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 throuth the Da Vinci Project

Boosting Translational and Clinical Research with Vulcan

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

In This Issue

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 Snelick**, USA
- **Sylvia Thun**, MD, PhD, Germany
- **Grant Wood**, USA

Chair Elect	**Secretary**	**Director**	**Director**	**Affiliate Director**
Andrew Truscott	Virginia Lorenzi	Lenel James	Janet Marchibroda	Diego Kaminker
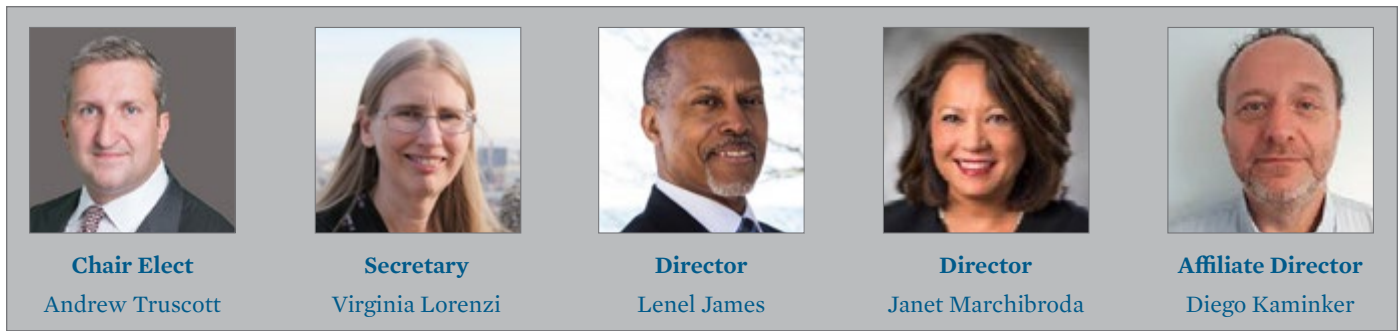
Board Election Results

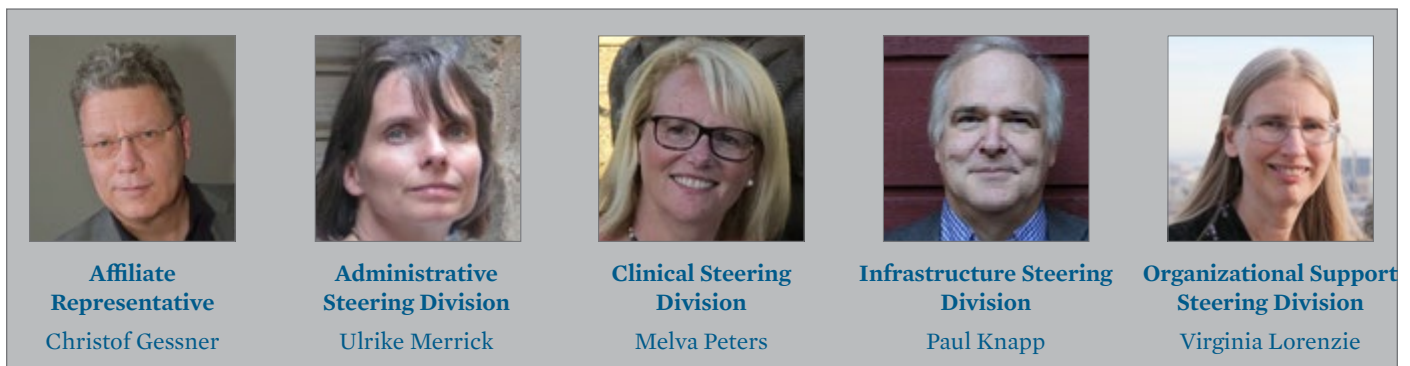During HL7's annual business meeting, the results of the recent Board elections were announced for the HL7 Board of Director positions listed below. Other than the chair-elect position, the new Board members will serve two-year terms from January 2021 through December 2022.

- 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	**Administrative Steering Division**	**Clinical Steering Division**	**Infrastructure Steering Division**	**Organizational Support Steering Division**
Christof Gessner	Ulrike Merrick	Melva Peters	Paul Knapp	Virginia Lorenzie

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 Lorenzi**, 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   **Mike Davis**   **Lindsey Hoggle**

- **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.

Mark C. McDougall

The HL7 Job Board

JOBS

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 waving all fees to post open positions.

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

HL7 FHIR Fundamentals

http://HL7.me/FHIRfun

BEGIN.

April 1-29, 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

HL7® International 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 ◄

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. ◾

News from the HL7 Project Management Office

ONC Grant Funded Project Update
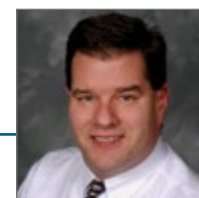
By Dave Hamill,
Director, HL7 Project
Management Office

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:

- Rollout of the Unified Terminology Governance (UTG) process and tooling
- Complete improvements to the FHIR Jira ballot process
- Continue to provide administration for the FHIR Connectathons
- Continue work on Bulk Data Access and Push
- Continued support for the FHIR Terminology Server
- Continue work on the HL7 FHIR build and implementation guide publishing tasks
- Provide support to the FHIR Registry
- Conduct additional C-CDA Implementation-A-Thons
- 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. ■

HL7 Standards Approved by ANSI Since August 2020

Name	Designation	Date
HL7 Version 2 Specification: Conformance, Release 1	ANSI/HL7 V2 Conformance, R1-2020	9/18/2020
HL7 Version 2.6 Implementation Guide: Early Hearing Detection and Intervention (EHDI), Release 1	ANSI/HL7 V26 IG EHDI, R1-2020	10/1/2020
HL7 EHR-System Electronic Nutrition Care Process Record System (ENCPRS) Functional Profile, Release 2	AN ANSI/HL7 EHRS FM FP ENCPRS, R2-2020	10/15/2020
HL7 CDA® R2 Implementation Guide: Healthcare Associated Infection Reports, Release 3 - US Realm	ANSI/HL7 CDA R2IG HAIRPT, R3-2020	12/1/2020
HL7 Cross-Paradigm Specification: Clinical Quality Language, Release 1	ANSI/HL7 CQLANG, R1-2020	12/1/2020
HL7 Version 3 Standard: Refinement, Constraint and Localization to Version 3 Messages, Release 2	ANSI/HL7 V3 RCL, R2-2007 (R2020)	12/1/2020

Benefactors

Tooling Update

Focusing on Finishing

By Wayne Kubick,
HL7 CTO

Imagine you're struggling in a long race – maybe an ultra-marathon over a winding, hilly course. You've been running for many hours, and you're tired, sore and hungry. You're running up a hill, hoping the end will soon be in sight. But when you get to the top, you only see a turn, not a finish. And after that turn—oh, no!—another hill.

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. ▪

HL7 Da Vinci Project

Advancing Interoperability and Industry Readiness During Extraordinary Times
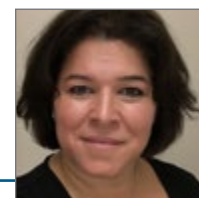
By Jocelyn Keegan, Program Manager, HL7 Da Vinci Project

Leslie Amoros, Communications Manager, HL7 Da Vinci Project

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! ▪

HL7 Da Vinci Project

FHIR-powered APIs to Enable Organizations to Meet New Federal Regulations
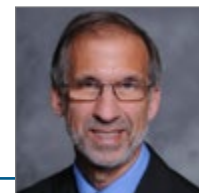
By Fred Bazzoli,
Writer, HL7 Da Vinci
Project

Use cases and implementation guides developed by the HL7 Da Vinci Project are expected to help healthcare organizations meet the requirements for new federal regulations requiring healthcare organizations to give patients easy access to their claims and clinical data.

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.

