HL7 FHIR Accelerators
Advancing Healthcare

Smarter Data to Fight Cancer with CodeX

Insight into Social Determinants of Health with Gravity

Advancing Interoperability and Industry Readiness through the Da Vinci Project

Boosting Translational and Clinical Research with Vulcan

Plus: The COVID-19 Interoperability Alliance, Gravitate Health, and much more!
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HL7 News

is the official publication of

Health Level Seven International

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Update from Headquarters

Learning to Adapt in the New Virtual World

By Mark McDougall, HL7 Executive Director

34th Annual Plenary & Working Group Meeting

After record setting in-person attendance at our 2018 and 2019 Plenary and WGMs, the September 2020 event was also successful even though it was produced virtually. The FHIR Connectathon attracted 603 participants while the September Plenary and WGM attracted 443 participants where 35 work groups convened productive meetings. The Plenary meeting featured an impressive series of keynote presentations:

- Bernardo Mariano, WHO Chief Information Officer and Director of Digital Health and Innovation
- Renato Sabbatini, PhD, FIAHSI, CEO, Edumed Institute, Co-Chair Education, HL7 Brazil, Sao Paulo, Brazil
- Amy Abernethy, MD, PhD, Principal Deputy Commissioner and Acting CIO, US Food & Drug Administration (FDA)
- Ken Goodman, PhD, Director, Institute for Bioethics and Health Policy, University of Miami
- Chesley Richards, MD, Deputy Director for Public Health Science and Surveillance, Centers for Disease Control & Prevention (CDC)
- Atul Butte, MD, PhD, Priscilla Chan and Mark Zuckerberg Distinguished Professor and Institute Director, University of California, San Francisco
- Jennifer Khoe, MD, General Surgeon, Southern California Permanente Medical Group – Kaiser Permanente

HL7 Fellows Class of 2020

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 34th Plenary meeting, HL7 honored the following well-deserving members with distinction as HL7 Fellows in the Class of 2020:

- Rita Altamore, MD, USA
- Mike Davis, USA
- William Goossen, PhD, Netherlands
- Susan Matney, PhD, RN, USA
- Rob Snellick, USA
- Sylvia Thun, MD, PhD, Germany
- Grant Wood, USA
Board Election Results

During HL7’s annual business meeting, the results of the recent Board elections were announced for the HL7 Board of Director positions listed below. Other than the chair-elect position, the new Board members will serve two-year terms from January 2021 through December 2022.

- **Chair-elect:** Andrew Truscott, global health lead, technology at Accenture, was elected by the membership to serve as the chair-elect in 2021 and as the board chair, 2022-2023
- **Secretary of the Board:** Virginia Lorenzi, senior technical architect, HIT standards, New York-Presbyterian Hospital
- **Director:** Lenel James, business lead, health information exchange and innovation, Blue Cross Blue Shield Association
- **Director:** Janet Marchibroda, president, Alliance for Cell Therapy Now
- **Affiliate Director:** Diego Kaminker, owner, Kern-IT SRL and member, HL7 Argentina

We are pleased to congratulate these individuals for their commitment and valued service to HL7 as members of the HL7 Board of Directors.

- **Affiliate Representative:** Christof Gessner, consultant, MxDx; domain expert for standards in health care informatics, technology and innovation, gematik GmbH; past chair, HL7 Germany
- **Administrative Steering Division:** Ulrike Merrick, lead specialist, informatics terminology, Association of Public Health Laboratories
- **Clinical Steering Division:** Melva Peters, president and consultant, Jenaker Consulting
- **Infrastructure Steering Division:** Paul Knapp, president and principal consultant, Knapp Consulting, Inc.
- **Organizational Support Steering Division:** Virginia Lorenzie, senior technical architect, HIT standards, New York-Presbyterian Hospital

HL7 Technical Steering Committee Elections

Five members were elected to the HL7 technical steering committee for the 2021-2022 term:

- **Affiliate Representative:** Christof Gessner, consultant, MxDx; domain expert for standards in health care informatics, technology and innovation, gematik GmbH; past chair, HL7 Germany
- **Administrative Steering Division:** Ulrike Merrick, lead specialist, informatics terminology, Association of Public Health Laboratories
- **Clinical Steering Division:** Melva Peters, president and consultant, Jenaker Consulting
- **Infrastructure Steering Division:** Paul Knapp, president and principal consultant, Knapp Consulting, Inc.
- **Organizational Support Steering Division:** Virginia Lorenzie, senior technical architect, HIT standards, New York-Presbyterian Hospital
Volunteers of the Year

We were pleased to recognize three incredible volunteers for their dedicated service to HL7. This year marks the 24th year that we have recognized such individuals via the W. Ed Hammond, PhD, HL7 Volunteer of the Year Awards. The recipients of the 2020 HL7 Volunteer of the Year Awards included:

- **Michael Brody**, DPM, president and CEO, TLD Systems; CEO, CMEonline.com
- **Mike Davis**, FHL7, security architect, Department of Veterans Affairs
- **Lindsey Hoggle**, MS, RDN, PMP, FAMIA, managing partner, owner and senior consultant, Health Project Partners, LLC

We are honored to recognize Michael, Mike and Lindsey as dedicated individuals who have made significant contributions on many fronts, including in specific HL7 Work Groups and throughout the larger HL7 global organization. Their efforts and contributions are sincerely appreciated, and this recognition is certainly well-deserved. Please see the article on page 22 to read more about the impressive contributions that these dedicated volunteers have made to HL7.

Meeting Sponsors

We are pleased to recognize these companies that sponsored key components of our 34th annual Plenary and Working Group meeting:

- iNTERFACEWARE – Gold level and Pub Crawl sponsor
- Lantana – Silver level sponsor
- HEALTHSPARQ – Silver level sponsor

We are also pleased to recognize and thank our sponsors of the September FHIR Connectathon:

- Office of the National Coordinator for Health Information Technology – Event sponsor
- AEGIS – Premier sponsor

The additional sponsorship support provided by these organizations contributes heavily to HL7’s meeting budget and is much appreciated.

Benefactors and Supporters

We are thrilled to continue to attract impressive numbers of HL7 benefactors and gold members, who are listed on page 9. Their support of HL7 is very much needed and sincerely appreciated. A special thank you is extended to those firms that represent our 2020 HL7 benefactors and gold members.

Organizational Member Firms

As listed on pages 30-33, HL7 is proud to recognize the organizations who are HL7 members. We sincerely appreciate their ongoing support of HL7 via their organizational membership dues.

In Closing

The global pandemic has certainly changed all of our lives, along with how we interact with others and conduct business. Many of us have seen the devastating impact the pandemic has caused. Please stay vigilant and may you and your loved ones be blessed with good health and the ability to still recognize our blessings.
Are you looking for health IT experts with HL7 and FHIR experience? Or are you looking for the next step in your career?

Be sure to check out the HL7 Job Board! It’s a great resource to address the growing demand for specialized IT skills, as well as the increasing adoption of HL7 FHIR and the ONC/CMS rule!

**HL7.org/jobs**

The Job Board provides a central location for the HL7 community to learn about openings aligned with their skills and for employers to gain visibility with implementers that have HL7 experience. During the pandemic we are waiving all fees to post open positions.

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**HL7 FHIR Fundamentals Course**
Next edition begins April 1, 2021!

- An introductory online course on HL7 FHIR - no experience necessary!
- Four week course includes new module each week
- Guided real-world exercises with instructor assistance and feedback
- Interactive online community with students and instructors

Visit [http://HL7.me/FHIRfun](http://HL7.me/FHIRfun)

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**EDUCATION ON DEMAND**

Find the training you need, straight from the source! HL7 Education on Demand is your online source for HL7-related professional development and certification resources

- HL7’s Fast Healthcare Interoperability Resources (FHIR®) standard
- Standards cited in federal legislation
- Skill building in HL7’s most popular standards
- Health IT policy issues

➤ Check it out online at [bit.ly/HL7EdOnDemand](https://bit.ly/HL7EdOnDemand) ➤
Member Spotlight on Erin Holt Coyne, MPH

**Professional Background**

Erin Holt Coyne, MPH, serves as the Chief Public Health Informatics Officer and the Acting Director of the Office of Informatics and Analytics for the Tennessee Department of Health. Her current role is to oversee the informatics, analytics, and data governance units of the office, as well as provide direct oversight to the Informatics unit.

The Office of Informatics and Analytics directly supports the epidemiologic response to the opioid and drug overdose crisis, data governance including data release, suppression, and the Institutional Review Board, the department’s integrated data system, standards-based interoperability and support for federal health IT incentive programs, and advanced analytics and reporting. Her role is to help support informatics infrastructure within the department, facilitate department wide strategic and operational informatics activities, and represent the health department in relevant nationwide public health informatics activities.

