37th Annual Plenary & Working Group Meeting
Phoenix, Arizona

Monday, September 11, 2023
Welcome

Charles Jaffe, MD, PhD
Chief Executive Officer
HL7 International
KEYNOTE PRESENTATIONS

AI IN HEALTHCARE: OPPORTUNITIES & CHALLENGES
Keynote Session 1

Peter Lee, PhD
Corporate Vice President, Research & Incubations, Microsoft
Monday

Keynote Session 2

John Halamka, MD, MS
President,
Mayo Clinic Platform
Monday

Panel: Government Perspective

North America

Moderator: Julia Skapik, MD

Chair-Elect, HL7 International
Medical Director for Informatics, National Association of Community Health Centers (NACHC)
Panel: Government Perspective

Panelist: Colonel Thomas Cantilina, MD

Chief Health Informatics Officer, Department of Defense

Monday
Panel: Government Perspective

Panelist: Jose Galvez, MD
Deputy Director of the Office of Strategic Programs, FDA
Panel: Government Perspective

Panelist: Steve Posnack, MS, MHS
Deputy National Coordinator for Health Information Technology, ONC
Monday

Keynote Session 4

Michael Pencina, PhD
Vice Dean for Data Science; Chief Data Scientist, Duke University School of Medicine
Keynote Session 5

Kenneth Goodman, PhD, FACMI, FACE
Director, Ethics Programs
Director for Ethics & Health Policy,
University of Miami
Ethics, AI Standards, and Responsibility

HL7 37th Annual Plenary
Phoenix, Arizona
September 11, 2023

Kenneth W. Goodman, PhD, FACMI, FACE
Professor of Medicine and Philosophy
Director, University of Miami Miller School of Medicine Institute for Bioethics and Health Policy and
UM Institute for Data Science and Computing Program in Data Ethics + Society,
kgoodman@med.miami.edu
“More and more the tendency is towards the use of mechanical aids to diagnosis; nevertheless, the five senses of the doctor do still, and must always, play the preponderating part in the examination of the sick patient. Careful observation can never be replaced by the tests of the laboratory. The good physician now or in the future will never be a diagnostic robot.”

– Scottish surgeon Sir William Arbuthnot-Lane (Lane, 1936)
The AI story so far

- Bias
- Safety
- Transparency
- Explainability
- Accountability
- Responsibility
- Governance
Standards as ethics

- convenience, economy
- reliability, efficiency
- safety
- profit maximization
- values protection, promotion
- quality
- interoperability
Standards for ethics

• Values protection, promotion
• Cf. privacy and security (HL7: Privacy, Access and Security Services)
• Appropriate uses
• Appropriate users
The Hard Problem

• The Parfait System: no bias, no confabulation, explainable to the satisfaction of all, designed by committed and responsible coders, manufactured by corporations dedicated to the common good …
• Affordable, reliable, easy to use
• Consistently more accurate than human experts
It gets worse…

• Diagnostic systems get it right more frequently than humans
• Prognostic systems get it right more frequently than humans (cf. “computational futility metric”)
• Patients and family members use them all the time (cf. online cancer nomograms)
Hurray … or uh-oh?

- The data and information scraped from electronic health records, registries, etc. and used to train the Parfait System thus guides practice – and eventually replaces the data and information used to train future systems
- Future systems are thus trained on data and information derived from practice shaped or guided by computers
- Which data and information is used to train new systems
- Progress, or the systematic replacement of a store of human-acquired knowledge by machine intelligence?
In the meantime…

- “Better than humans” is usually a good thing. Humans + tools are better than humans without tools,
- …which tend to be imperfect (sometimes because of humans).
- The more we look the more we find uncertainty if not error.
Parfait? Not yet

The problem with humans...

• “Scraping the internet” metaphor is more accurate than supposed: when scraping, you only get the surface.
• Uncertainty in biostatistics; missingness
• Meta-correlation – extremely well-documented correlation – still does not establish causation.
• Cf. early prognostic scoring systems.
His prognosis is poo.
Mr X was seen by himself in the hospital room today.
I saw but didn't see the order placed. Thank you.
I asked that her house Mr. H doing prior to come to the hospital.
His current PPS 505% is more related to …
Seen by Neurology, unable to do MRI due to penile metal prosthesis. Still minimally arousable.
He initially presented by EMS, who report they found him on the side of the road stating he wished to diet.
… is an 82 y.o. male admitted on 1/2/3 with a primary diagnosis of No primary diagnosis.
Other human problems

• Greed
• Selfishness
• Inattention
• Laziness
• Cruelty
Internet cafes in the Philippines are now frequented by workers who sort and label data for artificial intelligence models.

(Martin San Diego for The Washington Post).
https://s2.washingtonpost.com/camp-rw/?trackId=61284be9ae7e8a0d5066f8af&s=64ed6ea1fc110e7018436c03&linknum=5&linktot=61&linknum=5&linktot=61
Miller’s “Standard Model”

- Humans are educated and licensed to practice medicine and nursing.
- Humans are better at using tools than allowing themselves to be used by tools (except when well incentivized).
- The computer (should) no more replace human cognitive practice and capacity than, say, the stethoscope.
“Progressive Caution”

• We are dependent on computers
• …which are imperfect.
• It can be blameworthy *not* to use a tool that improves patient care
• … which tension is difficult to resolve.
• “Progressive Caution” (1998) is the idea that wise and compassionate progress can ethically optimize adoption of computational aids in healthcare.
The Hard Problem, redux

• Skill degradation
• What if the loss of human cognitive engagement leads to better outcomes?
• Forever
• What if our EHRs and data sets are wholly supplanted by data and information generated by ever-diminished human decisions?
• Does it matter? Why?
And if they are so good…