The proposed rule on burden reduction and prior authorization includes references to all of the Da Vinci Burden Reduction Implementation Guides. The proposed rule also includes a reference to the early Patient Access API rule, naming additional Da Vinci guides related to Payer Data Exchange. Proposed compliance timeline is January 2023. The text of the draft rule can be found at *https://www.cms.gov/files/document/121020-reducing-provider-and-patient-burden-cms-9123-p.pdf* .
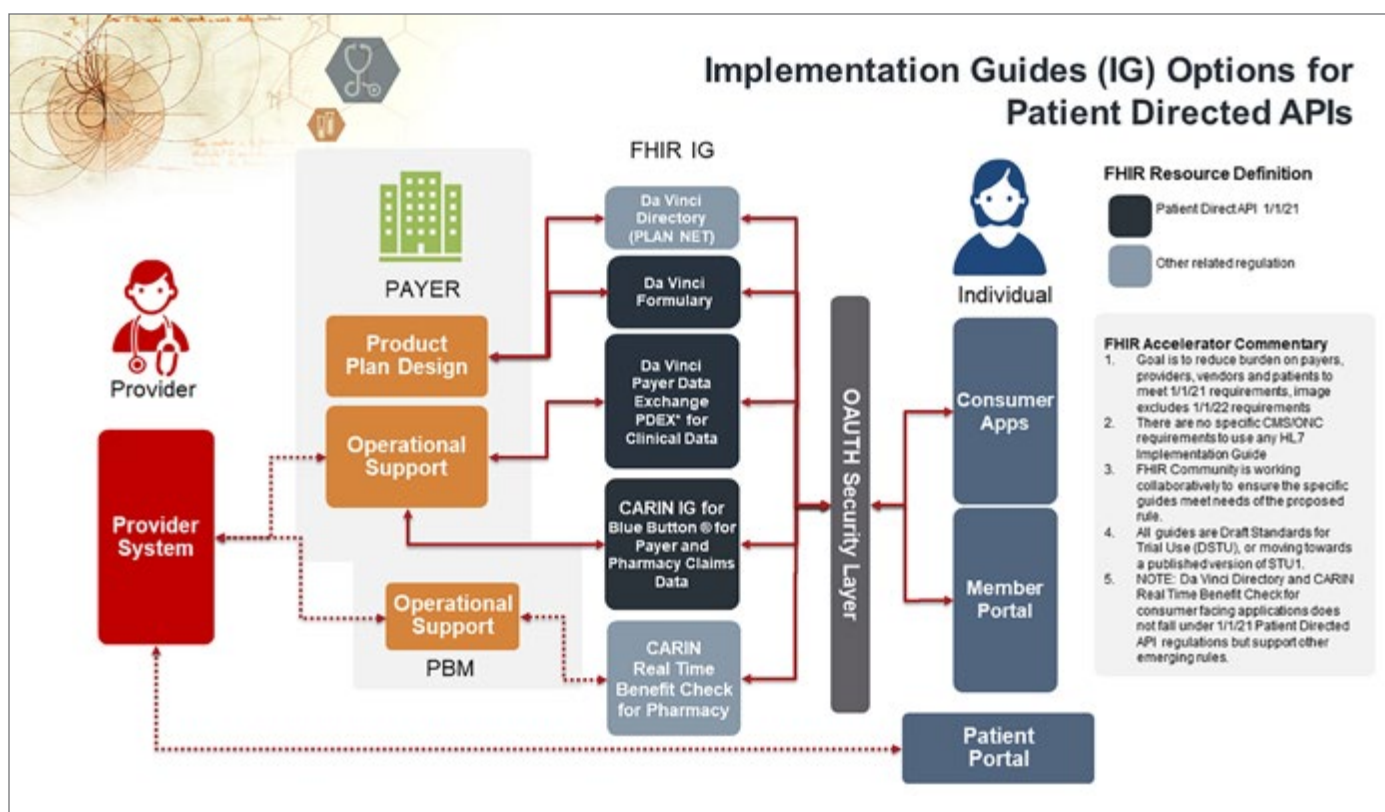
Da Vinci and CARIN Use Cases

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: Formulary, 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

New CodeX Members, Exciting Use Case Updates, and More

CodeX Community Accelerates Smarter Data for the Fight Against Cancer

By the CodeX Community Support Team

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

CodeX (Common Oncology Data Elements eXtensions) is an HL7 FHIR® Accelerator building a community—through new applications and use cases—around the mCODE (minimal Common Oncology Data Elements) FHIR Implementation Guide. mCODE STU1 describes a set of 90 essential data elements that will enable the interoperable exchange of cancer patient data and step-change improvements in cancer care and research.

Please refer to the mCODE and CodeX overview slide deck for more information.

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 work group meetings, please contact Caroline Potteiger (cpotteiger@mitre.org). The FHIR Implementation Guide development fueling this use case is sponsored by the *HL7 Biomedical Research and Regulation (BR&R) Work Group*.

- *Prior Authorization in Oncology is in the Planning Phase.* A core group, including UnitedHealthcare-Optum, Mettle Solutions, and Point-of-Care Partners have developed the draft scenario and data around Prior Authorization of a Chemotherapy Regimen. This use case will leverage the work of the Da Vinci FHIR Accelerator and align well with the new *CMS Interoperability and Prior Authorization rules.* **Call to Action:** Now is the time for health systems, payers, and other members of the oncology ecosystem to join this important initiative. For further information reach out to Jim O'Connor (joconnor@mitre.org) or Carmela Couderc (ccouderc@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 *adidonato@mitre.org* with any questions or comments! ◼

Accelerating National SDOH Data Standards

The Gravity Project Update

By Evelyn Gallego,
Program Manager,
Gravity Project

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;

What Goes Into Your Health?

Socioeconomic Factors — Education, Job Status, Family/Social Support, Income, Community Safety

40%

10% — Physical Environment

30% — Health Behaviors — Tobacco Use, Diet & Exercise, Alcohol Use, Sexual Activity

20% — Health Care — Access to Care, Quality of Care

Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

Adapted from The Bridgespan Group

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 code**s
- 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
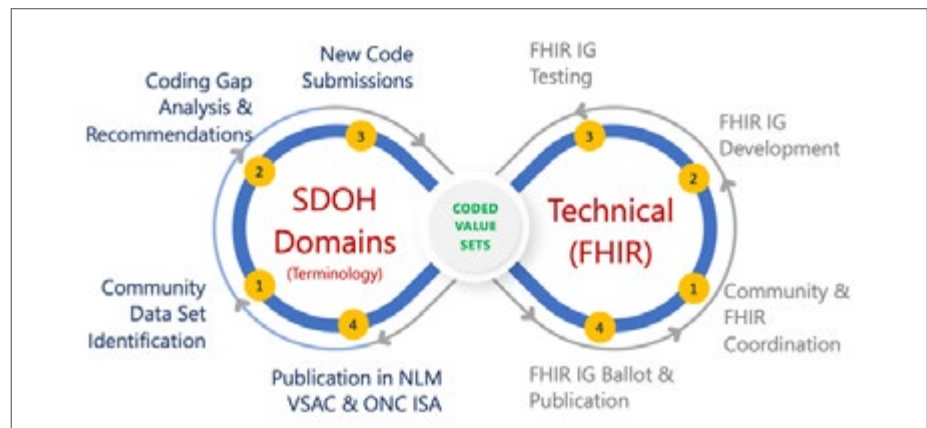
signed up as members of the Gravity Project. Key project accomplishments and target milestones include:

- **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

HL7 FHIR® Accelerator for Translational and Clinical Research

Vulcan Launches
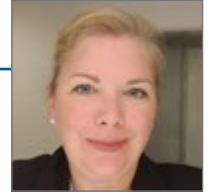
By Amy Cramer, BSN, CPHQ, MMCi

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.

Rob Goodwin, BS, MS, MBA, Steering Committee Co-Chairs, Vulcan

Building off 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 uses 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.

By Ryan Howells, Program Manager, CARIN Alliance and Principal, Leavitt Partners

Creating Access to Real-time Information Now through Consumer-Directed Exchange

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 ■

The COVID-19 Interoperability Alliance (C19IA)

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.

