INNOVATORS & INTEROPERABILITY

HL7 INTERNATIONAL

2015 ANNUAL REPORT

INNOVATORS & INTEROPERABILITY

HL7® VISION

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

HL7® MISSION

HL7 empowers global health data interoperability by developing standards and enabling their adoption and implementation.

TABLE OF CONTENTS

CHAIR REPORT

Stanley Huff, MD

HL7 International Chair

2015 has been a very active and productive year for HL7 International. Not only has HL7 continued its traditional work of standards development, but it has significantly expanded its activities related to national and international healthcare issues and policies. I have highlighted below a few of HL7's most important events and activities of 2015.

Stable Organizational Membership

It is important to note that HL7's organizational membership remained relatively stable in 2015. This is significant because HL7 had a dramatic loss of organizational members for the first year after we announced HL7's policy of licensing all of our standards free for use in the spring of 2013. The board strongly feels that this is the right policy, and it is gratifying that many organizations recognize the value of supporting and participating in HL7 even though they are not required to be members of HL7 in order to use HL7 standards.

HL7-Related Activities of ONC (Office of the National Coordinator for Healthcare Information Technology)

On October 15, 2014 a joint meeting of the ONC HIT Standards Committee and the HIT Policy Committee was held. A key report was presented by the JASON Task Force (JTF). The JTF is an HITPC ad hoc working group charged with reviewing the 2013 JASON Report "A Robust Health Data Infrastructure," which is a federally commissioned study authored by the JASON Advisory Panel. The following recommendations were adopted by members attending the joint meeting:

- ONC should focus on Interoperability. ONC and CMS should re-align the Meaningful Use program to shift the focus to expanding interoperability, and initiating adoption of public APIs.

- ONC should support public APIs as the basic conduit of interoperability. The public APIs should enable data- and document-level access to clinical and financial systems according to contemporary internet principles.

- Core data services and profiles should define the minimal data and document types supported by public APIs.

The focus on interoperability has continued through 2015, and aligns perfectly with the mission of HL7.

These recommendations are very relevant to HL7. The focus on interoperability continued in 2015, and aligns perfectly with the mission of HL7. HL7 standards are referenced extensively in the 2016 Standards Interoperability Advisory. The Advisory recommends use of HL7 value sets, implementation guides, data exchange standards, document exchange standards, and standards for services. Of particular note is the listing of the HL7 FHIR standard as an emerging standard for draft use. FHIR is clearly the best solution as a public API to support interoperability. This public validation of FHIR principles is a confirmation of the value that FHIR can bring to the community.

HL7 and Congressional Activities

There has been widespread recognition by members of the US Senate and House of Representatives of the importance of interoperability because of ONC's and HL7's focus on this topic. There is a clear understanding that interoperability of healthcare information systems is a key factor in improving the quality and decreasing the cost of healthcare. As a result, members of HL7 have made many visits to Washington, DC to educate and consult with members of Congress about interoperability. The goal of these visits is to inform the various committees about HL7 standards and to encourage a strategy for adoption of flexible and scalable approaches to interoperability.

Advisory Council Retreat

The HL7 Advisory Council held a retreat in July 2015 and recommended that HL7 should:

- Provide clear and focused messaging to both public and private stakeholders. The messages could describe real examples of user success stories and illustrate how HL7 standards provide benefit to patients, providers, payers, and government agencies.

- Expand their role as a convener of SDOs, payers, pharma, professional associations, and government departments and agencies.

- Consider developing an industry roadmap for interoperability.

HL7's Board agreed with these recommendations and the recommendations provided motivation for several activities undertaken by HL7 during the remainder of 2015.

CHAIR REPORT

The Industry Roadmap Summit

In direct response to the Advisory Council's recommendations, HL7 convened a blue ribbon panel of healthcare IT experts in October to create a roadmap for HL7 activities. The group identified five action items for HL7:

- **Focus Efforts on CDA® (present) and HL7 FHIR® (future).** Specifically, provide explicit guidance on CDA implementation to increase interoperability. For FHIR, the group recommended a focus on the clinical domains with the highest value (lab, medication, diagnoses and demographics), and increase semantic interoperability by creating value sets and terminology constraints.

