

2017 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.

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CHAIR REPORT



Patricia Van Dyke, RN

*HL7 International
Board Chair*

“If we cannot predict the future, we had best create it.”—Peter Drucker

The HL7 Strategic Plan

During the September Working Group Meeting, the long-promised strategic plan developed by the Board of Directors was introduced. The plan is based on the mission and vision of HL7 International and reflects the culture and values of the organization.

The primary goals of the organization include:

- **Enhance the image**—being very clear about the organizational purpose and work and being able to communicate this effectively at multiple customer levels globally
- **Organizational vitality**—ensuring that the organization is financially sound so as to achieve both short and long-term goals
- **Establishing HL7 FHIR® as primary standard**—ensuring clearly that Fast Healthcare Interoperability Resources (FHIR) is an HL7 standard and product so as to minimize any confusion in the industry and globally
- **Supporting HL7 standards**—providing the resources needed to protect our organization's and our customers' investments in all of the HL7 standards

Through focused discussion on the Board as well as through listening to the membership, the Board of Directors felt that these were the key goals for the organization, not only now but in the future.

The board is actively working to make the plan actionable. To that end, the board members are assigned to work on the objectives for each of the goals. When you have an opportunity to look at the plan, you will see a continuing refinement of the steps:

- Identify and define the objectives both near term as well as long term to accomplish each of the goals
- Identify actions and strategies to accomplish each of the goals
- Assign resources to each of the strategies including prioritization
- Develop measures by which we can judge and report on the accomplishments
- Identify a process for improvement/feedback to better understand if we are on track with our plan
- Ensure the plan is sustainable



Representatives from HL7 International Affiliates at the January 2017 Working Group Meeting

When used actively, the plan will be a guide. If we have been thoughtful in our work, it will remind us of the identified priorities and enable us to work toward common goals. We have limited resources, so the plan will help us put our resources to work in a focused manner. This work fosters transparency and discipline. It opens and keeps open the discussion of ensuring that we are doing the right things as an organization and doing them both effectively and efficiently. It is intended to challenge us to think more proactively and be less reactive to those events going on around us.

As Chair of the Board, I don't expect that the plan is perfect. While it will require regular review and updating, we are not anticipating that we will make large changes in the overall portions of the plan. If the plan sits on the shelf and gathers dust, then it is not an active plan and the efforts to develop it will have been largely wasted. The challenge for the Board of Directors and the management team of HL7 is to ensure that the plan is active, refined periodically, referenced frequently and measured closely as we pursue achieving our mission and vision. This attitude is a change for us—but a necessary change to ensure our continued success.

**“Change is not your enemy,
Fear is your enemy.”**

—Author Unknown

CHAIR REPORT



Representatives from HL7 International Affiliates at the September 2017 Working Group Meeting

Continuing to Emphasize the Global Reach of HL7

I truly believe that having the presence and active involvement of an international community makes us a better organization. We know our standards—from Version 2 through HL7 FHIR—are used throughout the international community. Our affiliates discuss their work and use of the standards during the working group meetings. In 2017, the International HL7 Interoperability Conference (IHIC) was held in Athens, Greece. Representatives of Greece (as the host country), Germany, Austria and Poland were among those who discussed healthcare projects developed within their own countries. The discussion revealed the global interest. HL7 Asia held its meeting during August with representation from China, Singapore, Hong Kong, Japan, Taiwan and Korea. Again, the projects presented were of interest not only to the host country (China), but to an international set of attendees. Making these projects—many of which use one or more of the HL7 family of standards—visible and referenceable, is ongoing work that I would like to see each member of HL7 take to heart.

I sincerely thank you for your support during this past year. I have enjoyed meeting all of you as well as the opportunity to travel to your countries during this past year. This is a wonderful organization made up by a fantastic membership.

Patricia A Van Slyke

COUNTRIES WITH HL7 AFFILIATES IN 2017

1. Argentina

2. Australia

3. Austria

4. Bosnia & Herzegovina

5. Canada

6. China

7. Croatia

8. Czech Republic

9. Denmark

10. Finland

11. France

12. Germany

13. Greece

14. Hong Kong

15. India

16. Italy

17. Japan

18. Korea

19. Netherlands

20. New Zealand

21. Norway

22. Philippines

23. Poland

24. Romania

25. Russia

26. Singapore

27. Slovenia

28. Spain

29. Sweden

30. Switzerland

31. Taiwan

32. United Arab Emirates

33. United Kingdom

34. Uruguay

CEO REPORT



Charles Jaffe MD PhD

*HL7 International
Chief Executive Officer*

A year ago, I proposed that our members were rewriting the narrative of HL7, a story that had been in the making for more than thirty years. Now, more than ever, we have the responsibility to get it right. The scenarios are changing all around us at an ever-increasing rate. There continues to be a remarkable evolution in both medical science and 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 evolved in ways that we could not have imagined. More than ever, it is our responsibility to stay abreast of, and strive to surpass, those scientific, political and environmental changes.

History is our preamble.

