STANDARDS

DEVELOP

IMPLEMENT

HL7®

International

2022 ANNUAL REPORT

HL7 International

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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CEO REPORT

Charles Jaffe, MD, PhD, FHL7
HL7 International
Chief Executive Officer

2022 was a remarkable year for HL7 International. It was marked by significant progress toward our fundamental mission, by the collective achievements of our growing global community, and by an unwavering commitment to advancing healthcare informatics worldwide.

A New Three-Year Plan and
The Standards Implementation Division

Last year, the HL7 Board embarked on an ambitious three-year plan. The spirit of the plan's overarching design was the embrace of a fundamental change in the working model of organization structure. After more than 30 years as the leading developer of global healthcare interoperability standards, we committed to the creation of a Standards Implementation Division.

This ambitious effort came with the recognition that HL7 was best positioned to implement the standards that we created. The new division was never intended to divide the members, but rather to recognize the fundamental differences between standards creation and their implementation.

Moreover, the Implementation Division and the Development Division were tasked with evolving an integrated workflow, in which the efforts of one more effectively informed the efforts of the other. From the start, it was fashioned after a truly virtuous, agile learning system.

Emergence of the Executive Leadership Team

Several early steps needed to be taken before the end-state could be visualized. First, the process required the support of the entire HL7 global community, for which there was no easy approach to change management.

At another level, this could not have been achieved without the creation of a new management team. Perhaps, one of the most pivotal achievements of 2022 was the selection, recruitment, and collaboration with the new members of our Executive Leadership Team. Dan Vreeman, Viet Nguyen, and Diego Kaminker have played an integral role in re-envisioning HL7.

Their contributions have been invaluable, steering our journey towards the transformation of HL7. The requisite series of events could not have been accomplished without remarkable collaboration with our traditional partners in standards development. All of us at HL7 recognize and salute them. Moreover, the promised evolution of these both new and existing relationships will further ensure the success of the changes underway.

Daniel Vreeman, DPT   **Viet Nguyen, MD**   **Diego Kaminker**

Five Principles That Enable the Three-Year Plan

The success of the plan is driven by the commitment of the entire HL7 International community to core number of strategic principles. These principles serve as the foundation for the processes that help to define the nearly forty-year vision of HL7. We are committed to seamlessly enabling the exchange of health information when and where it is needed.

FOCUS

More than ever, HL7 has actively engaged with international communities to establish HL7 Fast Healthcare Interoperability Resources (FHIR®) as a global interoperability standard. Our critical liaison with regulatory agencies, research organizations, academic centers and partnerships with diverse non-profit organizations is pivotal in the growth and implementation of FHIR. To achieve that goal, we have championed the creation of national and global FHIR training programs, recognizing its critical value of bringing new voices into HL7.

GLOBAL RELEVANCE

The creation of the Global Policy Support Taskforce underscores our commitment to facilitating effective interactions with national healthcare systems and policy makers worldwide. Our engagements with international academic centers, national leadership, global companies and the 40 HL7 affiliate organizations worldwide serve to amplify our global presence, increase diversity, and promote health equity.

AGILITY

Agility enables HL7 to succeed at far more than the technical development process; it serves as the hallmark for meaningful engagement and business strategy. The implementation of FHIR is most closely associated with ease of access, technical superiority, and rapid engagement and deployment. Agility has become the byword for community transformation.

SUSTAINABILITY

More than a decade ago, HL7 leadership made a commitment to lowering the barriers to standards adoption. With that decision came the existential challenge to fiscal stability. Ensuring sustainability became integral to our strategic outlook and our critical operational choices. Within only a few years, the rapid growth of FHIR adoption and implementation drove new membership opportunities. Moreover, the development of new supporting programs, such as the ONC Cooperative Agreement and grants, delivered upon the goals of the Three-Year Plan, and greatly enhanced our capability for rapid adoption of new initiatives. Lastly, the transformation of the FHIR Foundation as a benefactor for our new divisions broaden our program horizons and supported our commitment to a sustainable, adaptable future.

COMMUNITY

Community is more than the individuals and organizations committed to supporting standards development. More importantly, there are a growing number of stakeholders who rely upon the technical capabilities that our standards afford them, but also provide a virtual venue for the education, training, and certification that HL7 provides. It is also the unique partnerships and collaborations that grow our capabilities as well as the patients, researchers and provider groups that we ultimately serve.

Future Vision

The future of HL7 rests in part on the accomplishments of 2022. The growth in both membership and capabilities has been instrumental in reshaping HL7's trajectory. The dedication, collaboration, and innovative spirit demonstrated by our teams have been the driving force behind these achievements. As we look forward, we remain committed to upholding these standards, fostering growth, and furthering our impact on the global healthcare informatics landscape.

A Purpose and a Plan

Daniel Vreeman, DPT, FHL7
HL7 Chief Standards
Development Officer

Our collective purpose is to provide standards that empower global health data interoperability. HL7's open data standards set the foundation for new interoperable digital health innovations. But the significance of our work goes beyond the specification artifacts we produce, or even the technical innovations that implement them.

HL7's open standards for health data enable new digital freedoms.

Have you thought about that?

Perhaps you're familiar with how the open-source software movement champions software that has four key freedoms. The freedom to **use, study, share, and improve:**

Use
Freedom to use the software for any purpose, without restrictions such as license expiry or geographic limitations.

Study
Freedom to study the software and code by anyone, without non-disclosure agreements or similar restrictions.

Share
Freedom to share and copy the software (at virtually no cost).

Improve
Freedom for anyone to modify the software and share these improvements publicly.

At HL7, we believe that foundational health data standards are a global good, and should enable these same kinds of freedoms. Better health shouldn't be limited by geographic, national, socioeconomic, or other boundaries. It's why we're so passionate about HL7 FHIR and why FHIR has been placed in the public domain (under the CC0 license).

Anyone, anywhere is free to use FHIR *however they wish*. The freedoms enabled by FHIR reduce barriers to opportunity around the world. This kind of "free" goes far beyond cost. It is the freedom to create. The freedom to build on.

The freedom to **change the world as it is now**.

As FHIR-based solutions are spreading around the world, we're beginning to see these freedoms take flight.

For **individuals**, it can mean the freedom to move wherever their interests, occupation, or adventure takes them – without leaving their health information behind.

For **providers**, it can mean the freedom to make sound clinical judgements with the right information at hand, and to coordinate efficiently with others in the health ecosystem.

For **government agencies**, it can mean the freedom to optimize public health programs with the insights that come from better, faster, and more actionable data.

For **health IT vendors**, it can mean the freedom to innovation solutions for individuals, providers, payers, and governments using a common approach that's been designed and tested by a collective industry brain trust.

> **"As an innovation is successful, it redefines the landscape in which it has emerged, assuring that its immediate success is short-lived even as the foundation has been laid to take on new challenges."**
>
> **—from *Getting to Maybe: How the World is Changed* by Frances Westley, Brenda Zimmerman, and Michael Patton**

The seamless interplay between standards development and implementation.

As use of FHIR spreads throughout the ecosystem, we are witnessing transformations at each turn. This is happening both **externally** as our standards are used around the world to enable interoperability, and **internally** as we continuously improve how we develop them.

My role at HL7 came online at beginning of 2022, the same time as our Chief and Deputy Chief Standards Implementation Officer were also appointed. Our collective roles represent the re-envisioning of HL7 into a Standards Development Organization that not only creates world class standards, but that helps people discover, access, and understand HL7's specifications and test their implementations. Throughout 2022, HL7 created an integrated approach to standards development and implementation that has now become part of the routine decision-making and long term strategy for the organization.

HL7 3-Year Plan

We reached an important turning point in 2022 with the launch of the HL7 3-Year Plan. This plan synthesizes the collective inputs of our multiyear re-envisioning efforts into a coordinate set of work streams organized under 10 key strategies. Across these strategies, we are advancing the interlinked activities of standards development, implementation, and the sustaining operations that will propel us to address the next epoch of global interoperability challenges.

I would encourage you to visit hl7.me/plan to find out how we are working to achieve these goals. Following I'll review some of the highlights from our standards development perspective.

Landing page for HL7 3 Year Plan.

A Global Community

The essence of HL7 is a vibrant and well-orchestrated global community. We continued to cultivate the fruitful harmony from this creative synthesis to deliver world-class standards to the industry.