As the Acting Director of the Office of Informatic and Analytics, Erin oversees the Core Informatics Program, which includes the Integrated Data System, Advanced Analytics Programs, and Data Governance Program, all of which provide cross departmental support to their public health programs, as well as directly support overdose surveillance and prescription drug prescribing monitoring associated analytics and visualizations. Her office has integrated data from various internal and external data sources including controlled substance monitoring, vital records/statistics death data, hospital discharge data, licensure data, overdose surveillance data, trading partner registration data, received law enforcement data, as well as other external data sources. They are currently working on integrating other internal data sources like birth data and emergency management data and are currently exploring the use of HL7 Fast Healthcare Interoperability Resources (FHIR®) to support some of their public health program work.

Erin is an epidemiologist by training and focused much of her career on communicable disease surveillance implementation. Prior to her current role, she served as the Director of the Surveillance Systems and Informatics Program where she led a team dedicated to integrated disease surveillance, onboarding and implementing interoperability standards and principles for electronic laboratory reporting (ELR), syndromic surveillance, and electronic case reporting from electronic health records.

It was during this time that she was formally introduced to standards, where she took a deep dive into HL7 Version 2 (V2) as well as associated vocabulary standards. In addition to ELR, syndromic surveillance, and immunization messaging, her team also took an early interest in electronic case reporting, both from a surveillance system capacity perspective, as well as a standards development perspective. They worked with other states and their CDC-supplied surveillance system vendor team to ready the system for receiving electronic initial case reports, following the implementation guide published in 2016. The Tennessee Department of Health also participated in the associated HL7 IG development.

Erin earned her undergraduate degree in basic health sciences with a minor in biology from James Madison University. She earned a Master of Public Health from...
Eastern Virginia Medical School as well as a graduate certificate in public health informatics from the University of Illinois at Chicago. In addition to her work with HL7, she is also a member of the Council of State and Territorial Epidemiologists.

**HL7 Activities**

In addition to Erin’s standard’s implementations, she is also an active participant in the standards development process. She has been a member of HL7’s Public Health (formally known as PHER) Work Group since 2011 and has served as a co-chair since January 2015. She credits her mentors, such as long-time member John Roberts, with helping her get up-to-speed in the HL7 world. Erin has a strong interest in electronic lab reporting (ELR) and looks forward to working closely with the Orders & Observations Work Group on Laboratory Results Interface (LRI) and Laboratory Orders Interface (LOI).

In 2012, Erin became a certified Version 2.7 Control Specialist and received her CDA Specialist certification in 2013.

**Personal Life**

Erin is a new mom; she and her husband welcomed their daughter in February of 2020. She is an advocate for conservation and loves animals. In fact, their family also consists of two dogs and a cat. Erin also loves to travel (when it’s not a pandemic) and looks forward to taking trips sometime in the future. In addition to being an epidemiologist, Erin majored in music in college. She plays the violin in the Nashville Philharmonic Orchestra and is learning to play the viola as well! Music is truly her outlet.
ONC Grant Funded Project Update

Jira and the Project Scope Statement (PSS)
The pilot began for the Jira PSS tracker form began last quarter and will replace the PSS form in Confluence. The main reason for the move is that Jira trackers provide an improved, systematic review/approval workflow and process. The plan is to roll out the Jira PSS form to all of HL7 in Q1 of 2021. After this, we will begin the process of sunsetting Project Insight.

In conjunction with the Jira PSS tracker form, the PMO and TSC have been working together to improve and simplify the reaffirmation and withdrawal processes. Going forward, Jira will be the tool for requesting these actions. By doing so, the system will notify work groups and co-chairs of expiring artifacts and decisions/actions needed.

ONC Grant Funded Project Update

The ONC extended the grant for continued maturation of the C-CDA and FHIR standards, and with that, awarded HL7 an additional $1.36 million. Work identified under this endeavor includes, but is not limited to, the following:

1. Rollout of the Unified Terminology Governance (UTG) process and tooling
2. Complete improvements to the FHIR Jira ballot process
3. Continue to provide administration for the FHIR Connectathons
4. Continue work on Bulk Data Access and Push
5. Continued support for the FHIR Terminology Server
6. Continue work on the HL7 FHIR build and implementation guide publishing tasks
7. Provide support to the FHIR Registry
8. Conduct additional C-CDA Implementation-A-Thons
9. Continue work on the C-CDA Web Publishing Tool

In addition to the above, the ONC provided two new additional COVID related grant funded opportunities to HL7:

1. A four-year $2M cooperative agreement titled “HL7 Public Health Standards and Solutions for Future Pandemics”, which will:
   - Expand the clinical domains supported by HL7 standards
   - Improve the privacy and security of health information
   - Advance the use of HL7 Bulk Data Access API and other relevant standards-based API technologies to improve surveillance capacity for future pandemics and other public health emergencies
   - Develop, advance and harmonize social determinants of health (SDOH) standards
   - Advance HL7 public health standards
2. A five-year $3.5M contract “COVID-19 Support for Accelerating Standards Development for the US Realm” will have HL7:
   - Assist the ONC in gathering, organizing, monitoring, and managing work products associated with HL7 standards development and implementation activities for the US Realm
   - Assist the ONC in developing, maintaining, and enforcing governance of US Realm standards and implementation specifications
   - Assist the ONC in engaging the US standards development community to increase awareness of US Realm guidelines, and identify strategic priorities for US Realm standards development and implementation activities
   - Lead the development of new versions of the US Core Implementation Guide and C-CDA standard (including the C-CDA Companion Guide)
   - Implement relevant aspects of the governance plan and strategic roadmap to manage and oversee standards development and implementation activities in the US Realm

As always, HL7 appreciates ONC’s continued support of C-CDA and FHIR for 2021 and beyond.
<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>HL7 EHR-System Electronic Nutrition Care Process Record System (ENCPRS) Functional Profile, Release 2</td>
<td>AN ANSI/HL7 EHRS FM FP ENCPRS, R2-2020</td>
<td>10/15/2020</td>
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<tr>
<td>HL7 Cross-Paradigm Specification: Clinical Quality Language, Release 1</td>
<td>ANSI/HL7 CQLANG, R1-2020</td>
<td>12/1/2020</td>
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Benefactors
We’ve had that feeling during the long pandemic, and, for some of us, we’ve had that feeling even longer with respect to tooling at HL7. We’ve covered a lot of ground, and climbed a lot of hills, and we can feel the end should be in sight very soon. But we’re still running. Fortunately, we have a team of supporters handing out Gatorade, clapping and cheering us on, and we’ve got our fellow runners pulling us along. And so it is with the HL7 community. We ask a lot of you to help us move forward, with support and understanding; sometimes contributing your valuable time to help us with development or testing, or to struggle patiently with change and the unexpected discoveries of new technology rollouts. While we don’t see that finish line yet, we see plenty of blue skies and greener fields beyond. We won’t always make it on the podium, and sometimes we stumble along the way. But the important thing is to keep moving forward and getting better.

The View from Above

We may not always seem to be progressing very fast, but we’ve really come a long way in the last few years thanks to the important contributions of many of you as well as the ongoing generous support of the US Office of the National Coordinator for Health IT (ONC), which has funded many of our retooling efforts. To list a few prominent examples:

- The HL7 community adapted rapidly to remote work – in large part because we had been...
doing that all along. However, we’re now uniformly using the Zoom platform rather than conference calls. We’re also using chat.fhir.org to interact far more effectively than we could with just listservs. That being said, we still miss in person WGMs.

- We’ve moved from our old Wiki to Confluence and have used its power as a central hub for our work group and project collaborations.
- While we haven’t full migrated to JIRA, we’re in the final stages of moving the last products to JIRA tracking and in the home stretch of migrating the old STU Comment website page and introducing JIIRA Balloting in 2021.
- We’ve successfully introduced terminology.hl7.org (THO), managed through Unified Terminology Governance (UTG) which is now a centralized repository for all HL7 terminology that can be directly accessed by applications. This is a great leap forward from the past where terminologies were buried in specifications. Of course, we still have some terminologies in previously released specifications, but we now have a robust tooling infrastructure that will support our future and rapidly evolving needs.
- We’ve continued to improve, refactor and expand the utility of the IG Publisher, which is now being used for C-CDA, UTG and even publication from other organizations like IHE.

- We still have some content to move from GForge, but we’ve adopted GitHub for storing code.
- We’ve rolled out the new project proposal process in Confluence and are on track to move to Jira-based workflow for the PSS early in 2021. We expect to use the same JIRA workflow approach for other HL7 forms, putting the old habit of email attachments behind us.
- We’ve improved but are still refining our tools for document storage and management.
- We have a new FHIR registry which has matured enough to play a much larger role in helping to make it easier to uncover prior art and avoid duplicating efforts across projects.

