Getting the job done with the
HL7 Volunteer Community

PLUS:

VULCAN Connectathon

DaVinci Takes on Prior Authorization
and Exchanging Data for
Value-Based Care

Number of Use Cases
Increasing in CodeX

INSIDE: HL7 NAMES THREE AS
2022 VOLUNTEERS OF THE YEAR

CANGIOLI   MACUMBER   MCDANIELS

In This Issue

Highlights from Baltimore
Update from Headquarters

After three years of producing virtual working group meetings, we were thrilled to see so many friends and colleagues at our September FHIR Connectathon, Plenary, and Working Group Meeting in Baltimore. It was wonderful to get the HL7 community back together in person again. Highlights of our recent activities are as follows.

36th Annual Plenary & Working Group Meeting

The 36th Annual Plenary, WGM and FHIR Connectathon were held at the Renaissance Harbor Place Hotel in Baltimore, Maryland. The plenary and WGM attracted 582 attendees while the FHIR connectathon attracted 312 participants.

The plenary meeting featured several exceptional presentations starting with three keynote presentations and concluding with a panel presentation. The theme of the meeting was: *A Global Healthcare Ecosystem to Meet the Needs of the Next Pandemic.*

The outstanding keynote presentations were provided by:

Keynote 1 **Rockefeller Foundation**	*Sam Scarpino, PhD* Vice President, Pathogen Surveillance, Pandemic Prevention Institute
Keynote 2 **Research in Public Health**	*Christopher Chute, MD, PhD, DrPH, MPH* Bloomberg Distinguished Professor of Health Informatics, Professor of Medicine and Chief Research Information Officer, Johns Hopkins University
Keynote 3 **Pan American Health Organization (PAHO)**	*Marcelo D'Agostino* Senior Advisor, Information Systems and Digital Health, Department of Evidence and Intelligence for Action in Health, Pan American Health Organization/WHO Washington, DC

Following the keynote presentations, Ron Parker, Chair of HL7 Canada, and Co-Chair of HL7 International Council, moderated a panel focused on Preparing for the Next Pandemic. The panelists included:

Peter Jordan
Chair, HL7 New Zealand; Affiliate Director, HL7 International Board of Directors

Steven Waynee Macharia
President-Elect, Health Informatics in Africa (HELINA)

Marc Hsu
Chair, HL7 Taiwan

By Mark McDougall,
HL7 International Executive Director

Meeting Sponsors

We are pleased to recognize these companies that sponsored key components of our 36th annual Plenary and Working Group Meeting:

iNTERFACEWARE—Bronze Sponsor

REDOX—Supporting Sponsor

WEDI—Collaborating Sponsor

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

Office of the National Coordinator for Health Information Technology—Event Sponsor

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

Benefactors and Supporters

We are thrilled to continue to attract impressive numbers of HL7 benefactors and gold members, who are listed on page 29. Their support of HL7 is very much needed and sincerely appreciated. Representatives from these organizations are pictured on page 7. A special thank you is extended to those firms that represent our 2022 HL7 benefactors and gold members.

Organizational Member Firms

Please see pages 29-31, for a list of HL7's organizational member firms. We sincerely appreciate their ongoing support of HL7 via their organizational membership dues.

Scenes from the September 2022 WGM in Baltimore, Maryland

Scenes from the September 2022 WGM in Baltimore, Maryland

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. Julia Skapik, MD, will serve as the Vice Chair of the Board for calendar year 2023 and then will serve a two-year term as the Chair of the HL7 Board of Directors for 2024 and 2025. The other new Board members will serve two-year terms from January 2023 through December 2024. The recent HL7 Board election results are as follows:

Chair-Elect of the Board:

Julia Skapik, MD

Chief Medical Information Officer, National Association of Community Health Centers

Secretary of the Board:

Virginia Lorenzi, FHL7

Senior Technical Architect, HIT Standards, New York-Presbyterian Hospital

Director:

Lenel James, FHL7

Business Lead, Health Information Exchange and Innovation, Blue Cross Blue Shield Association

Director:

Ken Rubin

Senior Advisor, Standards and Interoperability, CIDMO, U.S. Department of Veterans Affairs

Affiliate Director:

Ron Parker

Chair, HL7 Canada; Giorgio Cangioli, PhD, Vice Chair, HL7 Italy; Technical Lead, HL7 Europe; and Line Saele, Chair, HL7 Norway; Enterprise Architect, Norwegian Institute of Public Health

Catherine Chronaki will also serve on the HL7 Board as a Director for 2023, filling the second-year vacancy of Julia Skapik's Director seat on the Board.

Director:

Catherine Chronaki

Secretary General, HL7 Europe and President, European Federation for Medical Informatics

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

HL7 Technical Steering Committee Elections

Those elected to the HL7 technical steering committee for the 2023-2024 term:

TSC Affiliate Representative:

Christof Gessner

Member, HL7 Germany

TSC Implementer Representative:

James Agnew

Chief Technology Officer, Smile Digital Health

Work Group Representative:

Brian Pech,MD

Consultant, Kaiser Permanente

Work Group Representative:

Juliet Rubini

Senior Advisor, Healthcare Standards, ICF

HL7 International Council Co-Chairs Elections

Two members were elected as the co-chairs of the HL7 International Council for the 2023-2024 term:

HL7 International Council Co-Chair:

Line Saele

Chair, HL7 Norway; Enterprise Architect, Norwegian Institute of Public Health

HL7 International Council Co-Chair:

Fernando Campos, FHL7

Chair, HL7 Argentina; Software Engineering Area Chief, Health Informatics Department, Hospital Italiano de Buenos Aires

Update from Headquarters

HL7 Fellows Class of 2022

The John Quinn HL7 Fellowship Award was presented to nine individuals during HL7's 36th Annual Plenary and Working Group Meeting. The award recognizes HL7 members with at least 15 years of active membership as well as outstanding service, commitment, and contributions to HL7. This year, the award name was officially changed in memory of HL7 founding member John Quinn, who served as the organization's second board chair, the long-time chair of the Technical Steering Committee and the first chief technology officer.

Davera Gabriel
Senior Research Terminologist, Johns Hopkins University School of Medicine

Rick Geimer
Chief Innovation Officer, Lantana Consulting Group

Laura Heermann Langford, Ph.D., R.N.
Nursing Informatics, Graphite Health Inc.; Chief Operating Officer, Logica

Jay Lyle
Health Systems Standards Specialist, JP Systems

Alexander Mense
Head of Faculty, Computer Science, University of Applied Sciences Technikum Wien

Ulrike (Riki) Merrick, M.P.H.
Lead Specialist in Informatics Terminology, Association of Public Health Laboratories (APHL), and Public Health information Specialist, Vernetzt

Stefan Sabutsch
Chair, HL7 Austria; Team Leader, Standards and Usability, ELGA GmbH

Philip Scott, Ph.D.
Board Member, HL7 UK; Program Director, University of Wales Trinity Saint David

Andrew Truscott
Board Chair, HL7 International; Global Health Technology Lead, Accenture

Volunteers of the Year

We were pleased to recognize three incredible volunteers for their dedicated service to HL7. This year marks the 25th year that we have recognized such individuals via the W. Ed Hammond, PhD HL7 Volunteer of the Year Awards. 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 serving as HL7 Board Chair for three terms. The recipients of the 2022 HL7 Volunteer of the Year Awards included:

Giorgio Cangioli, PhD
Vice Chair, HL7 Italy; Technical Lead, HL7 Europe

Carol Macumber
Executive Vice President, Clinical Architecture

Mary Kay McDaniel
Independent Healthcare Data Standards Consultant

We are honored to recognize Giorgio, Carol and Mary Kay as exceptionally dedicated individuals who have made significant contributions on many fronts, including in specific HL7 work groups and throughout the larger HL7 global organization. Their efforts and contributions are sincerely appreciated, and this recognition is well-deserved. Please see the article on pages 8 and 9 to read more about the impressive contributions that these dedicated volunteers have made to HL7.