• For whom – which populations – will they be available?
• Cf. human-subjects research in low-income countries.
• We have a poor track record sharing useful technologies including, most recently, vaccines.
• Which business plans take this into account?
What if large-language models, for instance, are superior to human agents and more reliably hew to standards than humans?
Standards for ethics, redux

- Appropriate uses, users
- Appropriate role of humans
- Education (not “training”)
- Consider health-ethics-and-informatics swat teams (HEISTs).
- Ongoing, independent review, analysis
Ethics and standards: A hypothesis

- Value-driven standards support ethically optimized products, processes, and actions
- They should be public, transparent, and driven by transparent processes
- This is in many respects an empirical challenge… the opportunity is that we might be able to demonstrate the practical utility of ethics standards and so foster trust and confidence – as HL7 has done for decades.
Thank you.
Monday

HL7 AI Standards - Laying the Foundation

Gary Dickinson, FHL7
EHR WG Co-Chair, Co-Facilitator of AI Focus Team
HL7 AI Standards - Laying the Foundation

Mark Janczewska, MD, MPH, FAAFP, FAMIA

EHR WG Co-Chair, Co-Lead of AI Data Lifecycle Project
HL7 AI Standards – Laying the Foundation

EHR WG Project – AI Data Lifecycle
Gary Dickinson FHL7
Mark Janczewski MD MPH

HL7 37th Annual Plenary and Work Group Meeting
11 September 2023
Phoenix, Arizona USA
The HL7 EHR WG has a well-established learning project focused on **Reducing Clinician Burden**

**Key Objectives are to:**
- Understand the substance, extent and impact of clinician burden
- Recognize root causes
- Identify success stories
- Support novel and disruptively innovative advances that will allow healthcare IT to reduce burden and improve care quality by better supporting clinical workflow

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Considering AI...

Where We Started

- Starting in January 2022, we began to receive presentations/reports on AI – with emphasis not so much on artificial, but rather on assistive or augmented, intelligence
- We began to seriously consider the potential of AI to reduce burden – recognizing that AI has applications/benefits beyond this objective
- We then established an **AI Focus Team** to evaluate the optimum role for HL7 in AI standards development
- With expert input from many sources, we identified **21 AI Topics/Areas of Focus**
- With further review, we prioritized the list and identified **AI Data Lifecycle** as our initial priority and project
<table>
<thead>
<tr>
<th>Item</th>
<th>Topic/Area of Focus</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Contribute SDO expertise at standards development or providing a framework for such. Use SDO consensus process to review and approve AI artifacts/standards.</td>
</tr>
</tbody>
</table>
| 2    | Establish “Contexts” within which AI Algorithms are developed and ultimately applied in health and healthcare.  
- ISO 13119 – Clinical knowledge resources - Metadata  
- Patient/Provider/Action Contexts  
- Problem Context |
| 3    | Create a label for every algorithm — analogous to a nutrition label, or a drug label — describing the data used to develop an algorithm, its usefulness and limitations, its measured performance, and its suitability for a given population. |
| 4    | Test and monitor the performance of algorithm-guided care within the settings in which it is deployed in an ongoing way. |
| 5    | Create best practices for establishing the usefulness, reliability, and fairness of AI algorithms that bring together different organizations to develop and test AI on data sets drawn from diverse and representative groups of patients. |
| 6    | Create a standard way for government, academia, and industry to monitor the behavior of AI algorithms over time. |
| 7    | Understand clinical context and goals of each algorithm and know what attributes — quality, safety, outcomes, cost, speed, and the like — are being optimized. |
| 8    | Learn how local variations in lifestyle, physiology, socioeconomic factors, and access to health care affect both the construction and fielding of AI systems and the risk of bias. |
| 9    | Assess the risk that AI might be used, intentionally or not, to maintain the status quo and reinforce, rather than eliminate, discriminatory policies. |
| 10   | Develop approaches for appropriate clinical use of AI in combination with human expertise, experience, and judgment, and discourage overreliance on, or unreflective trust of, algorithmic recommendations. |
| 11   | AI Data Lifecycle: AI algorithms depend on data quality and context. Consider how to bolster accountability, data quality, context and provenance at each step in the data lifecycle (capture, share, use). Develop Provenance Resource Profile (FHIR for AI). |
### AI Topics/Areas of Focus

| 12 | Develop standards for auditing AI |
| 13 | Develop standards for CDS software to identify AI tools potentially applicable to a patient problem, combine data about the applicable tools (including but not limited to metadata in ISO 13119) with data about the patient/problem, and generate options (i.e. alternative tools) with details about the pros and cons of each option specific to the patient (see paragraph I.A.4 of the “Problem Context” memo in Item 2c above). |
| 14A | Publication guidance for medical literature including precise markup optimized for extraction of knowledge constructs to support machine learning |
| 14B | Translation of knowledge fragments into structured patterns, assuring validation and fidelity, and enabling input mapping to support the AI user interface and Natural Language Processing |
| 15 | Everyday patient care record, rigorously formatted – extracted for diagnosis, treatment, decisions, use for clinical trials |
| 16 | Data standards for data brokers |
| 17 | Create / enhance standards for capturing results from AI, which are linked back to the AI source |
| 18 | Create / enhance standards to translate AI results into existing medical domains while ensuring that they are correctly flagged as coming from AI and linked back to the source AI |
| 19 | Use HL7 FHIR resources/data structures for AI data strata |
| 20 | Develop a minimum viable standard for AI ethics specific to healthcare. This might incorporate the idea of making data FAIR and establishing a standard for developing AI ready datasets. (#10 seems to touch on Ethics and therefore it may be possible to address both) |
| 21 | Develop standardized approach towards the development of AI ready data sets, including research design, data generation, data processing |

- **Project Underway**
- **Deferred to Other Organizations**
- **Potential Concurrent Track or Subsequent Phase of Current Project**
- **For Future Consideration**
AI Project 11 - AI Data Lifecycle

What Do We Aim to Achieve?