Perhaps most important of all, we’ve made significant progress in setting up the HL7 Essentials Confluence page to make it easier to find just what you need to know. This has been invaluable to both old-timers and new Accelerators and should be a boon as we welcome a new class of co-chairs in January.

**Spreading the Good Word**

We recognize that it can be hard to keep up and that we can always do a better job communicating. We now have a Leadership Announcements page in Confluence that will be a log for each of these major tooling, process and policy announcements as a chronological stream. We also continue to rely on confluence.hl7.org as our launch pad for most Confluence sites, significant updates, and education materials.

I’m also aware that most of you won’t even read this far due to so many commitments. So, I hope those of you who do won’t mind the repetition. As we continue to move ahead, we’re going to need to use multiple channels to try to get you the information you need as succinctly as possible and repeat our key messages over and over again to reach everyone (something that we’ve also grown accustomed to during the pandemic).

We ask a lot of the HL7 community, and we know you already give us so much. I do hope you’ll take a look at some of the links in this update and help us make the HL7 experience so much better.

**The Road Ahead**

It’s been a long journey, and while the finish line for some of these initiatives really may be just around the next turn, we also know that there are additional races on the horizon. A key focus for 2021 will be on replacing our core business systems for managing the association and for upgrading the rest of our ballot-related systems.

In conclusion, finishing some things doesn’t mean we can all retire with a good book and a cocktail. There’s still a lot of work and change ahead, which will take a toll on many of you. But maybe, once we really do cross one or more of those finish lines, we’ll all get a participation ribbon as HL7 Retooling survivors. And, I expect some of you will indeed be champions.

See you in the post-race refreshment tent—hopefully by January 2022.
As an HL7 Fast Healthcare Interoperability Resources (HL7 FHIR®) Accelerator, Da Vinci plays an essential role in making the healthcare system work better by convening payers, providers, health IT vendors, private and public sectors as well as the standards community to solve current-day interoperability challenges in an industry-first manner.

With the progress made in 2020, Da Vinci implementation guides are emerging as the reference standard to meet several of the healthcare industry’s needs. The urgency and importance of our work have only amplified throughout the COVID-19 public health crisis, underscoring the need to:

- Accelerate bidirectional clinical health data exchange, in real-time, between providers, payers, and patients
- Streamline event notifications, improve benefit coverage determination and patient cost transparency, and reduce complexity surrounding prior authorization
- Enhance data exchange for critical quality measures
- Widen the aperture on additional complexities of patient health risks

Advancement on the Da Vinci core deliverables, implementation guides and reference implementations is real and is recognized. The project’s ability to increase provider-to-payer collaboration in workflow and put better tools into the hands of our healthcare workers is now underway. Da Vinci members’ collective passion for promoting interoperability to improve health outcomes, increase transparency and reduce administrative burden will generate indelible value for our healthcare system for years to come.

Over 35 members and partners demonstrated progress and shared their Da Vinci journeys with the community over the past nine months via the monthly HL7 Da Vinci Project Community Roundtable sessions. The early standards that gained maturity and traction between providers and payers are quickly becoming the basis for product architecture for advanced vendors and are at the core of long-term strategies to meet increasing regulation on the payer, provider and vendor communities.

**Ensuring Readiness to Meet Federal Requirements**

Da Vinci and the FHIR Accelerators are ensuring industry readiness to meet those federal regulatory requirements promulgated by the Office of the National Coordinator for Health IT (ONC) and the Centers for Medicare & Medicaid Services (CMS) to support for 21st Century Cures in several ways:

- Five Da Vinci implementation guides are written to support Patient Access APIs and Da Vinci coordinated with the CARIN Alliance, which developed the CARIN IG for Blue Button® to provide tools required to ensure payer, fully at-risk providers, and vendor readiness for 2021 deadlines and beyond
- Through active thought leadership, support and well-coordinated activities to advance industry readiness for FHIR API requirements with in-kind resources and support of initiatives like ONC FHIR at Scale Taskforce (FAST), Da
Vinci is working with CMS and ONC to ensure success for participants across payer and provider communities

- Da Vinci community is focused on common API standards with release of rules on Price Transparency

The collaborative work will continue to help industry meet the rules’ requirements and intention to enable better patient access to their health information, improve interoperability and encourage innovation while reducing burden on payers and providers.

**Adoption: Implement, Evolve and Evangelize**

In 2021, the Da Vinci Project will promote and support production implementations to achieve scalable and sustainable success for stakeholders across the industry. To achieve widespread adoption, and to ensure advancement of interoperability standards, the project will focus on three core themes:

1. Implementations
2. Evolution (continuous improvement)
3. Evangelization

**Implementations**

Adopting Da Vinci in the marketplace will help improve the healthcare delivery model, meet regulatory mandates and help manage healthcare spending while improving health outcomes. The Da Vinci Project will continue to invest in demonstrations and community support and work collaboratively with HL7 to drive the necessary education and tools that will enable us to share best practices and learn from the growing adopter community.

**Evolution**

The Da Vinci Project is delivering on its goal to accelerate FHIR in support of value-based care. Da Vinci will publish several implementation guides as draft standards and commit to continuous improvement. As such, Da Vinci will maintain its investment in these implementation guides and work closely with the HL7 community to mature the guides based on adopter feedback.

**Evangelization**

COVID undoubtedly had an impact on how healthcare is delivered. Similarly, interoperability will evolve at an even faster pace as other business demands emerge. To meet this need, we must foster new talent to take on tomorrow’s interoperability challenges and opportunities.

As a way to promote this vision, Da Vinci is pleased to announce the “Da Vinci Community Champion” program. These individuals embody the following unique traits: industry above self, growing others, and driving change and progress. The individuals chosen include the following:

- **Anna Taylor**  
  Director of Operations,  
  Population Health  
  MultiCare Connected Care

- **David DeGandi**  
  Senior Interoperability Strategist,  
  DTS CTO Organization  
  Cambia Health Solutions

- **Gini McGlothin**  
  Senior Quality Management Analyst  
  Blue Cross Blue Shield Alabama

- **Linda Michaelsen**  
  Director, Healthcare Interoperability Standards  
  Optum

- **Michael Gould**  
  Business Lead—Interoperability  
  Blue Cross Blue Shield Association

- **Patrick Murta**  
  Chief Interoperability Architect and Fellow, Enterprise Architecture  
  Humana

Congratulations to the 2020 class of Da Vinci Community Champions! This group is fostering emerging talent that will advance interoperability and carry the torch as the next generation of standards evangelists.

Are you ready to advance interoperability? Learn about the Da Vinci Project, access what you need to know to implement Da Vinci FHIR use cases and begin!
The new rules are part of an initiative to restrict information blocking and enable the sharing of information with patients and among providers through the use of application programming interfaces (APIs). The new rules are now expected to go into effect in July 2021, after federal agencies delayed the deadline because of the continuing impact of the COVID-19 pandemic.

Several solutions from the Da Vinci Project based on HL7’s Fast Healthcare Interoperability Resources (FHIR®) standard will be able to directly support information exchange required in the federal regulations.

Among the new federal initiatives are the Notice of Proposed Rule-Making that was released in early December to address efforts to reduce provider and payer burden, particularly in relation to prior authorization. The proposed rule references several Da Vinci Project use cases.

**CME Interoperability and Patient Access Rule**

The Centers for Medicare & Medicaid Services (CMS) released the final version of the Interoperability and Patient Access Rule with the intent of giving patients more information with which they can better engage in their healthcare, and lessening burdens on healthcare providers and payers. The rule supports regulations of the MyHealthEData Initiative and the 21st Century Cures Act. It requires healthcare payers to provide patients with their claims and encounter data through standards-based APIs from third-party software developers.

The patient access API requirement applies to Medicare Advantage plans, children’s health insurance programs (CHIP), Medicaid fee-for-service programs, CHIP managed care entities, Medicaid managed care plans and federally facilitated health insurance exchanges under the Affordable Care Act.

HL7 Da Vinci Project

Da Vinci and CARIN Use Cases

CMS officials are strongly suggesting the use of a certain set of Da Vinci Project use cases to meet the requirements of the Interoperability and Patient Access regulation, as well as from the CARIN Alliance, an HL7 FHIR accelerator project that is a non-partisan, multi-sector alliance focused on providing digital health information to consumers. These include:

- **Payer Data Exchange**: For exchanging formulary information.
- **Payer Data Exchange**, for exchanging clinical information in the form of the United States Core Data for Interoperability (USCDI), a standardized set of health data classes and constituent data.
- The CARIN Alliance Blue Button Framework and Common Payer Consumer Data Set (CPCDS) or CARIN IG for Blue Button®
- **Payer Coverage Design Exchange**, for ensuring continuity of care from payer to payer by sharing patients’ coverage decisions.