In Closing

The global pandemic has certainly changed our lives. Hopefully we are all taking more time to treasure our moments with those we love. Best wishes to enjoying more laughter, along with giving more thanks and hugs.

Mark C. McDougall

HL7 Benefactor Members

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AMA AMERICAN MEDICAL ASSOCIATION

AmeriHealth Caritas

aws healthcare

CDC CENTERS FOR DISEASE CONTROL AND PREVENTION

Cerner

CVSHealth

Duke Clinical & Translational Science Institute

edifecs

EUROPEAN MEDICINES AGENCY SCIENCE MEDICINES HEALTH

Epic

FDA U.S. FOOD & DRUG ADMINISTRATION

FEDERAL ELECTRONIC HEALTH RECORD MODERNIZATION

Google Cloud

Health IT.gov

Independence

Intermountain Healthcare

InterSystems Health | Business | Government

KAISER PERMANENTE

MAK-SYSTEM INTERNATIONAL GROUP

MuleSoft

onyx

OPTUM

ORACLE

PARTNERS HEALTHCARE

Pfizer

PHILIPS

Quest Diagnostics

READYCOMPUTING

United Healthcare

VA | U.S. Department of Veterans Affairs

Congratulations to the 2022 Recipients

HL7 Names Three Volunteers of the Year for 2022

HL7 announced the 2022 recipients of the W. Edward Hammond, Ph.D. Volunteer of the Year Awards during its annual business meeting at the 36th Annual Plenary and Working Group Meeting in Baltimore, MD on September 21, 2022. 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. The 2022 recipients include:

Carol Macumber, Dr. Ed Hammond, and Giorgio Cangioli celebrate the Volunteers of the Year for 2022 awards.

- *Giorgio Cangioli, Ph.D.*, Vice Chair, HL7 Italy; Technical Lead, HL7 Europe

- *Carol Macumber,* Executive Vice President, Clinical Architecture

- *Mary Kay McDaniel*, Independent Health Care Data Standards Consultant

About the Volunteers:

Giorgio Cangioli has been an active member of HL7 Italy for sixteen years and has worked as a consultant since 1999 for non-profit organizations and governmental agencies. He provides coaching and learning services about modelling, methodologies, and standards applied to the health and social care. Cangioli currently serves as the technical lead for HL7 Europe and as the vice chair of the HL7 Italy affiliate. As Technical lead for HL7 Europe he has contributed to set up the HL7 Europe Technical Coordination Team (TNT) and developed the Hospitals on FHIR initiative, enabling hospitals to be ready to share data and join the European Health Data Space. He has also participated in the European eHealth Digital Infrastructure and has been a driver of change for digital health interoperability in Europe. In addition, Cangioli has been involved in several European, national, and regional digital health initiatives. He has led the Clinical and Semantic Experts Group in the European Patient Smart Open Services (epSOS) initiative as well as several eHealth EU projects. Cangioli is a co-author and co-leader of the International Patient Summary (IPS) and a co-leader of the FAIRness for FHIR project at HL7 International. Finally, he has served several additional leadership roles including the following: International Affiliate Representative to the HL7 Technical Steering Committee (2012; 2014-2015, 2019-231); international stakeholder to the HL7 CDA Management Group; member of the Affiliate Due Diligence Committee (ADDC) and of the Re-envisioning HL7 Affiliates task group.

Carol Macumber has participated in HL7 for nearly twenty years and has been a member for the past decade. She is the executive vice president at Clinical Architecture where she is directly responsible for leading and evolving the professional services team. Macumber brings over 20 years of experience spanning across project management, enterprise software development and maintenance, and consulting. Her experience includes deploying terminology authoring tools at Canada Health Infoway, Canada's National Release Center for SNOMED CT, and Terminology Asset Management and capacity building for the Philippine Department of Health. She currently serves as a co-chair for both the HL7 Vocabulary Work Group and Terminology Services Management Group. Macumber led efforts via the HL7 Terminology Authority to establish policies and processes to ensure the appropriate use of external code and identifier systems across HL7 products. She also headed the TSC task force to establish the long awaited and needed policy and process for validating and requesting external code and identifier system identifiers. In addition, she has acted as a leader of the Gender Harmony Project over the past three years, successfully gathering a diverse global community of people from within and outside of HL7 to create a model to address sex and gender health equity for the LGBTQA+ population, as well as provide clarity for, and solving the issues related to, sex and gender data related data. The team includes patient advocates, and representatives from EHR vendors, professional societies, payers, health IT consultants, Regenstrief, Australia, multiple US government agencies, researchers, health systems, standards organizations and HL7 work groups.
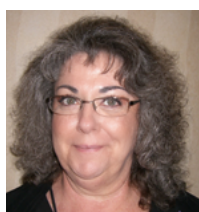
Mary Kay McDaniel has been a member of HL7 for sixteen years. She is currently an independent health care data standards consultant and previously served for 10 years as the principal and senior advisor for health data standards at Cognosante. worked tirelessly to move administrative standards forward toward greater interoperability. McDaniel has provided expertise, knowledge, and skills for several Medicaid Programs projects, including large IT system implementations. She also has extensive experience providing business analysis, benefit configuration, and EDI management and system implementation support for a large Medicaid managed care plan.McDaniel is a long-time co-chair of the HL7 Financial Management Work Group. She has been integral in bridging X12 and HL7 standards for HL7 FHIR Accelerators such as the Da Vinci Project and CARIN Alliance due to her keen understanding of health financial business and major US federal health programs including Medicare, Medicaid, State Exchanges, and VHA as well as state Medicaid programs. McDaniel has led the mapping of X12 and HL7's Fast Healthcare Interoperability Resources (FHIR) as well as modeling entirely new transactions such as the FHIR Price Cost Transparency Implementation Guide for advanced explanation of benefits (EOBs).

HL7 Standards Published Since September 2022

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Reaffirmation publication of HL7 Version 3 Standard: Transport Specification ⁻ebXML Using eb MS2.0, Release 1

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

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

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

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

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

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

HL7 International

Newly Certified HL7 Specialists

Congratulations to the following people who recently passed an HL7 Certification Exam!