By Caroline Macumber, MS, PMP, FAMIA, EVP, Client Services – Clinical Architecture; Co-Chair, HL7 Vocabulary Work Group; Vice-Chair, HL7 Terminology Authority

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 COVD-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

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

Mike Davis

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

Lindsey Hoggle

Lindsey Hoggle, Ms, RDN, PMP, FAMIA, managing partner, owner and senior consultant, Health Project Partners, LLC

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. ■
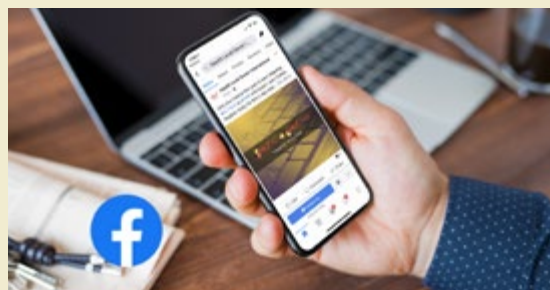
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Empowering and Equipping Europeans with Health Information

Gravitate Health Innovates Personal Health Management

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.

By Anne Moen, RN, PhD, FACMI, FIAHSI, professor, Institute for Health and Society, University of Oslo, Norway, Coordinator, Gravitate Health, HL7 Europe Foundation, Board of Directors

Henrique Martins, MD, PhD, FIAHSI, Associate Professor in Health Management and Leadership at FCS-UBI and ISCTE-IUL (Iscte-Health), HL7 Europe Foundation, Board of Directors

Catherine Chronaki, MS, Secretary General, HL7 Europe Foundation

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 risk 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[1]. 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
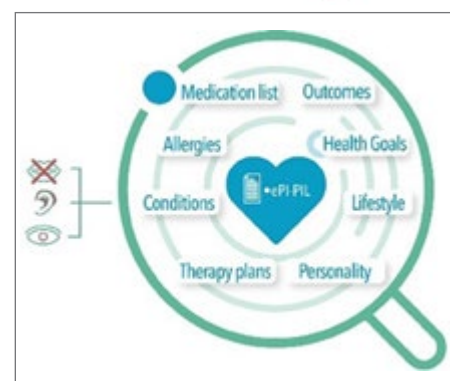
The Gravitate Lens (G-Lens)

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1   OECD/European Union (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris/European Union, Brussels, https://doi.org/10.1787/health_glance_eur-2018-en

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 project will contribute to standards development and will pave the way toward electronic tools that improve patients' and health professionals' access to information on medications. Specifically, it will contribute to the common European standard for ePI. It will also deliver tailored medical information in multiple European languages and formats (audio, video, pictorial) to improve accessibility in accordance with the key principles adopted by EMA–HMA–EC[4]. 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.

For more information:

Anne Moen, anne.moen@medisin.uio.no
www.gravitatehealth.eu, @gravitatehealth

2   https://ec.europa.eu/health/sites/health/files/files/documents/2017_03_report_smpc-pl_en.pdf
3   https://ec.europa.eu/health/sites/health/files/files/committee/pharm740_3ii_report-on-pil-and-ema-action-plan_0.pdf
4   EMA–HMA–EC key principles (2020) https://www.ema.europa.eu/en/documents/regulatory-procedural-guideline/electronic-product-information-human-medicines-european-union-key-principles_en.pdf

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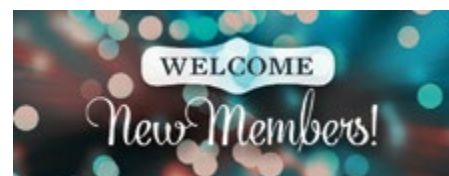
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2021 Technical Steering Committee Members

CHAIR
Austin Kreisler, FHL7
Leidos, Inc.
Phone: +1 706-525-1181
Email: austin.i.kreisler@leidos.com

CHIEF TECHNOLOGY OFFICER
Wayne Kubick
Health Level Seven International
Phone: +1 847-842-1846
Email: wkubick@HL7.org

ARB CHAIR
Anthony Julian, FHL7
Mayo Clinic
Phone: +1 507-293-8384
Email: ajulian@mayo.edu

INTERNATIONAL REPRESENTATIVES
Giorgio Cangioli
HL7 Italy
Email: giorgio.cangioli@gmail.com

Christof Gessner
HL7 Germany
Phone: +49 172-3994022
Email: christof.gessner@gematik.de

ADMINISTRATIVE CO-CHAIRS
Mary Kay McDaniel
Cognosante, LLC
Email: marykay.mcdaniel@cognosante.com

Ulrike Merrick
Vernetzt, LLC
Phone: +1 415-634-4131
Email: rikimerrick@gmail.com

CLINICAL CO-CHAIRS
Melva Peters
Jenaker Consulting
Phone: +1 604-512-5124
Email: melva@jenakerconsulting.com

David Pyke
Ready Computing Inc.
Phone: +1 212-877-3307 x101
Email: david.pyke@readycomputing.com

INFRASTRUCTURE CO-CHAIRS
Paul Knapp
Knapp Consulting Inc.
Phone: +1 604-987-3313
Email: pknapp@pknapp.com

Robert McClure, MD, FHL7
MD Partners, Inc.
Phone: +1 303-926-6771
Email: rmcclure@mdpartners.com

ORGANIZATIONAL SUPPORT CO-CHAIRS
Virginia Lorenzi, FHL7
New York-Presbyterian Hospital
Email: vlorenzi@nyp.org

Sandra Stuart, FHL7
Kaiser Permanente
Phone: +1 925-519-5735
Email: sandra.stuart@kp.org

AD-HOC MEMBER
Bryn Rhodes
Dynamic Content Group
Phone: +1 801-210-0324
Email: bryn@dynamiccontentgroup.com

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*

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HL7 Work Group Co-Chairs

ANESTHESIA

Martin Hurrell, PhD
Phone: +44 7711-669-522
Email: martinhurrell@outlook.com

John Walsh, MD
Partners HealthCare System, Inc.
Phone: +1 857-282-3953
Email: jwalsh@partners.org

ARCHITECTURAL REVIEW BOARD

Anthony Julian, FHL7
Mayo Clinic
Phone: +1 507-293-8384
Email: ajulian@mayo.edu

ARDEN SYNTAX

Peter Haug, MD
Intermountain Healthcare
Phone: +1 801-507-9253
Email: peter.haug@imail.org

Robert Jenders, MD, MS, FHL7
Charles Drew University/UCLA
Phone: +1 323-249-5734
Email: jenders@ucla.edu

BIOMEDICAL RESEARCH AND REGULATION

Boris Brodsky
Food and Drug Administration
Phone: +1 301-796-5179
Email: boris.brodsky@fda.hhs.gov

Hugh Glover, FHL7
Blue Wave Informatics
Email: hugh_glover@
  bluewaveinformatics.co.uk

Smita Hastak
Samvit Solutions
Phone: +1 703-362-1280
Email: shastak@samvit-solutions.com

Andy Iverson
Medtronic
Phone: +1 763-526-1401
Email: andy.iverson@medtronic.com

CLINICAL DECISION SUPPORT

Guilherme Del Fiol, MD, PhD
University of Utah Health Care
Phone: +1 801-213-4129
Email: guilherme.delfiol@utah.edu

Robert Jenders, MD, MS, FHL7
Charles Drew University/UCLA
Phone: +1 323-249-5734
Email: jenders@ucla.edu

Kensaku Kawamoto, MD, PhD
University of Utah Health Care
Phone: +1 801-587-8076
Email: kensaku.kawamoto@utah.edu

Bryn Rhodes
Dynamic Content Group
Phone: +1 801-210-0324
Email: bryn@dynamiccontentgroup.com

Howard Strasberg, MD, MS
Wolters Kluwer Health
Phone: +1 858-481-4249
Email: howard.strasberg@
  wolterskluwer.com

CLINICAL GENOMICS

Robert Freimuth, PhD
Mayo Clinic
Phone: +1 507-266-4078
Email: freimuth.robert@mayo.edu