- **Develop Implementation Guidance, Testing and Tools.** The focus should be on creating implementation guides tailored to audiences that need them, emphasizing billing and patient administration use cases, using industry-accepted open source tools for development and maintenance, and ensuring that conformance testing is available to assist with implementation and testing of the standards.

- **Engage Clinical Societies.** Clinical societies should be engaged to ensure appropriate alignment with real world use, and solicit input from "front line" clinicians who can identify situations where implementation guidance is needed.

- **Pursue Private Sector Partnerships.** Repeat the Argonaut model for private sector partnerships as opportunities arise.

- **Continue Focused Policy Activities.** Continue to inform Congress and others within the Administration by providing materials and programs that explain interoperability and communicate HL7's role. Participate with other like-minded organizations in the policy arena, particularly around efforts to align incentives with changes that provide value for patients.

- **Enhance Communication to the Industry.** Inform the industry of our activities and plans.

The strength of HL7 continues to be in the selfless volunteer work of its members…

CIMI as a Part of HL7

CIMI (the Clinical Information Modeling Initiative) was added as a new work group within HL7 at the October Plenary meeting. CIMI was initiated during a "Fresh Look" session at an HL7 meeting in 2011, and has been operating as an independent community of interest since that time. The goal of CIMI is to produce detailed clinical information models to enable true plug-and-play interoperability of healthcare information systems. It is anticipated that CIMI clinical content can provide terminology and value set binding information detailed clinical models that will augment FHIR Resource definitions and enhance interoperability.

HL7 Continues to Lead the Industry Toward Interoperability Solutions

These are just a few of the most important HL7 related activities that have taken place this year. They represent a broadening of HL7 interests to include greater emphasis on educating stakeholders on the value of standards, and collaborating with government entities on important policy issues. The strength of HL7 continues to be in the selfless volunteer work of its members, which is the key to HL7's success in producing innovative and creative healthcare interoperability solutions.

CEO REPORT

Charles Jaffe MD PHD

HL7 International Chief Executive Officer

2015 was a remarkable year of both transformation and growth. HL7 emerged from the challenges of making much of its intellectual property freely available with reinvigorated growth and a more profound global vision. The adoption of HL7's standards and platforms has sparked interest in HL7 as a vanguard for interoperability across healthcare.

FHIR

The worldwide adoption of FHIR® (Fast Healthcare Interoperability Resources) has transformed the promise of interoperability well beyond the scope of electronic health records. This year began with the successful ballot of the second release of FHIR and later enabled the potential for true interoperability across systems with the integration of open ISO standards for authentication and security. Much of this could not have been possible without the commitment and resources of the Argonaut Project, which was supported by the unparalleled collaboration of the private sector. More importantly, FHIR flourished through the remarkable efforts of the international community, which provided technical skills and personal resources around the globe.

Advisory Council: Partners in Interoperability

Leadership and vision emerged from many stakeholder groups, the most vital of which is the HL7 Advisory Council. This year's council was a virtual who's who of the international medical informatics and healthcare IT communities. The commitment from these thought leaders provided experience, vision, and insight that helped guide HL7. The council recommended the formation of a new initiative, Partners in Interoperability, which, in the coming year, will bring together leading organizations representing all aspects of healthcare

...the second release of FHIR and later enabled the potential for true interoperability across systems...

and wellness, including groups from clinical societies, information technology vendors, standards development organizations, BioPharma and genomics coalitions, and government agencies.

ONC Grant

Our partnership with the US Office of the National Coordinator for Health IT added a new dimension. HL7 was awarded a grant to provide enhancements to Clinical Document Architecture (CDA®) and the Consolidated CDA. This funding is renewable for four additional years and will create a vehicle for fundamental improvements to a wide array of our products and implementation processes. In addition, it will allow for additional grants from other Federal agencies that are aligned with our interoperability vision. HL7 will collaborate with a broad constituency, including our work groups and other standards development organizations, as well as outside domain experts and associations.

CIMI & OHT

The Clinical Information Modeling Initiative (CIMI), born from the Fresh Look initiative from four years ago, will return to the HL7 organization as the CIMI Work Group. This group of experts will help to inform, guide, and provide content to other work groups, including FHIR. From another much valued realm, the Open Health Tools organization enables open-source tooling for personal health, healthcare delivery, and population health. Like CIMI, OHT will become an HL7 work group and coordinate much of its activities through the HL7 Technical Steering Committee and will liaison with critical private-sector collaborators.