- Explainable AI
- Black Box gives way to Clarity
  - Trustworthy, Accountable, Fit for Purpose
  - Transparent and Fully Traceable – from Machine Learning to Algorithm Derivation to Live Operation
- AI Conclusions/Recommendations are Substantiable
  - Evidence-based
  - Measurable as to Data Accuracy and Quality
- Ethically Sound
- Initially Focused on Training and Developing Machine Learning (AI/ML) Models
  - NOT Generative AI leveraging Large Language Models

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AI Project 11 - AI Data Lifecycle Framework

- Incorporates AI Use Case Examples
- Utilizes Trigger Events and Audit Trails (capturing key Provenance and Metadata elements)
- Patterned after FHIR R5 Record Lifecycle Event Implementation Guide
- Uses US General Accounting Office (GAO) Framework for an AI Project Lifecycle, with Distinct Phases:
  - Design Phase
  - Development Phase – including Machine Learning/Training and Algorithm Creation
  - Deployment Phase – including Testing
  - Production Phase – Live Operation with Continuous Monitoring
US General Accountability Office (GAO) – “Artificial Intelligence An Accountability Framework for Federal Agencies and Other Entities” (2021) – Guidance for the AI Project Life Cycle, including AI for healthcare, which involves several critical phases, each requiring specific standards to ensure consistent high-quality implementation.
Project 11 – AI Data Lifecycle

Timeline

- Project Underway early 2023
- Project Proposal (Title and Description)
  - 22 Mar 2023: Approved
- Project Scope Statement (PSS)
  - 23 May 2023: Approved by HL7 EHR WG
  - 30 June 2023: Passed Consensus Review
  - 17 July 2023: Approved by Technical Steering Committee (TSC)
- 1st Deliverable: Laying the Foundation – White Paper
  - Draft in development
  - Ballot Cycle: 2024JAN
- Over 50 Individuals have Volunteered
Project 11 – AI Data Lifecycle – Initial Deliverable

White Paper

- So far, about 50 pages long
- Table of Contents (High-Level)
  - Introduction (Forward, Caveats, Scope)
  - Use Cases and Case Studies
  - Background (Definitions, Challenges Associated with the Use of AI in Healthcare, Benefits of AI Standardization
  - Discussion
  - Recommendations / Guidance
- Currently in Review and Draft Development
AI Focus Team and P11 Project – AI Data Lifecycle
Participants and Contributors

Many Thanks to:
- AkéLex
- Availity/Diameter Health
- Beth Israel Deaconess/Lahey Health
- Book Zurman
- Booz Allen Hamilton
- Centers for Medicare and Medicaid Services
- Cognotekt (Germany)
- Computer Network Architects
- EHR Standards Consulting
- Harvard University/Massachusetts Institute of Technology
- ISO TC215/Task Force 5 on AI
- JP Systems
- Mitre
- Mayo Platform
- Oak Ridge National Laboratories
- Philips
- Prosumer Health
- Stanford University
- University of Nebraska
- US Department of Defense
- US Food and Drug Administration
- US National Institutes of Health
- US General Accountability Office
- US National Institute of Standards and Technology
- US Office of National Coordinator
- US Veterans Administration
- Wolters-Kluwer
- Yale University
- and Many Other Individuals

→ Key Instigators
AI Focus Team and P11 Project – AI Data Lifecycle

Upcoming Sessions

- **This WGM:** Tuesday Q4 – hosted by the EHR WG
- **Recurring Meetings**
  - AI Focus Team: 4th Tuesday each month, 1600-1700 US ET
  - AI Project 11: Every second Monday, 1100-1200 US ET
  - Reducing Clinician Burden: 2nd and 4th Mondays each month, 1200-1300 US ET

- **Your Participation is Welcome!**
  - See POCs on next slide if you wish to be included on email distribution lists
  - To receive meeting announcements, links and materials
Points of Contact

**AI Focus Team**
- Gary Dickinson FHL7, EHR Standards Consulting  
geray.dickinson@ehr-standards.com
- Steve Datena MD, AkéLex  
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**Project 11 – AI Data Lifecycle**
- Rhonna Clark, US Department of Veterans Affairs – Project Lead  
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- Ioana Singureanu, US Department of Veterans Affairs – Project Advisor  
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- Mark Janczewski MD MPH, Medical Networks LLC – Project Facilitator  
mark.janczewski@gmail.com
Thanks to Our Sponsors

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Women of HL7 Reception

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Women of HL7 Reception

Point of Care Partners
WGM | Lanyard Sponsor
Have a great day!

Monday, September 11, 2023
37th Annual Plenary & Working Group Meeting

Phoenix, Arizona

Tuesday, September 12, 2023
Welcome

Mark McDougall
Executive Director
HL7 International
Tuesday

- Chair’s Report & John Quinn HL7 Fellows Class of 2023
- CSDO & TSC Report
- Implementation Division Report
- International Council Report
- FHIR Accelerator: CARIN
- FHIR Accelerator: Helios
- Final Announcements
Chair’s Report

Andy Truscott
Chair
HL7 International Board of Directors
HL7 Product Family Logos
Recognition of the Class of 2023
HL7 John Quinn Fellows Award

Andy Truscott
Chair, HL7 International Board of Directors
John Quinn (1949-2020)

Born on July 16, 1949, in Los Angeles, CA, John Francis Quinn was the oldest of eight children. He attended the Archdiocesan Seminary Program from 8th grade through college. Realizing he did not have a calling to the priesthood, John transferred to Loyola Marymount University where he received a BS and MS in Electrical Engineering/Computer Science.