James Jones
SMART Health IT
Email: james.jones@chip.org

Bob Milius, PhD
National Marrow Donor Program
Phone: +1 612-627-5844
Email: bmilius@nmdp.org

Mullai Murugan
Baylor College of Medicine
Email: murugan@bcm.edu

Kevin Power
Cerner Corporation
Phone: +1 816-201-3026
Email: kevin.power@cerner.com

Patrick Werner
HL7 Germany
Phone: +49 15150602008
Email: pa.f.werner@gmail.com

CLINICAL INFORMATION MODELING INITIATIVE

Richard Esmond
PenRad
Phone: +1 763-475-3388
Email: richard.esmond@gmail.com

Stanley Huff, MD, FHL7
Intermountain Healthcare
Phone: +1 801-507-9111
Email: stan.huff@imail.org

Galen Mulrooney, MBA
U.S. Department of Veterans Affairs
Phone: +1 703-815-0900
Email: galen.mulrooney@jpsys.com

Claude Nanjo
University of Utah Health Care
Phone: +1 810-587-6092
Email: cnanjo@gmail.com

CLINICAL INTEROPERABILITY COUNCIL

Laura Heermann Langford, RN, PhD
Intermountain Healthcare
Phone: +1 801-507-9254
Email: laura.heermann@imail.org

Lindsey Hoggle, MS, RDN, PMP, FAMIA
IRIS Health Solutions, LLC
Email: lhoggle@healthprojectpartners.com

James McClay, MD
University of Nebraska Medical Center
Phone : +1 402-559-3587
Email: jmcclay@unmc.edu

James Tcheng, MD
Duke Clinical & Translational
  Science Institute
Phone: +1 919-225-4701
Email: james.tcheng@duke.edu

CLINICAL QUALITY INFORMATION

Patricia Craig, MS, MIS
The Joint Commission
Phone: +1 630-792-5546
Email: pcraig@jointcommission.org

Paul Denning
The MITRE Corporation
Phone: +1 781-271-9614
Email: pauld@mitre.org

Floyd Eisenberg, MD
iParsimony LLC
Phone: +1 202-643-6350
Email: feisenberg@iparsimony.com

Yan Heras
Optimum eHealth LLC
Phone: +1 949-566-3361
Email: yanheras@gmail.com

Juliet Rubini, MS, MSIS
Mathematica Policy Research
Phone: +1 609-750-3181
Email: julietkrubini@gmail.com

COMMUNITY-BASED CARE AND PRIVACY

Johnathan Coleman
Security Risk Solutions, Inc. (SRS)
Phone: +1 843-442-9104
Email: jc@securityrs.com

Suzanne Gonzales-Webb
U.S. Department of Veterans Affairs
Phone: +1 727-605-5081
Email: suzanne.gonzales-webb@va.gov

David Pyke
Ready Computing Inc.
Phone: +1 212-877-3307 x5101
Email: david.pyke@readycomputing.com

Ioana Singureanu, MSCs, FHL7
U.S. Department of Veterans Affairs
Phone: +1 603-548-5640
Email: ioana.singureanu@
  bookzurman.com

HL7 Work Group Co-Chairs (continued)

CONFORMANCE

Nathan Bunker
American Immunization
  Registry Association
Phone: +1 435-635-1532
Email: nbunker@immregistries.org

Frank Oemig, PhD, FHL7
HL7 Germany
Phone: +49 208-781194
Email: hl7@oemig.de

Ioana Singureanu, MSCs, FHL7
U.S. Department of Veterans Affairs
Phone: +1 603-548-5640
Email: ioana.singureanu@
  bookzurman.com

Robert Snelick, FHL7
National Institute of Standards
  & Technology
Phone: +1 301-975-5924
Email: robert.snelick@nist.gov

CROSS GROUP PROJECTS

Jean Duteau
Duteau Design Inc
Email: jean@duteaudesign.com

Floyd Eisenberg, MD
iParsimony LLC
Phone: +1 202-643-6350
Email: feisenberg@iparsimony.com

DEVICES

Todd Cooper
OR.NET
Email: todd@ornet.org

Chris Courville
Epic
Phone: +1 608-271-9000
Email: ccourvil@epic.com

John Garguilo
National Institute of Standards
  and Technology
Phone: +1 301-975-5248
Email: john.garguilo@nist.gov

John Rhoads, PhD
Philips Healthcare
Phone: +1 617-245-5927
Email: john.rhoads@philips.com

ELECTRONIC HEALTH RECORDS

Michael Brody, DPM
Registry Clearinghouse
Email: mbrody@registryclearinghouse.net

Gary Dickinson, FHL7
Email: gary.dickinson@ehr-standards.com

Mark Janczewski, MD, MPH
Medical Networks, LLC
Email: mark.janczewski@gmail.com

John Ritter, FHL7
Phone: +1 412-372-5783
Email: johnritter1@verizon.net

Harsh Sharma, B.Eng, MS
HL7 Canada
Phone: +1 416-595-3448
Email: harsh.sharma2@
  albertahealthservices.ca

Feliciano Yu, MD, MS
University of Arkansas Medical Sciences
Email: pele.yu@archildrens.org

EMERGENCY CARE

Dominik Brammen
HL7 Germany
Phone: +49 700-7777-6767
Email: dominik.brammen@aktin.org

Laura Heermann Langford, RN, PhD
Intermountain Healthcare
Phone: +1 801-507-9254
Email: laura.heermann@imail.org

James McClay, MD
University of Nebraska Medical Center
Phone: +1 402-559-3587
Email: jmcclay@unmc.edu

FHIR INFRASTRUCTURE

Rick Geimer
Lantana Consulting Group
Phone: +1 209-954-6030
Email: rick.geimer@lantanagroup.com

Lloyd McKenzie, FHL7
HL7 Canada / Gevity
Email: lloyd@lmckenzie.com

Harsh Sharma, B.Eng, MS
HL7 Canada
Phone: +1 416-595-3448
Email: harsh.sharma2@
  albertahealthservices.ca

Yunwei Wang
The MITRE Corporation
Email: yunwei@mitre.org

FINANCIAL MANAGEMENT

Jeff Brown
Cigna Health Information Interoperability
Phone: +1 336-374-1150
Email: jeff.brown@cigna.com

Kathleen Connor, FHL7
U.S. Department of Veterans Affairs
Phone: +1 727-519-4607
Email: kathleen_connor@comcast.net

Paul Knapp
Knapp Consulting
Phone: +1 604-987-3313
Email: pknapp@pknapp.com

Mary Kay McDaniel
Cognosante, LLC
Phone: +1 703-206-6000
Email: marykay.mcdaniel@
  cognosante.com

Andy Stechishin
HL7 Canada
Phone: +1 780-903-0885
Email: andy.stechishin@gmail.com

HL7 TERMINOLOGY AUTHORITY

Julie James, FHL7
Blue Wave Informatics
Email: julie_james@
  bluewaveinformatics.co.uk

IMAGING INTEGRATION

Chris Lindop
GE Healthcare
Email: christopher.lindop@ge.com

Jonathan Whitby
Vital (Canon)
Phone: +1 952-487-9736
Email: jwhitby@vitalimages.com

IMPLEMENTABLE TECHNOLOGY SPECIFICATIONS

Jeff Brown
Cigna Health Information Interoperability
Phone: +1 6336-374-1150
Email: jeff.brown@cigna.com

Paul Knapp
Knapp Consulting Inc.
Phone: +1 604-987-3313
Email: pknapp@pknapp.com

Brian Pech, MD, MBA, FHL7
Kaiser Permanente
Phone: +1 678-245-1762
Email: brian.pech@kp.org

Andy Stechishin
HL7 Canada
Phone: +1 780-903-0885
Email: andy.stechishin@gmail.com