CEO REPORT

HL7 Policy & Genomics Summits

The past five years has heralded the growth of HL7 participation in health and healthcare policy. As the global policy landscape began to morph, HL7 introduced its first Policy Summit in 2013. That event highlighted many of the international thought leaders who help shape both today's and tomorrow's health community. The Policy Summit was reprised in 2015 with even greater acclaim, as the policy makers and those who were most impacted by those policies met on one podium. Included in that event was US Representative Michael Burgess, a physician and leading voice for the 21st Century Cures legislation. In addition, the audience was treated to the insight of Dr. Taha Kass-Hout, the first Chief Health Information Officer of the USFDA, who shared his vision for transformation of the agency by opening much of its data, previously inaccessible. We also heard from Claudia Williams, Senior Advisor for Health Innovation and Technology at the White House, who shared the President's vision for *Precision Medicine* and the technology to achieve it. Finally, the Summit continued the message of the Genomics Summit, held only several months earlier, through an eye-opening presentation on genomics breakthroughs from Dr. Howard Levy, Professor at the Johns Hopkins School of Medicine. You can expect even more in the coming year.

HL7 Stakeholders: Payers, Clinicians, BioPharma

HL7 experienced significant growth of collaboration with diverse stakeholder communities, including clinical societies, physician and scientific leaders, and healthcare leaders. This was supported by an unprecedented level of commitment from organizations such as the American Medical Informatics Association (AMIA) and the American Medical Association (AMA). However, the payer community has demonstrated the greatest commitment by growing the Payer User Group to more than 50 members. As these payers discovered the enormous value brought by primary clinical data, so too did BioPharma stakeholders, who have begun to discover the remarkable versatility of FHIR. In fact, our face-to-face meetings with these stakeholders proved to be so valuable that we will be increasing our commitment to foster and support their adoption of HL7 technology and platforms.

HL7 Global Initiatives

This year also saw an increasing commitment to our global partners. The HL7 Terminology Authority forged new alliances with both IHTSDO and the Regenstrief Institute, whose structured vocabularies help advance the future of interoperability. The HL7 European office contributed to countless EU projects as well as helped to drive the trans-Atlantic initiative for the exchange of clinical data. Once again, the Latin American HL7 community enabled much of the internationally recognized online HL7 Fundamentals program. The global HL7 partnership also fostered alliances with programs as wide-ranging as those from the WHO and the International Medical Informatics Association. Once again, HL7 Asia demonstrated so vividly that international collaboration transcends political borders and focuses acutely on the well-being of the health and healthcare of every individual.

Looking Ahead

For HL7, 2016 promises even more innovation and collaboration. Although just a nascent initiative, our *Partners in Interoperability* program is already beginning to deliver on the promise of the unambiguous and secure exchange of data across formidable silos. An ambitious program, scheduled for early spring, *Partners* has already elicited support from a growing number of international organizations. From professional societies to private-sector vendors and from standards organizations to a broad swath of end-users and the implementation community, this initiative has begun to generate growing interest.

Our programs with private-sector leaders in healthcare and BioPharma will be matched by our commitment to support regulation and demands for data security and privacy. The HL7 contribution to mHealth will grow and will provide patients and their families with unique access to clinical and genomic data. The commitment from the payer community, both private and Federal, will continue to support growth of the FHIR platform, as the focus on increasing requirement for clinical data becomes more relevant. As expected, accelerating demand for access to increasingly interoperable data will continue to drive contributions from the entire spectrum of the clinical community from nurses and physicians to dentists and dieticians.

All of us wish to extend our thanks to the thousands of volunteers worldwide who made 2015 so successful, and we also offer a warm welcome for the many who will help to drive HL7 in 2016.

TECHNICAL STEERING COMMITTEE (TSC) CHAIR REPORT

Kenneth McCaslin,
MAR

*Chair, HL7 Technical
Steering Committee*

HL7 continues to transform in response to the evolving healthcare ecosystem around the world by adding work groups focused on key issues and expanding our processes to support our membership. The rapid development that is underway in areas across the organization has driven much of the change. In 2015 alone, over 50 documents were balloted, 45 of which were published. This is a reflection of the tremendous change needed to support the market place.