HL7 Marches Onward

Throughout the early part of the decade, there were some estimates that HL7 Version 2 and the Clinical Document Architecture (CDA®) were responsible for the transport and exchange of nearly half of the world's biomedical information. We continued to enhance our legacy standards and many were written into regulation by governments and supported by national health systems. For many, 2017 brought the emergence of the HL7 FHIR® (Fast Healthcare Interoperability Resources) platform and we began to envision a community embracing the global promise of true interoperability.

In several ways, the basic and applied sciences of engineering, information technology and biology are changing exponentially. Critical alliances and dependencies have emerged. Public and private sectors are responding, sometimes slowly but often resoundingly, to this progress. The timing is more critical than ever as inescapable pandemics, global climate change, and political upheaval have increased the need for shortened response times and international collaboration.

Our patients have begun to demand a greater voice in the decision-making process, more reliance on evidence-based care and better access to the advances in therapy and prevention. Additionally, 2017 has become a year that brought focus to the opioid pandemic and the crime that supports it.

Information technology is being called upon to help provide a solution. With HL7, each of us, as well as our partners in industry, academia and government, are relying on the seamless, accurate and timely exchange of information to help find solutions.

In 2017, HL7 garnered timeless support from our membership and our community of stakeholders. Through a generous grant from ONC (Office of the National Coordinator for Healthcare IT), we began an ambitious program to enhance Consolidated-CDA. A series of implementation connectathons as well as progress toward enabling CDA on HL7 FHIR made those efforts even more successful.

2017 was a year of firsts. While HL7 FHIR celebrated its sixth birthday, the most critical milestone was the publication of Release 3. For some developers, it provided for greater anticipation of Release 4 in the autumn of 2018, which will contain the first normative elements. This year also showcased the further enhancement of other HL7 FHIR capabilities. Significant among them was the rapid evolution of CDS Hooks, a family of tools to enable a broad menu of capabilities for integrating clinical decision support capabilities into the electronic health record.

HL7 FHIR Foundation—Home to the HL7 FHIR Implementation Community

The HL7 FHIR Foundation (www.FHIR.org) was able to deliver on some of its visionary achievements as a home for the HL7 FHIR implementation community. The showcase of the foundation is the HL7 FHIR Registry, built upon the technology developed by the technical leadership of Amsterdam-based Firely (formerly known as Furore). In the coming year, the Foundation will provide greater technical capabilities and community services. Financial support for the foundation will come in part from individual memberships and generous grants from our implementation and development communities.



While HL7 FHIR celebrated its sixth birthday, the most critical milestone was the publication of Release 3.



CEO REPORT

The Industry on HL7 FHIR

The Partners in Interoperability Program provided an opportunity for collaboration and individual stakeholder groups including clinical societies, biopharma industry leaders and the payer community all provided unprecedented support. In alliance with the Health Services Platform Consortium (HSPC), which is committed to developing a foundation for a common HL7 FHIR platform, more than a dozen clinical professional societies have committed resources for creating and testing clinical data models. This effort, in conjunction with the HL7 CIIC (Clinical Information Interoperability Council), has begun to lay a semantic foundation for achieving an interoperable foundation.

Interest from the diverse biopharma industry has emerged from our partnership with TransCelerate, a pre-competitive alliance of industry experts committed to leveraging HL7 FHIR for more seamless integration of data from healthcare platforms and the regulated clinical research enterprise. Under the leadership of the HL7 CTO, Wayne Kubick, this team has been able to address some of the critical barriers to data reuse. This partnership has been further enhanced through collaboration with several offices within the FDA as well as several institutes at the NIH.

The year also brought exponential growth in the value of genomic data for clinical diagnosis and treatment. Within HL7, the publication of an industry-recognized domain model foretells of capabilities for true genomic data integration. The National Academy of Science, after years of dynamic collaboration, has transferred DIGITize, their family of tools for genomic data integration, into the HL7 FHIR Foundation. This is a critical step toward enabling clinicians to leverage genomic data for both research and for clinical decision support. A key part of that puzzle is being addressed by the **Sync 4 Genes** initiative (www.sync4genes.org), which promises to leverage HL7 FHIR for genetic and genomic data integration.

Perhaps the most recognizable force in the landscape of HL7 FHIR integration has been the Argonaut Project. Founded in the fall of 2014, the Argonauts have been committed to supporting HL7 FHIR development and providing guidance for technical implementation. This highly successful program continues the collaboration of the original 14 stakeholders, now supporting nearly 300 implementation initiatives worldwide. The Argonaut Project roadmap for 2018 promises to deliver a growing portfolio of implementation guides, giving both direction and implementation experience within the framework of care delivery.

After several years of continued commitment, the payer community has coalesced around the capabilities of the HL7 FHIR platform, bringing

together multiple payer organizations and CMS (Center for Medicare and Medicaid Services) in support of the emerging value-based care model. Through this initiative, provider payments will reflect validated outcomes of patient care rather than traditional payment for services. As the year came to an end, the payer community came closer to the creation of the Da Vinci Project, envisioned upon the success of the Argonaut Project and leveraging the capabilities of the HL7 FHIR platform to capture discrete clinical data rather than traditional claims reports. In 2018, our vision is to support the development of Da Vinci as it becomes an industry model for technical integration and policy alignment.