INFRASTRUCTURE & MESSAGING

Anthony Julian, FHL7
Mayo Clinic
Phone: +1 507-293-8384
Email: ajulian@mayo.edu

Nick Radov
UnitedHealthcare
Phone: +1 800-328-5979
Email: nradov@uhc.com

Harsh Sharma, B.Eng, MS
HL7 Canada
Phone: +1 416-595-3448
Email: harsh.sharma2@
  albertahealthservices.ca

HL7 Work Group Co-Chairs (continued)

INTERNATIONAL COUNCIL

Peter Jordan, MSc LLB
HL7 New Zealand
Phone: +64 21-758834
Email: pkjordan@xtra.co.nz

Ron Parker
HL7 Canada
Email: ron@parkerdhc.com

Line Saele
HL7 Norway / TietoEvry
Phone: +47 9592-5357
Email: line.saele@tietoevry.com

LEARNING HEALTH SYSTEMS

Bruce Bray, MD
University of Utah Health Care
Phone: +1 801-581-4080
Email: bruce.bray@hsc.utah.edu

Russell Leftwich, MD
InterSystems
Phone: +1 617-551-2111
Email: russell.leftwich@intersystems.com

MOBILE HEALTH

Nathan Botts, PhD, MSIS
Westat
Phone: +1 760-845-8356
Email: nathanbotts@westat.com

Gora Datta, FHL7
CAL2CAL Corporation
Phone: +1 949-955-3443
Email: gora@cal2cal.com

Matthew Graham
Mayo Clinic
Phone: +1 507-284-3028
Email: mgraham@mayo.edu

Frank Ploeg
HL7 Netherlands
Email: r.f.ploeg@umcg.nl

MODELING AND METHODOLOGY

Jean Duteau
Duteau Design Inc.
Email: jean@duteaudesign.com

Grahame Grieve, FHL7
HL7 International; Health
  Intersections Pty Ltd
Phone: +61 3-98445796
Email: grahame@hl7.org; grahame@
  healthintersections.com.au

AbdulMalik Shakir, FHL7
Hi3 Solutions
Email: abdulmalik.shakir@hi3solutions.com

Ron Shapiro
Qvera
Phone: +1 801-335-5101 x7011
Email: ron@qvera.com

ORDERS/OBSERVATIONS

Hans Buitendijk, MSc, FHL7
Cerner Corporation
Phone: +1 610-219-2087
Email: hans.buitendijk@cerner.com

David Burgess
Laboratory Corporation of America
Phone: +1 615-221-1901
Email: burgesd@labcorp.com

Lorraine Constable
HL7 Canada
Phone: +1 780-951-4853
Email: lorraine@constable.ca

Robert Hausam, MD, FHL7
Hausam Consulting, LLC
Phone: +1 801-949-1556
Email: rob@hausamconsulting.com

Ralf Herzog
Roche Diagnostics International Ltd.
Phone: +41 417992893
Email: ralf.herzog@roche.com

Patrick Loyd, FHL7
Email: patrick.e.loyd@gmail.com

Ulrike Merrick
Vernetzt, LLC
Phone: +1 415-634-4131
Email: rikimerrick@gmail.com

John David Nolen, MD, PhD
Children's Mercy Hospitals and Clinics
Phone: +1 816-701-4882
Email: jdlnolen@gmail.com

PATIENT ADMINSTRATION

Alexander de Leon
Kaiser Permanente
Phone: +1 626-381-4141
Email: alexander.j.deleon@kp.org

Irma Jongeneel-de Haas, FHL7
HL7 Netherlands
Phone: +31 681153857
Email: jongeneel@vzvz.nl

Brian Postlethwaite, BaSc
HL7 Australia
Phone +61 420-306-556
Email: brian_pos@hotmail.com

Line Saele
HL7 Norway / TietoEvry
Phone: +47 9592-5357
Email: line.saele@tietoevry.com

PATIENT CARE

Stephen Chu, MD
Phone: +61 416960333
Email: chuscmi88@gmail.com

Laura Heermann Langford, RN, PhD
Intermountain Healthcare
Phone: +1 801-507-9254
Email: laura.heermann@imail.org

Emma Jones
Allscripts
Phone: +1 919-859-8441
Email: emmanurse@gmail.com

Jay Lyle
U.S. Department of Veterans Affairs
Phone: 727-519-4607
Email: jaylyle@gmail.com

Michelle Miller
Cerner Corporation
Phone: +1 816-201-2010
Email: mmoseman@cerner.com

Michael Padula, MD, MBI
The Children's Hospital of Philadelphia
Phone: +1 215-590-1653
Email: padula@email.chop.edu

Michael Tan
NICTIZ
Phone: +31 7031-73450
Email: tan@nictiz.nl

PATIENT EMPOWERMENT

Dave deBronkart
Health Intersections Pty Ltd
Phone: +61 603459119
Email: dave@epatientdave.com

Virginia Lorenzi
New York-Presbyterian Hospital
Email: vlorenzi@nyp.org

AbdulMalik Shakir
Hi3 Solutions
Email: abdulmalik.shakir@hi3solutions.com

Debi Willis
PatientLink
Phone: +1 405-446-4799
Email: debi@mypatientlink.com

PAYER/PROVIDER INFORMATION EXCHANGE

Durwin Day
Health Care Service Corporation
Phone: +1 312-653-5948
Email: dayd@hcsc.net

Christol Green
Anthem, Inc.
Phone: +1 303-435-6195
Email: christol.green@anthem.com

Russell Ott
Deloitte Consulting LLP
Email: rott@deloitte.com

PHARMACY

Danielle Bancroft
Fred IT Group
Email: daniellekbancroft@gmail.com

Jean Duteau
Duteau Design Inc
Email: jean@duteaudesign.com

John Hatem, RN, MS, MBA, FHL7
Email: jnhatem@hotmail.com

HL7 Work Group Co-Chairs (continued)

Melva Peters
Jenaker Consulting
Phone: +1 604-512-5124
Email: melva@jenakerconsulting.com

Scott Robertson, PharmD, FHL7
Kaiser Permanente
Phone: +1 310-200-0231
Email: scott.m.robertson@kp.org

PROCESS IMPROVEMENT COMMITTEE

Ken Rubin
University of Utah Health Care
Phone: +1 810-587-6092
Email: ken.rubin@utah.edu

Sandra Stuart, FHL7
Kaiser Permanente
Phone: +1 925-519-5735
Email: sandra.stuart@kp.org

PUBLIC HEALTH

Erin Holt, MPH
Tennessee Department of Health
Phone: +1 615-741-3570
Email: erin.holt@tn.gov

Craig Newman
Altarum
Email: craig.newman@altarum.org

Laura Rappleye
Altarum
Email: laura.rappleye@altarum.org

AbdulMalik Shakir
Hi3 Solutions
Email: abdulmalik.shakir@hi3solutions.com

Danny Wise
Allscripts
Phone: +1 919-239-7401
Email: danny.wise@allscripts.com

PUBLISHING, ELECTRONIC SERVICES, AND TOOLS

James Agnew
HL7 Canada / Smile CDR
Email: jamesagnew@gmail.com

Elizabeth Newton
Kaiser Permanente
Phone: 925-997-8150
Email: elizabeth.h.newton@kp.org

Frank Oemig
HL7 Germany
Phone: +49 208-781194
Email: hl7@oemig.de

Brian Pech, MD, MBA, FHL7
Kaiser Permanente
Phone: +1 678-245-1762
Email: brian.pech@kp.org

Andrew Statler
Cerner Corporation
Phone: +1 816-201-3336
Email: andrew.statler@cerner.com

Michael Van der Zel, BSc
HL7 Netherlands
Phone: +31 503619876
Email: m.van.der.zel@umcg.nl

SECURITY

Kathleen Connor, FHL7
U.S. Department of Veterans Affairs
Phone: +1 727-519-4607
Email: kathleen_connor@comcast.net

Alexander Mense
HL7 Austria
Phone: +43 01-1-333-40-77-232
Email: alexander.mense@hl7.at

John Moehrke
By Light Professional IT Services LLC
Phone: +1 920-564-2067
Email: john.moehrke@bylight.com