Standards Governance Board (SGB)

HL7 recently announced the formation of the Standards Governance Board (SGB). The SGB is in the initial stages and has finalized its membership. Paul Knapp and Calvin Beebe will serve as co-chairs. Both of these individuals have a great deal of experience with many of the HL7 products, which makes them uniquely qualified to lead the group. The SGB is currently instituting its processes and policies. The team will develop governance at a high level across all HL7 product families to create consistent concepts. It will also expand those concepts to manage unique product family/product line governance requirements. The intent is to align methodologies and mitigate risk across products.

Updated Standards Catalog

Until now, implementers were challenged to find previous versions of a published standard on the HL7 website. In order to address this concern, the website has been redesigned to feature both the current version of a standard as well as all of its previous versions in a single location.

In 2015 alone, over 50 documents were balloted, 45 of which were published.

Project Scope Statement (PSS) Lite

In the past, we found that many work groups struggled with the decision of when to start a project. Building a fully functional Project Scope Statement requires a great deal of time and effort and work groups did not want to pursue the work involved in creating one if they did not have enough information to officially launch the project. To address this concern, the TSC announced the PSS Lite developed by the Project Services Work Group. This is a reduced statement that only needs to be approved by the work group so that they can further explore the requirements in order to better assess if a project warrants their resources. Once the work group has gathered enough information to determine the validity of the project, they are able to update the PSS Lite to become a fully functional PSS. At that point, the project will follow the traditional approval process.

The Business Architecture Model (BAM)

The Architectural Review Board has made significant progress towards operationalizing the BAM, having successfully balloted Phase I: Product Planning this past May. Phase I is expected to be published shortly after the Orlando WGM.

Work Group Health

HL7 work groups have made great strides in the quest to maintain and/or improve the quality and participation measures reflected by the quarterly Work Group Health reports. In the reports released for this past quarter, 22 WGs received a rating of "healthiest" as opposed to 17 WGs last January—an increase of nearly 30%. Congratulations to all, and thank you for your diligent work.

2016 already has many new opportunities and HL7 will continue to improve standards to support the ever evolving healthcare environment.

COUNTRIES WITH HL7 AFFILIATES

1. Argentina	20. Malaysia
2. Australia	21. Netherlands
3. Austria	22. New Zealand
4. Bosnia & Herzegovina	23. Norway
5. Brazil	24. Pakistan
6. Canada	25. Philippines
7. China	26. Puerto Rico
8. Croatia	27. Romania
9. Czech Republic	28. Russia
10. Denmark	29. Serbia
11. Finland	30. Singapore
12. France	31. Slovenia
13. Germany	32. Spain
14. Greece	33. Sweden
15. Hong Kong	34. Switzerland
16. India	35. Taiwan
17. Italy	36. United Kingdom
18. Japan	37. Uruguay
19. Korea	

TREASURER REPORT

Outstanding!
The approved 2015 budget, was expected to run in the red by over a ½ million dollars. Current projections look to have us netting over $147,000. This represents a swing of over $675,000 in the right direction!

Our volunteer membership continues to be both a significant source of revenue ($2.795M), and a workforce that drives the development of new standard and maintenance of legacy standards used throughout the world. Membership revenue is projected to exceeded plans by $122K.
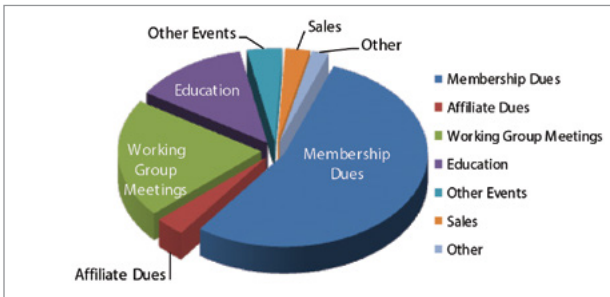
Calvin Beebe

HL7 International Board Treasurer

In addition to the solid membership numbers, there was strong performance in a number of other areas, including:

• Working Group Meetings – exceeded revenue plans by $210K

• Webinar Series – generated $138K, $40K above plan.

