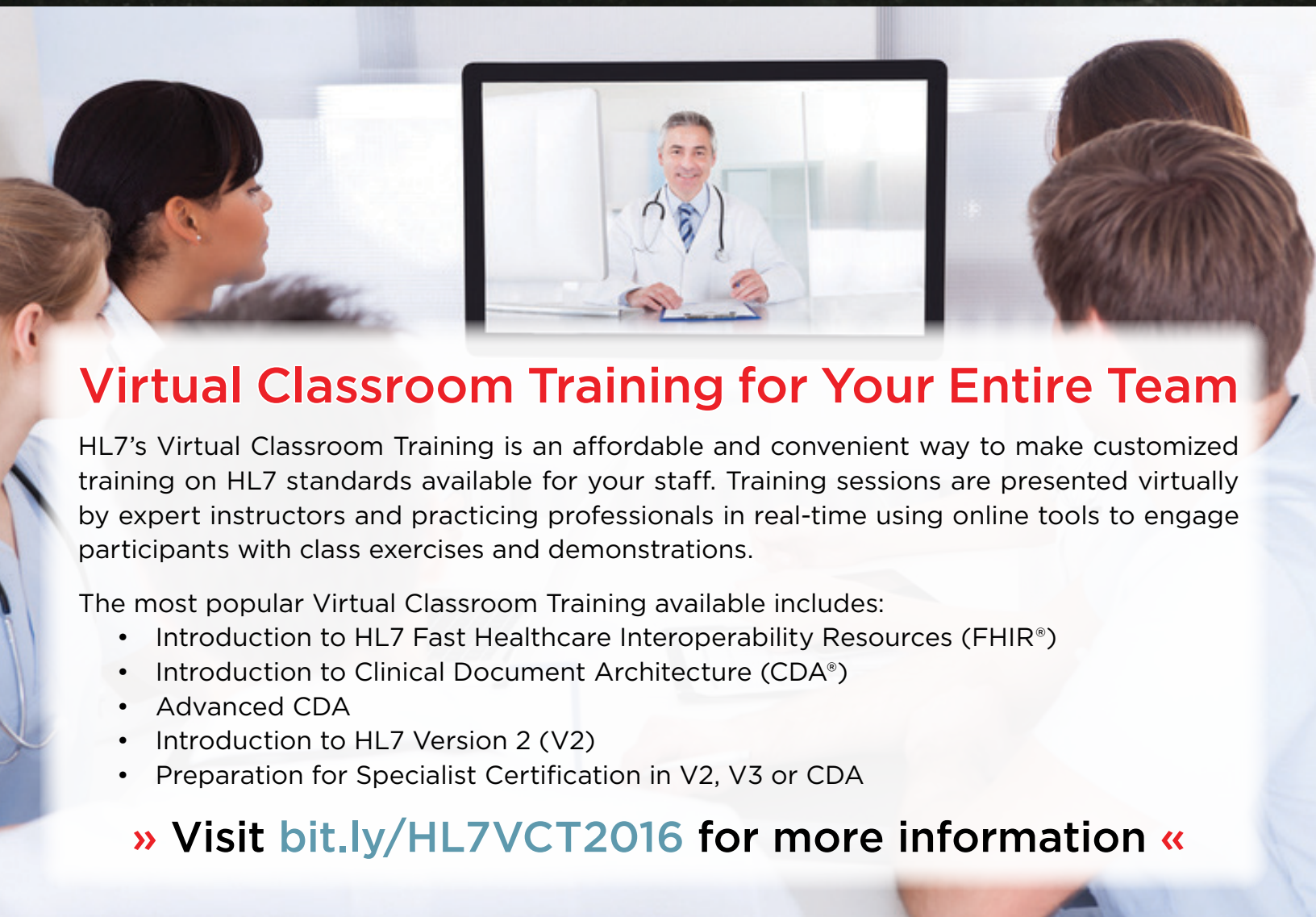HL7 Executive Director
+1 734-677-7777 x103
markmcd@HL7.org

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September 18 – 23, 2016
30th Annual Plenary & Working Group Meeting

Hyatt Regency Baltimore

Baltimore, Maryland

January 15 – 20, 2017
Working Group Meeting

Hyatt Regency San Antonio on the Riverwalk

San Antonio, Texas

May 7 – 12, 2017
Working Group Meeting

Madrid Marriott Auditorium Hotel & Conference Center

Madrid, Spain

September 10 – 15, 2017
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Hyatt Regency La Jolla at Aventine

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