The federal regulations also call for healthcare payers to make provider directory information available via the Provider Directory API, accessible through a public-facing digital endpoint on the payer’s website. To facilitate adherence, CMS recommends use of the Da Vinci Project’s PDEX Plan Net implementation guide.

FHIR-based API-enabled apps from third parties will be able to interact with secure servers of payers and provider organizations to obtain patients’ information without human intervention. The apps then would present patients’ information to them in a structured format, enabling them to better manage their own healthcare.

The Da Vinci Project, a multi-stakeholder initiative, has been focused on extend ways to use FHIR to enable easier access to data in such a way that it facilitates value-based care initiatives, said Jocelyn Keegan, its program manager. Over the past year, Da Vinci Project members have emphasized work around efforts to take operational and clinical data and enabling that information to be shared via API-based apps.

For more information:

Details about the HL7 Da Vinci Project may be found at: [hl7.me/davincinews](http://hl7.me/davincinews)
New Members Contributing New Perspectives

Since mid-September, CodeX welcomes new members: American Association of Physicists in Medicine (AAPM) and UnitedHealthcare joined as Founder members; TrialJectory joined as a Benefactor member; Varian, Quantum Leap Healthcare Collaborative and Mettle Solutions joined as Developer/Implementer members; and Learning Health Community joined as a Sponsored member. Several leading health systems, vendors, payers, and others are in discussions around joining CodeX.

Recent CodeX Use Case Achievements

CodeX has seven active use case projects. Four are in the execution phase, including mCODE++ Extraction, ICAREdata, Trial Matching and Registry Reporting. An additional three in are in the planning phase: Oncology Clinical Pathways, Prior Authorization in Oncology and Radiation Therapy.

The following are some highlights on the use cases:

- The Registry Reporting use case moved into the Execution Phase on October 27, with the Center for International Blood and Marrow Transplant Research (CIBMTR) and the Centers for Disease Control and Prevention (CDC) as champions. Meeting notes are available on the Registry Reporting meetings page. During Phase 0, a subset of current mCODE demographic data elements will be sent via FHIR to both a private and state registry. This proof of concept will highlight the ability to transport demographic data elements to
multiple sites, in turn making the application registry “agnostic”. To get involved, contact Greg Shemancik (gshemancik@mitre.org).

• The Trial Matching use case team, with the American Cancer Society Cancer Action Network (ACS-CAN) as champion, has completed Phase 0 work by demonstrating the ability of a trial matching service to receive an mCODE record, analyze the record to make matches, and then present the matches back to the patient or provider. Please visit their Phase 0 page on Confluence. The team is now completing Phase 1. Phase 1 aims to send patient records to multiple mCODE-enabled trial matching services evaluate the effectiveness of the optimized patient mCODE elements. To join this project team and participate on these meetings, please contact Caroline Potteiger (cpotteiger@mitre.org).

• The Radiation Therapy use case team held their first planning meeting on December 11. CodeX Members, including American Society for Radiation Oncology (ASTRO), American Association of Physicists in Medicine, Varian and others are leading development of a project plan, with activities, deliverables and measures for multiple phases of work. This team is working to highlight a core set of mCODE data elements that will be used to send data from specialty radiation oncology systems to a main health system EHR. To join the Radiation Therapy team, please contact Anthony DiDonato (adidonato@mitre.org) or Sharon Sebastian (ssebastian@mitre.org).

mCODE Community of Practice
Each month, the community gathers to discuss the minimal Common Oncology Data Elements (mCODE) standard and applications in the real world being developed through CodeX. During these conversations, participants:
• Update each other on the latest developments and innovations regarding mCODE and CodeX
• Share best practices for clinical workflows, data modeling, and data exchange
• Ask questions and learn from the experience of other community members

Visit the mCODE Community of Practice (CoP) Monthly Meeting Minutes page to learn more about upcoming Community of Practice monthly meetings and view resources from previous calls.
To join the next meeting, please register at: https://confluence.hl7.org/display/COD/mCODE+Community+of+Practice

mCODE Educational Resources
The mCODE team recently published an mCODE resources page on Confluence that contains educational resources such as knowledge base articles and FAQs. This space provides overviews of mCODE profiles and categories, a playbook that offers guidance and best practices for the implementation of mCODE in health systems’ IT software, and how mCODE compares to other research-oriented standards. Interested mCODE community members are able to search for detailed information about the mCODE profiles, model best practices, and trouble-shoot tips for common problems. Please contact May Terry (mayt@mitre.org) or Caroline Potteiger (cpotteiger@mitre.org) if you would like to learn more.

Stay in Touch!
If you would like to stay current with the latest mCODE and CodeX related news and updates, please visit our CodeX Confluence home page and click “Join a CodeX Listserv”.
You are also welcome to contact Steve Bratt sbratt@mitre.org or Anthony DiDonato addidonato@mitre.org with any questions or comments!
Launched in May 2019 by the Social Interventions Research and Evaluation Network (SIREN) with funding from the Robert Wood Johnson Foundation, the Gravity Project is a national public collaborative that is developing data standards to help reduce current barriers for documenting and exchanging social risk and protective factors within health care and other sectors. In August 2019, the Gravity Project became an official HL7 FHIR Accelerator Project.

The Gravity Project convenes multi-stakeholder groups from across the health and human services sectors through an open and transparent collaborative process where they develop and test consensus-based standards to facilitate social determinants of health (SDOH) data capture, exchange, and use across a variety of systems and settings of care as well as social services.

**Why Capture Social Risk Data in a Standardized and Structured Way?**

Research suggests that 80-90 percent of one’s health status is explained by social and environmental factors outside the clinical setting. Despite increased efforts to identify and address social determinants in U.S. healthcare settings, existing clinical terminologies and vocabularies are poorly equipped to capture related clinical activities. We need to identify, define and agree on the core concepts related to clinical social determinants activities to adequately reflect those concepts. Enter the Gravity Project.

**Gravity Project Scope**

The Gravity Project convenes broad stakeholders from across the health and human service sectors to develop common data elements and HL7® Fast Health Interoperability Resource (FHIR®) specifications for documenting, exchanging, and using SDOH data in EHRs and related systems across four clinical activities: screening, diagnosis, goal setting, and interventions. Our process is facilitated through two specific workstreams: Terminology (SDOH Domains) and Technical. The Terminology workstream is focused on the development of date elements and associated codes for multiple SDOH domains including the following: food insecurity; housing instability and homelessness; inadequate housing; transportation instability;
financial strain; demographics status (education, employment, and veteran’s status); social isolation; stress; and interpersonal violence. The Terminology workstream creates and tests FHIR specifications to capture, exchange and aggregate coded SDOH data.

**Gravity Project Deliverables**

The Gravity Project deliverables are:

- Develop use cases that will guide the development of standards to support SDOH data capture and exchange
- Identify common data elements and associated value sets to support the use cases
- Develop recommendations on how best to capture and group these data elements for interoperable electronic exchange
- Collaborate with coding and terminology organizations to address coding gaps identified and apply for new codes
- Develop, test and ballot HL7® Fast Health Interoperability Resource (FHIR®) Implementation Guide(s) based on the defined use cases and coded data sets
- Develop Reference Implementation(s) to support real-world pilots and implementations

Ultimately, the Gravity Project is laying the groundwork for national standardization of SDOH data for use in clinical and community-based settings across the country.

**Project Accomplishments**

Since May 2019, over 1,000 stakeholders across the healthcare, health IT, community-based, federal and state agency, payer, academic, and consumer advocacy sectors have signed up as members of the Gravity Project. Key project accomplishments and target milestones include:

- **June 2019:** Published comprehensive use case package outlining three primary use cases for (1) documenting SDOH data in conjunction with patient encounter; (2) documenting and tracking SDOH related interventions to completion; and (3) gathering and aggregating SDOH data for uses beyond the point of care.
- **July 2019:** Launched food insecurity domain
- **August 2019:** Gravity Project established as the fourth HL7 FHIR Accelerator Project in the nation
- **September 2019:** Gravity Project referenced as promising interoperability initiative in the National Academies of Sciences, Engineering, and Medicine “Integrating Social Care into the Delivery of Health Care” Report
- **November 2019:** Published the final food insecurity data set and received national recognition in Department of Health & Human Services (HHS) Roundtable on “Leveraging Data on the SDOH” Report

- **January 2020:** Completed food insecurity coding gap analysis and recommendations
- **March 2020:** Launched housing instability domain
- **May—June 2020:** Submitted new code applications for food insecurity to the coding stewards
- **May 2020:** Tested draft HL7 FHIR SDOH Implementation Guide (IG) at two FHIR Connectathons; achieved first place status in competition
- **September 2020:** Tested HL7 FHIR SDOH IG at FHIR Connectathon; launched Transportation Domain; completed Housing Instability & Homelessness data set
- **October 2020:** Launched financial strain and demographics domains in parallel; submitted SDOH Data Class Application to ONC USCDI
- **November 2020:** Target food insecurity value set publications in National Library of Medicine (NLM) Value Set Authority Center (VSAC) and Office of the National Coordinator (ONC) Interoperability Standards Advisory

Continued on page 29
Clinical care data is a foundation for research. It is used to understand patient populations and as the core for clinical data capture. The introduction of HL7 Fast Healthcare Interoperability Resources (FHIR®) and its adoption rate creates a new opportunity to exchange data for clinical and translational research.