HL7 FHIR R4 Proficient Certified

SEPTEMBER 2022

Kelsey Hales
Stefan Csomor
Ruhidas Sarkar
Tom Richter

OCTOBER 2022

Amadou Tall
John Fernandes
Vidhi Agarwal
Sayam Krishna Yadav
Samuel Arabome
Moataz Aamer
Prashanth Koval
Gaurav Pradhan
Wylem Bars

NOVEMBER 2022

Thanaphop Na Nakhonphanom
Teerapat Saengthongpitag
Shakira Irfaan
Natdanai Thaipipat

Certified HL7 Version 2.x Chapter 2 Control Specialist

SEPTEMBER 2022

Juan Ortega Martín
Kirk Robinson
Mythili Andal Sadagopan
Rutuparna Pattanayak

OCTOBER 2022

Mohd Azruddin Hussain
Prasad Chachad
Giri Prasad
Devashri Mankar

WELL DONE

Achieve Industry-recognized expertise with HL7 V2, CDA® and FHIR® Certification

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Increase your career opportunities and stand out from the crowd by becoming HL7 certified! With online instruction from the fundamentals to deep dives to exam prep, HL7 will help you gain the knowledge needed for certification.

"Even if you are already working with CDA or FHIR, certification will help you learn a ton of stuff that you didn't know."

– Sarah Gaunt, Senior Information Analyst / Health Informatician, Lantana Consulting Group

Learn more! Go to:

https://www.hl7.org/certification/index.cfm

HL7 International

HL7 Internal Projects and ONC Grant-Funded Projects

News from the HL7 Project Management Office

Fonteva: The New Meetings and Membership Software System

On November 1, HL7 implemented Fonteva, a leading association management and membership software solution powered by Salesforce.

We thank everyone for their patience as staff and users learned to navigate the new system. Account and membership information were migrated to the new platform; however historical event and education training registrations were not.

If you encounter any issues or have questions, feel free to email *HelpDesk@HL7.org*.

ONC Grant Funded Projects Update

While September 2022 ended a five-year Cooperative Agreement with Office of the National Coordinator for Health IT (ONC) which awarded $1.36 million to HL7 each year for continued maturation of the Consolidated Clinical Document Architecture (C-CDA) and Fast Healthcare Integrated Resources (FHIR) standards, we're happy to announce that a new five-year Cooperative Agreement was awarded to HL7 beginning in September 2023. For fiscal year 2023, this new agreement once again awards HL7 $1.36 million to work on the following three goals and their respective efforts:

Goal 1: Facilitate ongoing development and publication of HL7 standards for the benefit of the general public by the following:

- Develop an implementation plan including objectives, strategies, and approaches
- Identify and address areas for optimizing participation from the HL7 community
- International Patient Summary (IPS) specification development
- Monitor and identify interoperability needs and priorities
- Develop best practice guides
- Develop example (open) data sets for HL7 specifications
- Promote use and dissemination of test cases

- Promote and support development and deployment of reference implementation software for HL7 specifications
- Enhance C-CDA authoring and web-publication tooling
- Enhance FHIR specification for Release 5 (R5) ballot and publication

Goal 2: Enhance the underlying HL7 tools and infrastructure necessary to support effective implementation and use HL7 standards as follows:

- Integration of additional HL7 community apps via single sign on
- Enhance registry.fhir.org based on user feedback and HL7-ONC prioritization
- Curating C-CDA and FHIR ecosystem terminology
- Produce and publish the 2023 C-CDA Value Set Release Package
- Enhance FHIR build and IG publishing infrastructure
- Enhance FHIR Bulk Data Tool Suite and support Connectathon testing

Goal 3: Empower the HL7 standards development community with the following:

- Convene C-CDA Implementation-a-Thon (IAT) events
- Convene virtual event on open data for HL7 standards
- Implementation Guide (IG) Author Toolkit and Program
- Develop best practice methodology to advance continuous FHIR testing

In addition to the above, work progressed on two additional COVID related ONC grant-funded opportunities for HL7:

A four-year $2 million cooperative agreement titled "HL7 Public Health Standards and Solutions for Future Pandemics". Projects under this endeavor include the following:

- 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 by assessing available open-source natural language processing (NLP) tools which unlock high-value information contained in the text of clinical notes

- Testing of the Gravity SDOH Clinical Care GHIR Implementation Guide

- Gravity SDOH Clinical Care FHIR Implementation Guide Standard for Trial Use 2 Publication

- Gravity Pilots Affinity Group Support

- Analyze and document which HL7 Version 2 (V2) messaging standards or FHIR IGs, resources and profiles can be used to support submission of test results from at-home COVID testing applications to state and federal government agencies (Complete)

- Support development, advancement, and harmonization of Social Determinants of Health (SDOH) standards by analyzing the current state and emerging activities of SDOH related data (Complete)

- Expanding the clinical domains supported by HL7 standards by balloting the COVID-19 FHIR Profile Library Implementation Guide (Complete)

- Improve the privacy and security of health information by examining the current landscape of relevant security, privacy and public health standards (Complete)

- Advance HL7 Public Health Standards by developing and publishing a Physician Orders for Life-Sustaining Treatment (POLST) CDA Implementation Guide (Complete)

The five-year $3.5 million contract "COVID-19 support for Accelerating Standards Development for the US Realm"; projects under this effort include the following:

- Ballot, reconcile and publish updates to HL7's US Core Implementation Guide

- Financial support for the US Realm Steering Committee (USRSC) Project Manager, Senior Advisor, Content Administrator and Dashboard Developer

- Fund Helios, the HL7 FHIR Accelerator for Public Health

The objectives of this federal contract are:

- 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

Progress for all of the above ONC work can be found on HL7's Confluence page at:

https://confluence.hl7.org/display/PMO/ ONC+Grant+Project+Page.

HL7 appreciates ONC's continued support of C-CDA and FHIR since 2016. ∎

By Dave Hamill, Director, HL7 Project Management Office

Progress for all of the above ONC work can be found on HL7's Confluence page at: *https://confluence.hl7.org/display/PMO/ONC+Grant+Project+Page*

HL7 appreciates ONC's continued support of C-CDA and FHIR for 2022 and beyond.

Connectathon 31 Implementer Experiences with Vulcan

After five virtual events Vulcan had four connectathon tracks at the in-person September event and for many of the attendees it was a great experience. The pictures capture a little of the intensity of discussion and development that went on as the tracks worked to develop their ideas. ■

Phenotypic Data

Vulcan has introduced industry leaders and vendors to HL7 and is engaging new academic medical centers who may be potential implementers. It is also one of the first national or international initiatives to bring the industry, academic and government agencies together to address research interoperability on a large scale.

Anita Walden -Oregon Health & Science University

Electronic Product Information

The connectathon was a great opportunity for our project team to collaborate in person. Together, we were able to develop a proposed method for tracking interactions (e.g., drug-drug) using drug product labelling, the International Patient Summary, and eHealth apps.

Craig Anderson, Pfizer

Schedule of Activities
The in-person Connectathon allowed us to socialize our work, leverage others' examples (CQI and CCDA on FHIR) and progress the Vulcan Schedule of Activities work. The other groups provided "discharge summaries" we posted on a research subject and then retrieved as an "unscheduled event."

Rebecca Baker, CDISC

Real World Data

Being able to connect with the Vulcan RWD team in person made it possible for us to build out implementations of our IG in real time. The energy in the room, from everyone working together, meant that we were able to make rapid progress with synthetic data creation and IG implementation work - allowing us to really dig into the details of how FHIR resources in an EHR can be used for clinical research objectives.