Chris Shawn
U.S. Department of Veterans Affairs
Phone: +1 518-681-1858
Email: christopher.shawn2@va.gov

Patricia Williams, PhD, MSc
HL7 Australia
Phone: +61 420-306-556
Email: patricia.williams@flinders.edu.au

SERVICES ORIENTED ARCHITECTURE

Jerry Goodnough
Cognitive Medical Systems
Phone: +1 541-338-4911
Email: jgoodnough@
  cognitivemedicine.com

Stefano Lotti
HL7 Italy
Phone: +39 06-42160685
Email: slotti@invitalia.it

Vince McCauley, MBBS, PhD
Telstra Health (Australia)
Phone: +61 298186493
Email: vincem@bigpond.com

Harsh Sharma, B.Eng, MS
HL7 Canada
Phone: +1 416-595-3448
Email: harsh.sharma2@
  albertahealthservices.ca

STANDARDS GOVERNANCE BOARD

Paul Knapp
Knapp Consulting Inc.
Phone: +1 604-987-3313
Email: pknapp@pknapp.com

STRUCTURED DOCUMENTS

Calvin Beebe, FHL7
Mayo Clinic
Email: cbeebe@mayo.edu

Gay Dolin, MSN RN
Namaste Informatics
Email: gdolin@namasteinformatics.com

Benjamin Flessner
Redox
Email: benjamin@redoxengine.com

Austin Kreisler, FHL7
Leidos, Inc.
Phone: +1 706-525-1181
Email: austin.j.kreisler@leidos.com

Sean McIlvenna
Lantana Consulting Group
Phone: +1 802-785-2623
Email: sean.mcilvenna@lantanagroup.com

Russell Ott (INTERIM)
Deloitte Consulting LLP
rott@deloitte.com

Andrew Statler
Cerner Corporation
Phone: +1 816-201-3336
Email: andrew.statler@cerner.com

VOCABULARY

Carmela Couderc
The MITRE Corporation
Phone: +1 703-983-5783
Email: ccourderc@mitre.org

Reuben Daniels
HL7 Australia
Phone: +61 408749769
Email: reuben@saludax.com

Robert Hausam, MD, FHL7
Hausam Consulting, LLC
Phone: +1 801-949-1556
Email: rob@hausamconsulting.com

William Ted Klein, FHL7
Phone: +1 307-883-9739
Email: kci@tklein.com

Caroline Macumber
Clinical Architecture
Phone: +1 317-580-8400
Email: carol_macumber@
  clinicalarchitecture.com

Robert McClure, MD, FHL7
MD Partners, Inc.
Phone: +1 303-926-6771
Email: mcclure@mdpartners.com

HL7 Work Group Facilitators

BIOMEDICAL RESEARCH AND REGULATION

D. Mead Walker, FHL7
Modeling and Methodology
Mead Walker Consulting
Phone: +1 610-518-6259
Email: dmead@comcast.net

Julie James, FHL7
Vocabulary
Blue Wave Informatics
Email: julie_james@
 bluewaveinformatics.co.uk

CLINICAL DECISION SUPPORT

Craig Parker, MD, MS, FHL7
Modeling and Methodology; Publishing
Parexel International
Phone: +1 978-495-4152
Email: craig.parker@parexel.com

Robert McClure, MD, FHL7
Vocabulary
MD Partners, Inc.
Phone: +1 303-926-6771
Email: mcclure@mdpartners.com

CLINICAL GENOMICS

Amnon Shabo, PhD, FHL7
Modeling and Methodology
Philips Healthcare
Email: amnon.shvo@gmail.com

Grant Wood, FHL7
Publishing
Intermountain Healthcare
Phone: +1 801-408-8153
Email: grant.wood@imail.org

Joel Schneider
Vocabulary
National Marrow Donor Program
Phone: +1 763-406-8207
Email: jschneid@nmdp.org

CLINICAL INFORMATION MODELING INITIATIVE

Susan Matney, PhD, RN, FHL7
Vocabulary
Intermountain Healthcare
Email: susan.matney@imail.org

CLINICAL INTEROPERABILITY COUNCIL

AbdulMalik Shakir, FHL7
Modeling and Methodology
Hi3 Solutions
Email: abdulmalik.shakir@
 hi3solutions.com

Amy (Nordo) Cramer, MMCi, RN
Publishing
Pfizer
Email: amy.nordo@pfizer.com

Sarah Ryan
Vocabulary
Email: ryansaraha1@earthlink.net

COMMUNITY-BASED CARE AND PRIVACY

Ioana Singureanu, MSCs, FHL7
Modeling and Methodology; Publishing
U.S. Department of Veterans Affairs
Phone: +1 603-548-5640
Email: ioana.singureanu@
 bookzurman.com

Kathleen Connor, FHL7
Vocabulary
U.S. Department of Veterans Affairs
Phone: +1 727-519-4607
Email: kathleen_connor@comcast.net
DEVICES

Ioana Singureanu, MSCs, FHL7
Modeling and Methodology
U.S. Department of Veterans Affairs
Phone: +1 603-548-5640
Email: Ioana.singureau@bookzurman.com

Todd Cooper
Vocabulary
OR.NET
Email: todd@ornet.org

Christof Gessner
Vocabulary
HL7 Germany
Phone: +49 172-3994033
Email: christof.gessner@gematik.de

ELECTRONIC HEALTH RECORDS

Corey Spears
Modeling and Methodology
Infor
Phone: +1 917-426-7397
Email: corey.spears@infor.com

John Ritter, FHL7
Publishing
Phone: +1 412-372-5783
Email: johnritter1@verizon.net

EMERGENCY CARE

Kevin Coonan, MD
Modeling and Methodology
Email: kevin.coonan@gmail.com

FINANCIAL MANAGEMENT

Kathleen Connor, FHL7
Modeling and Methodology; Vocabulary
U.S. Department of Veterans Affairs
Phone: +1 727-519-4607
Email: kathleen_connor@comcast.net

Beat Heggli, FHL7
Modeling and Methodology; Publishing
HL7 Switzerland
Phone: +41 44-297-5737
Email: beat.heggli@netcetera.com

Mary Kay McDaniel
Publishing; Vocabulary
Cognosante, LLC
Email: marykay.mcdaniel@
 cognosante.com

The HL7 FHIR Accelerators

http://www.hl7.org/about/fhir-accelerator

HL7 Work Group Facilitators

IMAGING INTEGRATION

Elliot Silver, MSc
Vocabulary
Argentix Informatics
Phone: +1 604-765-6068
Email: elliot@argentixinfo.com

INFRASTRUCTURE AND MESSAGING

Grahame Grieve, FHL7
Modeling and Methodology
Health Intersections Pty Ltd./Health Level
  Seven International
Email: grahame@healthintersections.com.
  au / grahame@HL7.org

Anthony Julian, FHL7
Publishing
Mayo Clinic
Phone: +1 507-293-8384
Email: ajulian@mayo.edu

Sandra Stuart, FHL7
Vocabulary
Kaiser Permanente
Phone: +1 925-519-5735
Email: sandra.stuart@kp.org

MODELING AND METHODOLOGY

AbdulMalik Shakir, FHL7
Modeling and Methodology
Hi3 Solutions
Email: abdulmalik.shakir@
  hi3solutions.com

William Ted Klein, FHL7
Vocabulary
Phone: +1 307-883-9739
Email: kci@tklein.com

ORDERS AND OBSERVATIONS

Patrick Loyd, FHL7
Modeling and Methodology
Email: patrick.e.loyd@gmail.com

Lorraine Constable
Publishing
HL7 Canada
Phone: +1 780-951-4853
Email: lorraine@constable.ca

Robert Hausam, MD, FHL7
Vocabulary
Hausam Consulting LLC
Phone: +1 801-949-1556
Email: rob@hausamconsulting.com

PATIENT ADMINISTRATION

Alexander Henket
Modeling and Methodology; Publishing
NICTIZ
Phone: +31 7031-73450
Email: henket@nictiz.nl

