

# HL7<sup>®</sup> 3

A stylized flame graphic in shades of yellow and orange, positioned to the right of the large red number 3.

## YEARS OF STANDARDS DEVELOPMENT



2016 ANNUAL REPORT



## **HL7® VISION**

A world in which everyone can securely access and use the right health data when and where they need it.

## **HL7® MISSION**

To provide standards that empower global health data interoperability.

## TABLE OF CONTENTS

Chair Report	4
Countries with HL7 Affiliates	7
CEO Report	8
CTO Update	12
HL7 International Committees and Work Groups	15
Treasurer Report	16
Executive Director Report	18
2016 Board of Directors	26
HL7 Collaborates	27
HL7 2016 Standards Snapshot	28
HL7 Year in Photos	30

## CHAIR REPORT



Patricia Van Dyke, RN

*HL7 International Chair*

I am very honored to have served as the chair of HL7 for the past year. When I spoke to the membership in January 2016, I discussed my pride in this organization, its leadership and, most of all, in each of our members. I also suggested that there is a lot of work to do—not only in making our standards implementable, including the detail of data and terminology—but also documented so they may be implemented consistently.

I discussed the need to ensure that we are sound financially so the organization may provide the services needed by the members as well as being able to take advantage of opportunities that would empower our position as a premier standards development organization. Lastly, I touched on the desire for internationalization. I want to comment briefly on some of the activities.

### **HL7's Role as the Premier Organization in Interoperability**

In 2016, we continued to make significant moves to transform HL7 and further enhance our standing in the industry as a premier standards development organization. I know based on the projects discussed by the international community that there continues to be great uptake of the HL7 product families.

That said, HL7 Fast Healthcare Interoperability Resources (FHIR®) has continued to be a primary player on the global stage with work being done in the Asia Pacific region, Europe, and North and South America. The demand for education has been worldwide. We have seen ever growing participation at FHIR connectathons whether sponsored by HL7 or by other organizations. In the United States, the importance of the FHIR standard in the development of healthcare interoperability has been called out on more than one occasion. We are seeing the active uptake of FHIR in major healthcare projects in the United Kingdom as well as Australia. It is important that we continue to centrally develop this new standard and ensure that it is positioned clearly within our product lines.



**HL7 Fast Healthcare Interoperability Resources (FHIR®) has continued to be a primary player on the global stage with work being done in the Asia Pacific region, Europe, North and South America.**



## Membership

In early 2013, HL7 International announced the policy of licensing all of our standards as free for use. This announcement was highly recognized and applauded by the healthcare industry. The change provided the environment to reduce barriers to adoption of the standards but also the environment to encourage the development and implementation of HL7's work internationally. It is of concern that with this policy we are continuing to see a slow year to year decline in organizational membership. At the same time, we are also seeing an unprecedented uptake of our standards—especially FHIR—by a large number of organizations internationally. I have asked the board and the membership to work to identify ways in which we can enhance this organization to make it robust not only in standards but also to increase the appeal and benefits of being a member.

## Moving the Board Toward Strategic Thinking

At the end of 2015, HL7's leadership engaged an industry expert to provide guidance in transitioning board from being operationally focused to one focused on strategy. This transition is not an overnight event. As we move forward, we will continue to expect more active participation and involvement of the board members. We feel it is important to identify and recruit talent for board members to not only help us think more broadly, but also bring the experience we need to develop a new business model in order to better serve the members and the organization. Part of this is the Leadership Development work which is currently being formalized and vetted with the HL7 membership.



**The incoming 2016 HL7 Board of Directors gather for a group photo at the January 2016 Working Group Meeting**

## CHAIR REPORT

### Internationalization

Healthcare is international. I truly believe that having the presence and active involvement of an international community makes us a better organization. I know I am not alone in wanting to see our global participation increase. We have made a concerted effort to have one of our working group meetings outside the United States every year. We will be in Madrid, Spain in 2017 and look forward to the May 2018 Working Group Meeting in Germany. These meetings provide the opportunity to engage with communities that use or are interested in using our products. The sharing of how healthcare is conducted and how standards are used is invaluable to all participants. Even more importantly, the relationships that develop as a result of working across global boundaries are priceless.

There has been interest in broadening how the international community is brought together under the HL7 umbrella for a number of years. The Internationalization Task Force has been working this year to determine how we can enhance working together globally as well as how we might change organizationally to ensure the active participation of this community.

I sincerely thank you for your support during this past year. I enjoy meeting you and have enjoyed the opportunity to travel to your countries during this past year. There is a lot of work to be done. The agenda for 2017 is much the same as 2016. As we are a volunteer driven organization, I count on and appreciate your support, collaboration, and professionalism as we continue to move through these rapidly changing times.



