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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

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
- iINTERFACEWARE
- 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.
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

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

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

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

Wayne Kubick hired as HL7’s CTO

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.
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
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.

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 standards 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
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.
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.
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.
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.
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).

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.”

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

Continued on page 15
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.

**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 Skjærsvold (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.

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.

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<th>Appointed:</th>
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<td></td>
<td>Elected by HL7 individual members, representatives of organizational members and affiliates</td>
<td>Some Board members are appointed; others are ex officio members</td>
</tr>
<tr>
<td>Technical Steering Committee</td>
<td>Elected by the steering divisions and other bodies, e.g. ArB</td>
<td>Some TSC members are appointed; others are ex officio members</td>
</tr>
<tr>
<td>Steering Division (Co-chairs)</td>
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<tr>
<td>Work Group (Co-chairs)</td>
<td>Elected by the work group members</td>
<td>Temporary appointments: Acting and Interim</td>
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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) positions, 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 HL7 membership 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
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.

Join the revolution. If you have earned certification in V2, V3 RIM or CDA standards, go to the HL7 Digital Badge site at http://www.badgelist.com/HL7 to pick up your digital badge. It’s free and available now. Just bring your electronic certificate. Show the world your credentials and gain recognition for your hard work.

For more background information on digital badges, please use the following resources:
Congratulations to the following people who recently passed the HL7 Certification Exam

Newly Certified HL7 Specialists

<table>
<thead>
<tr>
<th>Certified HL7 Version 2.x Chapter 2 Control Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DECEMBER 2015</strong></td>
</tr>
<tr>
<td>Greg Stinson</td>
</tr>
<tr>
<td>Dennis Davila</td>
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<tr>
<td>Jamie Martin</td>
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<tr>
<td>Alfonso Moreno Mosqueda</td>
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<tr>
<td>James Seagroves</td>
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<tr>
<td>Janis Huber</td>
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<tr>
<td>James Bruckart</td>
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<tr>
<td>Nidhi Sadh</td>
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<tr>
<td>Michael Patrick</td>
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<tr>
<td>Naga Nivedha Malli</td>
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<tr>
<td>ChandraSekaran</td>
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<tr>
<td>Conchi Díaz Caballero</td>
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<tr>
<td>Jose Barba Martínez</td>
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<tr>
<td>Antonio Fornis Méndez</td>
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<tr>
<td>Juan Ignacio Nuñez Aguilar</td>
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<tr>
<td>David García García</td>
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<tr>
<td>Félix Sánchez Díez</td>
</tr>
<tr>
<td><strong>JANUARY 2016</strong></td>
</tr>
<tr>
<td>James Center</td>
</tr>
<tr>
<td>KrishnaChaitanya Putta</td>
</tr>
<tr>
<td>Jainarine Balkaran</td>
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<tr>
<td>Matthew Grimes</td>
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<tr>
<td>Albert Graupera Díaz</td>
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<tr>
<td>Marc Gorriz Marcelino</td>
</tr>
<tr>
<td><strong>FEBRUARY 2016</strong></td>
</tr>
<tr>
<td>Rebecca Middaugh</td>
</tr>
<tr>
<td>Victor Varon</td>
</tr>
<tr>
<td>Aamer Abbas</td>
</tr>
<tr>
<td>Chris Schneider</td>
</tr>
</tbody>
</table>

Certified HL7 CDA Specialist

| **DECEMBER 2015**                                      |
| Santhosh K                                            |
| **JANUARY 2016**                                      |
| Ana Azpiazu Carmouze                                  |
| Russell McDonell                                      |
| Raj Mehra                                             |
| **FEBRUARY 2016**                                     |
| Supharerker Thawillarp                                |

Certified HL7 Version 3 RIM Specialist

| **JANUARY 2016**                                      |
| Oyvind Aassve                                        |
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Allscripts
Centers for Disease Control and Prevention/CDC
Cerner Corporation
Duke Translational Medicine Institute
Edifecs
Epic
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GE Healthcare
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HealthCare System, Inc.
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Quest Diagnostics, Incorporated
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U.S. Department of Defense, Military Health System
U.S. Department of Veterans Affairs

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Akana
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American Health Information Management Association
American Society of Clinical Oncology
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CDISC
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C-HIT
CNIPS, LLC
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Corepoint Health
Department of State Health Services (Texas)
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National Association of Dental Plans
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Standing Stone, LLC
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UMass Memorial Health Care
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Varian Medical Systems
WiseDesign