Peter Butterfill, Parexel

VULCAN by the Numbers

PERCENTAGE OF MEMBERSHIP BY CATEGORY

NUMBER OF ORGANIZATIONS IN A CATEGORY

SDO's 2% — 2
Academia 16% — 10
Consortia 15% — 3
Government Agencies 6% — 4
Implementers 38% — 13
Others 4% — 3
Pharma 19% — 4

9 CONNECTATHON TRACKS IN 2022

6 CURRENT ACTIVE PROJECTS

3 IMPLEMENTATION GUIDES TO BALLOT

4 IMPLEMENTATION SHOWCASES HELD

85 AVERAGE NUMBER OF ATTENDEES AT A SHOWCASE

75 ATTENDEES AT VULCAN 101

To hear about the implementer/developer experience first-hand, see the blog written by Ron Sweeny, Full Stack Architect who described the experience as "fun and educational!" here: https://community.intersystems.com/post/fhir-server-powers-project-vulcan-hl7-fhir-connectathon.

Thanks to our supporting member organizations: CDISC, FDA, InterSystems, Parexel, and Pfizer.

And thanks to other contributors also: BioVeras, Droice Labs, and CRIO.

For more information eMail us at Vulcan@HL7.org or go to hl7.org/vulcan.

Da Vinci Project Burden Reduction Implementation Guides to Support Prior Authorization Process

A Prior Authorization Automation Progress Report

In recent weeks, several significant developments have emerged in the effort to automate the cumbersome prior authorization process.

After a lengthy delay, the Centers for Medicare and Medicaid Services recently submitted the Interoperability and Prior Authorization proposed rule to the Office of Management and Budget for clearance, the last step before a proposal is released for comment and ultimate finalization.

Meanwhile, HL7's Da Vinci Project is continuing work on three "burden reduction" implementation guides (IGs) that can be adopted to support using the FHIR open-source standard API to automate various steps involved in the prior authorization process. Although they're still in development, the guides are available for immediate testing.

Of these IGs, the Coverage Requirements Discovery guide is the farthest along, with the ballot reconciliation process for reviewing comments received on the specification nearly complete and publication likely early next year, explains Vanessa Candelora, Da Vinci Project Manager.

Separately, Da Vinci recently began working with the community to test and align on best practices for how to use Clinical Quality Language, or CQL, to automatically populate electronic questionnaires for payers' documentation requirements, another step toward helping to automate prior authorizations.

Regulation Pending

The proposed federal rule now being reviewed by OMB, which the industry has been expecting since CMS originally introduced it in 2020, would place new requirements on Medicare Advantage organizations, Medicaid managed care plans and certain other payers, as well as providers, to improve the electronic exchange of healthcare data and streamline processes related to prior authorization.

The proposed rule was received by OMB on October 13, but it's uncertain how long it will take the office to clear the proposal for publication. Read the full announcement: *https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202204&RIN=0938-AU87.*

Using current methods, the process of requesting and receiving pre-authorizations for treatment from payers is often slow and cumbersome, with requests submitted by fax or through payers' portals, where re-keying information is necessary. The rule is designed to relieve the burden of this process by improving transparency into when prior authorization is needed, what the requested documentation is, and applying automation, including to extract data at rest between trusted entities.

CMS has granted an exception to the requirement that the ANSI X12 278 standard be used for prior authorization request and response. As a result, CMS-approved Da Vinci payers and their trading partners that sign a trading partner agreement and agree to specific information reporting terms can use FHIR transactions, rather than ANSI X12 278, during a test period.

Implementation Guides

To prepare to automate the prior authorization process, organizations should review the three Da Vinci IGs, test them and provide real-world feedback, Candelora stresses. In addition to ongoing tests of the guides, the January "HL7 FHIR Connectathon" offered the opportunity to "test drive" all three guides at an in-person meeting.

In addition to providers and payers, more electronic health records vendors should get involved in testing to ensure they can support the needs of providers to streamline prior authorization workflow in support of coming regulation, Candelora adds. Epic Systems Corp. already is a participant, she notes.

By Howard Anderson, HL7 Da Vinci Project Writer

Implementation Guides

Here's a summary of the three burden reduction implementation guides now in development:

The Coverage Requirements Discovery (CRD) guide enables the exchange of coverage plan requirements from payers to providers at the time of treatment decisions. The goal is to increase transparency about coverage details to determine, for example, whether prior authorization is required, or whether lab tests or other predecessor steps are needed.

In recent weeks, specifications have been added for clarity. Ballot reconciliation for the Standard for Trial Use, or STU, is nearly complete.

Link to CRD Confluence Page: *https://confluence. hl7.org/pages/viewpage.action?pageId=21857602*

The Documentation Templates and Rules (DTR) guide builds on CRD to specify how payer rules can be executed in a provider context to ensure that documentation requirements are met. This could help reduce manual data entry, such as for electronic questionnaires for payers, by extracting data to pre-populate responses.

DTR STU 2 offers specifications added for clarity and to improve the functionality offered to implementers. New specs also help to better manage user workflow. Ballot reconciliation will continue for some time, Candelora says.

"We've tried to improve the user workflow functionality, allowing the saving of sessions, so you can complete a request later without starting over," Dave DeGandi, Da Vinci Burden Reduction Co-Lead, said at the October 26 Community Roundtable. Here's a link to a recording of that event: *https://confluence.hl7.org/display/DVP/ Da+Vinci+Video+Presentations*

Here's a link to the DTR Confluence Page: *https://confluence.hl7.org/pages/viewpage. action?pageId=21857604*

The Prior Authorization Support (PAS) guide defines FHIR-based services to enable providers, at the point of service, to request authorization —including all necessary clinical information to support the request—and receive immediate authorization from the payer.

This year, some organizations have implemented the entire "burden reduction" workflow by implementing the three user guides, DeGandi says.

Like the DTR, ballot reconciliation for PAS is ongoing. In the meantime, DeGandi says, "any help that we can give implementers, we are happy to do that."

Here's a link to the PAS Confluence Page: *https://confluence.hl7.org/pages/viewpage. action?pageId=42993876*

De Gandi encourages organizations to get involved in meetings that are held weekly on all three IG projects.

Major Test in Progress

In the meantime, two organizations have launched an ambitious test of FHIR-based pre-authorization.

Regence, the parent company of health plans in four Northwestern states, and MultiCare Connected Care, an independent accountable care organization, are testing the use of FHIR to submit pre-authorization requests directly from EHRs at the point of care in an effort to enable faster determinations, reduce administrative burden and costs, and support better patient outcomes.

"Embedding pre-authorization in our native EHR system is a game changer," says Anna Taylor, an Associate Vice President at MultiCare Connected Care. "Not only will we ease the administrative complexity of healthcare, but the ability to receive transparent and actionable data at the point of service accelerates care delivery and increases adherence."