**We were pleased that 428 attendees participated in our May WGM held in Montreal, Quebec, Canada from May 8-13, 2016. Fifty HL7 work groups convened meetings in Montreal and 17 conducted co-chair elections. Attendees also took advantage of a FHIR connectathon and 30 tutorials during that week.**

*Danicia A Van Dyke*

A world map with a yellow-to-orange gradient, overlaid with a faint circuit board pattern. The map shows the outlines of continents and some technical labels like 'JUMPER', 'BUTTON', 'P11', 'P12', 'P13', 'P14', 'P15', 'P16', 'P17', 'P18', 'P19', 'P20', 'P21', 'P22', 'P23', 'P24', 'P25', 'P26', 'P27', 'P28', 'P29', 'P30', 'P31', 'P32', 'P33', 'P34', 'P35', 'P36', 'P37', 'P38', 'P39', 'P40', 'P41', 'P42', 'P43', 'P44', 'P45', 'P46', 'P47', 'P48', 'P49', 'P50', 'P51', 'P52', 'P53', 'P54', 'P55', 'P56', 'P57', 'P58', 'P59', 'P60', 'P61', 'P62', 'P63', 'P64', 'P65', 'P66', 'P67', 'P68', 'P69', 'P70', 'P71', 'P72', 'P73', 'P74', 'P75', 'P76', 'P77', 'P78', 'P79', 'P80', 'P81', 'P82', 'P83', 'P84', 'P85', 'P86', 'P87', 'P88', 'P89', 'P90', 'P91', 'P92', 'P93', 'P94', 'P95', 'P96', 'P97', 'P98', 'P99', 'P100'.

# COUNTRIES WITH HL7 AFFILIATES

1. Argentina	17. Italy
2. Australia	18. Japan
3. Austria	19. Korea
4. Bosnia & Herzegovina	20. Netherlands
5. Brazil	21. New Zealand
6. Canada	22. Norway
7. China	23. Russia
8. Croatia	24. Serbia
9. Czech Republic	25. Singapore
10. Denmark	26. Spain
11. Finland	27. Sweden
12. France	28. Switzerland
13. Germany	29. Taiwan
14. Greece	30. United Kingdom
15. Hong Kong	31. Uruguay
16. India	

# CEO REPORT



Charles Jaffe MD PhD

*HL7 International Chief  
Executive Officer*

Each year we rewrite the narrative of HL7. It's a story that's been in the making for thirty years, but more than ever we have the responsibility to get it right. The scenarios are changing all around us at an increasing rate. There has been a remarkable evolution in both medical science and in information technology, and the members of HL7 have been very much a part of it. At the same time, the societal and political landscape has morphed in ways that we could not have imagined only last year.

More than ever, it is our responsibility to keep up with these scientific, political and environmental changes.

## **HL7 Tools for the Future**

During the last year, the impact of the mantle of leadership has become more evident but, in some ways, no better defined. Around the globe, technology leaders and the press that chronicle them have issued a challenge. HL7 Version 2 (V2) and Clinical Document Architecture (CDA®) represent the foundations of our industry. For many, however, HL7 Fast Healthcare Interoperability Resources (FHIR®) represents the best hope for achieving interoperability of data for patient care, population health, applied clinical research, and precision medicine. At HL7, we are part of a highly complex, rapidly evolving ecosystem that supports new models for payment reform and and vast technological achievement.

The sciences of biology, engineering and communication are being rewritten right before us. We have critical partnerships with each of these communities that are ever deepening, but all are more dependent than ever on the regulatory requirements that govern each of them. These realities have come to the fore at a time in which our patients are becoming more responsible for the decisions that impact them. Each member of the HL7 family and our partners in industry, government and academia are becoming more dependent for the success of the other. I am certain that in 2017, we will be responsible for writing an important chapter in that history.



## FHIR Coming of Age

What's past is prologue. This year has seen some remarkable advances in our standards and in our culture. It was a year of many firsts, but HL7 FHIR celebrated its fifth birthday. We applauded the introduction of Release 3 of FHIR, supported by the intersystem interoperability achieved by SMART on FHIR. With it came increasing adoption of the FHIR platform in both the public and commercial sectors. EHR vendors and others introduced FHIR app stores as well as numerous technologies to implement FHIR globally. The international community provided much of the FHIR development leadership and offered some highly acclaimed implementation and training opportunities.

## Growth in the Argonaut Project Community and Activity

In the US, the Argonaut Project, a coalition of solution vendors, academia, and healthcare systems, remained a significant force in the creation of implementation strategies and guides. The Project emanated from the leadership of the JASON Report, which was announced in the fall of 2014. The Project brought agile development to the fore with the adoption of two to three week “sprint” exercises to ensure a more focused and more rapid means of assuring functionality and consistency. With it, the Argonaut community grew to more than 100 organizations committed to supporting and implementing the Argonaut process and artifacts.