While HL7 remained committed to providing information when and where it was needed, the focus of HL7 shifted toward the expansion of implementation initiatives. Although the HL7 work groups remained committed to the development of standards, the HL7 FHIR Foundation provided a home for implementers, resulting in the growth of our training programs. In addition to the education we provided through our hands-on workshops and our innovative distance learning programs, we collaborated with external partners, including AMIA (American Medical Informatics Association), to bring HL7 FHIR education and training to an expanded audience. HL7 will be providing a three-day HL7 FHIR Developer Days program in Boston in June 2018 following the international success of the program held the last three years in Amsterdam.

The HL7 FHIR Applications Roundtable is one of the most exciting events of the year for our implementation community. First introduced at Harvard in 2016, this program has served as both a showcase for application developers and a resource for the open development of collaboration. This year, products and services emerged which were made possible by organizations that found critical partnerships through the roundtable programs. The demand to reprise these programs at other venues has been overwhelming. Due to the unprecedented interest fostered by a growing community of application developers, an expanded program will be held prior to the fall plenary meeting.



As we look ahead to 2018, we are reminded of the international community of volunteers who have contributed their time and energies to the diverse organization we call HL7. The initiatives and programs underway and in planning for the coming year will continue to showcase their talents and innovative spirit. As our collaborators and partnerships grow, we welcome new individuals and institutions. I'm certain that our patients are counting on us.

Shirley Jeffers

CTO UPDATE



WAYNE KUBICK
Chief Technology Officer
HL7 International

As I near the end of my second year as HL7 CTO, I feel increased confidence in our ability to sustain the momentum of the past 30 years in developing health data standards, while looking forward to building upon new groundwork that's been laid for a lasting and impactful future.

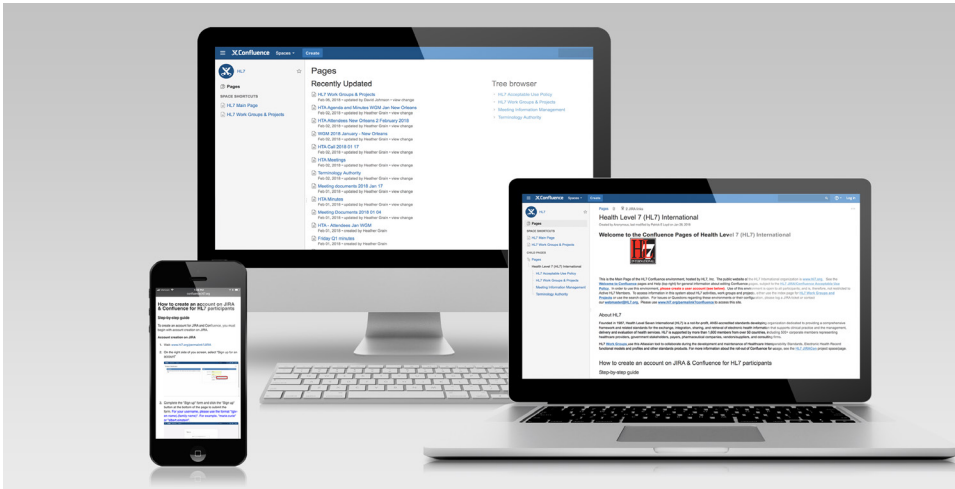
During 2017, I continued to espouse my philosophy of essentialism, focus and simplicity to make HL7 more accessible and valuable to the standards developers of the HL7 community, as well as to consumers and beneficiaries of HL7 standards. Moving forward, I plan to keep applying these guiding principles wherever possible in my interactions and initiatives as CTO.

Products and Tooling

In 2017, I began to discuss with the Board of Directors a product roadmap. This roadmap looks at our product families from a product lifecycle perspective, in the hope of making our future strategy for each family more lucid and transparent. It will clarify which areas are most critical in terms of tooling investment so HL7 can best deliver what our internal and external customers need most. We look forward to extending the roadmap dialogue with work groups and implementers in the coming year.

One of the core areas that most impacts our volunteers is in our tooling infrastructure. We continued rolling out a new conferencing tool to enable features such as screen-sharing, voice over internet and local numbers for international participants to reduce the effort of participating in meetings. While we will always look for ways to improve our capabilities in this area, we've already achieved some benefits in adding features, reducing cost, and simplifying the range of conferencing choices for more than two dozen work groups to date.

We've worked to gain better control over our source data by migrating to a single HL7 repository space in GitHub, and have recently installed a cloud-based version of Enterprise Architect to support our work group modeling efforts.



We've introduced a common chat tool for work groups, chat.hl7.org, based on the Zulip product which has already been successfully used in use by the Fast Healthcare Interoperability Resources (FHIR®) community.

We have also made progress in adopting Confluence as a more modern collaboration workspace to support work group interactions, and JIRA for issue tracking and workflow. We're currently in the midst of rolling out Confluence templates and tools for all work groups, and assessing JIRA to support future balloting activities and other core processes. During 2018, we plan to begin moving to online forms in Confluence, to reduce our dependency on email attachments, and work toward moving many of our PDF documents (such as the Co-Chair Handbook) to online webpages. This will make it easier to find essential, timely information necessary to support standards development. Along with introducing these new capabilities, we'll be working to simplify the environment by seeking to eliminate redundant and unnecessary versions of process documents and forms. Our ultimate goal is to improve the customer experience of HL7 members—a goal which has now been formalized in the HL7 strategic plan.