After graduation, John worked at Hughes Aircraft Co and then the Hilton Casino in Las Vegas, NV, installing their first computer system. He became a Computer Systems Analyst for Data General Corp. in El Segundo, CA. During the next 10 years, John worked for three companies all using computers with a medical application.

Becoming a Senior Manager in the Medical Consulting Practice of Ernst and Young in Cleveland, OH, John furthered the Industrialization of healthcare Information technology and concluded his career as a Senior Executive in Accenture’s Health & Life Science’s Provider Practice, focusing on healthcare Information system’s technologies, architectures and data and messaging standards.

A recognized global leader, John dedicated his career to Information technology and computing excellence.

The John Quinn Fellowship

John was a proud and founding member of Health Level Seven and served as the second chair of the organization from 1988 – 1989. He became Chair of the Technical Steering Committee in 1990, a role he held until 2007. From 2007 – 2016, John served as HL7’s Chief Technology Officer, and as CTO Emeritus thereafter. He was a member of the HL7 board for nearly 30 years and served on countless committees and taskforces during his tenure at HL7. His piano playing often rang out from the corners of various convention centers and hotels.

John was a sought-after leader and mentor both inside and outside of HL7. John’s spirit and passion live on at HL7.

The John Quinn Fellowship is a prestigious honor that recognizes your role in furthering John’s legacy. Your Mentorship of our Family, your Leadership of our Mission, and your Commitment to the Rigor and Discipline required of HL7 is recognized globally, and especially by your co-Fellows who have elected you.
The purpose of the program is to recognize outstanding commitment and sustained contribution to Health Level Seven International.

Contributions to HL7 may be reflected through serving as a working group or committee co-chair, serving on the board, receiving the W. Ed Hammond Volunteer of the Year award, serving as an Ambassador, making a presentation or publishing a paper about HL7, or other visible activity.

At a minimum, all Fellows have been HL7 members for at least 15 years. More details are available at: http://www.hl7.org/about/hl7fellows.cfm

... and the members of our Class of 2023 HL7 Fellows are.....
Congrats! HL7 John Quinn Fellows Class of 2023

- Adam Chee
- Carmela Couderc
- Suzanne Gonzales-Webb, CPhT
- Chuck Jaffe, MD, PhD
- Joginder Madra
- Mitra Rocca
- Dan Vreeman, DPT
Congrats! HL7 John Quinn Fellows Class of 2023

Adam Chee

Joginder Madra

Mitra Rocca
Tuesday

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- FHIR Accelerator: Helios
- Final Announcements
Tuesday

CSDO Report

Daniel Vreeman, DPT
Chief Standards Development Officer
HL7 International
CSDO Update

HL7 Working Group Meeting
2023 09 12

Daniel J. Vreeman, PT, DPT, MS, FACMI
Chief Standards Development Officer
Full (and future) updates here

hl7.me/updates
Thank You.
What am I grateful for being able to leave behind?
What am I grateful for that is waiting for me when I return?
What am I grateful for about where I’m going?
Full update here

hl7.me/updates

Standards Development
A global FHIR publishing ecosystem
Making HL7 standards more approachable

Community Engagement
Welcoming New Participants to HL7
Perspectives from Co-chairs
Collaboration with World Health Organization

Infrastructure Improvements
Sharing best practices
Single Sign-on
Automation in Unified Terminology Governance (UTG)
Specification Lifecycle: Proposals → Scope Statements
Update to Ballot Desktop
Affiliate balloting
Tuesday

TSC Report

Jean Duteau
TSC Chair
TSC Co-Chair Feedback

- Gold Star WGs
- TSC Election Results
- Project Deadline Updates
- PSS Update/New
- Terminology Expectations
- JIRA Dashboards
- Co-Sponsor/Interested Party
Gold Star WGs

- Arden Syntax
- BR&R
- CDS
- Clinical Genomics
- CIMI
- CIC
- CQI
- CBCP
- Conformance
- CGP
- EHR
- FHIR-I
- FM
- HSS
- II
- ITS
- InM
- O&O
- PA
- PC
- PE
- PPIE
- Pharmacy
- PH
- Security
- SD
- γ₀
TSC Election Results

- Chair Elect – Rick Geimer
- Affiliate Rep – Alexander Zautke
- Implementation Rep – Jeff Brown
- WG Rep – Riki Merrick, Lloyd McKenzie

- Gora Datta has agreed to stay on as WG Rep to fill Abdul-Malik Shakir’s role
- David Pyke has agreed to stay on as an Adhoc Member and will be our GOC liaison
- Austin Kriesler has agreed to stay on as an Adhoc Member
Project Deadline Updates

- **Project Proposal Submitted** - minimum 2 weeks before PSS submission
- **PSS Approved by WG in JIRA and enters Consensus Review** - minimum 2 months before the WGM (to allow the community to review the PSS and potentially add themselves as co-sponsors; also dependent on required approvals)
- **PSS Submitted to TSC** - 1 month before WGM that occurs before the ballot (to allow for TSC approval)
When to Update PSS vs New PSS

- TSC reviewed the guidelines on updating an existing PSS vs creating a new one
  - [https://confluence.hl7.org/display/TSC/Revise+PSS+Change+In+Scope+Approval](https://confluence.hl7.org/display/TSC/Revise+PSS+Change+In+Scope+Approval)
Terminology Expectations

- https://build.fhir.org/ig/FHIR/ig-guidance/terminology.html

- https://confluence.hl7.org/display/TSMG/Terminology+Play+Book

- https://confluence.hl7.org/display/TSMG/Terminology+Expectations+for+IG+Developers
HL7 is developing some common consistent JIRA dashboards that provide insight into various aspects of HL7 processes:
- User Dashboard
- WG Dashboard
- Specification Dashboard
- Accelerator Dashboard
Co-Sponsor / Interested Party

- If you are identifying yourself as a Co-Sponsor of a project, that means that your WG has enough interest in a project that, although you are not the main sponsor, that you need to be informed and need to provide approvals to a project.
  - Please be careful when indicating you want to co-sponsor a project. It does provide an administrative burden to the project team.