**HL7 CEO Charles Jaffe, MD, PhD presents to a full house at the HL7 HIMSS booth in February 2016.**

## CEO REPORT

### Reaching More Stakeholders with the Partners in Interoperability Program

At the same time, in 2016 we welcomed the Partners in Interoperability program, which focused on addressing the needs of some of our key end-users. These included, but were not limited to, the clinical community, healthcare payer systems, and the BioPharma industry. Our leadership grew with new partners among medical societies, for which we addressed issues of workflow, business requirements, and usability. In addition, the program brought a much welcomed return to HL7 of stakeholders from pharma and biotech, including a surge in interest from the genomics industry and academic researchers. This March, Partners in Interoperability will reconvene at Georgia Tech.



Partners in  
Interoperability

### FHIR Roundtable Events Show off New FHIR Applications

Two new programs also emerged from the growing adoption of HL7 FHIR. The FHIR Applications Roundtable, introduced at Harvard Medical School, showcased nearly three dozen innovative



FHIR applications that were changing a broad spectrum of processes from care delivery to analytics. In March of 2017, we will reprise the Roundtable at Duke Medical School with a program highlighting contributions from the academic community, technology vendors, and the public sector.

### FHIR Foundation at FHIR.org

In support of the implementation community, HL7 introduced the FHIR Foundation ([FHIR.org](http://FHIR.org)). This newly incorporated non-profit organization will serve as a meeting place for implementers. FHIR resources, the FHIR specification and other standards-related artifacts will remain in the HL7 work groups. The Foundation will provide a development sandbox, a registry of FHIR implementations, and the tooling to enhance conformance testing and collaboration.

The FHIR community continues to partner with HL7 work groups to better support legacy systems and to foster enhanced interoperability. Already achieving some notable successes has been the program for CDA on FHIR. This is equally critical to both the private and public sectors. In addition, there are valuable partnerships that have emerged to support both Devices on FHIR and the Learning Health System. In addition, there is critical collaboration to advance mobile health and adverse event reporting.

## Expanding Adoption of FHIR

Government agencies worldwide have begun to adopt the HL7 FHIR platform. Notable among these is the National Health Service in the UK, which has leveraged FHIR for its next generation EHR system. In the US, there have been a wide range of agencies from the National Institutes of Health to the Food and Drug Administration, and from the Veterans Administration to the Center for Disease Control and Prevention, all of which have announced FHIR implementation programs. In addition, much of the emphasis by the Department of Health and Human Services has been led by the Office of the National Coordinator for Health Information Technology. Moreover, true international collaboration is making much of this possible. At the fore of these efforts are SNOMED International (IHTSDO) and the Regenstrief Institute, as well as the National Library of Medicine.

At every corner of the globe, more partnerships are emerging. These include a range of national programs, such as Sync for Science, and the Health Services Platform Consortium (HSPC). As more government agencies and private sector enterprises adopt an API (Application Programming Interface) strategy, innovative solutions that leverage FHIR will bring our communities closer together. The challenges of change bring new opportunities and foster closer ties around the world. As HL7 FHIR moves even closer to a normative standard, with exponential growth and improved infrastructure, our vision of seamless interoperability is within our grasp.

*Charles Gifford*



**Director of the Office of Standards and Technology at the ONC and HL7 member Steve Posnack visits the HL7 FHIR exhibition at eHealth Week, held June 6-8, 2016 in Amsterdam.**

## CTO UPDATE



WAYNE KUBICK

*Chief Technology Officer,  
HL7 International*

It has now been ten months since my arrival at HL7, with the rather daunting task of succeeding the eminent John Quinn as CTO, at the outset of what has become such a memorable watershed year in so many ways. Not incidentally, 2016 also saw the celebration of HL7's 30th birthday (and FHIR's fifth). So, the bar was set high to do my part to keep HL7 on a confident path toward a prosperous and productive future – a future that will surely realize the vision of a world in which “everyone can securely access and use the right health data when and where they need it.”

### Applying 30 Years of Experience

That's such a compelling and inspirational vision, which HL7 is uniquely qualified to advance with its unparalleled experience developing health data standards, its tireless expert community of volunteers, its broad portfolio of functioning data standards products and the accomplishments and extraordinary promise of its robust, burgeoning, new platform standard in HL7 Fast Healthcare Interoperability Resources (FHIR®).