As we reflect on our accomplishments, I want to emphasize that our real focus is not on so-called "**vanity metrics.**" Vanity metrics might be things like number of users, comments, projects, specifications, rejections, time to publishing, various process metrics, etc. These can be useful indicators of how well things are operating. Yet, I encourage us to be even more concerned with what I call **"humanity metrics."** Humanity metrics reflect a different dimension. For example, the degree to which HL7 contributors experience personal meaning, growth, and purpose. Or the extent to which we have a diversity of people and ideas working in a welcoming environment. At a high level, we are seeking to turn consensus among people into new system capabilities enabling better services that ultimately result in better health. So even as we review our progress with various stats, take a moment to consider how they contribute to the chain of improvements that are truly transforming human health.

Overall, in 2022 HL7 International published (or re-affirmed) 64 specifications across all our product lines. We celebrate the milestone of publication because it reflects the culmination of consensus building among stakeholders about how they want to address a particular interoperability problem.

Preceding these publications was the process of receiving, reconciling, and making updates based on community feedback. The strength of our standards is only as much as the strength of our community. Overall, in 2022 we found consensus on and resolved more than 6,400 comments across all of our specifications.
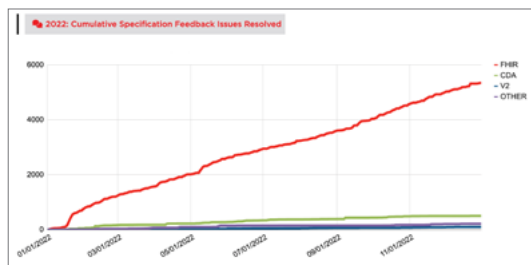
Cumulative specification issues resolved in 2022.

HL7's 3-Year Plan recognizes that a vibrant community is the fuel for our collective progress. And I'm pleased to share that last year we had a healthy infusion of ideas from new contributors. In fact, nearly half of the comments submitted on our specifications were from people who hadn't commented in 2021.

After several years of productive virtual meetings, it was also wonderful to see the return of in-person events—first with Dev Days in Cleveland as a hybrid event and then the September HL7 Plenary Meeting in Baltimore. Recognizing the benefit of both virtual and face-to-face participation, going forward we'll try to find an optimal balance of opportunities and costs for our global community.

Continuous Improvement

HL7's thrice yearly FHIR connectathons and working group meetings are crucial for building the cohesiveness of our community. They punctuate our standards development cycles that really never stop. HL7's continuous development environment operates around the clock automatically **building new development versions of more than 280 implementation guides** as soon as an HL7 contributor checks new code into that specification's Github repository. This infrastructure is used not only by HL7 International, but 10 HL7 Affiliates and others around the world.

We continue investing in a common tooling infrastructure for collaborative work that supports the effectiveness of our contributors to be effective. We are now experiencing

📄 2022: 64 Specifications published by HL7 International

Jan
STU: CDA® R2 IG: Public Health Case Report - the Electronic Initial Case Report (eICR) Release 2, STU Release 3.0 - US Realm
STU: FHIR IG: minimal Common Oncology Data Elements (mCODE) Release 1 STU 2 - US Realm
STU: FHIR® IG: Electronic Case Reporting (eCR), Release 2
STU Update: FHIR® Profile: Quality, Release 1 STU 4.1- US Realm
STU: FHIR IG: Profiles for ICSR Transfusion and Vaccination Adverse Event Detection and Reporting, Release 1 - US Realm

Feb
Normative: FHIR® IG: FHIR Shorthand, Release 2

Mar
Informative: CDA® R2 Attachment IG: Exchange of C-CDA Based Documents, Release 2 - US Realm
STU: FHIR® Structured Data Capture (SDC) IG, Release 3
Normative: Reaffirmation of EHR-System Pharmacist/Pharmacy Provider Functional Profile, Release 1 - US Realm
STU: FHIR® IG: Health Record Exchange (HRex) Framework, Release 1- US Realm
STU: FHIR® IG: Clinical Data Exchange (CDex), Release 1- US Realm
STU Errata: FHIR® Profile: Quality, Release 1 - US Realm STU 4.1.1

Apr
STU Update Publication for FHIR IG: Payer Data Exchange (PDex) Payer Network, Release 1 - US Realm
Informative: Cross-Paradigm Specification: Clinical Negation Requirements, Release 1
STU: FHIR® IG: Quality Measures, Release 1 STU 3 - US Realm
STU: CDA® R2 IG: Consolidated CDA Templates for Clinical Notes; Advance Directives Templates, Release 1 STU 2 - US Realm

May
Informative: EHRS-FM Release 2.1 - Pediatric Care Health IT Functional Profile Release 1 - US Realm
STU: FHIR® IG: SMART Web Messaging IG, Release 1
STU: FHIR® IG: Clinical Genomics, STU 2
STU: Domain Analysis Model: Vital Records, Release 5- US Realm
STU: FHIR® IG: Personal Health Device (PHD), Release 1
STU: CDA® R2 IG: C-CDA Templates for Clinical Notes STU Companion Guide, Release 3 - US Realm
STU: FHIR® US Core IG STU5 Release 5.0.0
STU Update: CDA® R2 IG: National Health Care Surveys (NHCS), Release 1, STU Release 2.1 and STU Release 3.1 – US Realm

June
STU: FHIR® IG: Risk Adjustment, Release 1 - US Realm
Informative: Short Term Solution - V2: SOGI Data Exchange Profile
Errata: US Core STU5 Release 5.0.1

July
STU: FHIR® IG: Digital Insurance Card, Release 1 - US Realm
STU: FHIR® IG: Subscription R5 Backport, Release 1
STU Update: CDA® R2 IG: Reportability Response, Release 1 STU Release 1.1- US Realm
STU Update: CDA® R2 IG: Public Health Case Report - the Electronic Initial Case Report (eICR) Release 2, STU Release 3.1 - US Realm
Informative: FHIR® IG: COVID-19 FHIR Clinical Profile Library, Release 1 - US Realm
STU: CDA® R2 IG: NHSN Healthcare Associated Infection (HAI) Reports, Release 4, STU 2 - US Realm

Aug
STU: FHIR® IG: Clinical Data Exchange (CDex), Release 1 STU1.1.0 - US Realm
STU Update: FHIR Profile: Occupational Data for Health (ODH), Release 1.2
STU: FHIR® IG: Payer Data Exchange (PDex) Drug Formulary, Release 1 STU2 - US Realm
STU: FHIR® IG: Vital Records Death Reporting (VRDR), Release 1 STU2 - US Realm
STU Update: FHIR® IG: Electronic Case Reporting (eCR), Release 2.1 - US Realm

Sep
STU: FHIR® IG: Vital Signs, Release 1 - US Realm
STU: Cross Paradigm Specification: CDS Hooks, Release 1
STU: FHIR® IG: Hybrid/Intermediary Exchange, Release 1- US Realm
Errata: C-CDA (CDA® R2 IG: Consolidated CDA Templates for Clinical Notes - US Realm)
STU: FHIR® IG: Security for Registration, Authentication, and Authorization, Release 1- US Realm
STU: FHIR® IG: FHIR for FAIR, Release 1
STU: FHIR® IG: PACIO Re-assessment Timepoints, Release 1 - US Realm
STU: CDA® R2 IG: ePOLST: Portable Medical Orders About Resuscitation and Initial Treatment, Release 1 - US Realm
STU: FHIR® IG: Medicolegal Death Investigation (MDI), Release 1 - US Realm

Oct
Reaffirmation: Version 3 Standard: Representation of the Health Quality Measure Format (eMeasure) Release 1
STU: Version 2.5.1 IG: Laboratory Orders (LOI) from EHR, Release 1, STU Release 4 - US Realm
STU: Version 2 IG: Laboratory Value Set Companion Guide, Release 2- US Realm
STU: Version 2.5.1 IG: Laboratory Results Interface, Release 1 STU Release 4 - US Realm

Nov
Informative: V2 IG Quality Criteria, Release 1
Reaffirmation: Version V3 GELLO IG: Clinical Decision Support, Model Definition Language for GELLO, Release 1
Reaffirmation: Version 3 Standard: Transport Specification - ebXML Using eb MS2.0, Release 1
STU: FHIR® IG: SDOH Clinical Care, Release 2.0 - US Realm
STU Update: FHIR® IG: Data Exchange for Quality Measures, STU3.1 for FHIR R4 - US Realm
STU Update: FHIR® IG: International Patient Summary, Release 1.1
Normative: Reaffirmation of Version 3 Standard: Registries; Real Time Location Tracking, Release 1
STU: FHIR® IG: Consumer-Directed Payer Exchange (CARIN IG for Blue Button®), Release 1 STU2

Dec
STU Publication Request for Domain Analysis Model: Nutrition Care, Release 3 STU 1
Errata: CDA® R2 IG: Quality Reporting Document Architecture - Category I (QRDA I) - US Realm, STU 5.3
Normative: Reaffirmation of Version 2: XML Encoding Rules, Release 2
Normative: Reaffirmation of Version 3 IG: Context-Aware Knowledge Retrieval (Infobutton) - Service-Oriented Architecture IG, Release 1
Informative: EHRS-FM R2.0.1: Usability Functional Profile, Release 1