Building on the work already accomplished to create interoperability standards for the exchange of healthcare data bridges clinical research into the greater healthcare ecosystem. HL7 FHIR® accelerators have been a successful catalyst for standards development and adoption. Following the path of other accelerators, the research community collaborated to create Vulcan. In August 2020, Vulcan was launched by convening the following member organizations: TransCelerate Biopharma, Duke University, Johns Hopkins, Oregon Health and Sciences University, UT Health San Antonio, Society for Clinical Data Management, U.S. National Library of Medicine, National Center for Advancing Translational Sciences (NCATS), Danish Medicines Agency and U.S. Food and Drug Administration. Membership is rapidly growing with new organizations being onboarded each month.

After consultation with the Steering and Operations Committee of Vulcan, project teams have been formed to move forward three use cases. These were selected from a larger effort to collect as many as eighteen use cases which were prioritized based on impact and the ability to deliver to the community. The initial selected use cases include:

- Real world data (including secondary use of electronic health record data)
- Phenopackets
- Schedule of activities.

These use cases are current projects that will be part of HL7’s January FHIR Connectathon. Vulcan member companies are encouraged to bring forth additional use cases that will be prioritized by a vote from each member organization in Vulcan’s Operations committee. Additional use cases under current consideration include data analytics, IDMP, ICSR and artificial intelligence.

Vulcan’s goal is to create an ecosystem where research stakeholders work together to collaborate on common use cases with the purpose of simplifying the research communities exchange of data through the use of common standards with health records. Vulcan consists of organizations who represent the entire research stakeholder community including vendors, sponsors, CROs, consulting companies, sites, patient organizations, government agencies and growing.

To Join Vulcan:
Please download the Statement of Understanding on the Vulcan website http://www.hl7.org/vu vndex.cfm and email to the Vulcan PMO: Vulcan@HL7.org
Two STU Release 1 Implementation Guides in 2020

Update from the CARIN Alliance

The CARIN Alliance, a non-partisan, multi-sector alliance and a HL7® FHIR® Accelerator program, brings implementers together to advance the use of HL7® FHIR® standards in healthcare, develop trust principles for exchange between Covered Entities and consumer applications, pilot digital identity solutions and policy frameworks, and advance public policy with the goal of advancing consumer-directed exchange through the advancement of health data interoperability.

Progress in 2020

In 2020, CARIN published two standard for trial use (STU) Release 1 implementation guides (IG):

1. **A real-time pharmacy benefit check (RTPBC) implementation guide** that enables a patient to better understand their options for paying for their medications, including out of pocket costs through their formulary or a cash-discount, and any coverage restrictions or requirements that might apply.

2. **The CARIN IG for Blue Button®** which enables a consumer or an authorized caregiver to request their adjudicated claims information via an application or other third-party data steward and meets the requirements of the Centers for Medicare & Medicaid Services (CMS) Interoperability and Patient Access final rule.

Looking Ahead to 2021

During Q1 of 2021, we will be working with pharmacy benefit management (PBM) companies to continue to test and release into production the RTPBC IG. We are examining opportunities to expand the standard to also include additional profiles to include potential patient assistance programs or other available discounts. We welcome the input of the HL7 FHIR® community via our RTPBC Zulip channel for those who have feedback on the IG or would like to learn more.

We are also working on adding two additional claim types to the CARIN IG for Blue Button® to meet the regulations in the CME Interoperability and Patient Access rule that would include Dental and Vision claims. Although CMS responded in a Q&A the Dental and Vision claim types are not required to be sent in Year 1, we are anxious to add those claim types so members can have access to more data with less friction. CARIN is accelerating toward finalizing these two profiles and publishing an STU2 version later in 2021.

CARIN and DaVinci have aggregated numerous clarifying questions from the industry regarding the CMS Patient Access and Interoperability rule and sent them to CMS for their written answers. These answers include a clarification from CMS regarding the meaning of data that is “maintained” by a Medicare Advantage organization, how much claims data does the payer need to make available to the member by 1/1/2021, payers sending unstructured clinical data, the definition of “adjudication” and “encounter data”, among other questions. The questions and answers can be found on the CARIN Confluence page.

Within the CARIN Alliance, we will continue to work on developing industry consensus around the policies associated with making data exchange work for B2C data exchange including the CARIN Code of Conduct and application certification program, digital identity and federation trust policies, and more. For more information on how you can get involved and to learn more, please visit us on our HL7 Confluence page: [confluence.hl7.org/display/CAR](confluence.hl7.org/display/CAR)
Providing Standard Terminology Resources 
to Support the Global Response to COVID-19

The COVID-19 global pandemic has placed significant pressure on existing healthcare information technology systems to accurately document and share data. The scale of this pandemic, in the modern age of electronic health records, has yet to be seen.

Case reporting, health system capacity management, collaborative research, and supply chain management data has become critical to coordinated response efforts from health systems and public health agencies. Timely and accurate exchange of interoperable information across the wide variety of domains including laboratory tests and results, symptoms, co-occurring, and pre-existing conditions along with non-clinical information such as travel history, is significantly improved through the use of standards and standard terminology.

The C19IA is a collaborative effort of multiple organizations to align the use of standards and standard terminologies, including SNOMED CT and LOINC, to improve COVID-19 data quality by developing freely available resources using standards development best practices while leveraging technical and clinical terminology expertise.

The following is a summary of notable resources contributed to by the C19IA

COVID-19 Value Sets

As the founding member of the COVID-19 Interoperability Alliance, Clinical Architecture has authored over 600 COVID-19 related value sets. The content is curated by a team of clinical terminology experts and updated to meet community requests. Various references were utilized to create the COVID-19 related content, including the CDC’s Person Under Investigation (PUI) form and the WHO’s Case Report Form. Value set authoring best practices are utilized to consistently record value set metadata such as clinical scope and inclusion criteria. As the understanding of both severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the COVID-19 disease continue to evolve, standard development organizations have had to accelerate both authoring, editorial review, and publishing processes to meet industry demands for additional content. Standard terminology updates included in C19IA value sets include the following:

a. SNOMED – SNOMED CT COVID-19 Related Content
b. LOINC – SARS-CoV-2 and COVID-19 Related LOINC Terms
c. CPT – SARS-CoV-2 Related CPT® Codes and CPT codes approved for COVID-19 immunizations
d. ICD10CM – Coding and Reporting Guidelines
e. CVX – Preview of COVID-19 Vaccine Codes
f. RxNorm – Investigational Drugs in RxNorm

The newly released standard terminology content (potentially including off-cycle, emergency use and/or pre-release updates) is evaluated and where applicable, incorporated in the COVID-19 related value sets. All value sets are made publicly available at the C19IA website and via the National Library of Medicine’s Value Set Authority Center (VSAC).

Collaborative Tooling

To enable browsing and community feedback, a web-based browser and workbench are available via the C19IA website. The tools allow contributors to browse the COVID-19 Value sets and provide suggested edits.

- COVID-19 FHIR Profile Library—Logica (formerly HSPC) produces information models and terminology to support sharing of data and information related to COVID-19 via HL7 FHIR R4 profiles. The approach prioritizes expediency over perfection, providing immediate help in the current crisis. Thus, artifacts are published as soon as possible, recognizing they will not be perfect or
comprehensive, but useful as a starting point for interoperable resources. Logica publishes corrections and additional content iteratively as needed. The Logica COVID-19 FHIR profiles represent a collection or library of data elements that relate to COVID-19 aimed to be useful in many different situations where COVID-19 data are shared. The data elements might be used to share information to support patient care, billing, research or public reporting. The hope is that authoritative groups that are authoring implementation guides for a specific COVID-19 use case (such as a research collaboration) would use the library as a source of FHIR profiles that they include in their own use case specific Implementation Guide (IG). The goal is to create consistency of data across different COVID-19 IGs and to eliminate redundant work when FHIR profiles are recreated in each use case specific IG. Questions and comments are welcome and encouraged to be posted in the Logica COVID-19 Forum, and suggested corrections and additions in the Logica COVID-19 feedback form.