Thus, in looking back at the year, I've been impressed by the many ways HL7 is helping to make global health data interoperability a reality. Along with a proud history of achievement, thirty years also brings with it a deep legacy of structures, processes, and work habits. Hence, one of my initial objectives was to look at HL7 with a different perspective, trying to zero in on the most essential cornerstones to build upon moving forward.

My approach has been grounded in first principles of essentialism, focus and simplicity. This is not intended to undervalue any of our historical achievements or our many strengths as an organization and community, but rather to help focus our collective attention on what matters most toward



achieving our future vision. In doing so, we need to minimize the burdens we place on our volunteers and leaders. The essence of essentialism is to be willing to make critical choices on what matters most. The goal of simplification is to make the organization more efficient and easier to understand, in the hope of being even more welcoming to newcomers who we hope will join our community and whose contributions will also be critical to growth and sustainability.



### Taking Inventory of Our Tools

One way to better support our volunteers and customers is to improve our tooling for collaboration, standards development and publication.

During 2016, we conducted an inventory of our current tooling. HL7 has more than 130 tools in various states of reliability identified to date, so we have some work cut out for us. To simplify and improve our collaboration environment, we're working to improve our conferencing capabilities with a uniform conferencing service with screen-sharing, VOIP and local international phone access for meetings.

We'd also like to make it easier for work groups and project teams to move toward cloud-based group editing of documents (including specifications and completion of forms like the PSS) and use common social media features such as commenting, likes and group chat to increase our efficiency and ease the effort of interacting across time zones.

For our standards production tooling, we're working on a multi-year plan to replace some of our most essential existing tools with a simplified infrastructure consisting of fewer, more supportable products that can ideally fulfill multiple purposes under a more uniform architecture.

**“My approach has been grounded in first principles of essentialism, focus and simplicity.”**

## CTO UPDATE

### Publishing Standards that Guide the Industry

The primary mission of HL7 is to provide standards that empower global health data interoperability. 2016 was another productive year in this respect, our most important *raison d'être*:

- 11 normative publications (including reaffirmations)
- 4 normative standards awaiting ANSI approval
- 7 informative publications
- 10 new balloted standards for trial use (STU) releases.

### Inspiring New Development

In the US, the Office of the National Coordinator for Health Information Technology provided grant support for several significant projects, including the C-CDA Rendering Tool Challenge, C-CDA R2.1 Companion Guide, new templates and improvements to the example repository, as well as several regional Implementation-a-thons.

Our prodigious FHIR standard continues to garner more attention, involvement and adoption in its relentless march toward enabling an interoperable future. 2016 saw the release of STU 3, the completion of the first Argonaut Project implementation guides, another set of successful connectathons ever expanding in scope and participation, and a rapidly growing portfolio of FHIR-based application solutions in use around the world.

Looking to 2017, we see a broad vista of promise, opportunity and progress coupled with several challenges. But it's clear that HL7's role in moving global healthcare toward a new world of interoperability has never been more essential. I look forward to walking along the winding path ahead to this new era together with all of you.



**HL7 congratulated first place winner of the HL7 C-CDA Rendering Tool Challenge, Bryn Lewis, PhD, Principal Software Development Consultant at Intelsoft in Melbourne, Australia. He developed the Intelsoft C-CDA Viewer, an easy-to-use viewer of complex C-CDA documents, available directly in any web browser.**

WJRK

# HL7 INTERNATIONAL COMMITTEES AND WORK GROUPS

Affiliate Due Diligence	Implementable Technology Specifications
Anesthesia	Infrastructure and Messaging
Application Implementation and Design	International Council
Architectural Review Board	International Mentoring Committee
Arden Syntax	Learning Health System
Attachments	Membership and Strategic Resources Committee
Biomedical Research Integrated Doman Group	Mobile Health
Child Health	Modeling and Methodology
Clinical Decision Support	Nominations
Clinical Genomics	Orders and Observations
Clinical Information Modeling Initiative	Patient Administration
Clinical Interoperability Council	Patient Care
Clinical Quality Information	Pharmacy
Clinical Statement	Policy Advisory Committee
Community Based Collaborative Care	Process Improvement
Conformance	Project Services
Education	Public Health and Emergency Response
Electronic Health Records	Publishing
Electronic Services and Tools	Recognition and Awards
Emergency Care	Regulated Clinical Research Information Management
FHIR Governance Board	Security
FHIR Infrastructure	Services Oriented Architecture
FHIR Management Group	Standards Governance Board
Financial Management	Structured Documents
Governance and Operations	Technical Steering Committee
Health Care Devices	Templates
Healthcare Standards Integration	Terminology Authority
HL7 Foundation Task Force	US Realm Steering Committee
Imaging Integration	Vocabulary