Finally, one of the major tooling initiatives now underway, is a new Unified Terminology Governance Process. This should have significant positive impact on all of our standards. This new system and process has been advancing under the leadership of Ted Klein. It will be built on JIRA and Confluence to replace the current harmonization process with a comprehensive, long-term solution to efficiently manage terminology for all HL7 product families.



“Our ultimate goal is to improve the customer experience of HL7 members—a goal which has now been formalized in the HL7 strategic plan.”



CTO UPDATE

Publication Milestones

As in prior years, our volunteer community produced a wide range of new and updated standards in support of HL7's mission to provide standards that empower global health data interoperability:

- 12 ANSI standards recognized (including reaffirmations)
- 8 Normative publications
- 3 Normative standards awaiting ANSI approval
- 13 Informative publications
- 18 new balloted standards for trial use (STU) releases–3 unballoted STU updates and 25 STU extensions.

2017 also involved the successful completion of an ANSI audit with no major observations thanks to the excellent ongoing stewardship and diligence of HL7 HQ.

FHIR, FHIR Everywhere

Our prodigious HL7 FHIR standard continues to garner ever more attention, community involvement and adoption in its relentless march toward enabling an interoperable future. 2017 saw the pivotal release of STU 3, the first ballot for Release 4 (which will contain normative content), publication of the first Argonaut implementation guides and substantial completion of two new implementation guides for scheduling and CDS Hooks. 2017 also brought a rapidly growing portfolio of HL7 FHIR-based application solutions already in use around the world, as demonstrated in two highly successful HL7 FHIR Application Roundtable events and numerous connectathons, hackathons and datathons across the globe.



With a Little Help from Our Friends

During 2017, HL7 continued to benefit from the generous grant support offered through the US Office of the National Coordinator to promote progress and increase adoption for the Consolidated Clinical Document Architecture (C-CDA) and HL7 FHIR. Projects conducted in 2017 included:

- Additional C-CDA implementation-a-thons, design of an improved errata process and improvements to the C-CDA example repository and value sets
- Improvements to the HL7 FHIR build system, validation and terminology tooling and a roadmap for future tooling enhancements

- Progress in integrating information models with HL7 FHIR
- Initial release of registry.fhir.org to support the HL7 FHIR community of adopters

2018 will see significant support in several areas:

- HL7 FHIR infrastructure and tooling, including migration to JIRA, new ballot process, improved build tooling and terminology services and expanded governance and integration building upon registry.fhir.org
- Initial release of HL7 FHIR testing platform
- Assistance in supporting HL7 FHIR connectathons and facilitating HL7 FHIR Release 4 ballot reconciliation
- Implementation guide and reference servers for new bulk data access capabilities in HL7 FHIR
- Improved tooling and process for incorporating Clinical Information Modeling Initiative (CIMI) information models
- Continued C-CDA Implementation-a-thons
- Implementation of a new C-CDA errata process, value sets and improved publishing process.

Looking Ahead to 2018

During 2017, we also made progress in increasing engagement with the Biopharmaceutical research industry. This effort centered particularly around the benefits of HL7 FHIR, exemplified by a collaboration agreement with TransCelerate Biopharma, Inc., a non-profit organization consisting of nineteen major pharmaceutical and biotechnology companies dedicated to accelerating research and development of new therapies. We also identified new ways to improve our collaborations with IHE International, HIMSS and other like-minded organizations to better apply our respective strengths to work together to advance our common goal of interoperability.

While 2017 was truly a year of transition, I believe 2018 will prove to be a pivotal year in driving HL7 forward toward realizing our vision of a world in which “everyone can securely access and use the right health data when and where they need it.” And I look forward to continuing to work closely with all of you on that important journey.