• OID Registration Fees – generated in excess of $114K

The outstanding performance this year can also be attributed to the strong leadership and diligent staff at HL7, who helped reduced expenses by 5.7%. Thus, HL7 reduced expenses and increased revenue by 7.8%. Simply outstanding!

TREASURER REPORT

Summary of Results—a Few Notes:

- All figures are forecasted as of Dec. 11, 2015 in US dollars and are not yet audited
- Some expense items remain outstanding, and are estimated to budget values
- All figures reflect HL7 International budgets and exclude the Argonaut Project funding

2015 Revenue

Budget	Actuals	Difference	% Difference
Membership Dues			
$2.683M	$2.795M	+$112K	+4.2%
Affiliate Dues			
$233K	$173K	-$60K	-26%
Working Group Meetings			
$849K	$1,059K	+$210K	+25%
Implementation Workshops / e-Learning Fundamentals / Off-Site			
$665K	$660K	-$5K	-1%
Other Events			
$158K	$203K	+$45K	+29%
Sales (Merchandise, OID, V3 Database, Books, Study Guides...)			
$80K	$142K	+$62K	+77%
Other (Commissions, Gifts, Interest)			
$90K	$99K	+$9K	+10%
Revenue Summary			
$4.758M	$5.131M	$372K	+7.8%

The outstanding performance this year can also be attributed to the strong leadership and diligent staff at HL7, who helped reduced expenses by 5.7%.

2015 Expenses

Budget	Actuals	Difference	% Difference
Staff (including HQ, CEO, CTO & attributable expenses)			
$2.830M	$2.792M	-$38K	-1.3%
Infrastructure & Tooling			
$211K	$123K	-$88K	-41%
Marketing / Communications / Sales / Promotions			
$278K	$188K	-$91K	-33%
Contracted Resources & Support Expenses			
$245K	$177K	-$68K	-28%
Working Group Meetings			
$873K	$890K	+$17K	+2%
Education (Summits / e-Learning Fundamentals / Off-site)			
$362K	$346K	-$17K	-4%
Other Events			
$278K	$222K	-$56K	-20%
Liaison Activities			
$35K	$50K	+$15K	+43
Other Administrative Fees			
$175K	$196K	+$21K	+12
Expense Summary			
$5.286M	$4.983M	-$303K	-5.7%

2015 Net Income and Cash Reserves

HL7 International maintains a policy of setting a six month cash reserve to cover operations of the organization. At the end of 2015, the pre-audited cash reserves were as follows.

Budget	Actuals	Difference	% Difference
Net Income			
-$528K	$148K	$676K	+128%
Cash Reserves			
10.83 months	13.12 months	2.29 months	+21%

EXECUTIVE DIRECTOR REPORT

Mark McDougall

*HL7 International
Executive Director*

Membership Report

HL7 had 1,720 members on December 31, 2015, as compared to 1,857 one year earlier. The net decline of 137 total members represents 7.4% of HL7's membership. At the end of 2015, we had 26 benefactors and 25 gold members. This represents a gain of four new benefactor members and six new gold members over the previous year.

Individual Memberships

As of December 31, 2015, HL7 had a total of 217 individual members. This total reflects 177 new members joining or being re-instated during 2015, as compared to 169 new members joining/reinstating during 2014. For the 2015 year, there was a net loss of 53 individual members, as compared to a net loss of 39 in 2014. Seven of the individual memberships that did not renew became voting members for their organizations and six of the new individual members were voting members whose organizations did not renew as organizational members.

Organizational Memberships

There were a total of 509 organizational member firms on December 31, 2015, as compared to 555 one year earlier. For organizational members in 2015, there were 174 new organizations joining or being re-instated as compared to 227 in 2014. For the year, there was a net decrease in organizational memberships of 46, which compares to a decrease of 87 members during 2014.

HL7 welcomed Denmark and Serbia as new affiliates.

International Affiliate Members

There were 37 countries with active HL7 affiliates in 2015, including the following: Argentina, Australia, Austria, Bosnia & Herzegovina, Brazil, Canada, China, Croatia, Czech Republic, Finland, France, Germany, Greece, Hong Kong, India, Italy, Japan, Korea, Malaysia, The Netherlands, New Zealand, Norway, Pakistan, Philippines, Puerto Rico, Romania, Russia, Serbia, Singapore, Slovenia, Spain, Sweden, Switzerland, Taiwan, United Kingdom, and Uruguay. HL7 welcomed two new affiliates in 2015: HL7 Denmark and HL7 Serbia.