# TREASURER REPORT



Russell Leftwich, MD

*HL7 International Board  
Treasurer*

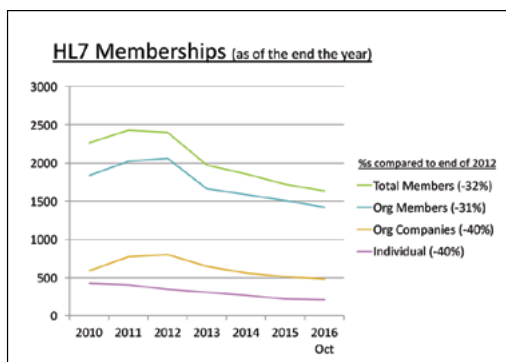
## Trends of Concern

Although 2015 revenues and expenses were encouraging, 2016 financials and a longer term view of HL7 financials are cause for concern. Projection of 2016 year end results foresees an approximate net loss of about 10% of total expenses even after cost cutting measures. Reserves remain at about twice the six months expenses, but show an absolute decline of about 10% for 2016 after a flattening the previous three years.

## Steady Decline in Membership

The most prominent trend over the past four years since licensing of HL7 IP was made open and free of cost has been a steady year-by-year reduction in organizational members.

Increased revenue from other sources has not been enough to offset this decline. The greatest portion of the decline in revenue is accounted for by a 40% decline in organizations which are vendors. A further revenue decline is the result of a number of organizations reducing their level of support by dropping benefactor status. A corresponding decline in individual members has had less revenue impact. The six year membership trends are depicted in the graph above.



## Meetings See Gains in Revenue and Expense

Working group meeting (WGM) attendance has shown a slow but steady increase over time. There is consequently an increase in expenses for each meeting. The corresponding increase in revenue has resulted in a modest positive net income on average. This does not fully account for the staff time required to produce the meetings. The greater expense and lower attendance typical of international meetings has made these meetings more



at risk for financial loss. Revenue and expenses for meetings over the past four years are shown in the graph at right.

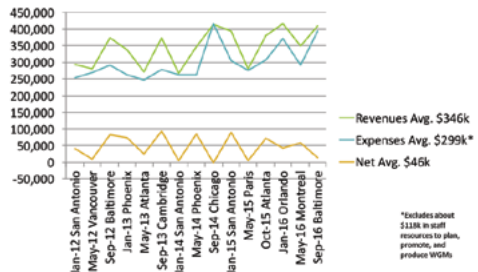
### Education Remains a Viable Product

Educational offerings outside of WGMs continue to be a source of significant revenue. A sharp decline in revenues from educational summit meetings in the past two years corresponding to a sharp fall in registrations and cancellation of some planned offerings is offset by an increase in revenues from webinar income. The resultant net has remained in a range averaging around 10 percent of total revenues over the past six years. These figures are reflected in the graph at right.

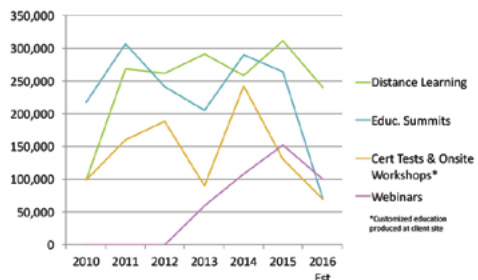
There has been an increase in income from grants over the past two years, but almost all of these funds represent a pass through for projects which the grants were intended to fund. There is no significant increase in net income as a result.

The projected net loss for 2016 is modest at about 10 percent of total budget. The cash reserves remain well above the expectation of six months of expenses. However, the clear trend over the past six years of a sustained decline in organizational memberships is of concern. The resulting actions of cutting expenses and limiting investment in new programs and modernizing organizational infrastructure is contrary to a strategy to grow as an organization to meet the expanding range of standards and the needs of a world where interoperability needs are growing exponentially.

**Working Group Meeting Financials**



**Revenues from other Educational Offerings**



# EXECUTIVE DIRECTOR REPORT



Mark McDougall

*HL7 International  
Executive Director*

## Membership Report

HL7 had 1,622 members on December 31, 2016, as compared to 1,720 one year earlier. The net decline of 98 total members represents 5.6% of HL7's membership, as compared to a decline of 137 members or 7.4% of HL7's membership one year earlier. This decline is primarily attributed to HL7's decision to license much of its intellectual property at no cost.

We currently have 23 benefactors, and 49 gold members. This represents a loss of three benefactor members and four gold members as compared to the previous year.

## Individual Memberships

As of December 31, 2016, HL7 had a total of 210 individual members. This total reflects 158 new members joining or being re-instated during 2016, as compared to 177 new members joining/reinstating during 2015. For the 2016 year, there was a net loss of seven individual members, as compared to a net loss of 53 in 2015.