- **COVID-19 Data Coding using SNOMED CT**—SNOMED has published a set of coronavirus-related concepts in both its 2020 SNOMED CT International Edition releases along with pre-release codes meant to fill the terminology gaps between releases. SNOMED has also developed a “COVID-19 Data Coding using SNOMED CT” guide to provide a global community of SNOMED users with consistent guidance on the utilization of SNOMED to code COVID-19 data. Collaboration with the C19IA identified opportunities for harmonization across member organizations and improvement of C19IA value sets.

- **COVID-19 Healthcare Coalition**—Led by MITRE, the COVID-19 Healthcare Coalition (C19HCC) is a private-sector led response that brings together healthcare organizations, technology firms, nonprofits, academia, and startups to preserve the healthcare delivery system and help protect U.S. populations. The C19HCC aims to enable data-driven, real-time insights that improve outcomes. Vocabulary to support cohort identification can be found here. The C19HCC brought use cases and real-life issues around authoring and using value sets to support federated observational research initiatives among multiple major electronic health record (EHR) systems and health analytics platforms to the C19IA. Collaboration with major EHRs, who have access to real data being used in clinical systems, provided invaluable feedback to validate the usefulness of C19IA value sets, along with their scope, inclusion, and exclusion criteria.

- **National Association of Community Health Centers’ (NACHC) COVID-19 Project**—As part of an organizational effort to standardize data elements and content, NACHC is developing a library of resources including a data dictionary with elements bound to value sets. For a Centers for Disease Control and Prevention (CDC) funded project, NACHC is creating a reusable informatics infrastructure and strategy for the emerging threat of SARS-CoV-2 and other communicable conditions or environmental exposures. NACHC has utilized many of the C19IA value sets for COVID-19 related elements, harmonizing across the organizations who contributed to their authoring, but also preventing the addition of redundant value sets to the national repository (VSAC). Though novel SARs-CoV-2 and COVID-19 have presented the world with new challenges, the interoperability barriers impeding the COVID-19 response are not all together new. The pandemic has highlighted some significant interoperability gaps and created an urgency within the global community to address them. The HL7 volunteer community is comprised of health information technology, standards, and standard terminology experts. We are uniquely positioned to contribute to pandemic response efforts. Though pale in comparison to heroic efforts lead by frontline healthcare staff, the C19IA is an example of how like-minded organizations and people with the will and dedication to make a tangible difference can make it happen. As stated by the C19HCC, “By coordinating and sharing information, we will shorten the pandemic and save lives.” To learn more about (and join!) the C91IA and its contributing members, please visit https://covid19ia.org/.
HL7 honored three members with the 23rd annual W. Edward Hammond, Ph.D. Volunteer of the Year Award. Established in 1997, the award is named after Dr. Ed Hammond, one of HL7’s most active volunteers and a founding member as well as past board chair. The award recognizes individuals who have made significant contributions to HL7’s success.

Congratulations to the 2020 Volunteer of the Year Award Recipients

Michael Brody, DPM, president and CEO, TLD Systems; CEO, CMEonline.com

Mike Davis, FHL7, security architect, Department of Veterans Affairs

Lindsey Hoggle, Ms, RDN, PMP, FAMIA, managing partner, owner and senior consultant, Health Project Partners, LLC
Congratulations to the 2020 Volunteer of the Year Award Recipients • February 2021

About the Volunteers:

Michael Brody, DPM, has been a member of HL7 International since 2008 and serves as a co-chair of the HL7 Electronic Health Records (EHR) Work Group. He initiated and led the development of the Podiatry Functional Profile for the EHR System Functional Model. Dr. Brody was also responsible for engaging a number of key stakeholders to HL7 to participate in the effort, including the American Podiatric Medical Association, The American College of Foot and Ankle Medicine, PICA, practicing podiatrists as well as ICS Software and TRAKnet Software, the two largest EHR systems servicing the podiatry community. By initiating this project and by considering the clinical and business needs of relevant stakeholders, Dr. Brody is spearheading a project that provides ROI benefiting implementers, providers and payers. That ROI is driving adoption of the artifacts even before they become formal HL7 standards.

Mike Davis, FHL7, is a long time Security Work Group co-chair and joined HL7 in 2005. Under his leadership, the quality and quantity of work in the security, privacy provenance and trust related standards has flourished. Davis has authored and sponsored the development of the majority of HL7's security standards including the following:

- The HL7 Healthcare Privacy and Security Classification System (HCS), which is the basis for security labeling in HL7 Version 2, Clinical Document Architecture (CDA®) and Fast Healthcare Interoperability Resources (FHIR®)
- The Security and Privacy Ontology
- Several Privacy, Access and Security Services (PASS) specifications, including PASS Access Control

In addition, he has sponsored his team’s collaboration on the HL7 Security and Privacy Domain Access Model (DAM); HL7 Data Segmentation for Privacy CDA Implementation Guide; the FHIR Provenance, AuditEvent and Provenance; and FHIR Consent and Contract. Finally, he is regarded as the mastermind behind the Privacy and Security Architecture Framework, which provides foundational conceptual models for federated trust, provenance and audit.

Lindsey Hoggle, Ms, RDN, PMP, FAMIA, has been a member of HL7 since 2011 and has been involved throughout her career with The Academy of Nutrition and Dietetics and Iris Health Solutions. She currently serves as a co-chair for HL7’s Clinical Interoperability Council Work Group. She has been integral in the development of the HL7 nutrition orders and assessment projects, including the following:

- Allergy-Intolerance DAM
- Care Plan DAM and Care Coordination Services Model
- Consolidated-CDA Implementation Guide
- Patient Centered Care Team DAM

For the past five years, Hoggle has also participated in the Clinicians on FHIR exercises at the HL7 working group meetings.

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Gravitate-Health is a recently launched public-private partnership (PPP), funded by the Innovative Medicines Initiative (IMI). Its mission is to bring innovative digital health information tools to patients and empower person-centered healthcare. The PPP is co-lead by Dr. Giovanna Ferrari on behalf of Pfizer, and Professor Anne Moen on behalf of University of Oslo. HL7 Europe is one of the 39 partners from Europe and the US in the partnership.

Safe use of medication and adherence to treatment are significant public health challenges. Medication information can be fragmented, unavailable or not used, introducing risks of which the user may be unaware. For example, this can include risks of errors in use that can lead to adverse events, disability, and even death. The Organization for Economic Cooperation and Development (OECD) estimates around 200,000 premature deaths annually in Europe related to poor medication adherence, which may cost as much as 125 billion € in Europe each year in avoidable hospitalization, emergency care and adult outpatient visits.

Empirical studies of information flows in healthcare report lack of interoperability and broken chains of activity as significant hurdles, complicating information sharing. Access to accurate information and understanding, capacity to comprehend and act upon, as well as trust, play major roles in mitigating these challenges. Gravitate-Health will contribute by equipping and empowering citizens with digital information tools to make them confident, active and responsive in their health journey.

Gravitate-Health will develop, test and validate the novel concept of the Gravitate Lens (G-Lens) that presents medication leaflets, i.e. electronic product information (ePI), through the lens of personally relevant information, including the patient summary of a patient (see Figure 1). The aim of G-Lens is to improve patient access to approved medication information as well as increase understanding and adherence to prescribed therapy. G-Lens, which focuses (but does not conceal or filter) approved electronic product information (ePI) content, offers access to trustworthy, up-to-date information that better meets their individual needs and capabilities.

The starting point is further development and use of the HL7 Fast Healthcare Interoperability...
Resources (FHIR®) International Patient Summary (IPS) to enable tangible improvements in the availability and understanding of health information from a set of trusted sources, starting with regulator-approved medicinal product information (e.g., package leaflet content). The goal is to demonstrate that the improved availability and understanding of health information from trusted sources translate to higher levels of adherence to treatment, safer use of medication (pharmacovigilance) as well as better health outcomes and quality of life. We anticipate developing new and deeper insights into how use of available health information can be optimized to act as an effective risk minimization measure. The foreseen information tools will offer citizens timely access to trustworthy, relevant information about medicines based on the assertion that engagement to one’s health relies on actionable, understandable, relevant, reliable, and evidence-based information that meets their specific needs, health context, and literacy level.

Gravitate-Health aligns its goals with the relevant recommendations from the European Commission (COM (2017) 135 final)², and the European Medicines Agency’s subsequent action plan to improve the product information for the EU (EMA/680018/2017)³. The HL7 FHIR IPS standard is an important element of the foreseen standards development work, as it will be used as a source with curated health information and window to the electronic health record information and future use of digital services like ePIs as a tool for risk minimization.