Membership Recognition

HL7 has been very fortunate to attract incredibly talented and dedicated volunteers. This year, HL7 recognized a few of these dedicated individuals at HL7's 29th Annual Plenary and Working Group Meeting in October. On Wednesday morning of the event, the 19th Annual W. Edward Hammond, PhD HL7 Volunteer of the Year Awards were presented to the following well-deserving volunteers who have contributed hundreds, if not thousands, of hours and have served HL7 extremely well for many years:

- **Elaine Ayres**, deputy chief, Laboratory for Informatics Development, NIH Clinical Center
- **Russell Leftwich**, MD, senior clinical advisor for interoperability, InterSystems
- **Grant Wood**, senior IT strategist, Intermountain Healthcare

HL7 also announced the 2015 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 individuals as the 2015 class of HL7 Fellows:

- Calvin Beebe
- Tom de Jong
- Grahame Grieve
- Diego Kaminker
- Austin Kreisler
- Dale Nelson
- Scott Robertson, PharmD
- Ioana Singureanu

19

EXECUTIVE DIRECTOR REPORT

Meetings & Education Report

January Meeting in San Antonio, Texas

HL7 served 472 attendees at our January Working Group Meeting held in San Antonio, Texas from January 18-23, 2015. Over 40 HL7 work groups convened meetings, 21 of which conducted co-chair elections. Attendees also took advantage of 35 tutorials, a FHIR connectathon, a payer summit, and three certification tests that week.

One highlight of the meeting was celebrating Ed Hammond's 80th birthday. As I mentioned in my toast that evening: *Stan and Chuck are the leaders of HL7, the co-chairs of our many work groups are the backbone of the organization, but Ed Hammond is the heart and soul of HL7.*

May Meeting in Paris, France

The HL7 May Working Group Meeting was held May 9-15, 2015 in Paris, France. We served 341 attendees at this event where over 40 HL7 work groups convened meetings, and 23 work groups conducted co-chair elections. Attendees also took advantage of 18 tutorials, a FHIR connectathon, a policy summit, and three certification tests that week. The HL7 affiliates also sponsored a reception with poster boards on Sunday evening.

I would like to express sincere appreciation to everyone who contributed to the success of the Paris WGM, particularly:

- Nicolas Canu
- Lillian Bigham
- Elizabeth Marshall
- Ticia Gerber
- Helen Stevens
- HL7 affiliates

merci! thank you

29th Annual Plenary Meeting in Atlanta, Georgia

HL7's 29th Annual Plenary and Working Group Meeting convened October 4-9, 2015 at the Sheraton Atlanta Hotel in Atlanta, Georgia. In addition to our regular working group meeting with over 50 work groups meeting and 31 tutorials, the 29th Annual Plenary Meeting focused on the theme *Remote Monitoring and the Interoperability of Things.*

Our first keynote speaker for this program was Sam Bierstock, MD, Founder and President of Champions in Healthcare, and Executive Director for the Global Medical Microtechnology Association. Dr. Bierstock's presentation was both entertaining and insightful on the tidal wave of new and ever-evolving technologies for use in patient care. His spell-binding keynote address set the stage for the presentations that followed by:

- Taha A. Kass-Hout, MD, MS, FDA Chief Health Informatics Officer

- Joe Corkery, MD, Senior Project Officer, Google Cloud Program

- James Tcheng, MD, Professor, Duke University, Chair of the Informatics and Health Information Technology Task Force of the American College of Cardiology

- Steve Hasley, MD, American College of Obstetricians and Gynecologists; Medical Director for Information Technology, Women's Health, UPMC

- Michael Hodgkins, MD, MPH, VP & CMIO, American Medical Association

- Dr. Phil Koczan, MBBS, FRCGP, General Practitioner; Chief Clinical Information Officer, UCL Partners and North East London Foundation Trust

- Frank Opelka, MD, Medical Director, American College of Surgeons for Quality and Health Policy; Executive Vice, President, Louisiana State University Health

EXECUTIVE DIRECTOR REPORT

Webinar Report

The HL7 Webinar Program had a successful year offering thirty-six webinar programs, totaling 59 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 796 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.