For more information on this project, please see the press release: *https://news.regence.com/releases/ regence-partners-with-multicare-to-deliver-pre- authorization-innovation.* ◼
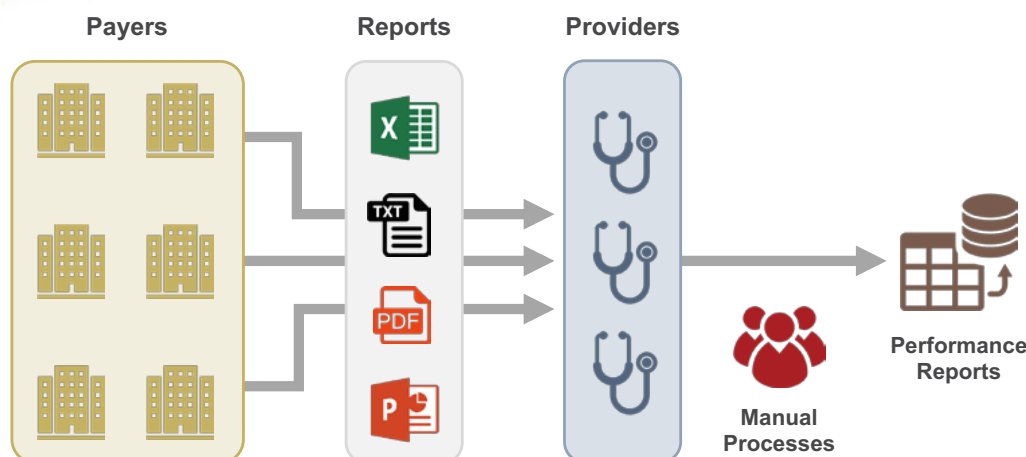
Now is the time for providers and payers to get involved in developing this use case

Da Vinci's Latest HL7 FHIR Use Case Will Be a Boon to Value-Based Performance Reporting

As healthcare providers and payers strive to move away from fee-for-service to value-based care over the past decade, the main obstacle has continually been interoperability. And that poses a problem, because care is more consumer-friendly, more cost-effective and of greater value, when patient data is accessible.

The bottom line for value-based care is the need for performance data to be shared effortlessly between payers and providers. Right now, much of that data exchange is manual and difficult.

Da Vinci's latest HL7 Fast Healthcare Interoperability Resources (FHIR®) use case—the Value-Based Performance Reporting (VBPR) use case—provides guidance on how to exchange data for value-based care purposes.

The VBPR use case began as an idea earlier this year, suggested by providers, and immediately gained support. It was funded in March and work on it evolved rapidly. Now it is ready for public input.

Da Vinci held its first public call on the use case October 3, 2022, and is beginning to work on "defining and refining the scope of this use case," according to Teresa Younkin, Project Co-Lead for the VBPR use case, HL7 Da Vinci Project PMO and Senior Consultant at Point-of-Care Partners. This use case is important because Da Vinci wanted to do something around value-based care initiatives,

especially "because this is really where healthcare is starting to move to," she said at Da Vinci's September virtual Community Round Table.

"We want to move away from each payer sending reports using proprietary formats," Younkin said. Other goals include unifying naming conventions across pairs; moving to a machine readable format; and creating a consistent report format so that providers can ingest the data. Those working on the VBPR use case also hope to reduce the need for patient portals, and they want to make sure that data can be automatically entered from the reports into internal databases.

Vincent Powell, Project Co-Lead at Providence, which has 150 value-based contracts, said value-based care, at its foundation, is a partnership between payers and providers to care for a contracted population and to share in the financial risk of that population. Health systems like Providence are able to effectively manage patient populations around the Triple Aim through sharing data with payers, he said.

One of the biggest challenges with value-based contracts is that the reporting process is very manual, with a lot of variability, Powell said. And that can cause some errors in processing the data. "It's quite a big lift to take these reports that come in and ingest them," he said. "And so, that's one

reason why we're very much looking forward to this new implementation guide, which will help us exchange [the data] over FHIR."

Semira Singh, Director of Population Health Informatics at Providence, said success with value-based care requires a collaborative effort between payers, providers, and third-party intermediaries. One of the most important components of that process is establishing a contract, followed by determining what type of data is going to be exchanged between the participants. "And, we also have to ask ourselves, what kind of data is needed to highlight areas for improvement?"

According to Heather Kennedy, Principal Interoperability Architect at Humana, value-based care reporting could also be used for other reporting initiatives.

Jocelyn Keegan, Project Manager for Da Vinci and Senior Consultant for Point-of-Care Partners, said this use case will be key in filling the gap for the need in real-time or near real-time reporting during the contract performance period. "Most of the data that's flowing is either monthly or weekly, or PDF-based, and isn't very actionable for either side to go and do something with it," she said. "And what we find is we see folks—I would say the more advanced players in value-based care—are decomposing a lot of that content, or they're coming up with custom file formats to share that data in more real time. And that if people really want to be able to scale their value-based care contracts, they need the right tools to be able to do this."

Now is the time to get involved

Da Vinci is encouraging anyone interested in participating with the development of the use case to check for information on Confluence and get involved.

According to Younkin, the value-based care ecosystem boils down to value-based performance. "It's a very complicated workflow, and we really need input from everybody from the community to come in to help us to make this the best that it can be."

According to Alix Goss, Vice President and Senior Consultant at Imprado, developing a use case takes a village. "And we have different kinds of people in villages," she said. That's why Da Vinci is encouraging broad participation going forward working on this use case.

"I think, in general, coming from a large provider organization, we have resources that smaller provider groups do not," Singh said. "So, I would love for us to be able to hear back from smaller provider groups to give us a more realistic outlook on the kind of resources that would be required to be able to develop something like this."

"Everyone is welcome," Singh said. "The more the merrier." She noted that it will be good for different organizations to share, specifically, what their pain points are. Those that don't have an automatic process to retrieve data—looking at the portal all the time and waiting for emails—will benefit from this use case, and their input is needed.

"I would encourage you, especially on the payer side, and probably on the provider side of the house as well, to bring us your performance reporting experts, especially the data subject matter experts," Kennedy said. "We definitely need the people who understand the nuances of performance reporting, from any size organization."

Goss said the public work on the VBPR use case will begin with some business-oriented discussions "to figure out how to get the tech to meet the needs of what people are really experiencing." Jump in early and help, because "It's little hard to jump into the middle of a use case that's already humming." This is the perfect opportunity, right now, to get in on the ground floor of this use case, she said.

Keegan said Da Vinci would ideally like to see people get involved who have the day-to-day jobs of managing contract performance periods—from the payer, provider and vendor sides. "Come and join us right now as this use case goes public," she said. ■

By Diana Manos, HL7 Da Vinci Project Writer

CodeX Accomplishments and Growth

Membership grows over 40% while number of use cases increase by 30% with 11 addressing needs in oncology, cardiovascular health and genomics

The CodeX community experienced significant growth and realized great progress in 2022. CodeX work leverages the minimal Common Oncology Data Elements (mCODE) and other HL7 Fast Healthcare Interoperability Resources (FHIR®) implementation guides in 11 use cases addressing needs in oncology, cardiovascular health, and genomics. CodeX membership grew by more than 40% in 2022 and is representative of clinicians, researchers, payers, information systems, electronic health records, data standards organizations, and more. CodeX use case teams achieved success with numerous milestones and 2023 promises to be an exciting year.

Recent Accomplishments

CodeX use cases advance from discovery and into execution stages with specific areas of focus. A primary objective of CodeX for use cases in the execution stage build up to execution of pilots sharing real patient data, in real-world health settings, and with real patients, providers and others in the workflow. We proudly highlight a few use case accomplishments in a variety of stages.