## Organizational Memberships

There were a total of 476 organizational member firms on December 31, 2016, as compared to 509 one year earlier. For organizational members in 2016, there were 162 new organizations joining or being re-instated as compared to 174 in 2015. For the year, there was a net decrease in organizational memberships of 12, which compares to a decrease of 46 members during 2015 and 87 members during 2014.

## International Affiliate Members

There were 31 countries with active HL7 affiliates in 2016, as compared to 37 during 2015. The current countries with HL7 affiliates are noted on page 7. The six HL7 affiliates that closed operations during this year were Malaysia, Pakistan, Philippines, Puerto Rico, Romania, and Slovenia.

## Membership Recognition

### *Volunteers of the Year*

We were pleased to recognize three incredible volunteers for their dedicated service to HL7. This year marks the 20<sup>th</sup> year that we have recognized such individuals via the W. Ed Hammond, PhD HL7 Volunteer of the Year Awards. The recipients of the 2016 HL7 Volunteer of the Year Awards included:

- Claude Nanjo (Cognitive Medical Systems)
- Brian Postlethwaite (Health Connex)
- Sandra Stuart (Kaiser)

We are honored to recognize Claude, Brian and Sandy as dedicated individuals who have made significant contributions on many fronts, including in specific HL7 work groups and throughout the larger HL7 global organization. Their efforts and contributions are sincerely appreciated and this recognition is certainly well-deserved.



**2016 Volunteers of the Year congratulated by award namesake W. Ed Hammond, and Board Chair Patricia Van Dyke.**

### *2016 Class of HL7 Fellows*

HL7 also announced the 2016 Class of HL7 Fellows at the event. The HL7 Fellowship program recognizes individuals who have contributed significantly to HL7 and have held at least 15 years of continuous HL7 membership. HL7 is pleased to recognize and congratulate the following seven well-deserving members as the 2016 class of HL7 Fellows:

- Fernando Campos, Argentina
- Lloyd McKenzie, Canada
- Hugh Glover, UK
- Ken Rubin, USA
- Rob Hausam, USA
- Amnon Shabo, PhD, Israel
- Charlie McCay, UK



**2016 HL7 Fellows**

# EXECUTIVE DIRECTOR REPORT

## Meetings & Education Report

### January Meeting in Orlando, Florida

We served 546 attendees at our January Working Group Meeting held in Orlando, Florida from January 9-15, 2016. Over 50 HL7 work groups convened meetings, 29 of which conducted co-chair elections. Attendees also took advantage of 24 tutorials, a FHIR connectathon, and a payer summit.

The 3rd HL7 Payer Summit was held 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. 72 attendees participated in this event, which was also sponsored by the following organizations: Akana, Edifecs, McKesson, Orion Health, NaviNet, The Sequoia Project, and ZeOmega.



**Members of the Bow Tie SIG at the January WGM in Orlando Florida**

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



### HL7 FHIR Connectathon in Montreal

## May Meeting in Montreal, Canada

Our May Working Group Meeting was held May 8-13, 2016 in Montreal, Canada. We served 428 attendees at this event where over 50 HL7 work groups convened meetings and 17 work groups conducted co-chair elections. Attendees also took advantage of 30 tutorials and a FHIR connectathon.

## 30<sup>th</sup> Plenary Meeting Breaks Attendance Record

Over 600 attended this year's Plenary meeting, which establishes an all time record for attendance. The meeting was held at the Hyatt Regency Inner Harbor Hotel in Baltimore where over 30 tutorials were produced and over 60 work groups or committees met.

## Plenary Meeting Program

The program was kicked off by an "HL7 30 Years of Changes" video to the incredible David Bowie song Changes. Be sure to check it out:

<https://www.youtube.com/watch?v=ONqBLgFxaNQ&feature=youtu.be>



## EXECUTIVE DIRECTOR REPORT

The plenary meeting also featured an impressive series of keynote presentations from:

- Mark McClellan, MD, PhD, inaugural director of the Duke-Robert J. Margolis, MD, Center for Health Policy at Duke University. Formerly, Administrator of CMS
- Paul Rothman, MD, Dean, Medical Faculty; Vice President, Medicine, Johns Hopkins University; CEO, Johns Hopkins Medicine
- Robert Califf, MD, Commissioner of food and drugs at the United States Food and Drug Administration
- Betsy Humphreys, Acting Director and Deputy Director, National Library of Medicine
- Jonathan Perlin, MD, PhD, President, Clinical Services and Chief Medical Officer, HCA
- Jim Forbes, Chief Technology Officer, University Health Network, Toronto, ON, Canada

### **Blast from the Past**

The plenary meeting also featured a “Blast from the Past” panel that was moderated by Ed Hammond, PhD, with presentations from Sue Campbell, Wayne Tracy and Clem McDonald, MD. Later in the week there was another panel presentation that shared insight on HL7’s early years that was moderated by John Quinn and included presentations from Wes Rishel, Mike Glickman, and Ed Hammond.