Gravitate-Health will establish 11 ecosystems in Europe, North and South America, Asia, and Australia, with the support of partner ECHA to drive outreach and uptake. Furthermore, to ensure alignment with regulatory bodies and international standardization efforts, the FDA and EMA have been invited to join the project’s International Advisory Board. In addition, there will be engagement with VULCAN and other HL7 FHIR Accelerator programs.

With the Gravitate-Health project, HL7 FHIR standards will move one step closer to citizen-centric health IT and continue to expand into the “exchange” of trusted information to and from the patient. This will be a key strategic area as digital health is increasingly about data sharing and exchange with, and for, the real final user – empowered and engaged citizens, with tools for self-management to ensure the full benefit of treatment.

**About the Project:**

The Gravitate-Health is a public-private partnership with 39 members from Europe and the US. It is co-led by the University of Oslo (coordinator) and Pfizer (industry lead) and is funded by the Innovative Medicines Initiative (IMI) – a joint undertaking of the European Commission, the European Federation of Pharmaceutical Industries and Associations (EFPIA) and IMI Associated Partners.

This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking (IMI JU) under grant agreement No 945334. The IMI JU receives support from the European Union’s Horizon 2020 research and innovation programme and EFPIA and Datapharm Limited. The content of this contribution reflects only the author’s view and the IMI JU is not responsible for any use that may be made of the information it contains.

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**For more information:**

Anne Moen, anne.moen@medisin.uio.no

www.gravitatehealth.eu, @gravitatehealth

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### Newly Certified HL7 Specialists

Congratulations to the following people who recently passed the HL7 Certification Exam:

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<td>José Luis Rosales Guadarrama</td>
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<td><strong>NOVEMBER 2020</strong></td>
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<td>Pablo Bendana Sayans</td>
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<td>Bartolome Lopez Lopez</td>
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<td>Shayan Hobbi</td>
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### Benefactor

- Independence Blue Cross
- Onyx Technology LLC

### Gold

- Alphora
- Drummond Group
- Emergency Department Benchmarking Alliance
- etherFAX, LLC
- Health Care Service Corporation
- National Association of Community Health Centers
- University of Texas Health Science Center, San Antonio

### Organizational

- Administration for Children and Families
- Alliance Health
- Appriss Health
- Axxess
- Bacterioscan
- Cirrus Data & Telecom
- Consento
- DynaVet Solutions, LLC
- Electronic Health Management Applications
- Freenome Holdings, Inc.
- Government of the Northwest Territories
- Interopion
- Inventory Optimization Solutions, LLC
- OESIA NETWORKS SL
- Project Connect, Inc.
- Providence St. Joseph Health
The Gravity Project Update

- **December 2020:** Present new ICD-10 codes for ICD-10 2021 review cycle; submit FHIR SDOH IG for the January 2021 HL7 ballot cycle; develop Reference Implementation

- **January 2021:** Launch new SDOH domains: social isolation, stress, and interpersonal violence; test FHIR SDOH IG at HL7 January FHIR Connectathon

- **May 2021:** Publish FHIR SDOH IG Standard for Trial Use (STU); launch SDOH pilots.

To learn more about the Gravity Project, please visit: https://www.hl7.org/gravity/

For more on the food insecurity data elements and new code submissions, please visit: https://confluence.hl7.org/display/GRAV/Food+Insecurity

For more on the housing instability and homelessness data elements, please visit: https://confluence.hl7.org/display/GRAV/Housing+Instability+and+Homelessness
Organizational Members

BENEFACTORS
Accenture
Ad Hoc LLC
Allscripts
American Medical Association
Centers for Disease Control and Prevention/CDC
Cerner Corporation
CRISP
CVS Health
Duke Clinical & Translational Science Institute
Edifecs, Inc.
Epic
Federal Electronic Health Record Modernization Off
Food and Drug Administration
Google
Independence Blue Cross
InterSystems
Kaiser Permanente
NewWave
Office of the National Coordinator for Health IT
Onyx Technology LLC
Optum
Partners HealthCare System, Inc.
Pfizer
Philips Healthcare
Quest Diagnostics, Incorporated
Ready Computing Inc.
U.S. Department of Defense, Military Health System
U.S. Department of Veterans Affairs
UnitedHealthcare

GOLD
AbleTo, Inc.
Academy of Nutrition & Dietetics
Alphora
Altarum
American College of Physicians
Association of Public Health Laboratories
Asymmetrik Ltd.
Audacious Inquiry
Availity, LLC
Blue Cross Blue Shield Association
CAL2CAL Corporation
Cancer Insights
Care IO, Inc
Cigna
CITRIOM LLC
Community Care HIE
Computable Publishing LLC
Computation, Inc.
CORMAC Corp
Council of State and Territorial Epidemiologists
Department of State Health Services (Texas)
Drummond Group
EBSCO Health
eHealth Initiative
Emergency Department Benchmarking Alliance
EMI Advisors LLC
ESAC Inc
etherFAX, LLC
EyeMD EMR Healthcare Systems, Inc.
Freeman & MacLean, PC.
Health Care Service Corporation
Health Intersections Pty Ltd
Healthcare Integrations, LLC
heartbase, inc.
Hi3 Solutions
ICANotes, LLC
Info World
Inovalon Inc.
Intelligent Medical Objects (IMO)
iNTERFACEWARE, Inc.
IRIS Health Solutions, LLC
Kno2 LLC
Lyniate
Massachusetts Health Data Consortium
MaxMD
Medallies, Inc
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National Association of Dental Plans
National Marrow Donor Program
NeuralFrame
New York eHealth Collaborative
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OCHIN
Oregon Health and Science University
Particle Health
PCPI Foundation
PenRad
Prime Therapeutics LLC
Prometheus Research, LLC
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Redox
Regenstrief Institute, Inc.
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Rimidi, Inc
Rochester RHIO
RTI International
Samvit Solutions
Security Risk Solutions, Inc. (SRS)
SMART Health IT
Sparx Systems
St. Jude Children's Research Hospital
Starwest Tech
Systex, Inc.
Tabula Rasa HealthCare, Inc
Tata Consultancy Services
The Sequoia Project
Therap Services LLC
UC Davis School of Medicine
UCSF Center for Digital Health Innovation
UHIN (Utah Health Information Network)
Univ of TX Health Science Center San Antonio
University of Arkansas Medical Sciences
UW Medicine Information Technology Services
VICO Open Modeling
VNB Health Solutions
Vynyl

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Accenture
Ad Hoc LLC
AEGIS.net, Inc.
Alphora
Altarum
Amitech Solutions
Asymmetrik Ltd.
B3 Group
Organizational Members (continued)

- CAL2CAL Corporation
- Carradora Health, Inc.
- CITRIOM LLC
- Cognosante, LLC
- Computable Publishing LLC
- Dapasoft Inc.
- Drummond Group
- DynaVet Solutions, LLC
- Elimu Informatics Inc.
- EMI Advisors LLC
- EnableCare LLC
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- Point-of-Care Partners
- Professional Laboratory Management, Inc.
- Rochester RHIO
- Samvit Solutions
- Security Risk Solutions, Inc. (SRS)
- Systex, Inc.
- Telligen
- Vernetzt, LLC
- VICO Open Modeling
- WaveOne Associates Inc.