Radiation Therapy Treatment Data (RTTD) Use Case

The RTTD use case (*https://confluence.hl7.org/display/COD/Radiation+Therapy+Treatment+Data+for+Cancer*) team is working to develop, test, and deploy open data standards to enable interoperable, multi-purpose exchange of radiation therapy treatment summary data to improve care coordination. The ability to generate retrievable treatment summaries that can be shared and displayed across multiple systems aspires to improve data accuracy and patient outcomes while reducing clinician burden by reducing manual data entry. Now in the execution stage, the use case team developed the CodeX Radiation Therapy Implementation Guide (RT IG), planned for publication in Spring 2022. The IG leverages mCODE's Radiotherapy Course Summary Profile and the Radiotherapy Volume Profile to support generating and transmitting treatment summaries during the course of therapy. Pilot plans are underway, leveraging the FHIR-enabled test version of ARIA, Varian's oncology information system. CodeX members representing healthcare systems are preparing for the next phases of piloting. To learn more about pilot opportunities email *CodeX@hl7.org* or Anthony DiDonato (*Adidonato@mitre.org*).

Quality Measures for Cancer Use Case

CodeX launched the Quality Measures for Cancer use case in fall 2022. Oncology quality measures are decades-old tools used to evaluate care delivery. In recent years, quality measures became important components in value-based care programs. Authoring and evaluating quality measures are often constrained by disparate, unstructured data and a lack of digitized collection processes. These constraints result in less robust, and often process-focused quality measures, that require manual data abstraction.

The Quality Measures for Cancer use case team intends to author and evaluate oncology-related quality measures using the FHIR data model and mCODE profile extensions and data elements. Authoring measures will yield processes for setting up the necessary data elements in discrete data fields. Testing will evaluate the accuracy of measure results. The Quality Measures for Cancer team intendeds to work with the HL7 Clinical Quality Information (CQI) Work Group to stayed informed of and leverage existing work in this space.

As a result of the Quality Measures for Cancer use case effort, the team intends to demonstrate the value of developing meaningful quality measures for use in clinical care and value-based care programs. To learn more and to join the use case, contact *CodeX@hl7.org* or Anthony DiDonato (*adidonato@mitre.org*).

GenomeX: Genomics Operations & Genomics Data Exchange Use Cases

CodeX formally launched two new domains in 2022: GenomeX and CardX. There are two GenomeX use cases underway addressing the complexities related to timely access of accurate genomics testing information. Both use cases aim to leverage, as well as inform updates to, the HL7 Clinical Genomics Work Group's Genomics Reporting Implementation Guide: *http://hl7.org/fhir/uv/genomics-reporting/STU2/*.

The Genomics Operations use case (*https://confluence.hl7.org/display/COD/GenomeX+-+Genomics+Operations*) team proposes to present a uniform interface to implement FHIR operations to normalize genomics data, minimizing inconsistencies in genomic variant representation. FHIR genomics operations would reduce barriers to use of genomic data in decision support processes, e.g., clinical trial matching, identifying treatment options that optimize precision medicine. Importantly, FHIR genomics operations have the ability to provide longitudinal insights into care options as the science and treatment options for genomic variants continues to evolve. To learn more and to join the use case, contact *CodeX@hl7.org* or Mallory Carellas (*mcarellas@mitre.org*).

The Genomics Data Exchange use case (*https://confluence.hl7.org/display/COD/GenomeX+-+Genomics+Data+Exchange*) will leverage the HL7 FHIR Genomic Reporting Implementation Guide to design and build scalable FHIR genomics interfaces to enable data sharing between electronic health records (EHR), laboratories, genomic repositories, and other interested stakeholders. This effort will standardize genomic data exchange, improving data accuracy and making data available to inform treatment decisions, accelerate clinical research, and support the development of clinical decision-support tools. The team will identify initial types of genomic reporting to incorporate into scenario-based profiles for pilot. To learn more and to join the use case, contact *CodeX@hl7.org* or Mallory Carellas (*mcarellas@mitre.org*).

CardX Hypertension Management

The CardX Hypertension Management use case (*https://confluence.hl7.org/display/COD/CardX+-+Hypertension+Management*) team seeks to increase data liquidity for blood pressure measurement to support awareness of, and adherence to, clinical practice guidelines. While at home, providers often recommend that patients use a blood pressure monitoring device and report results according to defined parameters. Providers capture and document similar data during patient assessments in the clinic setting. Appropriate patient intervention requires monitoring and awareness of changes in a patient's condition. A variety of human and technical factors become barriers to prompt intervention. The use case team will leverage existing data standards to create FHIR resources and open APIs to enable interoperable, scalable, accessible hypertension measurement and reporting across care sites. The work will entail separate FHIR-based data exchanges to connect home monitoring devices, patient data managers, the EHR, and the provider. To learn more and to join the use case, contact *CodeX@hl7.org* or Melissa Christian (*melchristian@unmc.edu*).

CodeX Launches New Website

In November 2022, CodeX launched https://codex.hl7.org to create a presence in the broader community. The website presents the CodeX story and ongoing work to patients and non-healthcare individuals in a meaningful way.

CodeX Growth & Leadership Changes

The growth in CodeX is something to celebrate! As noted earlier, membership grew by more than 40% in 2022. The number of use cases increased by 30%. The clinical focus grew from oncology to also include cardiovascular health and genomics.

The growth in CodeX scope and size were factors leading to the Steering Committee's decision to expand from 2 seats to 7. Expanding the Steering Committee continues to ensure a reflection of the CodeX Community and continued diversity of

By the CodeX Management Team

CodeX Accomplishments and Growth

thought in planning for the future of CodeX. New Steering Committee members began their term on January 1, 2023, and include:

- *Adam Dicker, MD, PhD, FASTRO, FASC*, affiliated with the American Society for Radiation Oncology
- *Chuck Mayo, PhD*, affiliated with the American Association of Physicists in Medicine
- *Sorena Nadaf, MS, MMI*, affiliated with the Alliance for Clinical Trials in Oncology
- *Heather Tremble*, affiliated with Evernorth
- *Wanmei Ou, PhD*, affiliated with Ontada

The new Steering Committee members join Steering Committee members Chuck Jaffe, MD, PhD, CEO of HL7 and Su Chen, MD, Steering Committee Chair and CodeX Clinical Director & Program Manager.

Dr. Chen served as the CodeX Clinical Director until December 2022. In January, Dr. Chen assumed the role of CodeX Program Manager, succeeding Steve Bratt, PhD. Dr. Chen is an emergency medicine physician, computer scientist, and health information systems leader who joined MITRE in 2021. She has extensive experience directing informatics in varied health settings and is committed to CodeX's vision of advancing health interoperability with the belief that leveraging open-source standards can help drive the next wave of digital innovation to the fore.

After more than five years in MITRE leadership, Dr. Bratt assumed a consultative role with MITRE. Among his many accomplishments at MITRE and across his career, is the launch and growth of CodeX. His leadership of CodeX convened a diverse community to work together to accelerate data modeling, addressing real-world challenges leading to improved patient care. Dr. Bratt served as Chair of the CodeX Steering Committee from its inception until December 2022. He was key to the development and publication of mCODE. Dr. Chen reflected, "Steve's leadership has been instrumental

to leading CodeX to where we are today. It's Steve's belief in the power of community in driving healthcare innovation that has led to building the vibrant CodeX community and consequently the growing footprint that mCODE and its extensions have in real world pilots and implementations." On behalf of the CodeX community, we appreciate the dedication and tireless contributions Dr. Bratt has made to CodeX and celebrate his impact in health care data interoperability.