Specifications published (or reaffirmed) by HL7 International in 2022.
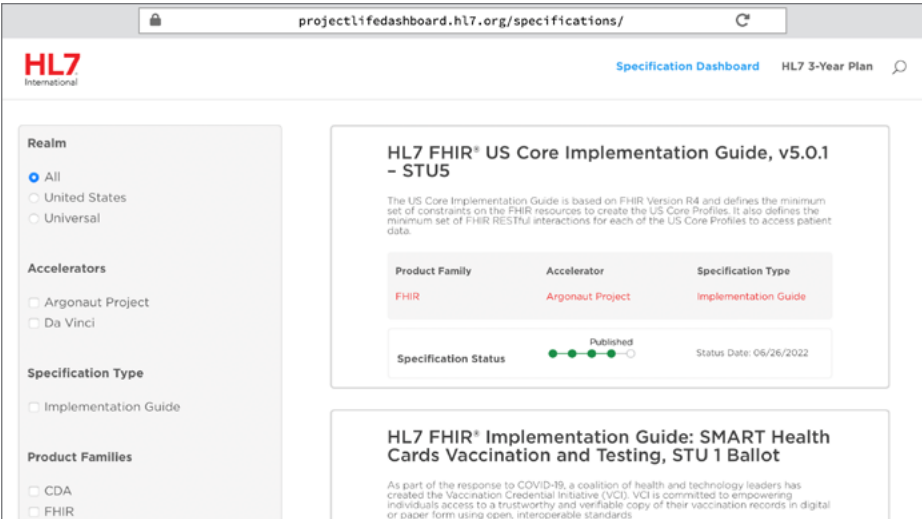
Dashboard of key HL7 specifications and their lifecycle journey.

the benefits of investments like using Jira for specification feedback and ballot cycles, increasing the automation of HL7's Unified Terminology Governance, tools for validating FHIR resources, and the infrastructure for publishing implementation guides (including web-publishing a C-CDA replica using a FHIR StructureDefinition-based approach), HL7's terminology, and other artifacts.

We've also enhanced our communication channels, such as our infrastructure status monitors (visible at stats.hl7.org) and notifications (published via chat.fhir.org).

Looking ahead, we will continue advancing our Specification Lifecycle Management initiative that is optimizing and redesigning our end-to-end standards development processes (including existing paper and Confluence-based forms) into a semi-automated Jira workflow.

We'll also continue enhancing our project by creating a dashboard for tracking specifications through their lifecycle. The prototype dashboard is now live at https://projectlifedbboard.hl7.org/. It contains an easy to navigate overview of key HL7 specifications that updates as they progress from early drafts to mature standards.

What's exciting is that underneath the clean design is a modern open-source content management system (Wordpress) with API functionality that will serve as the basis for a major hl7.org platform revamp whose planning is taking flight in 2023.
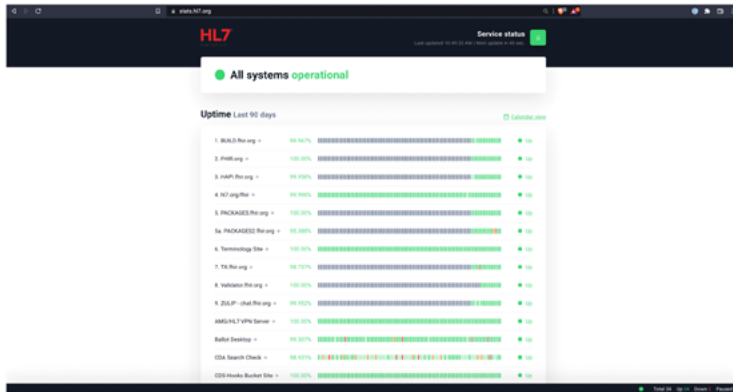
External Funding for Standards Advancement

HL7's curates an external funding portfolio (e.g. grants, contracts, cooperative agreements) that provides substantial opportunities to advance our standards. Such sponsored projects provide support for standards advancement, core infrastructure development, process improvement, pilot testing, and dissemination. They also serve as a nice complement to other revenue sources.

HL7 has worked closely and successfully with the U.S. Office of the National Coordinator for Health Information Technology (ONC) for many years. Throughout 2022, HL7 executed on three awards (#90AX0019/01-06, #90C30007, and #75P00120C00078) from ONC and in September 2022 was awarded a follow-on 5-year cooperative agreement (90AX0035/01-00). This support enables HL7 to develop many of the tools and standards development infrastructure that HL7 makes freely available to the public. Furthermore, ONC's funding support has directly contributed to the development of HL7 standards that are now critical to the function of the US healthcare system.

In total, across these awards we operated about 35 separate projects to advance our shared objectives in the areas of specification development, infrastructure and tooling, and implementation and testing support.

Public visibility of our HL7 infrastructure health

HL7 standards advancement projects supported by the U.S. Office of the National Coordinator for Health Information Technology

Closing

I want to close by saying thank you for contributing your unique perspective into this collective process. Your membership in HL7 supports the common processes that produce public benefit worldwide. And your participation in our vibrant community ensures that your perspective on the world, your expertise, and your lived experiences are reflected. As an industry innovator, your engagement in HL7 enables you to be catalyzed by—rather than be caught off guard by—the latest advances in interoperability.

I am deeply grateful that you are committed to the consensus-building process that HL7 convenes. Together, we enabling the interoperability advances that are transforming the health of citizens around the world.

STANDARDS IMPLEMENTATION REPORT

By Viet Nguyen, MD
Chief Standards Implementation Officer (CSIO), HL7 International

Diego Kaminker, FHL7
Deputy Chief Standards Implementation Officer (DCSIO), HL7 International

Support Standards Development

Program Management Services

Best Practices

HL7 Implementation Division

Community and Global Outreach

Ecosystem

Education

The areas of interest for the HL7 SID are: Program Management, Best Practices, Community and Global Outreach, Ecosystem Development and Education

The highlight of 2022 was the development (in collaboration with the Chief Standards Development Officer, Dr. Dan Vreeman) and Board approval of the 3-Year Plan Development Plan (2022-2024). The HL7 3-Year Business Plan is a series of principles, derived strategies and detailed goals and programs in areas of interest. The principles are: Focus, Agility, Global Relevance, Community and Sustainability. You can read more about the HL7 3-Year Business Plan here: *https://projectlifedashboard.hl7.org/plan/*

Area: Program Management

This area deals with improving and expanding the HL7 FHIR Accelerator Program.

We developed the Accelerator Blueprint, which is a complete guide on the creation and management of an HL7 FHIR Accelerator as well as a series of webinars explaining it.

You can find the Accelerator Blueprint here: https://confluence.hl7.org/download/attachments/139666787/FHIR%20Accelerator%20Blueprint%20v2.pptx?version=1&modification-Date=1664973352111&api=v2

Current HL7 FHIR Accelerators include the following: Argonaut Project, CARIN Alliance, CodeX, Da Vinci Project, FAST, Gravity Project, Helios, and Vulcan. One of the key activities for 2022 was strengthening Gravity and ramping up Helios. Also, in collaboration with Dr. Vreeman and the FHIR Product Director, we defined the basis and operational model for the FHIR Community Process.

Area: Community Outreach

This area is about reaching out to communities already working with FHIR as well as new communities.

During 2022 we completed early planning (envision, outline and budget) for our 2023 scheduled events.

May HL7 Working Group Meeting + ("WGM plus"): A new way to hold our classic working group meetings, improving our reach to implementers and

non-technical professionals, including specific tracks on policy, research and public health. This event will be held in May 2023.

DevDays 2023: A new edition of the best FHIR event in the world: four days full of technical, community and tutorial sessions. This event will be held in June in Amsterdam

CMS FHIR Event: This is a virtual testing event, sponsored by CMS. It will be held in July 2023.

FHIR in the Cloud: This is an online or virtual session devoted to explain the participants the different offerings for cloud based FHIR servers and their shared goals and features.

Synthetic Data Series: This is an online conference. It has two main objectives: explain the current use of synthetic data for testing and explore future tendencies. This event will be held in August 2023.

Security Event: A two day virtual event discussing best practices, options, state of the art and problems when implementing FHIR services for sharing clinical information. This event will also take place in August 2023.

Area: Best Practices

We created the Terminology Best Practices playbook through the HL7 Internship, in collaboration with the Standards Development Division (SDD). This playbook explains how to integrate the use of clinical terminology in FHIR implementation guides, and how to navigate the vocabulary forest in HL7.