**Volunteer-of-the-Year winners from the last twenty years celebrate the HL7 30 year anniversary during the 30th Plenary Meeting in 2016.**



## Reception Celebration

Our networking reception featured a mini-program that recognized a number of key contributors to HL7's success over the last 30 years including:

- Recognition of the HL7 Fellows Class of 2016
- Recipients of the Ed Hammond Volunteer of the Year Awards throughout the last 20 years
- Chairs of the HL7 Board of Directors throughout the last 30 years
- HQ staff who served HL7 during the last 25 years
- Reenactment of the 1992 HL7 Board of Directors photo



**Celebrating the long-time involvement common to many HL7 members, the 1992 Board of Directors gamely re-enacted their original photo at the Plenary Meeting.**

## Webinar Report

The HL7 webinar program had a successful year offering 37 webinar programs, totaling 52 individual webinars as many of these webinars were multi-part series.

Topics included the following: Clinical Document Architecture (CDA®), Version 2.7 and Version 3 Reference Information Model (RIM), certification exam preparation, the Argonaut Project, telehealth, and Electronic Health Records (EHR). Other programs included: clinical genomics, a Fast Healthcare Interoperability Resources (FHIR®) Institute series for executives and architects, a health IT policy series, and HL7 member welcome and orientation scheduled before each WGM.

Live attendees numbered 1,034 with revenue totaling \$99,330. Each webinar was also recorded live and posted to the HL7 Education Portal for on-demand, fee-based or free viewing. This year three companies took advantage of Virtual Classroom Training sessions using the GoToWebinar tool as an alternative to onsite training.

◀ continued

## EXECUTIVE DIRECTOR REPORT

### Education Portal

The HL7 Education Portal provides a cloud-based, digital storehouse for HL7's educational archive and is accessible on any device, no applications required. Additional features include downloadable certificates of completion and a "My Activity" area that maintains an attendance record and certificates earned for each user.

During 2016, over 500 people accessed the new portal, providing an annual revenue of \$34,108.



### Remote/Distance Fundamentals Course

The HL7 Fundamentals Course (formerly known as e-Learning) is a web-based workshop which includes a set of guided exercises that teaches by practice and example. The course focuses on learning by doing.

During 2016, HL7 produced five Fundamentals courses around the world that served 416 students. These courses were produced by HL7 International, HL7 Argentina, and HL7 Austria.



**The HL7 FHIR® Fundamentals Course is a four-week online workshop that provides an in-depth overview of HL7 FHIR featuring live, hands-on exercises.**



HL7 added digital badges for the certifications this year. The badges communicate professional credentials and display them to 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.

### Computerized Certification Testing Program

With the launch of computer based testing (CBT) in 2013, HL7 expanded opportunities world-wide to those seeking certification in CDA®, Version 2.7 and Version 3 RIM. A robust web page centralizes information about certification specialties, training opportunities and resources for exam preparation, and provides a gateway to registration. HL7 partners with Kryterion, a leader in test development and delivery, to administer its certification exams at over 800 High Stakes Online Secure Testing (HOST) Centers worldwide. In addition to HOST Centers, test-takers may opt for online proctored testing from their own computers anywhere in the world, provided they have Internet access and a qualified external webcam.

HL7's popular certification program continues to attract hundreds of individuals from around the globe each year. During 2016, 269 individuals registered for the exams. The table below reflects the number who became HL7 certified specialists. The worldwide number of Certified HL7 specialists by type of exam is provided below.

Certification Exam	# Registered in 2016	# CBT Certified	Total # Certified
Version 2	200	127	3577
Clinical Document Architecture	57	40	743
Version 3 Reference Information Model (RIM)	12	11	375
Total	269	178	4695

A handwritten signature in black ink, reading "Mark E. McQuay".

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# HL7 COLLABORATES

HL7 formally collaborates with many organizations across the industry. In 2016, HL7 held formal agreements with the following organizations.