TREASURER REPORT



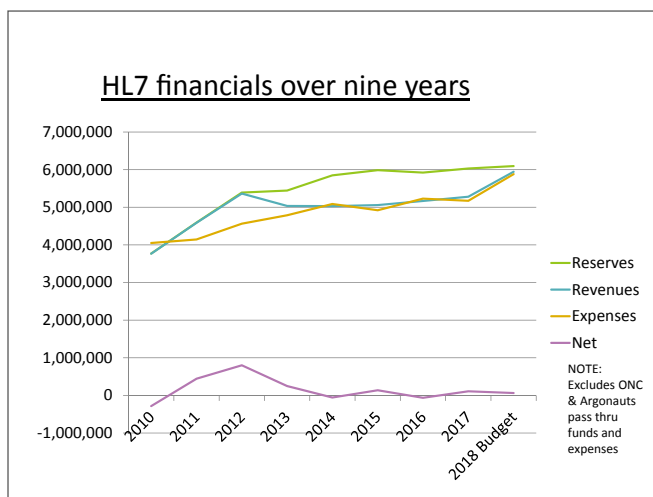
Russell Leftwich, MD

*HL7 International
Board Treasurer*

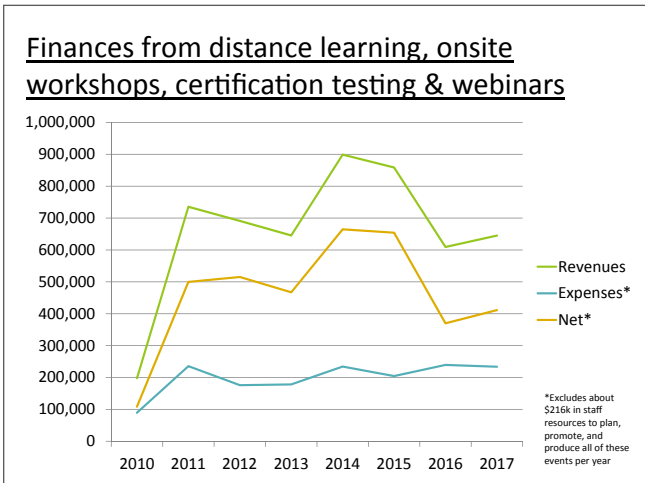
Breaking into Positive Territory!

The trend of losing both individual and organizational members has continued. The 2017 year-end results had a positive net income, with declining membership numbers being offset by increased dues and fees. Reserves have improved on a relative basis to 13 months' expenses. Attendance for U.S. meetings continues to be strong.

The trend over the past five years of reduction in organizational members has continued to moderate. This appears to be approaching a tipping point and a net gain in organizational members is anticipated, although the continued loss of individual members is cause for concern.



Attendance for U.S. working group meetings continues to be strong, and has shown a slow but steady increase over time. There has also been a consequent increase in expenses for each meeting. The corresponding increase in revenue has resulted in a modest positive net income on average, though these figures do 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 likely to result in financial loss. Conservative management of expenses for these meetings has prevented significant losses.



Educational and training offerings outside of WGMs continue to be a source of revenue with \$872,000 during 2017. The addition of a new education director to the HL7 staff, along with the directive from the HL7 board to design the education programs and training offerings with the intent of increasing attendance and revenues, is expected to further increase revenues.

There has been a significant increase in income from grants this year. In addition to a previous commitment of \$175,000, ONC committed \$850,000 in grants. Of this funding, most was for direct pass through expenses, but the remaining \$160,000 was booked in 2017 as HL7 revenues for HL7 overhead.

The 2017 revenues were \$5,279,982, which is 14 percent above budget. The 2017 expenses were \$5,171,517, which are within two percent of budget. This leaves an operating net income of \$108,465, which is 116 percent better than budgeted. These numbers do not include pass through revenues or expenses associated with the Argonaut Project or the ONC grants. The data is also preliminary pending the annual audit.

HL7 budgets in recent years have been conservative and year end performance has been better than budgeted in both expenses and revenues in most years. However, this year is notable and encouraging in that not only has performance been better than budget but the year end result shows a net positive revenue over expenses!

EXECUTIVE DIRECTOR REPORT



Mark McDougall

*HL7 International
Executive Director*

Membership Report

HL7 had 1,519 members as of December 27, 2017, as compared to 1,622 one year earlier. The net decline of 103 total members represents just over six percent of HL7's membership. 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, which is the same as compared to the previous year.

Individual Memberships

As of December 27, 2017, HL7 had a total of 148 individual members, as compared to 210 one year earlier. This total reflects 127 new members joining or being re-instated during 2017, as compared to 158 new members joining/reinstating during 2016. For the 2017 year, there was a net loss of 62 individual members, as compared to a net loss of seven in 2016. The net loss was largely due to a new policy limiting eligibility for individual memberships to those from organizations with less than five million in revenues.

Organizational Memberships

There were a total of 445 organizational member firms on December 27, 2017, as compared to 476 on December 29, 2016. For organizational members in 2017, there were 137 new organizations joining or being re-instated as compared to 162 in 2016. For the year, there was a net decrease in organizational memberships of 31, which compares to a decrease of 33 members during 2016 and 46 members during 2015.

International Affiliate Members

There were 34 countries with active HL7 affiliates in 2017 including the following: Argentina, Australia, Austria, Bosnia & Herzegovina, Canada, China, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Italy, Japan, Korea, The Netherlands, New Zealand, Norway, Philippines, Poland, Romania, Russia, Singapore, Slovenia, Spain, Sweden, Switzerland, Taiwan, United Arab Emirates, United Kingdom and Uruguay.

continued ►

HL7 INTERNATIONAL COMMITTEES AND WORK GROUPS

Affiliate Due Diligence	Implementable Technology Specifications
Anesthesia	Infrastructure and Messaging
Architectural Review Board	International Council
Arden Syntax	International Mentoring Committee
Attachments	Leadership Development and Nominations Committee
Biomedical Research Integrated Domain Group	Learning Health System
Clinical Decision Support	Mobile Health
Clinical Genomics	Modeling and Methodology
Clinical Information Modeling Initiative	Orders and Observations
Clinical Interoperability Council	Patient Administration
Clinical Quality Information	Patient Care
Clinical Statement	Pharmacy
Community-Based Care and Privacy	Policy Advisory Committee
Conformance	Process Improvement
Education	Project Services
Electronic Health Records	Public Health
Electronic Services and Tools	Publishing
Emergency Care	Recognition and Awards
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
Imaging Integration	US Realm Steering Committee
	Vocabulary