**GENERAL INTEREST**

- Academy of Nutrition & Dietetics
- Administration for Children and Families
- Agence eSante Luxembourg
- Alabama Department of Public Health
- Alliance for Cell Therapy Now
- Alliance Health
- American Clinical Laboratory Association
- American College of Obstetricians and Gynecologists
- American College of Physicians
- American Dental Association
- American Immunization Registry
- Association (AIRA)
- American Medical Association
- Arkansas Department of Health
- ASIP SANTE
- Association of Public Health Laboratories
- Baylor College of Medicine
- Blue Cross Blue Shield Association
- CA Department of Public Health
- California Department of Health Care Services
- CAQH
- Center for Medical Interoperability
- Centers for Disease Control and Prevention/CDC
- Centers for Medicare & Medicaid Services
- Centre for Development of Advanced Computing
- Centrum e-Zdrowia (e-Health Centre)
- College of American Pathologists
- College of Healthcare Information Mgmt. Executives
- Colorado Regional Health Information Organization
- CommonWell Health Alliance
- Contra Costa County Health Services
- Council of State and Territorial Epidemiologists
- Department of State Health Services (Texas)
- DGS, Commonwealth of Virginia
- DirectTrust
- Duke Clinical & Translational Science Institute
- eHealth Initiative
- European Medicines Agency
- Federal Electronic Health Record Modernization Off Florida Department of Health
- Food and Drug Administration
- Government of the Northwest Territories
- Health and Welfare Information Systems Centre
- Health Current
- Health Sciences South Carolina
- HealthHIE Nevada
- HIMSS
- HSE - Health Service Executive
- I3L @ GaTech
- ICCBBA, Inc.
- ICH
- Idaho Health Data Exchange
- Illinois Department of Public Health
- Indian Health Service
- Iowa Department of Public Health
- Japan Pharmaceutical Manufacturers Association
- Massachusetts Health Data Consortium
- Michigan Health Information Network
- Minnesota Department of Health
- Missouri Department of Health & Senior Services
- NAACCR
- National Association of Dental Plans
- National Cancer Institute
- National Council for Prescription Drug Programs
- National Institute of Standards and Technology
- National Library of Medicine
- National Marrow Donor Program
- NC Division of Public Health
- NCQA
- Nebraska Dept of Health and Human Services
- Nebraska Health Information Initiative (NeHII)
- New York eHealth Collaborative
- NHS Digital
- NICTIZ
- NIH/Department of Clinical Research Informatics
- NJDOH
- NYC Department of Health and Mental Hygiene
- NYS DOH, Office of Quality and Patient Safety
- Object Management Group (OMG)
- OCHIN
- Office of the National Coordinator for Health IT
- Oklahoma State Department of Health
- OR.NET
- Oregon Health and Science University
- Oregon Public Health Division
- PCPI Foundation
- Pharmaceuticals & Medical Devices Agency
- Public Health Informatics Institute
- RTI International
- SC Department of Health & Environmental Control
Organizational Members (continued)

**GENERAL INTEREST** (continued)
SLI Compliance
SMART Health IT
State of New Hampshire
Tennessee Department of Health
The Joint Commission
The Sequoia Project
U.S. Department of Defense, Military Health System
U.S. Department of Veterans Affairs
UC Davis School of Medicine
UCSF Center for Digital Health Innovation
UHIN (Utah Health Information Network)
United Network for Organ Sharing
United Physicians
Univ of TX Health Science Center San Antonio
University of AL at Birmingham
University of Arkansas Medical Sciences
University of Minnesota
University of Texas Medical Branch at Galveston
Utah Department of Health
UW Medicine Information Technology Services
Virginia Department of Health
Washington State Department of Health
Westat
Wisconsin Department of Health Services
WNY HEALTHeLINK
WorldVistA

**PAYERS**
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Blue Cross Blue Shield of Michigan
Blue Cross Blue Shield of South Carolina
BlueCross BlueShield of Tennessee
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Health Care Service Corporation
HealthNow New York Inc.
Healthspring
Highmark Health
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Independence Blue Cross
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UnitedHealthcare
Wisconsin Physicians Service Ins. Corp.

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Pfizer

**PROVIDERS**
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Alaska Native Tribal Health Consortium
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Albany Medical Center Hospital almerys
ARUP Laboratories, Inc.
Benedictine Health System
Blessing Hospital
Boston Medical Center
Cedars-Sinai Medical Center
Central Illinois Radiological Associates
Children’s Mercy Hospitals and Clinics
Children’s of Alabama
Consento
Dayton Children’s Hospital
Diagnostic Laboratory Services
HCA IT&S
Johns Hopkins Hospital
Kaiser Permanente
Laboratory Corporation of America
Mary Greeley Medical Center
Mayo Clinic
Mediclinic Southern Africa
MolecularDx, LLC
MultiCare Health System
New York-Presbyterian Hospital
North Carolina Baptist Hospitals, Inc.
Northwestern Medicine
Partners HealthCare System, Inc.
Perry Community Hospital
Providence St. Joseph Health
Quest Diagnostics, Incorporated
Rady Children’s Hospital
Redington-Fairview Hospital
Regenstrief Institute, Inc.
Sharp HealthCare Information Systems
Spectrum Health
St. Joseph’s Healthcare System
St. Jude Children’s Research Hospital
Stanford Children’s Health
The Children’s Hospital of Philadelphia
University of Nebraska Medical Center
University of Utah Health Care
University Physicians, Inc.
UT M.D. Anderson Cancer Center
West Virginia University Hospitals

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Apelon, Inc.
Apervita, Inc.
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Applied Research Works
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Care IO, Inc
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Change Healthcare
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Clinical Architecture LLC
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Organizational Members (continued)

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eClinicalWorks
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Electronic Health Management Applications
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EMR Direct
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etherFAX, LLC
Evident
Exscribe, Inc.
EXTEDO
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Foothold Technology
Fresenius Vial SAS
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Genesis Systems, Inc.
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Greenway Health
Health Catalyst
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heartbase, inc.
IBM
ICANotes, LLC
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Infor
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Inovalon Inc.
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Interpion
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<td><strong>HL7 NETHERLANDS</strong></td>
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<tr>
<td>Rob Mulders</td>
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<tr>
<td><strong>HL7 NEW ZEALAND</strong></td>
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<tr>
<td>Peter Jordan, MSc, LLB</td>
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<td>Phone: +64 21-758834</td>
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<tr>
<td>Email: <a href="mailto:pkjordan@xtra.co.nz">pkjordan@xtra.co.nz</a></td>
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<tr>
<td><strong>HL7 NORWAY</strong></td>
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<td>Line Saele</td>
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<td>Phone: +47 9592-5357</td>
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<tr>
<td><strong>HL7 PAKISTAN</strong></td>
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<tr>
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<tr>
<td><strong>HL7 PHILIPPINES</strong></td>
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<td><strong>HL7 POLAND</strong></td>
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<td><strong>HL7 PORTUGAL</strong></td>
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<td><strong>HL7 ROMANIA</strong></td>
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<td>Florica Moldoveanu</td>
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<td><strong>HL7 SWITZERLAND</strong></td>
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<td>Roeland Luykx, PhD</td>
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<td><strong>HL7 UK</strong></td>
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<td>Email: <a href="mailto:leo@hl7.org.ua">leo@hl7.org.ua</a></td>
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</table>
## 2021 HL7 Board of Directors

<table>
<thead>
<tr>
<th>BOARD CHAIR</th>
<th>CHAIR-ELECT</th>
<th>BOARD SECRETARY</th>
<th>BOARD TREASURER</th>
<th>CHAIR EMERITUS</th>
</tr>
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<tbody>
<tr>
<td>Walter Suarez, MD, MPH</td>
<td>Andrew Truscott</td>
<td>Virginia Lorenzi</td>
<td>Floyd Eisenberg, MD</td>
<td>W. Edward Hammond, PhD, FHL7</td>
</tr>
<tr>
<td>Kaiser Permanente</td>
<td>Accenture</td>
<td>New York Presbyterian Hospital</td>
<td>i Parsimony LLC</td>
<td>Duke Clinical &amp; Translational Science Institute</td>
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<td>+1 919-668-2408</td>
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</table>

<table>
<thead>
<tr>
<th>APPOINTED DIRECTORS</th>
<th>AFFILIATE DIRECTORS</th>
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</thead>
<tbody>
<tr>
<td>Karen DeSalvo, MD</td>
<td>Peter Jordan</td>
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<th>TSC CHAIR</th>
<th>DIRECTORS-AT-LARGE</th>
<th>DIRECTORS-AT-LARGE</th>
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<tr>
<td>Austin Kreisler, FHL7</td>
<td>Viet Nguyen, MD</td>
<td>Lenel James</td>
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<td>Leidos, Inc.</td>
<td>Mayo Clinic</td>
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<th>NON-VOTING MEMBERS</th>
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<tr>
<td>Charles Jaffe, MD, PhD</td>
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<td>+1 858-720-8200</td>
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<td><a href="mailto:cjaffe@HL7.org">cjaffe@HL7.org</a></td>
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### Get Your Training Straight from the Source!

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<th>Course Name</th>
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<td>Online</td>
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*Schedule subject to change*
Upcoming HL7 Meetings

2021 Virtual Meetings

January Working Group Meeting – Virtual
January 25 - 29, 2021

HL7 FHIR Connectathon – Virtual
May 17 - 19, 2021

May Working Group Meeting – Virtual
May 24 - 28, 2021

HL7 FHIR DevDays – Virtual Edition
June 7 - 10, 2021

HL7 FHIR Connectathon – Virtual
September 13 - 15, 2021

35th Annual Plenary & Working Group Meeting – Virtual
September 20 - 24, 2021

2022 Meetings

January 15 - 21, 2022
January 2022 Working Group Meeting
Henderson, Nevada

June 6 - 9, 2022
HL7 FHIR DevDays 2022
Cleveland, Ohio

September 17 - 23, 2022
36th Annual Plenary & Working Group Meeting
Baltimore, Maryland