Wendy Huang
Vocabulary
Email: wendyyjhuang@gmail.com

PATIENT CARE

Jean Duteau
Modeling and Methodology
Duteau Design Inc.
Email: jean@duteaudesign.com

Susan Matney, PhD, RN, FHL7
Vocabulary
Intermountain Healthcare
Email: susan.matney@imail.org

PHARMACY

Jean Duteau
Modeling and Methodology
Duteau Design Inc.
Email: jean@duteaudesign.com

Scott Robertson, PharmD, FHL7
Publishing
Kaiser Permanente
Phone: +1 310-200-0231
Email: scott.m.robertson@kp.org

Julie James, FHL7
Vocabulary
Blue Wave Informatics
Email: julie_james@
  bluewaveinformatics.co.uk

PUBLIC HEALTH

Joginder Madra
Modeling and Methodology
Madra Consulting Inc.
Phone: +1 780-717-4295
Email: hl7@madraconsulting.com

Jean Duteau
Publishing
Duteau Design Inc.
Email: jean@duteaudesign.com

Sunanda McGarvey, BS
Vocabulary
Northrop Grumman Technology Services
Phone: +1 404-679-9384
Email: sunanda.mcgarvey@ngc.com
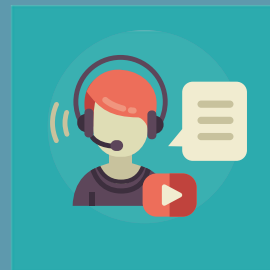
Watch the HL7 website for upcoming HL7 online classes!
See more details at:
www.hl7.org/events/ webinars.cfm

SECURITY

Mike Davis, FHL7
Publishing
U.S. Department of Veterans Affairs
Phone: +1 760-632-0294
Email: mike.davis@va.gov

Kathleen Connor, FHL7
Vocabulary
U.S. Department of Veterans Affairs
Phone: +1 727-519-4607
Email: kathleen_connor@comcast.net

STRUCTURED DOCUMENTS

Austin Kreisler, FHL7
Modeling and Methodology
Leidos, Inc.
Phone: +1 706-525-1181
Email: austin.j.kreisler@leidos.com

Sheila Abner, PhD
Vocabulary
Centers for Disease Control and
  Prevention/CDC
Phone: +1 470-344-2864
Email: sha8@cdc.gov

VOCABULARY

William Ted Klein, FHL7
Modeling and Methodology
Phone: +1 307-883-9739
Email: kci@tklein.com

HL7 ARGENTINA
Fernando Campos, FHL7
Email: fernando.campos@
   hospitalitaliano.org.ar

HL7 AUSTRALIA
Jason Steen
Phone: +61 488881882
Email: jason@hl7.sydney

HL7 AUSTRIA
Stefan Sabutsch
Phone: +43 664-3132505
Email: stefan.sabutsch@hl7.at

HL7 BELGIUM
Jose Costa Teixeira
Phone: +32 468-215-828
Email: jose.a.teixeira@gmail.com

HL7 BOSNIA & HERZEGOVINA
Samir Dedovic
Phone: +387 0-33-721-911
Email: samir.dedovic@medit.ba

HL7 BRAZIL
Guilherme Zwicker Rocha, MD
Phone: +55 11986592080
Email: guilherme.zwicker@gmail.com

HL7 CANADA
Ron Parker
Email: ron@parkerdhc.com

HL7 CHILE
César Galindo, Msc
Phone: +56 2-29789664
Email: chair@HL7Chile.cl

HL7 CHINA
Haiyi Liu
Phone: +86 010-65815129
Email: liuhaiyi@mail.tsinghua.edu.cn

HL7 CROATIA
Miroslav Koncar
Phone: +385 99-321-2253
Email: chair@HL7.hr

HL7 CZECH REPUBLIC
Libor Seidl
Phone: +420 605740492
Email: seidl@HL7cr.eu

HL7 DENMARK
Jens Villadsen MSc
Phone: +45 39966101
Email: jenskristianvilladsen@gmail.com

HL7 FINLAND
Jari Porrasmaa
Email: jari.porrasmaa@ksshp.fi

HL7 FRANCE
Jean-Christophe Cauvin
Phone: +33 786-160-591
Email: jean-christophe.
   cauvin@dedalus.eu

HL7 GERMANY
Sylvia Thun
Phone: +49 221-4724-344
Email: chair@HL7.de

HL7 GREECE
Alexander Berler
Phone: +30 2111001691
Email: a.berler@gnomon.com.gr

HL7 HONG KONG
Chun-Por Wong
Phone: +852 3488-3762
Email: chair@HL7.org.hk

HL7 INDIA
Chandil Gunashekara
Phone: +91 80-2973-8025
Email: chairman@HL7india.org

HL7 ITALY
Giorgio Cangioli
Email: giorgio.cangioli@gmail.com

HL7 JAPAN
Michio Kimura, MD, PhD
Phone: +81 53-435-2770
Email: kimura@mi.hama-med.ac.jp

HL7 KOREA
Byoung-Kee Yi, PhD
Phone: +82 234101944
Email: byoungkeeyi@gmail.com

HL7 NETHERLANDS
Rob Mulders
Email: rob@fire.ly

HL7 NEW ZEALAND
Peter Jordan, MSc, LLB
Phone: +64 21-758834
Email: pkjordan@xtra.co.nz

HL7 NORWAY
Line Saele
Phone: +47 9592-5357
Email: line.sele@gmail.com

HL7 PAKISTAN
Sharifullah Khan, PhD
Email: sharifullah.khan@seecs.edu.pk

HL7 PHILIPPINES
Michael Hussin Muin, MD
Phone: +63 9285543435
Email: mikemuin@gmail.com

HL7 POLAND
Roman Radomski, MD, MBA
Phone: +48 605-404-363
Email: radomski@iehr.eu

HL7 PORTUGAL
Paulo Alves
Email: paulo.alves@hl7.pt

HL7 ROMANIA
Florica Moldoveanu
Phone: +40 21-4115781
Email: florica.moldoveanu@cs.pub.ro

HL7 RUSSIA
Sergey Shvyrev, MD, PhD
Phone: +7 495-434-55-82
Email: sergey.shvyrev@gmail.com

HL7 SAUDI ARABIA
Abdullah Alsharqi
Phone: +966 11-2021555
Email: a.alshrqi@cchi.gov.sa

HL7 SINGAPORE
Adam Chee
Email: adam@enabler.xyz

HL7 SLOVENIA
Brane Leskosek EE, PhD
Phone: +386 543-7775
Email: brane.leskosek@mf.uni-lj.si

HL7 SPAIN
Francisco Perez, FHL7
Phone: +34 637208657
Email: fperezfernan@gmail.com

HL7 SWEDEN
Mikael Wintell
Phone: +46 736-254831
Email: mikael.wintell@vgregion.se

HL7 SWITZERLAND
Roeland Luykx, PhD
Phone: +41 71-279-11-89
Email: roeland.luykx@arpage.ch

HL7 TAIWAN
Yu-Ting Yeh
Phone: +886 2-2552-6990
Email: yuting@tmu.edu.tw

HL7 UAE
Osama Elhassan, PhD
Phone: +971 50-883-9916
Email: Osama.elhassan@
   gccehealth.org