EXECUTIVE DIRECTOR REPORT

Membership Recognition

Volunteers of the Year

We were pleased to recognize three outstanding volunteers for their dedicated service to HL7. It is amazing to realize that we are already in the 21st year of recognizing incredible efforts by our dedicated volunteers via our W. Edward Hammond, PhD HL7 Volunteer of the Year Awards. While there are certainly dozens of individuals who merit this recognition each year, the Awards Committee is challenged to limit the annual award to only a few. This year's recipients have contributed hundreds, if not thousands, of hours and have certainly served HL7 extremely well for many years. HL7 is pleased to recognize this year's recipients of the W. Ed Hammond HL7 Volunteer of the Year Awards:

- Eric Haas
- Laura Heermann Langford, RN, PhD
- John Roberts

We are honored to recognize Eric, Laura and John as dedicated individuals who have made significant contributions on many fronts. Their efforts and contributions are sincerely appreciated, and this recognition is certainly well-deserved.

2017 Class of HL7 Fellows

HL7 also announced the 2017 Class of HL7 Fellows at the 31st Annual Plenary Meeting. 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 2017 Class of HL7 Fellows:

- Chris Chute, MD
- Kathleen Connor
- Jane Daus
- John Hatem
- Nancy Orvis, MHA
- Craig Parker, MD
- John Ritter
- Sandra Stuart



The 2017 Class of HL7 Fellows

Membership Milestones

As I've stated from the podium for over 20 years, HL7's community of incredibly talented and dedicated volunteers are HL7's most valuable asset. Such a community relies upon the service of hundreds of key members who drive the organization forward through various leadership roles such as on the Board, Technical Steering Committee (TSC), work groups, mentors, facilitators and tutorial speakers. The co-chairs of our 50 work groups are truly the backbone of the organization. These co-chairs drive HL7 forward via meetings and conference calls throughout the years. We thank all of our co-chairs for their invaluable contributions to HL7.

We are also pleased to recognize HL7 leaders who have supported HL7 for more than 25 years. We sincerely thank the following for their incredible contributions to the industry and dedication to HL7.

HL7 members for more than 25 years:

1. Hans Buitendijk
2. Gary Dickinson
3. Clem McDonald, MD
4. Doug Pratt
5. Mark Shafarman
6. Mead Walker

HL7 members for more than 30 years:

1. Wes Rishel
2. Ed Hammond, PhD

EXECUTIVE DIRECTOR REPORT

Meetings & Education Report

January Meeting in San Antonio, Texas

A new all-time record for a January Working Group Meeting (WGM), we served 570 attendees at our WGM held in San Antonio, Texas, January 14-20, 2017. Over 40 HL7 work groups convened meetings in San Antonio, of which 16 conducted co-chair elections. Attendees also took advantage of 27 tutorials, a HL7 FHIR connectathon and a payer summit.

May Meeting in Madrid, Spain

We produced a productive meeting with 310 attendees at our May Working Group Meeting (WGM) in Madrid, Spain, May 6-12, 2017. Over 40 HL7 work groups convened meetings in Madrid, 17 of which conducted co-chair elections for 28 leadership positions. Attendees also took advantage of 17 tutorials, a HL7 FHIR connectathon and certification testing. The HL7 affiliates also sponsored a reception with poster boards on Sunday evening.

I would like to express sincere appreciation to several individuals who contributed to the success of the Madrid WGM, particularly:

- Paco Perez who provided tremendous support and guidance over the last two years.
- Diego Kaminker for his help in translating materials into Spanish, suggesting music for our walk-in playlists as well as his ongoing guidance.
- Contributions by many to help identify and recruit speakers for our plenary session, particularly Paco, Philip Scott, Catherine Chronaki, Christof Gessner and Alexander Berler.
- Kai Heitmann, MD, who continues to donate his time to serve as HL7's photographer.
- Lillian Bigham who once again planned and produced an exceptionally well run HL7 WGM and kept the meeting expenses under budget.

The International Affiliates Reception and Poster Session from the May 2017 International Working Group Meeting in Madrid, Spain.



Woody Beeler Passes Away



On the Sunday at the beginning of the Madrid WGM, we learned that George (Woody) Beeler, PhD, had passed away that day after a long battle with cancer. Most in the HL7 community know Woody. For those who don't, Woody was not only a former Chair of the HL7 Board of Directors, but he was actively involved in many areas of HL7, such as having significant roles

in the development of:

- IT tools for creating HL7 standards
- HL7 Version 3 data model
- Message development framework (MDF)
- Reference Information Model (RIM)

Within hours, I received emails from Lloyd McKenzie and Dave Shaver suggesting that we create a scholarship in Woody's name. Details on the scholarship and guidance for making donations can be found here:

hl7.me/rememberWoody.

31st Plenary Meeting

HL7's 31st Annual Plenary and Working Group Meeting convened September 10-15, 2017, at Hyatt Regency La Jolla at Aventine, San Diego, California. Our 31st annual meeting attracted over 600 attendees. We also produced meetings for over 40 work groups, a HL7 FHIR connectathon that attracted 200 attendees, and 30 tutorials.