- Interested Party means that your WG is just interested. It is up to your WG and NOT the project team to find out updates to the project. It provides a note to the project team that they should anticipate your WG reaching out to them.
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Tuesday - Implementation Division Report

Viet Nguyen, MD
Chief Standards Implementation Officer
HL7 International

Diego Kaminker
Deputy Chief Standards Implementation Officer
HL7 International
Standards Implementation Division

Brief Report
September 12, 2023

Viet Nguyen, MD
HL7 CSIO
viet@hl7.org

Diego Kaminker
HL7 DCSIO
diego@hl7.org

Disclaimer: In all our activities we involve our CSDO, Dr. Dan Vreeman. We work together. We do not mention it in every slide.
Program Management

- **Quality Measure Accelerator**
  - Interest from orgs in organizing a Quality/Metrics focused accelerator - four meetings / defining use cases and priorities

- **Program Manager**
  - Recruiting Program Manager for Q4/2023
  - Standardizing Accelerator Operations

- **External Relationships**
  - Supporting coordination of FAST and others involved with infrastructure
  - Relationships with other SDOs and other organizations

**Q3 2023/ Working on:**
- HL7 AI Roadmap (requested by the HL7 BOD)
Community Outreach

- FHIR Security Event / August 2023
  ➢ https://tinyurl.com/hl7sec
- Synthetic Data Event / August 2023
  ➢ https://tinyurl.com/hl7synth
- FHIR Community Process (FCP)
  ➢ https://tinyurl.com/hl7fhircp
Best Practices / Patient Empowerment

- Terminology Best Practices Playbook Published
  https://tinyurl.com/hl7termpb

- First IG with Plain Language Section
  https://hl7.org/fhir/us/mcc/2023Sep/

Q3 2023/ Working on:
- FHIR Reference Implementation Playbook
- Observation / Questionnaire Gallery
- Patient Empowerment Event
Ecosystem (Foundry)

- **Logica Sandbox / End of transition period**
  - Studying how to maintain basic services
  - Recommending use of the Community Edition

- **FHIR Foundry EOI Published**
  - Two complementary proposals received
  - Defining MVP and Budget requirements for FY 24

- **FHIR Reference Implementations Installed and Working**
  - IPS
    - [https://hl7-ips-server.hl7.org/fhir/metadata](https://hl7-ips-server.hl7.org/fhir/metadata)
  - OMOP ATLAS+OMOP ON FHIR+CQF RULER
    - [https://hl7-reasoning-omop.hl7.org/oof/fhir/metadata](https://hl7-reasoning-omop.hl7.org/oof/fhir/metadata)
    - [https://hl7-reasoning-omop.hl7.org/cqf/fhir/metadata](https://hl7-reasoning-omop.hl7.org/cqf/fhir/metadata)
    - [https://hl7-reasoning-omop.hl7.org/atlas/#](https://hl7-reasoning-omop.hl7.org/atlas/#)
Education

- **Credentialing Program**
  - Created TDD for our first test
  - Recruiting Question Writers
  - Working on JTA (Job Task Analysis)
  - First test will be released Q1 2023

- **Partnering Program**
  - Contract templates created for all categories
  - First two private organizations signed (Firely and AEGIS)
  - Finishing Partners Event and Landing Web Pages

**Q3 2023: Working on**
- Education for CMS to promote FHIR and interoperability to broader community
- Continuing proposal development for NIH to support their extramural FHIR education
Global Outreach

- First FHIR On-Site Course / Kenya / Africa
- Participation in DevDays 2023 / Amsterdam
- Participation in Medinfo 2023 / Australia
- Participation in HL7 Perú Affiliate 1st Event (Virtual)
- Agreement with WHO / Signed
- Draft Agreement / Meeting with AeHIN Leadership
- Meeting with RACSEL leadership

Q3 2023/ Working on:
- Regional Partnership with RACSEL (IDB/LAC) – Pending their signature
- Affiliate RECAINSA in Central America - Pending their proposal
- Finalize Agreement with AeHIN / Annual Meeting (Nov. 6-9, Jakarta, Indonesia)
- Participation in HL7 Brazil Event / RACSEL / PAHO Event (Nov. 14, Sao Paulo)
Thank You
Tuesday

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International Council Report

Fernando Campos
Co-Chair
International Council Update

HL7 International WGM
Sept 12th, 2023

Fernando Campos
HL7 International Council Co-Chair
Chair HL7 Argentina
There are 41 countries represented on the HL7 International Council.

Slovakia is awaiting Affiliate approval.

HELINA – Health Informatics in Africa is now a non-voting member of the International Council.
Since last WGM, one virtual IC meeting on August 16th, 2023

- Conclude e-Vote funding assistance for HL7 Philippines (1st HL7 Philippines Summit).
- IC Decision Making Practices
- Review of last changes of the Affiliate Agreement for 2024-25
- Preparation for Plenary 2023 WGM
Proposed Affiliate Agreement Updates – Main topics

- Two new subsections “Obligations of the Affiliate” and “Participation”.
- Organizational Member Use of licensed Standards
  - Related to no open standards (like V2x)
- Use an online Form for Section B of the Annual Report
- Requiring Affiliate Chairs to have active (free) HL7 Confluence accounts.
- More items will be discussed next Thursday
the way the necessary quorum is established based on whether an affiliate participates in the meetings or not.