We also began working on the Accelerator Reference Implementation (RI) Playbook: How to Create Reference Implementation for FHIR Implementation Guides.

Area: Ecosystem

Based on community feedback obtained during 2021, we created the requirements and development plan for The Foundry. The Foundry will be a place, with a focus on new implementers, aimed at discovering and testing FHIR specifications blended into a 'testing ecosystem'. The Foundry will also hold reference implementations for FHIR implementation guides, making them easier find and test drive.

In addition, we began planning for the migration of the Logica Sandbox to the Foundry and to monitor/ support the current implementation of the Logica Sandbox.

Area: Education

We completed a 10 weeks/ 2 hours a week course on FHIR for Executives/Managers, initially tested with a cohort from the UC Davis / University of Texas. We also provided education on the use of FHIR to the Centers for Medicare & Medicaid Services (CMS) to promote FHIR and interoperability to the broader community.

Finally, we discussed with the Director of Education and the Education Advisory Council, the basis for the three-pronged strategy to improve volume and quality of our education programs: credentialing, partnership, and certified educator

Area: Global Relevance

Our leadership traveled the world to meet with our affiliates in 2022. Invited by the HL7 Taiwan affiliate, our DCSIO visited Taiwan to provide a brief FHIR Overview to MoH and MoH Insurance, an education session with Masters of Biomedical Informatics at the Taipei Medical University, and also participated of the HL7 Asia Pacific Conference where he presented a brief of global use of FHIR.

In addition, the DCSIO participated with the FHIR Product Director (GG) in the HL7 FHIR LATAM TOUR, where we met affiliate members, the general public, and government officials in Santiago, Chile; São Paulo, Brazil; and Buenos Aires, Argentina. Dr. Nguyen, HL7's CSIO, also participated in the annual medical informatics event, where he explained the basis of a Learning Healthcare System.

TREASURER REPORT

By Floyd Eisenberg, MD
*HL7 International
Board Treasurer*

2022 was another positive year for HL7 strategically and financially.

While pandemic-related health and economic disruption continued worldwide, HL7's staff continued to effectively produce a combination of virtual and in-person meetings while protecting the health and safety of our membership.

Meetings

HL7 held highly successful FHIR connectathons and working group meetings (WGMs) in January, May and September. While the January and May WGMs were produced virtually, the September WGM was produced as our first in-person WGM since the pandemic began. Attendance at all meetings was excellent and relatively stable for the WGMs (485, 422, and 582 individuals, respectively) and at the FHIR Connectathons (596, 520, and 312, respectively). The number of attendees at the 2022 FHIR DevDays was about 600, which was over 50 more than the 2021 DevDays. Figure 1 provides graphic view of attendance from 2018 to 2022.

Due to significantly lower expenses, the net income from the virtual events has been much greater than the in-person WGMs. In 2021 all three WGMs were produced virtually and the net operating income was $649k. In 2022 two of the three WGMs were produced virtually and the net income was $305k, which is $343k less than was earned the year before. The June 2022 FHIR DevDays generated $152k in net income, which is $28k more than in 2021.

Education

As compared to 2021, educational program revenue during 2022 was $1.608M, reflecting an increase of $41k, or 2.6%. Net income was $1.092M which was comparable to 2021. Revenue from webinars and certification testing decreased by $36k and $25k respectively. Revenue from distance learning courses was $1.127M, reflecting an increase of $102k, or 10%, as compared to 2021. Figure 3 shows the education programming revenue trend from 2018 to 2022.
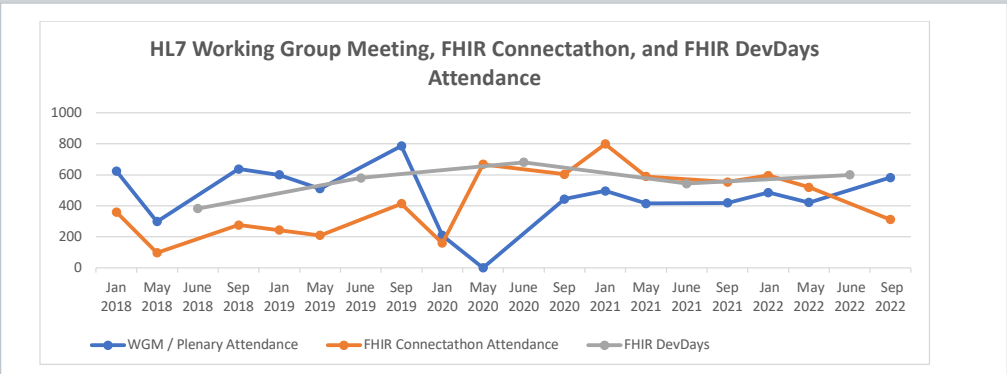

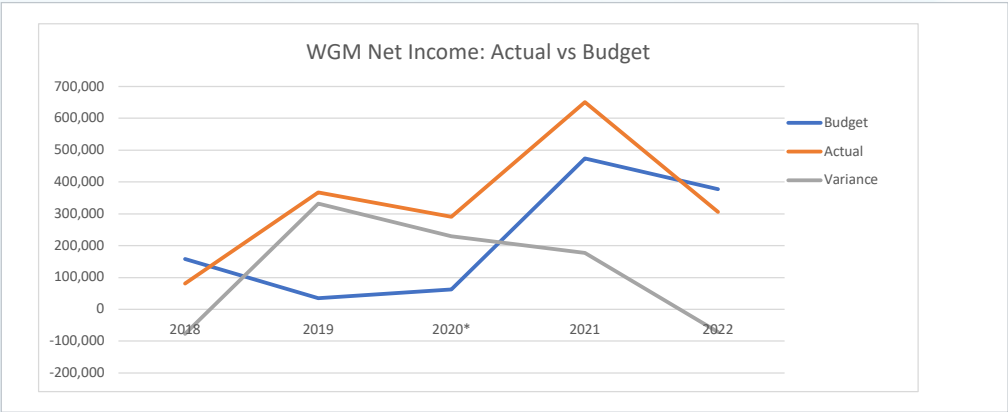*Figure 1. Attendance at WGM, FHIR Connectathons, and FHIR DevDays 2018-2022.*

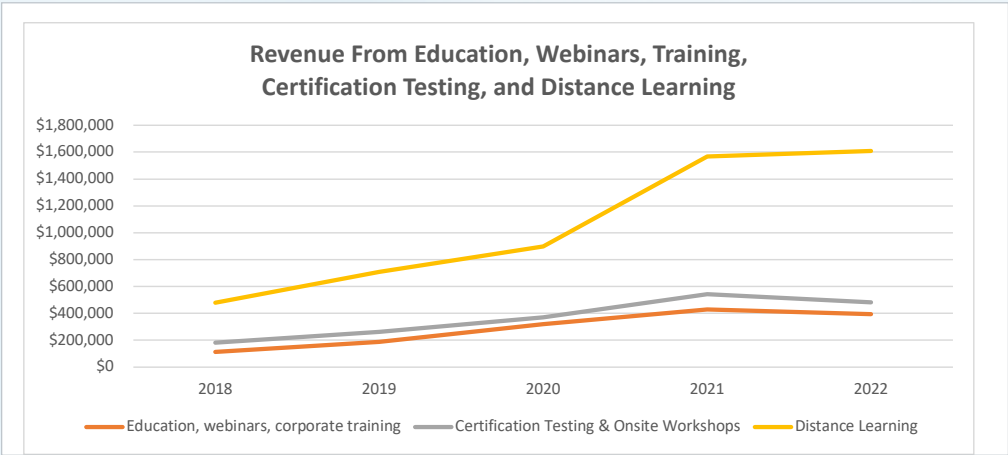*Figure 2. WGM net income variance between actual and budgeted amounts 2018-2022.*

Figure 3. Net revenue from education, webinars, training, certification testing, and distance learning.
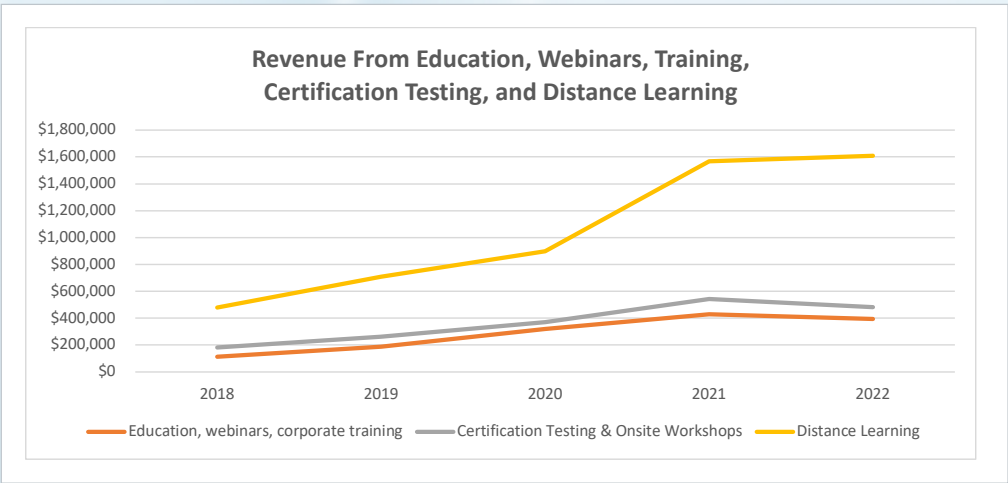

Figure 4. Education net income variance between actual and budgeted amounts 2018-2022.