Education Portal

In October 2015, HL7 launched a new and improved Education Portal that provided a bold, graphic look and search capabilities by topic and presenter, making the content easier and faster to locate. The 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 2015, over 500 people accessed the new portal, representing an increase of over 100 from the previous year. In addition, revenues increased by 45% for a total of $44,917.

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 2015, HL7 produced seven Fundamentals courses around the world that served 556 students. These courses were produced by HL7 International, HL7 Argentina, HL7 Austria, HL7 Brazil, HL7 Italy and HL7 Romania.

There are over 4,500 Certified HL7 specialists.

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. 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 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 2015, 342 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 2015	# CBT Certified	Total # Certified
Version 2	268	217	3450
Clinical Document Architecture	65	49	703
Version 3 Reference Information Model (RIM)	9	6	364
Total	342	272	4517

2015 BOARD OF DIRECTORS

HL7 COLLABORATES

HL7 formally collaborates with many organizations across the industry. In 2015, HL7 held formal agreements with the following organizations.

Accredited Standards Committee X12 - ASC-X12	Institute for Electrical and Electronic Engineers (IEEE)
American Dental Association (ADA)	Integrating the Healthcare Enterprise (IHE)
American Immunization Registry Association (AIRA)	International Conference on Harmonisation (ICH)
America's Health Insurance Plans (AHIP)	International Health Terminology Standards Development Organisation (IHTSDO)
American Society for Testing Materials (ASTM)	International Organization for Standardization (ISO)
CEN/TC 251 (European Committee for Standardization)	National Council for Prescription Drug Program (NCPDP)
Clinical and Laboratory Standards Institute (CLSI)	OASIS
Clinical Data Interchange Standards Consortium (CDISC)	Object Management Group (OMG)
Continua Health Alliance (CHA)	Regenstrief/Logical Observation Identifiers Names and Codes (LOINC)
Digital Imaging and Communication in Medicine (DICOM)	The Sequoia Project
eHealth Initiative, Inc. (eHI)	Smart Open Services for European Patients (epSOS) – European eHealth Project
GS1	Workgroup for Electronic Data Interchange (WEDI)
Health Information Management Systems Society (HIMSS)	
Implementation of Regulatory Information Submission Standards (IRISS)	

HL7 2015 STANDARDS SNAPSHOT

HL7 Standards Receiving ANSI Approval in 2015

- HL7 Version 3 Standard: Patient Administration; Person Registry, Release 1
  Date Approved: 1/16/2015

- HL7 Version 3 Standard: Common Terminology Services, Release 2
  Date Approved: 2/27/2015

- HL7 Version 3 Standard: Clinical Document Architecture (CDA), Release 2
  Date Approved: 2/27/2015

- HL7 Version 3 Standard: Common Product Model CMETs, Release 2
  Date Approved: 6/12/2015

- HL7 Version 3 Standard: Regulated Product Submission, Release 2
  Date Approved: 7/10/2015

- Health Level Seven Standard Version 2.8.2 - An Application Protocol for Electronic Data Exchange in Healthcare Environments
  Date Approved: 9/4/2015

- HL7 Version 3 Standard: Structured Product Labeling, Release 6
  Date Approved: 9/9/2015

- HL7 Version 3 Standard: Refinement, Constraint and Localization to Version 3 Messages, Release 2
  Date Approved: 9/9/2015

- HL7 Implementation Guide for CDA® Release 2 - Level 3: Healthcare Associated Infection Reports, Release 2 - US Realm
  Date Approved: 11/16/2015

HL7 Standards for Trial Use Published in 2015

- HL7 Version 3 Implementation Guide: Quality Data Model (QDM)-based Health Quality Measure Format (HQMF), Release 1 – US Realm, DSTU Release 1.1

- HL7 Implementation Guide for CDA® Release 2 - Level 3: Healthcare Associated Infection Reports Release 2, DSTU Release 2.1 - US Realm

- HL7 Standard: Clinical Decision Support Knowledge Artifact Specification, Release 1, DSTU Release 1.3