- If the Affiliate do not participated in 3 International Council meetings and/or IC e-Votes in the previous 12 months, their status will be changed to “Inactive” and, until they meet these criteria, they are no longer counted in the quorum thresholds for International Council decision making process.
Affiliate updates - milestones

- First FHIR On-Site Course in Kenya - Africa

- First HL7 Philippines Summit (Aug 25-26)
Affiliate updates

- **FHIR IG Core JAPAN (36 months )**
  - FHIR Infrastructure
  - Diagnostics and Observations
  - Patient Administration
  - Clinical Module
  - Pharmacy and Medication
  - Terminology

---

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Affiliate updates – Next events

- HL7 Argentina – JIS summit (Nov 2-4 Bs As)
- HL7 Brazil Event / RACSEl / PAHO Event (Nov. 12-14, Sao Paulo)
- HL7 Hellas - Athens Digital Health Week 2024 (Jan 2024)
  - Organize the 1st HL7 Europe working group meetings and Connectathon in Europe
- HL7 Chile FHIR connectathon (Jan 2024)
Looking Forward

- Slovakia has made an application to be an affiliate
  - International Council will vote on approving the application with recommendation to the Board (deadline Sept 14th)
- IPS localization demo & IG in different languages
- WGM May 2025
  - Two candidates – Madrid & Rotterdam
THANK YOU!
Tuesday

- Chair’s Report & John Quinn HL7 Fellows Class of 2023
- CSDO & TSC Report
- Implementation Division Report
- International Council Report
- FHIR Accelerator: CARIN
- FHIR Accelerator: Helios
- Final Announcements
Tuesday

FHIR Accelerator: CARIN

Mark Roberts
Associate
The IG develops artifacts (FHIR implementation guides, code mappings, reference implementations, etc.) to enable the digital exchange and digital rendering of the elements found on a person’s physical insurance card. The primary use case is to support insurance members who wish to retrieve their proof of insurance coverage digitally via a consumer-facing application.

The implementation guide was published as an STU1 in July 2022.
CARIN Digital Insurance Card 2023 Updates

- On 2/28 we held a developer seminar on to discuss an approach for integrating the CARIN IG for Digital Insurance Card with SMART Health Cards

- Following that seminar, we discussed proposed changes that could be added to the IG to include the SHC use case.
SMART Health Links for CARIN Digital Insurance Card

Payors create digital insurance card, make it available to members
- Generate the FHIR bundle defined by the CARIN IG
- Generate SMART Health Link for a signed copy of the insurance FHIR data
- Provide to members to import as a QR code, download button, or link

Providers accept the insurance cards in online or in person check-in processes
- Accept links or scan QR codes via tablets or webcams, check in kiosks, and in online check-in processes
- Retrieve and validate the FHIR bundle
- Integrate (or lean on vendors to integrate) data into existing workflows

App and wallet makers provide people tools to manage their cards
- Import cards, add to digital wallets, display QRs for sharing, links for pasting
CARIN Digital Insurance Card 2023 Updates

- In June 2023, during the PIE WG meeting we reviewed proposed updates to add the SHC use case to the IG, which are posted on confluence here: https://confluence.hl7.org/display/CAR/CARIN+IG+For+Digital+Insurance+Cards+SMART+Health+Links+Use

- We also discussed how to move forward with new use case (update PSS or FHIR IG). After the discussion, the PIE WG voted (20-0-1) to approve update the FHIR IG.

- FMG approved the FHIR IG update on 2023-06-28: 2023-06-28 FMG Agenda/Minutes

- CARIN included the updates, which were approved by PIE in a CI build here: https://build.fhir.org/ig/HL7/carin-digital-insurance-card/
CARIN Digital Insurance Card 2023 Updates

- At the CMS Connectathon several apps were able to capture and ingest the SMART Health. Several were then able to validate and display the card or QR code that could be used at a kiosk scanner at a providers office. A report out can be found here:
  https://confluence.hl7.org/display/FHIR/2023+-+07+CARIN+IG+For+Digital+Insurance+Card
At the September Connectathon, we held a working session to review proposed updates, answer implementer questions, and invite implementers to join in testing the SHC, which can be on the track Confluence page here: https://confluence.hl7.org/display/FHIR/2023+-+09+CARIN+IG+For+Digital+Insurance+Card

We will be meeting with PIE on 9/12 @ Q2 to discuss publication next steps.

We also invite you to join us at the January 2024 Connectathon where we plan to hold a robust testing session with numerous implementers.
CARIN Blue Button IG Overview

- This IG describes the CARIN for Blue Button® Framework and Common Payer Consumer Data Set (CPCDS), providing a set of resources that payers can display to consumers via a FHIR API to meet part of the CMS requirements related to the Patient Access API.
- STU1 was published in November 2020, and minor technical corrections were published in early July 2021 as STU1.1.0.
- STU2 was published November 2022 and includes oral and vision types for the first time.
CARIN Blue Button 2023 Updates

- Launched a pilot with the ONC and CMS to include a test kit on the ONC’s Inferno test suite for the CARIN IG for Blue Button®.