Membership

As compared to 2021, the total number of HL7 members declined by 66, a 4.3% decrease. However, the total membership revenues increased by $99k, or 3%, reflecting a shift to larger organizations paying more membership dues. The preliminary organizational membership revenues were $3.252M and individual membership revenues were $101K for the 2022 fiscal year. This translates to the organizational membership revenues exceeding the budget by $204k and individual membership revenues being under budget by $20k.

Organizational membership revenues have stabilized, while the slight decline in individual memberships continues. Figure 5 features the changes in the number of memberships from 2018 through 2022. Revenues from individual memberships are proportionally small relative to total membership revenues, most of which represent organizational memberships. It seems likely that increased interest and activity with HL7 FHIR as well as participation of FHIR accelerators has helped to stabilize membership, although HL7 membership among FHIR Accelerator participants varies.

The Organization

HL7's net income was budgeted to lose $1.7M in a year of investments related to the re-envisioning plan deployment.

However, the preliminary 2022 year-end includes a net income gain of $145k. This is over $1.8M better than the budgeted loss. Figure 7 depicts the pattern of expenses and revenue over the past five years. Due to producing virtual events during 2021 and most of 2022, expenses in those years were considerably smaller than a typical year.

Excluding funds related to FHIR accelerators and governmental grants, Figure 8 shows current HL7 reserves at 14 months. Our ability to rely on reserves allows HL7 to take steps to implement our re-envisioning strategy and invest in new infrastructure and staff to help move the process forward.

The implementation of a new member management software (Fonteva) has been challenging. We have also budgeted to implement new financial system software to better support our new endeavors.

Our positive financial status allowed HL7 to enhance our leadership capabilities in health information technology standards development and implementation. HL7 has been fortunate that membership and participation remained strong. As we continue to operationalize our re-envisioning efforts, we will also be seeking to enhance our revenue streams to support sustainable enhancements moving forward. I am highly optimistic about HL7's future.

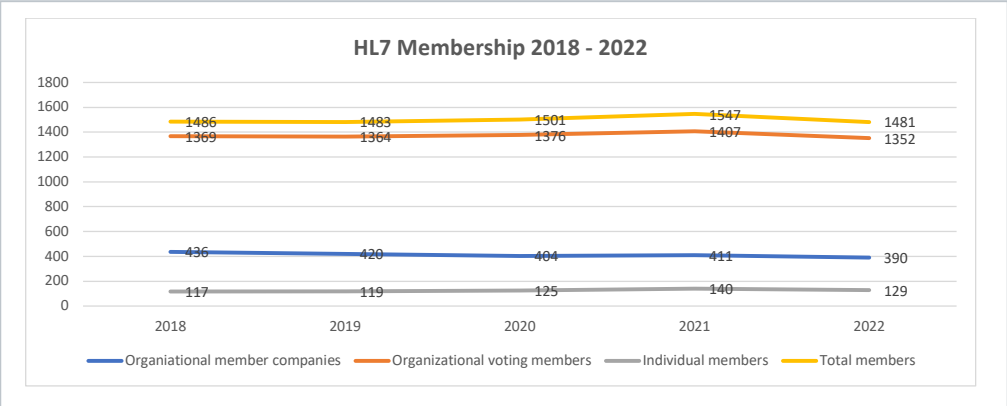Respectfully submitted,

Floyd Eisenberg
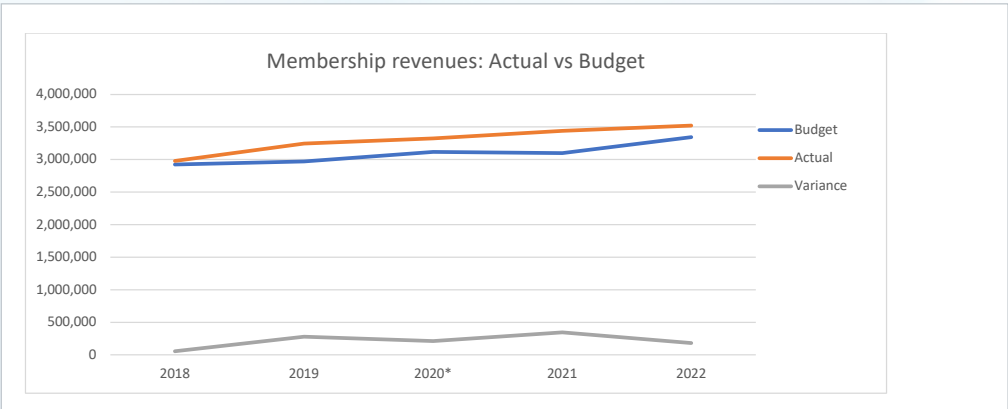

Figure 5. HL7 membership 2018-2022.

Figure 6. Membership revenues variance between actual and budgeted amounts 2018-2022.
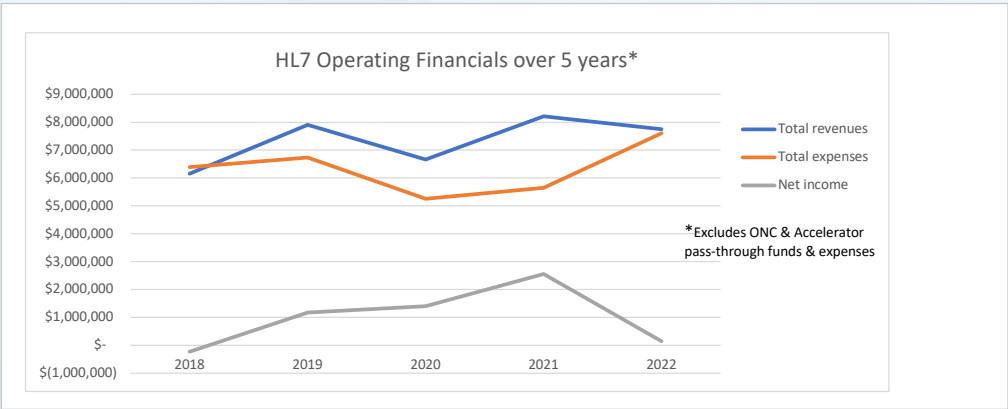

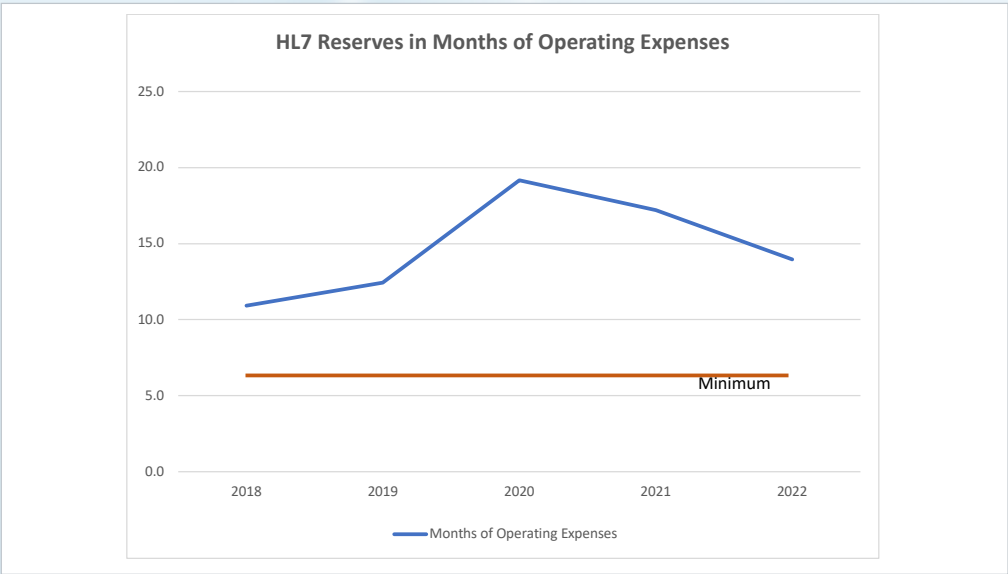*Figure 7. HL7 financials over the past five years, showing revenues, expenses and net income.*