Accredited Standards  
Committee X12 - ASC-X12

American Dental Association  
(ADA)

American Immunization  
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Society (HIMSS)

Health Information  
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Society Europe (HIMSS  
Europe)

Implementation of  
Regulatory Information  
Submission Standards  
(IRISS)

Institute for Electrical and  
Electronic Engineers (IEEE)

Integrating the Healthcare  
Enterprise (IHE)

International Conference on  
Harmonisation (ICH)

International Health  
Terminology Standards  
Development Organisation  
(IHTSDO)

International Organization  
for Standardization (ISO)

National Council for  
Prescription Drug Program  
(NCPDP)

OASIS

Object Management Group  
(OMG)

Regenstrief/Logical  
Observation Identifiers  
Names and Codes (LOINC)

The Sequoia Project

Smart Open Services for  
European Patients (epSOS)  
– European eHealth Project

Workgroup for Electronic  
Data Interchange (WEDI)

# HL7 2016 STANDARDS SNAPSHOT

## HL7 Standards Receiving ANSI Approval in 2016

### **HL7 Version 3 Standard: Patient Administration; Patient Encounter** Release 1

*Date Approved: 1/22/2016*

### **HL7 EHR System Long Term Care Functional Profile**

Release 1 - US Realm

*Date Approved: 2/12/2016*

### **HL7 Version 3 Standard: Shared Messages**

Release 3

*Date Approved: 2/12/2016*

### **HL7 Version 3 Standard: Patient Administration CMETs**

Release 1

*Date Approved: 4/12/2016*

### **HL7 Version 3 Standard: Structured Product Labeling**

Release 7

*Date Approved: 4/28/2016*

### **HL7 Version 3 Standard: Clinical Statement CMETs**

Release 1

*Date Approved: 5/26/2016*

### **HL7 Version 3 Standard: Common Product Model CMETs**

Release 3

*Date Approved: 6/8/2016*

### **HL7 Version 3 Standard: GELLO; A Common Expression Language** Release 2

*Date Approved: 6/9/2016*

### **HL7 Version 3 Implementation Guide for CDA Release 2 - Level 3: Emergency Medical Services; Patient Care Report**

Release 2 - US Realm

*Date Approved: 6/15/2016*

### **HL7 Version 3 Standard: Reference Information Model**

Release 7

*Date Approved: 7/28/2016*

### **HL7 Version 3 Standard: Transmission Infrastructure**

Release 2

*Date Approved: 8/5/2016*

### **HL7 CDA® R2 Implementation Guide: Trauma Registry Data Submission**

Release 1 - US Realm

*Date Approved: 8/22/2016*

### **HL7 Version 3 Standard: Drug Stability Reporting (eStability)**

Release 2

*Date Approved: 8/22/2016*

### **HL7 Version 3 Standard: Registries; Real Time Location Tracking**

Release 1

*Date Approved: 9/23/2016*

### **HL7 Version 3 Standard: Healthcare (Security and Privacy) Access Control Catalog**

Release 3

*Date Approved: 10/5/2016*

### **HL7 Context Management Specification**

Version 1.6

*Date Approved: 10/13/2016*



## **HL7 Standards for Trial Use (DSTUs) Published in 2016**

### **HL7 CDA® R2 Implementation Guide: Healthcare Associated Infection Reports**

Release 3, DSTU Release 1.1 - US Realm

### **HL7 CDA® R2 Implementation Guide: Healthcare Associated Infection Reports**

Release 3, DSTU Release 1 - US Realm

### **HL7 Version 3 Specification: Ordering Service Interface**

Release 1 - US Realm

### **HL7 CDA® R2 Implementation Guide: Ambulatory Healthcare Provider Reporting to Birth Defects Registries**

Release 1 - US Realm

### **HL7 EHR-S Functional Requirements: S&I Framework Laboratory Results Messages**

Release 1 - US Realm

### **HL7 CDA® R2 Implementation Guide: Public Health Case Report**

Release 2, STU Release 1 - US Realm

### **HL7 CDA® R2 Implementation Guide: Personal Advance Care Plan Document**

Release 1 - US Realm

### **HL7 Version 2.6 Implementation Guide: Vital Records Death Reporting**

Release 1 STU - US Realm

### **HL7 CDA® R2 Implementation Guide: Clinical Oncology Treatment Plan and Summary**

Release 1, STU Release 3 - US Realm

## **Informative Documents Published in 2016**

### **HL7 Policy for Introducing New Processes**

Release 1 product  
Health Concerns DAM

### **HL7 Version 2.7.1**

### **Implementation Guide: Message Transformations with OASIS Tracking of Emergency Patients (TEP),**

Release 1

### **HL7 Version 3 Domain Analysis Model: Care Plan**

Release 1

### **HL7 Version 3 Domain Analysis Model: Behavioral Health Record**

Release 2

### **HL7 Business Architecture Model (BAM)**

Release 1

### **HL7 Domain Analysis Model: Emergency Care**

Release 1 - US Realm



# HL7 YEAR IN PHOTOS





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