- Reviewing Jira tickets and discussing updates to the IG to include non-financial EOBs to meet the CMS Advancing Interoperability and Improving Prior Authorization Processes Proposed Rule proposal, which will make patient claims and encounter data (excluding cost information) available to in-network providers beginning January 1, 2026.
Provider Access to Non-Financial Claims Data

▪ Objectives
  - Avoid Data Duplication
  - Avoid heavy post processing in an Orchestration Layer

▪ What We Have Learned So Far
  - _summary view won’t work due to base resource settings
3.3 Use Case - Provider Access to Non-Financial Claims Data

3.3.1 Background
- The CMS Advancing Interoperability and Improving Prior Authorization Processes Proposed Rule (CMS-0057-P) requires Health Plans to make a Bulk FHIR API available to Providers. The data available via that API would be the information a Health Plan makes available to the member, with one exception: Providers would have access to a member's claims data with the financial elements redacted. Making Non-Financial versions of Claims and Encounters available to a Provider audience requires three distinct areas to be addressed:
  1. The profile or data view.
  2. An Attribution control capability - how members are attributed to specific providers.
  3. An Access control capability - how providers gain access to an API to retrieve data for their attributed members.

3.3.1.1 Data View
- The CARIN Consumer Directed Payer Data Exchange (CARIN IG for Blue Button) has defined the claims profiles available for the Patient Access API. It is therefore appropriate for this IG to define the Non-Financial versions of these profiles.

3.3.1.2 Attribution Control
- Access to the Non-Financial Claims and Encounter profiles will be managed using a Group resource. The Da Vinci Member Attribution IG provides capabilities to manage attribution to providers and support bulk data API access.

3.3.1.3 Access Control
- The Payer Data Exchange IG, in a planned STU2 update, is working on defining the access method for leveraging Member Attribution for bulk access by providers to Patient Access API data for attributed members. This will define the Provider API required by the Prior Authorization Proposed Rule. It will utilize the Da Vinci Data Export operation defined in the Da Vinci Member Attribution IG.

In summary, enabling Provider Access to non-financial versions of claims and encounter data will require the combined focus of IGs from both the CARIN Alliance and Da Vinci Accelerators.
CARIN IG for Blue Button Non-Financial Flow
USCDI and USCDI+ Quality

- The CARIN Alliance previously submitted new Data Class and Element recommendations for USCDI versions 2, 3, and 4.

- CARIN suggested the inclusion of core administrative data found in the CPCDS and CARIN IG for Blue Button that did not exist in USCDI, but are necessary to further the ONC’s mission of “a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange.”
USCDI and USCDI+ Quality

- Many of the submitted Data Element recommendations have been included within the Health Insurance Information and Patient Demographics/Information Data Classes in USCDI v3 or v4.
- However several have not including the Explanation of Benefits (EOB) Data Class and Data Elements associated with the CARIN IG for Blue Button.
- CARIN recently submitted comments to USCDI v5 to again ask for ONC to consider including EOBs (or at least the non-financial EOBs) in the next published version of USCDI.
Weekly Meetings

- We invite you to join the weekly discussion to review Jira tickets, which will likely lead to updates to the STU2 of the CARIN Blue Button IG. The meetings occur weekly **Thursday at 1-2 pm ET**.

- The invite can be found on the HL7 Conference Call Center, Confluence, and Zulip or you can join using this Zoom information:
  
  https://leavittpartners.zoom.us/j/99456976904?pwd=MlhmODhSUFRLdDIDVU9rYW9NZGxMZz09&from=addon

  Password: 807486
<table>
<thead>
<tr>
<th>AREA OF FOCUS</th>
<th>ACCOMPLISHMENTS</th>
<th>PLANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARIN IG for Consumer-facing Real-time Pharmacy Benefit Check</td>
<td>❖ Developed, in conjunction with HL7 and NCPDP, a consumer-facing real-time pharmacy benefit check implementation guide. This implementation guide meets the CMS requirement to provide a ‘Beneficiary real-time benefit tool (RTBT)’ to Medicare beneficiaries.</td>
<td>❖ Advance the adoption of our RTPBC standard, including encouraging PBMs to consider this standard in conjunction with the NCPDP standard for MAPD and Part D plans. ❖ Working with HL7 sponsoring WG on an STU extension to continue our work.</td>
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### Digital Identity & Authentication

<table>
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<tr>
<th>Accomplishments</th>
<th>Plans</th>
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<tbody>
<tr>
<td>Worked with ONC, CMS, and the HHS team to conduct a year-long OpenID Connect-based Digital Identity Federation Proof of Concept. The PoC was necessary to implement FHIR-based data exchange at scale. For the PoC, we tested four workstreams (CSP only, CSP with HIEs, CSP with the HHS XMS Identity Broker service, and CSP with UDAP Tiered OAuth which followed the FAST HL7 IG on Interoperable Digital ID and Patient Matching) with the objective of scaling an open framework for federating trusted Identity Assurance Level 2 (IAL2) certified credentials using a person-centric approach. The output of this endeavor was published on our website in March 2023.</td>
<td>Incorporate the lessons learned from the Digital Identity Federation Proof of Concept into a production pilot.</td>
</tr>
<tr>
<td>Developed the CARIN Digital Identity Federation Credential Policy, which maps to NIST 800-63-3A, NIST 800-63-3B, NIST 800-53, and RFC 3467 guidance. This allows for digital identities to be interoperable. The credential policy is non-proprietary and can be used by anyone. It was published on our website in March 2023.</td>
<td>There is the potential to lead a health care digital identity federation pilot in the state of Utah through the One Utah Health Collaborative digital health pilot.</td>
</tr>
</tbody>
</table>
| A new workstream within CARIN will be addressing an open framework for how to identity proof minors with their consent and their legal guardian's/parent(s) consent. | }
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<td>Trust Framework, Code of Conduct, and App Registration Guide</td>
<td>❖ Continued to advance the CARIN Code of Conduct with various industry and public sector organizations. Current adopters include dozens of payers, the VHA, provider organizations, and others. We also have reviewed in detail with the FTC.</td>
<td>❖ CARIN Code of Conduct for Consumer-facing Applications is currently going through its annual update process based on feedback.</td>
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<td>❖ Launched the CARIN Code of Conduct Certification program with EHNAC. Applications can now get CARIN code of conduct certified with EHNAC.</td>
<td>❖ CARIN is creating a new Code of Conduct for “Connectors.”</td>
</tr>
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<td>❖ Continued discussions with the VHA, CCIIO, &amp; CMS about developing a common public sector application registration process, in relation to the CARIN App Registration Guide.</td>
<td>❖ WG is collaborating with Policy on FTC Health Breach Notification Rule.</td>
</tr>
<tr>
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<td>❖ Continue to ramp up the CARIN code of conduct certification program with more applications getting certified.</td>
</tr>
<tr>
<td>CARIN WORKGROUP</td>
<td>ACCOMPLISHMENTS</td>
<td>PLANS FOR 2023</td>
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- Chair’s Report & John Quinn HL7 Fellows Class of 2023
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- FHIR Accelerator: CARIN
- **FHIR Accelerator: Helios**
- Final Announcements
The Helios FHIR Accelerator for Public Health