Figure 8. HL7 reserves shown in months of operating expenses available

HL7 INTERNATIONAL COMMITTEES AND WORK GROUPS

Affiliate Engagement	FHIR Management Group	Policy Advisory Committee
Arden Syntax	Financial Management	Public Health
Biomedical Research Integrated Doman Group	Governance and Operations	Publishing—Electronic Services and Tooling
CDA Management Group	Human and Social Services	Recognition and Awards
Clinical Decision Support	Imaging Integration	Security
Clinical Genomics	Implementable Technology Specifications	Services Oriented Architecture
Clinical Information Modeling Initiative	Infrastructure and Messaging	Structured Documents
Clinical Interoperability Council	International Council	Technical Steering Committee
Clinical Quality Information	Leadership Development and Nominations Committee	Terminology Authority
Clinical Statement	Learning Health System	Terminology Infrastructure
Community-Based Care and Privacy	Mobile Health	Terminology Services Management Group
Conformance	Modeling and Methodology	US Realm Steering Committee
Cross-Group Projects	Orders and Observations	V2 Management Group
Devices	Patient Administration	Vocabulary
Education	Patient Care	
Electronic Health Records	Patient Empowerment	
Emergency Care	Payer/Provider Information Exchange	
FHIR Infrastructure	Pharmacy	

EXECUTIVE DIRECTOR REPORT

Mark McDougall
HL7 International Executive Director

HL7 is dependent upon the service of hundreds of key members who drive the organization forward.

Membership Report

HL7 had 1,547 members as of December 31, 2021, as compared to 1,501 one year earlier, representing a 3% increase. The Benefactor level remained steady at 30 members and there was a modest gain in Gold level memberships from 93 in 2020 to 95 in 2021.

Individual Memberships

As of December 31, 2021, HL7 had a total of 140 individual members, which represents a 12% increase from 125 total individual members one year earlier.

Organizational Memberships

There were 411 organizational member firms on December 31, 2021, as compared to 404 at the end of 2020. In 2021 there were 84 new organizational members and 51 organizational reactivations. This compares to 60 new organizational members and 54 organizational reactivations in 2020. For the year, there was a net increase of 24 organizational memberships which compares to a decrease of 16 during 2020.

Membership Recognition

Volunteers of the Year

We were pleased to recognize three incredible volunteers for their dedicated service to HL7. This year marks the 25th year that we have recognized such individuals via the *W. Ed Hammond, PhD HL7 Volunteer of the Year Awards*. The recipients of the 2021 HL7 Volunteer of the Year Awards included:

- John D'Amore, President, More Informatics and Co-Founder and Strategic Advisor, Diameter Health
- Janet Marchibroda, President, Alliance for Cell Therapy Now
- Feliciano "Pele" Yu, MD, Chief Medical Information Officer, University of Arkansas Medical Sciences

We are honored to recognize John, Janet and Feliciano 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 well-deserved.

HL7 Fellows Class of 2021

The HL7 Fellowship program recognizes individuals with outstanding commitment and sustained contribution to HL7 with at least 15 years of active membership. During HL7's 35th Plenary meeting, HL7 honored the following well-deserving members with distinction as HL7 Fellows in the Class of 2020:

- Lorraine Constable
- Jean Duteau
- Jamie Ferguson
- Paul Knapp
- Galen Mulrooney
- Ron Parker
- Melva Peters
- Rik Smithies
- Michael Tan

Board Election Results

The new year of 2022 will bring HL7 new members of the HL7 Board of Directors. The new Board members were elected to serve two-year terms from January 2022 through December 2023.

- Treasurer of the Board:
  Floyd Eisenberg, MD,
  President, iParsimony, LLC
- Director: Janet Marchibroda,
  President, Alliance for
  Cell Therapy Now
- Affiliate Director: Peter Jordan,
  Solutions Architect, Patients First
  Ltd, Chair, HL7 New Zealand

As announced last year, Andy Truscott, Partner, Accenture, began his two-year term as the Chair of the HL7 Board of Directors on January 1, 2022.

Later in 2021, the HL7 Board approved launching a new HL7 Implementation Division and hired two individuals to work half-time each to lead the development and deployment of this new division.

- Viet Nguyen, MD, Chief Standards
  Implementation Officer
- Diego Kaminker, Deputy Standards
  Implementation Officer

Viet and Diego will also join the HL7 Executive Committee and serve as non-voting members of the HL7 Board of Directors.

With Viet and Diego taking on these new roles at HL7, they both resigned from the HL7 Board of Directors. As defined in HL7's Governance and Operations Manual, their positions on the HL7 Board were filled by the individuals who received the second most votes. Therefore, we are pleased to welcome two new members on the HL7 Board:

- John Loonsk, MD, The Johns
  Hopkins University
- Ron Parker, HL7 Canada

Congratulations and a sincere thank you to these individuals for their commitment and service to HL7 as members of the HL7 Board of Directors.

Farewell to Wayne

After six years of serving as HL7's Chief Technology Officer, Wayne Kubick retired from HL7 at the end of January 2022. During the January WGM we celebrated Wayne's contributions via toasts from several HL7 leaders, as well as a memorable send off from John Cleese (English actor, comedian and co-founder of the Monty Python comedy troupe) who is Wayne's favorite comedian. Personally, I would like to thank Wayne for his leadership and friendship throughout the years.

Welcome to Dan Vreeman, DPT

With Wayne's departure, the HL7 Board was pleased to announce the hiring of Dan Vreeman, DPT, who now serves as HL7's Chief Standards Development Officer. Dan has also joined the HL7 Executive Committee and serves as a non-voting member of the HL7 Board of Directors.

Meetings and Education Report

Virtual January FHIR Connectathon and Working Group Meeting

HL7's virtual events continued to provide an effective forum for our HL7 community to collaborate in a seamless manner.

The January WGM attracted 496 participants and 798 participated in the FHIR connectathon. Also, 49 work groups convened productive meetings. Our January WGM also featured several surprise guest speakers that were fun and well-received, including:

- Comedian Cedric the Entertainer
- Meditation guru Deepak Chopra
- Sports reporter Erin Andrews
- Improvisational comedian
  Colin Mochrie from Whose
  Line Is It Anyway
- Carol Baskin, Big Cat Rescue who
  became infamous via the Tiger King
  television series
- Actor Sean Astin who starred
  in the Lord of the Rings,
  Rudy and The Goonies

We were thrilled to realize that our HL7 WGMs and FHIR Connectathons are productive, meaningful and successful in person or virtually.

May FHIR Connectathon and Working Group Meeting

The May WGM attracted 415 participants and 589 participated in the FHIR connectathon. Our May WGM also featured several surprise guest speakers that were fun and well-received, including:

- Anthony Anderson, actor in Blackish and several movies
- Dr. Mehmet Oz
- Lisa Leslie, WNBA basketball legend
- Steve Wozniak, co-founder of Apple Computers
- Stephen Toboloswky, actor from several television shows provided hilarious bits for HL7 attendees

In addition, 42 work groups convened productive meetings. We were thrilled to receive positive feedback in our ability to produce virtual meetings that are both productive and meaningful to the community we serve.

Virtual FHIR DevDays in June

Our second version of a virtual FHIR DevDays successfully delivered the content that the participants were seeking. Kudos to our HL7 and Firely teams for producing another well-received and successful event with 543 participants. Special thanks to Mary Ann Boyle for managing the HL7 staff on the many aspects of the event planning and coordination of speakers from around the world. We would also like to thank Wayne Kubick as well as the Firely team, particularly Rien Wertheim and Marita Mantle-Kloosterboer, for their partnership in producing another successful event.

35th Annual Plenary and Working Group Meeting

The 35th Annual Plenary, WGM and FHIR connectathon were all produced virtually. The plenary meeting attracted 718 attendees, the WGM attracted 419, and the FHIR connectathon attracted 554 participants. Also, 41 work groups convened productive meetings.