CodeX also experienced a change in leadership in the Deputy Program Manager (DPM) role. Kim Ball served as DPM since October 2021, working with stakeholders to build and activate the growing CodeX community. Ms. Ball was instrumental in establishing operations, onboarding staff and members, supporting use cases, all contributing to significant program growth and success. Michele Galioto, DNP, RN, CNS, assumed the DPM role in September 2022. Dr. Galioto has over 25 years of oncology nursing, program management, and member organization leadership experience. Dr. Liz Canzone also joined the CodeX program management team recently, as CodeX Director of Operations. Dr. Canzone also hails from MITRE, and has a wealth of project management expertise, having supported strategic and tactical tasks related to a National Patient Safety Partnership; the safe use of health information technology; and most recently COVID-19 vaccines, therapeutics, and diagnostics. ∎

FAST Publishes First Implementation Guides for Security and Exchange

FAST: A Recap of One Exciting Year as Another Begins

2022 was a banner year for the FHIR at Scale Taskforce (FAST). First, in early 2022, FAST officially became an HL7 FHIR Accelerator as it continued the work it started as an Office of the National Coordinator for Health IT (ONC)-convened initiative to build infrastructure that enables more scalable HL7 Fast Healthcare Interoperability Resources (FHIR) solutions.

FAST Founding (*https://confluence.hl7.org/display/ FAST/FAST+Members*) joined together and held elections for the FAST Steering Committee, solidifying the FAST governance structure.

FAST enjoyed its first major milestone in October of 2022 as the first two FAST Implementation Guides (IGs) were officially published:

- Hybrid/Intermediary Exchange STU 1: *http:// www.hl7.org/fhir/us/exchange-routing/STU1/*

- Scalable Security for Registration, Authentication, and Authorization STU 1: *http://hl7.org/fhir/us/udap-security/STU1/*

FAST also continued work on three CMS-supported guides describing the technical architecture considerations related to a national healthcare directory. These guides address challenges including the exchange, query, and attestation and verification of data elements required for a centralized, validated directory system. The following implementation guides (IGs), along with other FAST IGs in development, were tested together at various Connectathons throughout the year. Learn more about the National Directory IGs below:

- National Healthcare Directory Exchange *http:// hl7.org/fhir/us/directory-exchange/2022Sep/*

- National Healthcare Directory Query *http://hl7. org/fhir/us/directory-query/2022Sep/*

- National Healthcare Directory Attestation and Verification *http://hl7.org/fhir/us/ directory-attestation/2022Sep/*

The National Directory IGs were balloted in September 2022 and the Identity IG was balloted in May 2022; all are still undergoing reconciliation.

FAST will be participating in the January HL7 FHIR Connectathon. If you'd like more information in the FAST Tracks, you can find it here: *https://confluence. hl7.org/display/FHIR/2023+-+01+Connectathon+32.*

Another important milestone, CMS released an RFI (Request for Information) to collect feedback on the best approach to developing the type of national directory described in the FAST IGs. FAST led a cross-accelerator team to develop a collaborative response to this RFI which can be found here: *https://confluence.hl7.org/ display/FAST/FAST+Comment+Letters.*

FAST also issued a member statement in response to the draft TEFCA (Trusted Exchange Framework and Common Agreement) Facilitated FHIR IG to advocate for alignment of TEFCA with FAST work tenants and work from the rest of the FHIR community. The response can be found here: *https://confluence.hl7.org/display/FAST/ FAST+Comment+Letters.*

The future of FAST work is bright, and we look forward to a stellar 2023 as we work on new projects prioritized with the feedback of our FHIR Accelerator colleagues and FAST members. Be on the lookout for new areas where you can join FAST for public meetings or to provide feedback on IGs in ballot by checking out the FAST Projects page here. Because FAST is focused on infrastructure, having broad stakeholder representation and feedback is essential.

Do you have ideas for future use cases FAST should consider taking on? We want to hear from you! Submit your use case idea on the use case submission page on the FAST Confluence site at *https://confluence.hl7.org/ display/FAST/FAST+Use+Case+Submission+Form*. Not every use case submitted will be taken on but the input is incredibly valuable in identifying emerging needs or giving a +1 vote to projects already under consideration.

To learn more about the FAST FHIR Accelerator and how to participate, please visit the HL7 FAST webpage at *http://www.hl7.org/fast/.* ∎

By the FAST Management Team

The Gravity Project

Accelerating National SDOH Data Standards

In August 2022, Civitas Networks for Health, HL7 International, and the Gravity Project announced a letter of intent to establish a partnership that will leverage their synergies and strengths to chart a sustainable path forward as the Gravity Project evolves. In October 2022, Civitas announced it was awarded a $1M grant from Robert Wood Johnson Foundation (RWJF) to further the implementation and dissemination of Gravity Project SDOH standards for Public Health, Health Systems, and Community Organizations. In November 2022, MITRE, under FFRDC contract with CMS, began providing technical leadership and support to the Gravity Project terminology, technical, and pilots workstreams to optimize the effectiveness and efficiencies of the federal government's investment in the Gravity Project through the promotion of standardized SDOH data within federal programs.

Project Accomplishments

Over 2,500 stakeholders across the healthcare, health IT, community-based, federal and state agency, payer, academic, and consumer advocacy sectors are signed up as members of the Gravity Project. See the full list here: *https://confluence.hl7.org/pages/viewpage.action?pageId=46892669#JointheGravityProject-GravityProjectMembershipList.*

Most recent and key project accomplishments to date include:

Gravity SDOH Data Elements

The Gravity Project has successfully completed terminology build for 17 social risk domains (*https://confluence.hl7.org/display/GRAV/Social+Risk+Data+Elements+And +Status*) working hand-in-hand with leading coding stewards at Regenstrief, SNOMED-CT® International, ICD-10® Coordination & Maintenance Committee (CM), and the American Medical Association (AMA). Multiple ICD-10-CM codes from Gravity's

To learn more about the Gravity Project, please visit: *https://thegravityproject.net/*

To learn more about the value proposition for engagement and how to become a Gravity sponsor, contact *gravityproject@emiadvisors.net*

For more information on the HL7 FHIR Accelerator Program, please visit: *https://www.hl7.org/about/fhir-accelerator/*

multi-domain were approved for implementation on October 1, 2022. View a list of approved codes at *http://hl7.org/fhir/us/directory-attestation/2022Sep/*. View the full ICD-10-CM release here: *www.cms.gov/medicare/icd-10/2023-icd-10-cm*. The Gravity Project published both domain specific and USCDI SDOH activity aligned value sets in the National Library of Medicine Value Set Authority Center: *www.vsac.nlm.nih.gov.*

HL7 SDOH Clinical Care FHIR Implementation Guide STU2 Publication

The HL7 SDOH Clinical Care FHIR IG (*http://build.fhir.org/ig/HL7/fhir-sdoh-clinicalcare/*) was balloted as an STU2 in January 2022 and tested at the January/May2022 HL7 FHIR Connectathons and the July 2022 CMS FHIR Connectathon. The STU2 IG was issued for HL7 publication in November 2022.