- HL7 Version 3 Implementation Guide: Quality Data Model (QDM)-based Health Quality Measure Format (HQMF), Release 1 – US Realm, DSTU Release 1.2

- HL7 Version 2.5.1 Implementation Guide: Birth and Fetal Death Reporting, Release 1 - US Realm, DSTU Release 1.1

- HL7 Version 2.5.1 Implementation Guide: S&I Framework Laboratory Orders from EHR, Release 1, DSTU Release 2 - US Realm

- HL7 CDA® R2 IG: Reporting to Public Health Cancer Registries from Ambulatory Healthcare Providers, R1, DSTU Release 1.1 - US Realm

- HL7 CDA® R2 Implementation Guide: Clinical Oncology Treatment Plan and Summary; Release 1, DSTU Release 2.1 - US Realm

- HL7 Implementation Guide for CDA® Release 2: Birth and Fetal Death Reporting to Vital Records, Release 1 (US Realm)

- HL7 Version 3 Specification: Ordering Service Interface, Release 1 (US Realm)

- HL7 Version 3 Specification: Unified Communication Service Interface, Release 1 (US Realm)

- HL7 Version 3 Specification: Event Publish & Subscribe Service Interface, Release 1 (US Realm)

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

- HL7 Version 3 Standard: Clinical Models for Allergies and Intolerances, Release 1

- HL7 Standard: Clinical Quality Language Specification, Release 1

- HL7 CDA® R2 IG: Quality Reporting Document Architecture Category I (QRDA I); Release 1, DSTU Release 3 - US Realm

- HL7 Implementation Guide: LOINC Clinical Document Ontology, Release 1

- HL7 Version 3 Standard: Care Provision; Food and Medication Preferences, Release 1, DSTU Release 1

- HL7 CDA® R2 Implementation Guide: National Ambulatory Health Care Surveys (NCHS), Release 1, DSTU Release 1.1 – US Realm

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

- HL7 CDA® R2 IG: Additional CDA R2 Templates - Clinical Documents for Payers – Set 1, Release 1 – US Realm

- HL7 Version 2.5.1 S&I Framework Implementation Guide: Laboratory Test Compendium Framework, Release 2, DSTU R2 – US Realm

27

HL7 2015 STANDARDS SNAPSHOT

HL7 Standards for Trial Use Published in 2015 (continued)

- HL7 Version 2.5.1 Implementation Guide: S&I Framework Lab Results Interface, Release 1, DSTU R2 – US Realm

- HL7 Version 2.5.1 Implementation Guide: S&I Framework Lab Results Interface, Release 1, DSTU R2 – US Realm

- HL7 Fast Healthcare Interoperability Resources Specification (FHIR), DSTU Release 2

- HL7 FHIR® Profile: Data Access Framework (DAF), Release 1 DST

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

- HL7 FHIR® Implementation Guide: Structured Data Capture (SDC), Release 1 DSTU

- HL7 Version 2.5.1 Implementation Guide: S&I Framework Laboratory Orders from EHR, Release 1, DSTU Release 2 - US Realm

- HL7 Version 3 Implementation Guide: TermInfo - Using SNOMED CT in CDA R2 Models, Release 1

Informative Documents Published in 2015

- HL7 CDA® R2 Implementation Guide: Medication Therapy Management (MTM) Templates, Release 1 – US Realm

- Patient Friendly Language for Consumer User Interfaces

- HL7 EHR-System Implementation Guide: Pharmacist/Pharmacy Provider Functional Profile for Community Practice, R1

- Meaningful Use Functional Profile – for MU Stages 1-2 (US Realm)

- HL7 Version 3 Implementation Guide: Regulated Studies; Annotated ECG R1, Release 2 - US Realm

- HL7 Domain Analysis Model: Specimen, Release 1

- HL7 V3 Domain Analysis Model: Detailed Clinical Models for Medical Devices, Release 1

- Clinical Quality Common Metadata Conceptual Model

- Public Health Functional Profile Release 2: Informational Level 1

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FHIR Infrastructure	Standards Governance Board
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HEALTH LEVEL SEVEN® INTERNATIONAL

3300 Washtenaw Avenue, Suite 227

Ann Arbor, MI 48104 USA

(+1) 734-677-7777

(+1) 734-677-6622

hq@HL7.org

www.HL7.org

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