The Plenary meeting featured two panel presentations. The first panel addressed the trends and challenges of using artificial intelligence in healthcare:

- *AI in Genomics & Population Health* by Xihong Lin, PhD, Professor of Biostatistics & Coordinating Director of the Program in Quantitative Genomics, Harvard University
- *Overview of AI Lab, Ethics, Skunkworks & Developments in Clinical Care* by Jennifer Hall, AI Senior Data Scientist, NHSX, London, England
- *AI in Argentina: Lessons Learned at Hospital Italiano de Buenos Aires* by Sonia Benitez, MD, PhD, Internal Medicine Specialist, Hospital Italiano, Bueno Aires, Argentina
- *AI: Its Positive Impact on Health Outcomes in Asia Pacific, Japan and Beyond* by Julian Sham, MD, Healthcare Lead, Asia Pacific & Japan, Amazon Web Services, Singapore

Moderated by Walter Suarez, MD, Chair of HL7 Board of Directors and Executive Director, Health IT Strategy and Policy, Kaiser Permanente

The second panel presentation focused on the future of interoperability from the uniquely qualified perspectives of current and former US National Coordinators for Health Information Technology, including:

- Micky Tripathi, PhD, National Coordinator for Health Information Technology
- Karen DeSalvo, MD, Chief Health Officer, Google and former ONC National Coordinator
- Don Rucker, MD, Former National Coordinator at ONC
- Moderated by Lori Evans Bernstein, Co-Founder and President, HealthReveal

Online Classes

The HL7 online program offered 20 paid synchronous classes in HL7 FHIR, CDA and V2.

- Each class was recorded and posted to HL7 Education on Demand portal for fee-based or free access.
- HL7 provided training via six online courses to four companies.

Webinars

More than 20 webinars were delivered, engaging participants around the world.

- Eight free Member Advantage webinars, including two addressing GOM proposal changes
- Six co-chair webinars
- Four sponsored webinars
- Three webinars on behalf of HL7 Europe
- Two webinars hosted by the HL7 Education Advisory Council—Gained knowledge about HL7 education around the world including Africa where HL7 does not have an affiliate

Co-Chair Training, Member Forums & Listening Sessions

- Hosted three co-chair trainings
- Hosted eight Q&A sessions for Jira balloting
- Offered three member forums as part of re-envisioning initiative
- Offered four listening sessions for affiliates
  - Affiliate sessions included Asia, New Zealand, Australia, Europe and Latin America
  - Latin America session was conducted in Spanish

Metrics | Registrants & Revenue

- Approximate total registrants for all webinars and online classes: 6,000
- Total revenue from online classes and virtual corporate training: $362,000

HL7 Certification Tests
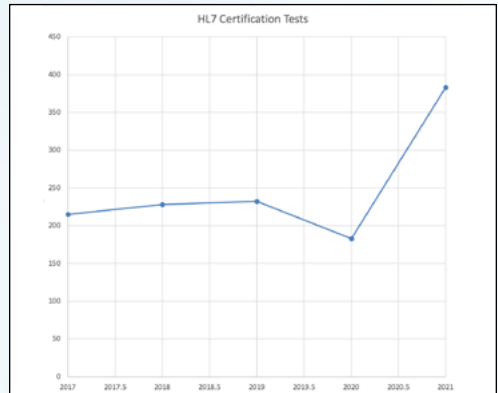
- Total revenue from sponsored webinars: $38,000

Education on Demand

Education on Demand continues to provide a cloud-based portal for HL7's educational archive.

- Accessible on any device with no applications required
- Features "My Activity" that maintains record of attendance and certificates
- Includes downloadable certificates of completion
- More than 1,120 people accessed free and fee-based courses
- Revenue totaled $92,000

Fundamentals Courses

HL7 International offers web-based, asynchronous workshops which include guided exercises and projects that teach by practice and examples.

2021 Courses

- Three HL7 Fundamentals courses
- Three FHIR Fundamentals courses
- Three FHIR Intermediate courses
- Three HL7 FHIR Proficiency Exam Prep courses
- One Advanced V2 course

Corporate Training

Our very popular FHIR Fundamentals and FHIR Intermediate courses were offered as corporate training for a benefactor organization.

The HL7 Fundamentals and FHIR Fundamentals courses are produced by HL7 Argentina and in 2021, were also offered by our affiliates in Austria, Brazil, Italy and Pakistan.

Revenue

- Total revenue from all eLearning courses set a new record: $1,025,000
- More than 10% increase over 2020 revenue
- Served 1,250 students

Online Certification Testing Program

Through computer-based testing (CBT), HL7 offers opportunities world-wide to those seeking certification in CDA®, Version 2.7, Version 3 RIM and FHIR. Exam results, certificates and badges are available immediately and a certification directory is featured on HL7.org.

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,

HL7 Education Revenue
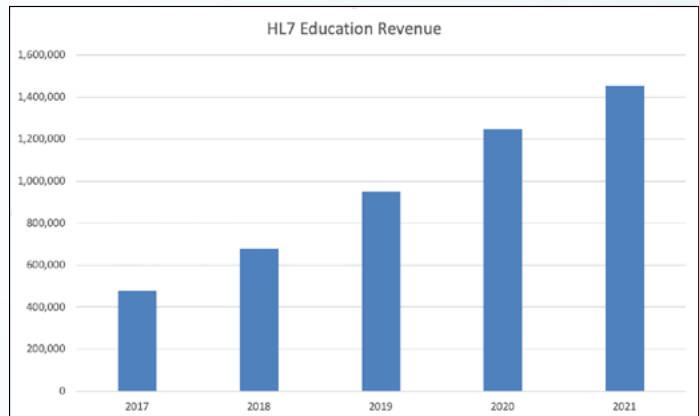
to administer its certification exams at over 900 High Stakes Online Secure Testing (HOST) Centers worldwide. In addition to HOST Centers, test-takers may opt for online proctored testing from their own computers anywhere in the world, provided they have internet access and a qualified external webcam.

Many of the Kryterion centers were closed during the pandemic. Despite this, 383 individuals registered for exams in 2021 as compared to 183 in 2020, 232 in 2019, 228 in 2018, and 215 during 2017. The increase from 183 to 383 represents an impressive 109% growth as compared to 2020.

Certification Across the HL7 Standards

Certification Exam	# Registered in 2021	# Certified in 2021	Total # Certified
Clinical Document Architecture	10	5	795
FHIR	249	152	340
Version 2	124	77	4,006
Version 3 Reference Information Model (RIM)	0	0	381
Total	383	234	5,522

Countries with HL7 Affiliates in 2022

Argentina	Denmark	Netherlands	Slovenia
Australia	Finland	New Zealand	Spain
Austria	France	Norway	Sweden
Belgium	Germany	Pakistan	Switzerland
Brazil	Greece	Philippines	Ukraine
Canada	Hong Kong	Poland	United Arab Emirates
Chile	India	Portugal	United Kingdom
China	Italy	Romania	Ukraine
Colombia	Japan	Russia	
Croatia	Korea	Saudi Arabia	
Czech Republic	Mexico	Singapore	

HL7 COLLABORATES

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

American Dental Association (ADA)

American Hospital Association (AHA)

American Medical Informatics Association (AMIA)

America's Health Insurance Plans (AHIP)

American Society for Testing Materials (ASTM)

CEN/TC 251 (European Committee for Standardization)

Council for Affordable Quality Healthcare, Inc. (CAQH)

Clinical Data Interchange Standards Consortium (CDISC)

Digital Imaging and Communication in Medicine (DICOM)

eHealth Initiative, Inc. (eHI)

GS1

Health Information Management Systems Society (HIMSS)

Integrating the Healthcare Enterprise (IHE)

Interamerican Development Bank

International Conference on Harmonization (ICH)

International Organization for Standardization (ISO)

Logica Health (Formerly HSPC)

National Council for Prescription Drug Program (NCPDP)

OASIS

Object Management Group (OMG)

Observational Health Data Sciences and Informatics (OHDSI)

OpenMRS, Inc.