Pilots Affinity Group

The Gravity Project Pilots Affinity Group (*https://confluence.hl7.org/display/GRAV/Gravity+Project+Pilots+Affinity+Group+Home*) was launched in September 2022 as a peer-to-peer learning forum for real-world testing of Gravity terminology and technical standards. Pilot sites are invited to demonstrate the use of social care coded terminologies (e.g., LOINC®, SNOMED-CT, ICD-10) and/or the HL7 SDOH Clinical Care FHIR Implementation Guide (SDOH CC IG) (*http://hl7.org/fhir/us/sdoh-clinicalcare/*), share implementation lessons learned with other pilot participants, seek/find partnerships for testing, and gain real-world experience.

Interoperability Standards Advisory (ISA) Updates

As part of the USCDI version 3 release, the ONC has updated the Interoperability Standards Advisory (ISA) (*https://www.healthit.gov/isa/isa-document-table-contents*) with the Gravity Project aligned with broad social SDOH VSAC value sets (*https://www.healthit.gov/isa/section/social-psychological-and-behavioral-data*) for each SDOH activity (screening, diagnosis, goal setting, and interventions).

What's on the Horizon This Year and Next?

The Gravity Project will begin work on new domains that align with Healthy People 2030 (*https://health.gov/healthypeople/objectives-and-data/browse-objectives*) objectives and health equity priorities. In 2023, we will address the digital access and digital literacy domain through support of Kaiser Permanente and matched funding. Next, our goal will be to address domains already identified as priorities by our governance committees, including neighborhood safety, food access, minority strain, and measures of discrimination and bias. We are looking for a wide range of community engagement for content submission and domain subject matter experts. If you are interested in learning more about the pilots, please email: *gravityproject@emiadvisors.net*. ∎

Launched in May 2019 by the Social Interventions Research and Evaluation Network (SIREN) and EMI Advisors with funding from the Robert Wood Johnson Foundation, the Gravity Project® convenes subject-matter experts, stakeholders, and public members across the nation through an open, public collaborative process. It is a national public-private initiative developing, testing, and implementing consensus-based social determinants of health (SDOH) data standards for use across the health, social services, public health, and research sectors. The Gravity Project is agnostic to the screening tools (e.g., PRAPARE, AHC Screener, Health Leads) and data capture systems (e.g., electronic health record platforms, community-referral platforms, care coordination systems) used in the field to collect, exchange, and aggregate SDOH data. Since the Gravity Project became an official HL7 FHIR Accelerator Project™ in August 2019, the project continues to evolve the way we advance and advocate for social care data integration as a strategy to promote health equity.

Current focus on three priority areas with focus on core principles of desirability, feasibility and compatibility

Helios FHIR Accelerator Update

The Helios FHIR Accelerator™ for Public Health is a multi-sector alliance working together to tackle long-standing challenges and explore new opportunities to enhance public health data sharing.

The accelerator aims to align with the widespread standardization and transformation that is happening around digital health data today to promote more flexible and effective data exchange with healthcare, the public and other sectors beyond public health.

Helios continues to explore three priority areas, focusing on our core principles of desirability, feasibility and compatibility. With a solid foundation of existing HL7 Fast Healthcare Interoperability Resources (FHIR®) specifications and community input, we are rapidly moving into the testing and piloting phase in several of our priority areas.

By the Helios Program Management Team

Making Data in Public Health Systems Accessible in Bulk

Led by John Stamm (Epic), Leslie Lenert (Medical University of South Carolina) and Mary Beth Kurilo (American Immunization Registry Association), this priority area is exploring ways to enable authorized users of Immunization Information Systems (IIS) data—such as healthcare partners, private sector payers, state Medicaid programs, and schools—to access complete, accurate, and timely immunization history information on their patient and member populations in a consistent way across immunization programs using modern standards (Bulk Data FHIR APIs). By Spring 2023, Helios members will develop, test, and deliver initial guidance to support real-world implementation of Bulk Data FHIR APIs within the IIS community.

The January 2023 HL7 FHIR Connectathon featured a track focused on the use of the Bulk Data Access FHIR Implementation Guide (*https://hl7. org/fhir/uv/bulkdata/index.html*) defined group level export operation to access immunization history data held by IIS. Core data included patient and immunization resources, but bonus points were awarded for systems able to exchange supporting data such as Provider, Organization, RelatedPerson and ImmunizationRecommendation FHIR resources. Future Connectathon activities will incorporate functionality to create and maintain flexible patient lists reflecting appropriate populations for individual authorized users.

Deliver Aggregate Information to Public Health

Spearheaded by Hans Buitendijk (Oracle Health) and Ravi Kafle (Washington Department of Health), this priority area aims to identify standardized and scalable ways of providing high-quality, timely, and on-demand summary data (e.g., bed count, supply inventory, and other sentinel indicator measures) in ways that lessen the strain on both healthcare and public health. By Spring 2023, Helios members will a) identify gaps in and make enhancements to existing FHIR standards (specifically the SANER and DEQM implementation guides) for generating measures and measure reports and b) pilot the use

of these enhanced standards for a prioritized set of sentinel indicators.

This priority area were also featured at the January 2023 HL7 FHIR Connectathon where pilot partners tested the creation and exchange of MeasureReport FHIR resources for key situational awareness indicators using either FHIR-native or CSV-to-FHIR approaches. Future testing efforts will also encompass the creation and consumption of Measure resources to specify the data payload of the sentinel indicators.

Align and Optimize Public Health Data Sharing

Under the leadership of Michelle Barber (Oregon Health Authority), Steve Hill (Oracle Health), and Gillian Haney (Council of State and Tribal Epidemiologists), this priority area is working to demonstrate how specific FHIR-based paradigms can help meet high-priority public health needs efficiently and effectively, while also returning valuable and actionable information to care providers.

By Spring 2023, Helios members will develop a decision framework (set of questions) that will help:

- Public health practitioners to lay out their specific data needs
- Technology solution providers to communicate and demonstrate optimal, FHIR-based approaches for meeting these needs, and
- Both parties to unpack major considerations (policy, technical, etc.) and evaluate fit

Future testing efforts may include testing building blocks related to authorization for accessing data, patient identification and linking records between systems, auditing access, data provenance, and impact of cross-jurisdictional query.

Helios is currently recruiting organizations to actively participate in our Connectathon and piloting efforts for 2023. If you are ready, willing, and able to help drive forward public health interoperability in these areas, please reach out to us at *helios@hl7.org* to get involved! ■

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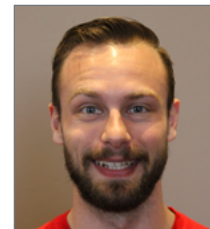
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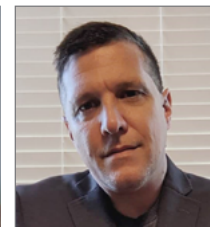
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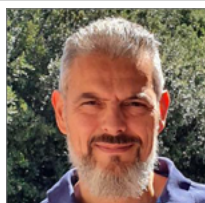
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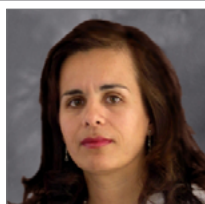
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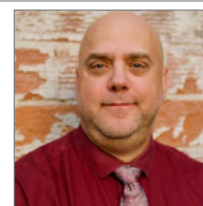
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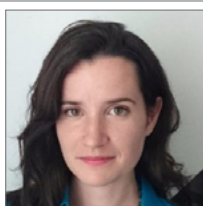
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