The plenary meeting featured exceptional keynote presentations from:

- Scott Weingarten, MD, Senior Vice President and Chief Clinical Transformation Officer, Cedars-Sinai Health System
- Edwin Lomotan, MD, Medical Officer and Chief of Clinical Informatics for the Health IT Division in the Center for Evidence and Practice Improvement, Agency for Healthcare Research and Quality (AHRQ)
- Steve Posnack, Director of Standards and Technology, Office of the National Coordinator
- Shafiq Rab, MD, Senior VP and CIO, Rush University Medical Center
- Matthew Might, PhD, Director, Hugh Kaul Personalized Medicine Institute, University of Alabama at Birmingham

EXECUTIVE DIRECTOR REPORT

Webinar Report

The HL7 Webinar Program offered 25 programs totaling 39 individual webinars, as many of these webinars were multi-part series. Topics included the following: Clinical Research on HL7 FHIR; ASCOs CancerLinQ: From Quality to Benchmark, a Fast Healthcare Interoperability Resources (FHIR®) Institute series for executives and architects; HL7 FHIR Proficiency Exam preparation course, A Patient Choice Technical Project; and HL7 member welcome and orientation scheduled before the working group meetings. The number of attendees was 956 with revenue totaling \$56,000. Each webinar was also recorded live and posted online for on-demand, fee-based or free viewing. Seven companies also took advantage of virtual classroom training sessions using the GoToWebinar tool as an alternative to onsite training.

Education On Demand

Education On Demand (formerly known as the Education Portal) continues to provide a cloud-based, digital storehouse for HL7's educational archive and is accessible on any device with 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 2017, over 200 people purchased courses from the portal providing revenue of \$44,000.

Remote/Distance Fundamentals Course

The HL7 Fundamentals Course 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 2017, HL7 produced two Fundamentals courses and three HL7 FHIR Fundamentals courses that served 510 students. These courses generated over \$400,000 and were produced by HL7 International and HL7 Argentina.



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.

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. Further, test results and electronic certificates are now available immediately. Last year, digital badges for each certification were added. This year, a HL7 FHIR proficiency exam was piloted in large part due to the contributions of the following individuals:

- Grahame Grieve
- Brett Marquard
- Brian Postlethwaite
- Bryn Rhodes
- David Hay
- Ewout Kramer
- Eric Haas
- James Agnew
- Josh Mandel, MD
- Lloyd McKenzie
- Rob Hausam
- Simone Heckmann
- Viet Nguyen, MD
- Mel Grieve
- Education Work Group
- HL7 Staff

A robust web page centralizes information about certification specialties, training opportunities and resources for exam preparation, and provides a gateway to registration. HL7 partnered with Kryterion, a leader in test development and delivery, to administer its certification exams at over 900 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 certification program continues to attract hundreds of individuals from around the globe each year though the number of registrants declined slightly. During 2017, 215 individuals registered for the exams, as compared to 269 during 2016. However, a new HL7 FHIR STU3 Proficiency Exam was introduced in 2017. We are optimistic that once the HL7 FHIR STU3 Proficiency exam becomes popular, the number certified will continue to grow.

The table below reflects the number of individuals who became HL7 certified specialists in 2017. The worldwide number of certified HL7 specialists by exam is provided below.

Certification Exam	Registered in 2017	Certified in 2017	Total Certified
Clinical Document Architecture	20	17	760
HL7 FHIR	15	9	9
Version 2	178	132	3,709
Version 3 Reference Information Model (RIM)	2	2	377
Total	215	160	4,855





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HL7 COLLABORATES

HL7 formally collaborates with many organizations across the industry. The organization currently holds formal agreements with the following groups:

Accredited Standards
Committee X12 - ASC-X12

American Dental Association
(ADA)

American Immunization Registry
Association (AIRA)

American Medical Informatics
Association (AMIA)

America's Health Insurance Plans
(AHIP)

American Society for Testing
Materials (ASTM)

American Society of Clinical
Oncology (ASCO)

CEN/TC 251 (European
Committee for Standardization)

Digital Imaging and
Communication in Medicine
(DICOM)

eHealth Initiative, Inc. (eHI)

GS1

Health Information Management
Systems Society (HIMSS)

Health Information Management
Systems 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 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

SNOMED International

The Sequoia Project

TransCelerate

Workgroup for Electronic Data
Interchange (WEDI)



The standards can be found online at HL7.me/standards

HL7 2017 STANDARDS SNAPSHOT

HL7 Standards Receiving ANSI Approval in 2017



HL7 CDA® R2 Implementation Guide:
Personal Healthcare Monitoring
Reports, Release 1

Date Approved: 1/3/2017

HL7 Version 3 Domain Analysis Model:
Diet and Nutrition Orders, Release 2

Date Approved: 1/6/2017

HL7 Version 3 Standard: Privacy,
Access and Security Services (PASS)
Access Control, Release 1