Pharmaceutical Users Software Exchange (PhUSE)

Regenstrief/Logical Observation Identifiers Names and Codes (LOINC)

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

SNOMED International

The Sequoia Project

TransCelerate

UDAP.org

Web3D Consortium

Workgroup for Electronic Data Interchange (WEDI)

HL7 2022 STANDARDS SNAPSHOT

HL7 Standards Receiving ANSI Approval or Reaffirmation in 2022

HL7 Version 3 Standard: Common Terminology Services, Release 2
Approved: 1/18/2022

HL7 FHIR® Implementation Guide: FHIR Shorthand, Release 2
Approved: 2/11/2022

HL7 EHR-System Pharmacist/Pharmacy Provider Functional Profile, Release 1 - US Realm
Approved: 3/15/2022

HL7 Version 3 Standard: GELLO; A Common Expression Language, Release 2
Approved: 3/24/2022

HL7 Version 3 Domain Analysis Model: Diet and Nutrition Orders, Release 2
Approved: 8/2/2022

HL7 Version 3 Standard: Transmission Infrastructure, Release 2
Approved: 8/2/2022

HL7 Version 3 Standard: Representation of the Health Quality Measures Format (eMeasure), Release 1
Approved: 9/29/2022

HL7 Version V3 GELLO Implementation Guide: Clinical Decision Support, Model Definition Language for GELLO, Release 1
Approved: 11/10/2022

HL7 Version 3 Standard: Transport Specification - ebXML Using eb MS2.0. Release 1
Approved: 11/10/2022

HL7 Version 3 Standard: Registries; Real Time Location Tracking, Release 1
Approved: 11/18/2022

HL7 Version 3 Implementation Guide: Context-Aware Knowledge Retrieval (Infobutton) Service-Oriented Architecture Implementation Guide, Release 1
Approved: 12/5/2022

HL7 Version 2: XML Encoding Rules, Release 2
Approved: 12/5/2022

2022 Publications

Errata

Errata Publication of US Core STU5 Release 5.0.1

Errata publication of C-CDA (HL7 CDA® R2 Implementation Guide: Consolidated CDA Templates for Clinical Notes – US Realm)

Errata Publication of HL7 CDA® R2 Implementation Guide: Quality Reporting Document Architecture – Category I (QRDA I) – US Realm, STU 5.3

Informative Documents

Informative Publication of HL7 CDA® R2 Attachment Implementation Guide: Exchange of C-CDA Based Documents, Release 2 – US Realm

Informative Publication of HL7 Cross-Paradigm Specification: Clinical Negation Requirements, Release 1

Informative Publication of HL7 EHRS-FM Release 2.1 – Pediatric Care Health IT Functional Profile Release 1 – US Realm

Informative Publication of HL7 Short Term Solution – V2: SOGI Data Exchange Profile

Informative Publication of HL7 FHIR® Implementation Guide: COVID-19 FHIR Clinical Profile Library, Release 1 – US Realm

Informative Publication of HL7 EHRS-FM R2.0.1: Usability Functional Profile, Release 1

Normative

Normative Publication of HL7 Version 3 Standard: Common Terminology Services (CTS), Release 2 reaffirmation

Normative Publication of HL7 FHIR® Implementation Guide: FHIR Shorthand, Release 2

Normative Publication of Reaffirmation of HL7 EHR-System Pharmacist/Pharmacy Provider Functional Profile, Release 1 – US Realm

Normative Publication of retired Version 3 Standard: Clinical Statement CMETs, Release 1

Reaffirmation Publication of HL7 Version 3 Standard: Representation of the Health Quality Measure Format (eMeasure) Release 1

Normative Publication of retired HL7 V3 Standard: Accounting and Billing R2

Normative Publication of retired HL7 Version 3 Standard: Patient Administration; Patient Encounter, Release 1

Normative Publication of retired HL7 Version 3 Standard: Claims and Reimbursement Release 4

Normative Publication of HL7 Version 3 Domain Analysis Model: Diet and Nutrition Orders, Release 2 reaffirmation

Normative Publication of HL7 Version 3 Standard: Transmission Infrastructure, Release 2 reaffirmation

Normative Publication of retired HL7 Version 3 Standard: Core Principles and Properties of V3 Models, Release 2

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

Normative Publication of retired HL7 Version 3 Standard: Data Types – Abstract Specification, Release 2

Normative Publication of retired HL7 Version 3 Standard: Pharmacy; Medication Statement, Release 1

Normative Publication of Reaffirmation of HL7 Version 3 Standard: Registries; Real Time Location Tracking, Release 1

Normative publication of Reaffirmation of HL7 Version 3 Implementation Guide: Context-Aware Knowledge Retrieval (Infobutton) – Service-Oriented Architecture Implementation Guide, Release 1

Normative publication of Reaffirmation of HL7 Version 2: XML Encoding Rules, Release 2

HL7 Standards for Trial Use (STUs) Published in 2022

STU Publication of HL7 CDA® R2 Implementation Guide: Public Health Case Report—the Electronic Initial Case Report (eICR) Release 2, STU Release 3.0—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Electronic Case Reporting (eCR), Release 2

STU Publication of HL7 FHIR Implementation Guide: minimal Common Oncology Data Elements (mCODE) Release 1 STU 2—US Realm

STU Publication of HL7 FHIR Implementation Guide: Profiles for ICSR Transfusion and Vaccination Adverse Event Detection and Reporting, Release 1—US Realm

STU Update Publication of HL7 FHIR® Profile: Quality, Release 1 STU 4.1— US Realm

STU Publication of HL7 FHIR® Structured Data Capture (SDC) Implementation Guide, Release 3

STU Publication of HL7 FHIR® Implementation Guide: Clinical Data Exchange (CDex), Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Health Record Exchange (HRex) Framework, Release 1— US Realm

STU Errata Publication of HL7 FHIR® Profile: Quality, Release 1—US Realm STU 4.1.1

STU Update Publication for HL7 FHIR® Implementation Guide: Payer Data Exchange (PDex) Payer Network, Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Quality Measures, Release 1 STU 3—US Realm

STU Publication of CDA® R2 Implementation Guide: Consolidated CDA Templates for Clinical Notes; Advance Directives Templates, Release 1 STU 2— US Realm

STU Publication of HL7 FHIR® Implementation Guide: Clinical Genomics, STU 2

STU Publication of HL7 FHIR® IG: SMART Web Messaging Implementation Guide, Release 1

STU Publication of HL7 FHIR® Implementation Guide: Personal Health Device (PHD), Release 1

STU Publication of HL7 Domain Analysis Model: Vital Records, Release 5—US Realm

STU Publication of HL7 FHIR® US Core Implementation Guide STU5 Release 5.0.0

STU Publication of HL7 CDA® R2 IG: C-CDA Templates for Clinical Notes STU Companion Guide, Release 3—US Realm

STU Update Publication of HL7 CDA® R2 Implementation Guide: National Health Care Surveys (NHCS), Release 1, STU Release 2.1 and STU Release 3.1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Risk Adjustment, Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Digital Insurance Card, Release 1—US Realm

STU Update Publication of HL7 CDA® R2 Implementation Guide: Reportability Response, Release 1 STU Release 1.1— US Realm

STU Publication of HL7 FHIR® Implementation Guide: Subscription R5 Backport, Release 1

STU Update Publication Request of HL7 CDA® R2 Implementation Guide: Public Health Case Report—the Electronic Initial Case Report (eICR) Release 2, STU Release 3.1—US Realm

STU Publication of HL7 CDA® R2 Implementation Guide: NHSN Healthcare Associated Infection (HAI) Reports, Release 4, STU 2—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Clinical Data Exchange (CDex), Release 1 STU1.1.0—US Realm

STU Update Publication of HL7 FHIR Profile: Occupational Data for Health (ODH), Release 1.2

STU Publication of HL7 FHIR® Implementation Guide: Vital Records Death Reporting (VRDR), Release 1 STU2—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Payer Data Exchange (PDex) Drug Formulary, Release 1 STU2—US Realm

STU Update Publication of HL7 FHIR® Implementation Guide: Electronic Case Reporting (eCR), Release 2.1—US Realm

STU Publication of HL7 Cross Paradigm Specification: CDS Hooks, Release 1

STU Publication of HL7 FHIR® Implementation Guide: Hybrid/Intermediary Exchange, Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Vital Signs, Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Security for Registration, Authentication, and Authorization, Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: FHIR for FAIR, Release 1

STU Publication of HL7 CDA® R2 Implementation Guide: ePOLST: Portable Medical Orders About Resuscitation and Initial Treatment, Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: PACIO Re-assessment Timepoints, Release 1—US Realm

STU Publication of HL7 FHIR® Implementation Guide: Medicolegal Death Investigation (MDI), Release 1—US Realm

STU Publication of HL7 Version 2 Implementation Guide: Laboratory Value Set Companion Guide, Release 2—US Realm

STU Publication of HL7 Version 2.5.1 Implementation Guide: Laboratory Orders (LOI) from EHR, Release 1, STU Release 4—US Realm

STU Publication of HL7 Version 2.5.1 Implementation Guide: Laboratory Results Interface, Release 1 STU Release 4—US Realm

STU Update Publication of HL7 FHIR® Implementation Guide: Data Exchange for Quality Measures, STU3.1 for FHIR R4—US Realm

STU Publication of HL7 FHIR® Implementation Guide: SDOH Clinical Care, Release 2.0—US Realm

STU Update Publication of HL7 FHIR® Implementation Guide: International Patient Summary, Release 1.1

STU Publication of HL7 FHIR® Implementation Guide: Consumer-Directed Payer Exchange (CARIN IG for Blue Button®), Release 1 STU2

STU Publication Request for HL7 Domain Analysis Model: Nutrition Care, Release 3 STU 1

HL7
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