HL7 UK
Ben McAlister
Email: chair@HL7.org.uk

HL7 UKRAINE
Leonid Stoyanov
Phone: +380 443336829
Email: leo@hl7.org.ua

2021 HL7 Staff

Chief Executive Officer

Charles Jaffe, MD PhD
+1 858-720-8200
cjaffe@HL7.org

Chief Technology Officer

Wayne Kubick
+1 847-842-1846
wkubick@HL7.org

Executive Director

Mark McDougall
+1 734-677-7777 x103
markmcd@HL7.org

Associate Executive Director

Karen Van Hentenryck
+1 313-550-2073
karenvan@HL7.org

Director of Education

Sadhana Alangar, PhD
+1 734-677-7777 x116
sadhana@HL7.org

Director of Meetings

Mary Ann Boyle
+1 734-677-7777 x141
maryann@HL7.org

Systems Administrator

Bryn Evans
+1 734-677-7777 x107
bryn@HL7.org

FHIR Product Director

Grahame Grieve
+1 734-677-7777
grahame@HL7.org

Director of Marketing

Patricia Guerra
+1-773-516-0943
patricia@HL7.org

Director, Project Management Office

Dave Hamill
+1 734-677-7777 x142
dhamill@HL7.org

Director of Membership & Administrative Services
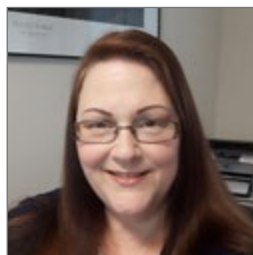
Linda Jenkins
+1 734-677-7777 x170
linda@HL7.org

Director of Technical Publications
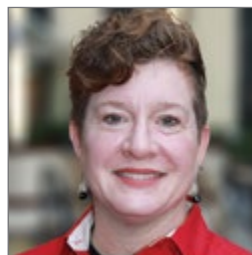
Lynn Laakso, MPA
+1 906-361-5966
lynn@HL7.org

Web Developer
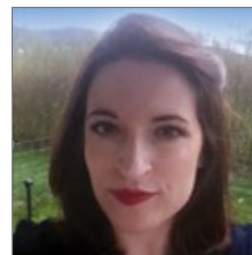
Laura Mitter
+1 740-963-9839
laura@HL7.org

Applications Manager
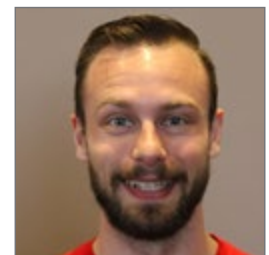
Joshua Procious
+1 231-220-3129
joshua@HL7.org

Director of Communications
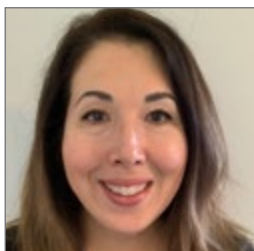
Andrea Ribick
+1 734-726-0289
andrea@HL7.org

Accounting Manager

Theresa Schenk, CPA
+1 734-677-7777 x106
theresa@HL7.org

Director of Technical Services & Webmaster

Eric Schmitt
eric@HL7.org

Education Marketing Manager
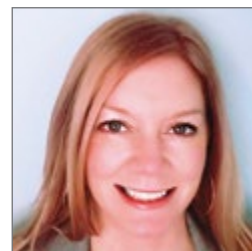
Melinda Stewart
+1 248-755-3548
melinda@HL7.org

HL7 Project Manager

Anne Wizauer
+1 734-677-7777 x112
anne@HL7.org

2021 HL7 Board of Directors

BOARD CHAIR

Walter Suarez, MD, MPH
Kaiser Permanente
+1 301-801-3207
walter.g.suarez@kp.org

CHAIR-ELECT

Andrew Truscott
Accenture
+1 713-855-8402
andrew.j.truscott@accenture.com

BOARD SECRETARY

Virginia Lorenzi
New York Presbyterian
Hospital
+1 516-316-2560
vlorenzi@nyp.org

BOARD TREASURER

Floyd Eisenberg, MD
iParsimony LLC
+1 202-643-6350
feisenberg@iparsimony.com

CHAIR EMERITUS

W. Edward Hammond, PhD, FHL7
Duke Clinical & Translational
Science Institute
+1 919-668-2408
william.hammond@duke.edu

APPOINTED DIRECTORS
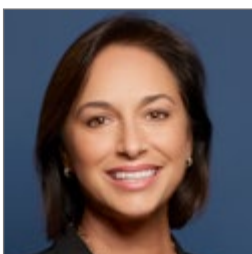
Karen DeSalvo, MD
Google
+1 504-957-7094
karendesalvo@google.com

Carolyn Petersen, MS, MBI
Mayo Clinic
+1 507-266-2086
petersen.carolyn@mayo.edu

Micky Tripathi
Arcadia.io
+1 781-434-7905
micky.tripathi@arcadia.io

AFFILIATE DIRECTORS

Diego Kaminker
HL7 Argentina
+54 11-4781-2898
kaminker.diego@gmail.com

Peter Jordan
HL7 New Zealand
+64 21-758834
pkjordan@xtra.co.nz

TSC CHAIR

Austin Kreisler, FHL7
Leidos, Inc.
+1 706-525-1181
austin.j.kreisler@leidos.com

DIRECTORS-AT-LARGE

Viet Nguyen, MD
Stratametrics, LLC
+1 801-707-6225
vietnguyen@stratametrics.com

**Lenel James**
+1 312-297-5962
lenel.james@bcbsa.com

Janet Marchibroda
Alliance for Cell Therapy Now
jmarchibroa@
allianceforcelltherapynow.org

Julia Skapik, MD
National Assoc. of Community
Health Centers
jskapik@nahc.org

NON-VOTING MEMBERS

Charles Jaffe, MD, PhD
HL7 CEO
+1 858-720-8200
cjaffe@HL7.org

Wayne Kubick
HL7 CTO
+1 847-842-1846
wkubick@HL7.org

Mark McDougall
HL7 Executive Director
+1 734-677-7777 x103
markmcd@HL7.org

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		Starts	Ends
HL7 Fundamentals	Self-Paced	2/11/21	5/6/21
Applied FHIR for Designers	Online	2/16/21	2/18/21
HL7 FHIR Intermediate	Self-Paced	2/18/21	4/1/21
FHIR Proficiency Exam Review	Self-Paced	3/4/21	4/1/21
Clinical Quality Language (CQL)	Online	3/30/21	4/1/21
HL7 FHIR Fundamentals	Self-Paced	4/1/21	4/29/21
HL7 FHIR Bootcamp	Online	4/13/21	4/15/21
Overview of Interoperability	Online	4/21/21	4/22/21
FHIR for Software Developers	Online	5/4/21	5/6/21
V2 Advanced	Self-Paced	5/6/21	6/17/21
Whirlwind Tour of FHIR Resources	Online	5/12/21	5/13/21
HL7 FHIR Connectathon	Online Event	5/17/21	5/19/21
HL7 Fundamentals	Self-Paced	5/27/21	8/19/21
HL7 FHIR Intermediate	Self-Paced	6/3/21	7/15/21
HL7 FHIR DevDays	Online Event	6/7/21	6/10/21
FHIR Proficiency Exam Review	Self-Paced	6/16/21	7/15/21
SMART on FHIR & CDS Hooks	Online	6/22/21	6/24/21
FHIR Security & Privacy	Online	7/13/21	7/15/21
HL7 FHIR Fundamentals	Self-Paced	7/15/21	8/12/21
HL7 FHIR Bootcamp	Online Event	7/20/21	7/22/21
C-CDA & C-CDA on FHIR	Online	8/3/21	8/5/21
Mapping V2 to FHIR	Online	8/17/21	8/18/21
HL7 FHIR Connectathon	Online Event	9/8/21	9/10/21
HL7 Fundamentals	Self-Paced	9/9/21	12/2/21
HL7 FHIR Intermediate	Self-Paced	9/16/21	10/28/21
FHIR Proficiency Exam Review	Online	9/30/21	10/28/21
Clinical Quality & Decision Support on FHIR	Online	10/5/21	10/7/21
FHIR Profiling	Online	10/19/21	10/21/21
FHIR for Healthcare Information	Online	10/23/21	10/24/21
FHIR Fundamentals	Online	10/28/21	11/25/21
Applied Questionnaire and Data Capture	Online	11/2/21	11/4/21
HL7 FHIR Bootcamp	Online Event	11/9/21	11/11/21
FHIR Terminology	Online	11/30/21	12/2/21
HAPI FHIR	Online	12/7/21	12/9/21

Schedule subject to change

HL7 International — 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

2021

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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