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Cognosante, LLC
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Edmond Scientific Company
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Shaferman Consulting
SLI Global Solutions
Stat! Tech-Time, Inc.
Systex, Inc.
Vernetzt, LLC
Virginia Riehl
Whipple Consulting, LLC

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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
CA Department of Public Health
California Department of Health Care Services
Cambia Health Solutions
Center for Medical Interoperability
Centers for Medicare & Medicaid Services
City of Houston
Organizational Members • May 2016

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
Council of State and Territorial Epidemiologists
Department of Developmental Services
Department of Health & Human Services
DGS, Commonwealth of Virginia
ECRI Institute
Estonian eHealth Foundation
Florida Department of Health
GSI US
Health Sciences South Carolina
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
Merner 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
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Universidad Distrital Francisco Jos? de Caldas
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University of Miami
University of Minnesota
University of Texas Medical Branch at Galveston
Virginia Department of Health
Washington State Department of Health
Westat
WNY HEALTHeLINK
WorldVistA
Payers
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Blue Cross and Blue Shield of Alabama
Blue Cross Blue Shield of Michigan
Blue Cross Blue Shield of South Carolina
BlueCross BlueShield of Tennessee
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Delta Dental Plans Association
Healthspring
Highmark Health
Meridian Health Plan
Premera Blue Cross
Wisconsin Physicians Service Ins. Corp.
Pharmacy
GlaxoSmithKline

Providers
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Albany Medical Center
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Johns Hopkins Hospital
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Perry Community Hospital
Pocono Medical Center
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Regenstrief Institute, Inc.
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South Bend Medical Foundation, Inc.
Sparrow Health System
Spectrum Health
St. Joseph’s Healthcare System
Organizational Members (Continued)

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Sutter Health
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The Children's Hospital of Philadelphia
Trinity Health
Tuomey Healthcare System
UK HealthCare
UNC Health Care System
University of Louisville Physicians
University of Nebraska Medical Center
University of New Mexico Hospitals
University of Utah Health Care
University of Utah Pediatric Critical Care/ICRC
University Physicians, Inc.
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Amtelco
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HealthTrio, LLC
Healthwise, Inc.
heartbase, inc.
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The Echo Group
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The SSI Group, Inc.
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Uniform Data System for Medical Rehabilitation
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Wasko S.A.
WebMD Health Services
Wellsoft Corporation
Wolters Kluwer Health
WoundVision, LLC
XIFIN, Inc.
Zoho Corp.

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IT21 Solutions, LLC
Starwest Tech
Varian Medical Systems

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ACUTA LLC
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almerys
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Assistentis, SIA
Catalyze
Centre Hospitalier du Nord
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Council of State and Territorial Epidemiologists
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EBSCO Health
eMedApps Inc.
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Healthcare Services Platform Consortium
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MedSked, LLC
Mednax Services, Inc.
Point-of-Care Partners
Post-N-Track Corporation
Prime Healthcare Services - Monroe, LLC
Provincial Health Services Authority
Strathmore University
United Physicians
Whipple Consulting, LLC
WoundVision, LLC
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2016 TECHNICAL STEERING COMMITTEE MEMBERS

Steering Divisions

DOMAIN EXPERTS
Anatomic Pathology
Anesthesiology
Attachments
Biomedical Research Integrated Domain Group
Child Health
Clinical Genomics
Clinical Interoperability Council
Clinical Quality Information
Community Based Collaborative Care
Emergency Care
Health Care Devices
Patient Care
Pharmacy
Public Health & Emergency Response
Regulated Clinical Research
Information Management

FOUNDATION & TECHNOLOGY
Application Implementation & Design
Clinical Information Modeling Initiative
Conformance & Guidance for Implementation/Testing
Implementable Technology Specifications
Infrastructure & Messaging
Modeling & Methodology
Security
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Vocabulary

TECHNICAL/SUPPORT SERVICES
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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

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<th>Website</th>
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<td><a href="http://www.ehealth2016.at">www.ehealth2016.at</a></td>
<td>Vienna, Austria</td>
<td>May 24-25, 2016</td>
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<tr>
<td>June 5-8, 2016 e-Health 2016 (Canada)</td>
<td><a href="http://www.e-healthconference.com">www.e-healthconference.com</a></td>
<td>Vancouver, British Columbia, Canada</td>
<td>June 5-8, 2016</td>
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January 15 – 20, 2017
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Hyatt Regency San Antonio on the Riverwalk
San Antonio, Texas

May 7 – 12, 2017
Working Group Meeting
Madrid Marriott Auditorium Hotel & Conference Center
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