Date Approved: 1/9/2017

HL7 CDA® R2 Implementation Guide:
Privacy Consent Directives, Release 1

Date Approved: 1/12/2017

HL7 Version 3 Standard: Medication;
Knowledge-Based Query, Release 1

Date Approved: 4/3/2017

HL7 Version V3 GELLO
Implementation Guide: Clinical
Decision Support, Model Definition
Language for GELLO, Release 1

Date Approved: 4/17/2017

HL7 EHR-System Pharmacist/
Pharmacy Provider Functional Profile,
Release 1 - US Realm

Date Approved: 6/12/2017

HL7 Version 3 Standard:
Representation of the Health Quality
Measures Format (eMeasure), Release 1

Date Approved: 6/15/2017

HL7 Version 3 Standard: Transport
Specification - ebXML Using eb MS2.0.
Release 1

Date Approved: 8/18/2017

HL7 Version 3 Standard: Accounting &
Billing, Release 2

Date Approved: 8/18/2017

HL7 Version 3 Standard: Claims and
Reimbursement, Release 4

Date Approved: 8/18/2017

HL7 Version 3 Standard: Clinical
Genomics; Pedigree, Release 1

Date Approved: 8/24/2017

HL7 Standards for Trial Use (STUs) Published in 2017

HL7 CDA® R2 Implementation Guide: Quality Reporting Document Architecture (QRDA I), Release 1, STU Release 4 - US Realm

HL7 Version 3 Standard: Orders; Diet and Nutrition Orders, Release 1, STU Release 2

HL7 Fast Healthcare Interoperability Resources Specification (FHIR®), Release 3 (STU)

HL7 FHIR® Profile: US-Core, Release 1.0.0 STU

HL7 FHIR® Implementation Guide: Structured Data Capture (SDC), Release 2 STU

HL7 FHIR® Implementation Guide: Data Access Framework (DAF) Research, Release 1 STU

HL7 Service Functional Model; Coordination of Care Service (CCS), STU Release 1

HL7 FHIR® Profile: Pharmacy; Medication, Release 1 STU

HL7 Version 3 Implementation Guide: Clinical Quality Language (CQL)-based Health Quality Measure Format (HQMF), Release 1, STU 2 - US Realm

HL7 Version 3 Implementation Guide: Clinical Quality Language (CQL)-based Health Quality Measure Format (HQMF), Release 1, STU 2.1 - US Realm

HL7 CDA® R2 Implementation Guide: Exchange of C-CDA Based Documents; Periodontal Attachment, Release 1 - US Realm

HL7 CDA® R2 Attachment Implementation Guide: Exchange of C-CDA Based Documents, Release 1

HL7 CDA® R2 Implementation Guide: Vital Records Death Report, Release 1 STU 2 - US Realm

HL7 CDA® R2 Implementation Guide: Healthcare Associated Infection Reports, Release 3, STU Release 2 - US Realm

HL7 Version 2 Implementation Guide: Implementing the Virtual Medical Record for Clinical Decision Support (vMR-CDS), Release 1

HL7 FHIR® Profile: Quality, Release 1 STU Release 2 - US Realm

HL7 CDA® R2 Implementation Guide: Quality Reporting Document Architecture I (QRDA I) Release 1, STU Release 5 - US Realm

Informative Documents Published in 2017

HL7 Domain Analysis Model: Clinical Sequencing

BRIDG, Release 2

HL7 CDA® Release 2 Implementation Guide: CCDA Templates for Clinical Notes R1 Companion Guide, Release 1

HL7 CDA® Release 2 Implementation Guide: CCDA Templates for Clinical Notes R1 Companion Guide, Release 1

HL7 CDA® Release 2 Implementation Guide: Clinical Summary Relevant and Pertinent Data, Release 1

HL7 Implementation Guide Cross-Paradigm Interoperability Implementations (X Paradigm): Immunization, Release 1

HL7 Cross-Paradigm Implementation Guide: Behavioral Health Data Exchange, Release 1 - US Realm

HL7 Specification: Domain Analysis Model Specifications and Requirements - Canonical Definition, Release 1

HL7 Cross-Paradigm Domain Analysis Model: Vital Records, Release 2

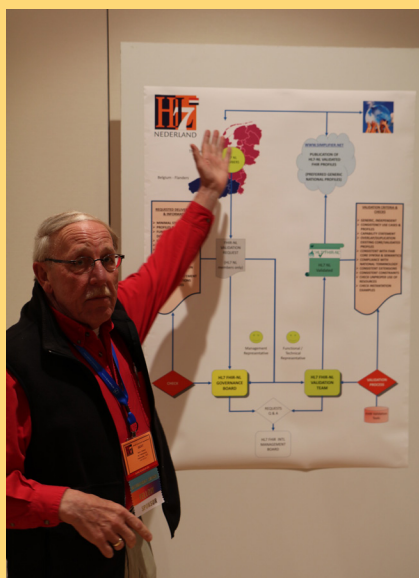
HL7 Domain Analysis Model: Common Clinical Registry Framework, Release 1

HL7 EHRS-FM Release 2 Functional Profile: Child Health Functional Profile Release 1; Developmental Screening and Reporting Services Derived Profile, Release 1 - US Realm

HL7 Domain Analysis Model: Common Clinical Registry Framework, Release 1 BRIDG, Release 3

HL7 YEAR IN PHOTOS







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