HL7 WGM Meeting
September 12, 2023
What can be done to accelerate public health readiness to act on the data and use the data meaningfully?

What can we do to ensure that our efforts to influence healthcare partners are strategic and aligned?

How can we leverage policies and approaches to interoperability that have momentum and buy-in beyond public health?
HELIOS FHIR Accelerator

Helping public health to align with and benefit from the widespread standardization and transformation that is happening around digital health data

Focusing on Impact

Bringing People Together

Aligning Efforts
Core Principles

Desirability: Serves a pressing public health need

Feasibility: Fits with public health goals and resources

Compatibility: Builds off existing foundations

High Value and High Impact

Align With and Address Gaps in Core FHIR Capabilities

Practical to Develop and Implement
HELIOS FHIR Accelerator

Community-led priority areas

Deliver Aggregate Information to

Make Data in Public Health Systems Accessible in Bulk

Align and Optimize Public Health
HELIOS FHIR Accelerator

Community-led priority areas

Deliver Aggregate Information to

Make Data in Public Health Systems Accessible in Bulk

Align and Optimize Public Health

Public Health Query & Response
## Goals
Provide **mission-critical situational awareness information** to public health to support both **emergency response** and **ongoing monitoring needs**.

## Community Leaders
- Ravi Kafle (WA DOH), Hans Buitendijk (Oracle Cerner)

## Engaged Partners
- HIT/EHR Vendors
- Tech Partners
- STLTs
- Federal Partners

## Key Achievements
1. Identified and defined initial subset of standardized building block priority measures for testing
2. Testing proof-of-concept systems for existing FHIR interoperability standards – September 2023 Connectathon
Goals

Enable authorized users of IIS data to access complete, accurate, and timely immunization history information on their patient populations in a consistent way.

Community Leaders
- Mary Beth Kurilo (AIRA), Les Lenert (MUSC), John Stamm (Epic)

Engaged Partners
- IIS/HIT/EHR Vendors
- Payers
- State Immunization Programs
- Federal Partners

Key Achievements
1. Applied bulk Bulk Data FHIR standard to the use case.
2. Achieved proof-of-concept exchange of data for 100,000 test patients.
Goals
Describe a process for assessing the interoperability needs of a public health use case and identifying optimal FHIR-based approaches for achieving data sharing.

Community Leaders
- Michelle Barber (Oregon), Gillian Haney (CSTE), Steve Hill (Oracle Cerner)

Engaged Partners
- HIT/EHR Vendors
- CSTE
- STLTs
- Federal Partners

Key Achievements
1. Developed an evaluation framework to map use cases to FHIR-based solutions
2. Established high priority use cases to assess
Goals
Leverage existing FHIR API support to enhance public health access to data necessary to perform critical functions such as case generation and providing services and support to impacted individuals

Engaged Partners
- HIT/EHR Vendors
- STLTs
- Federal Partners

Key Achievements
1. Defined 3 initial use cases to test
2. Sept 2023 Connectathon track
Get Involved

Work alongside partners from across healthcare, government, and the private sector to access & exchange detailed information not easily available now.

Attend our sessions:
Public Health WG: Today Q1
Birds of a Feather: Today Q5

Join a Helios project team, email:
helios@hl7.org
Tuesday

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- FHIR Accelerator: Helios
- Final Announcements
Final Announcements

Mark McDougall
Executive Director
HL7 International
Meeting Schedule

- General sessions begin in this room at 8 am through Thursday
- Day is organized in quarters
  - Q1: 9 -10:30 am  Q2: 11 am -12:30 pm
  - Q3: 1:45 – 3 pm  Q4: 3:30 – 5 pm
- 30-minute breaks
  - 10:30 am
  - 3 pm
- Use Whova to find your meeting locations
Lunches

- Lunch is at 12:30 pm each day
- Those with an allergy and a Special Meals Ticket in their packet should speak to a server (they may have an alternative meal)
- Those registered for Friday and planning to attend the luncheon should pick up their ticket by 12 noon today at the registration desk.
Wireless Access

- Connect to: HL7SEP2023

- Password: HealthLevel7
  - Password is case sensitive
Mobile & Web App – Whova

- Stay up to date with event announcements, changes, view the site map, meeting agendas, and best of all, create your own schedule!
- If you experience any issues in your meeting rooms, send a message to Ask Organizers Anything under Community.
- If you have questions or need help with your app, please see the HL7 Staff.
Mobile & Web App – Whova

- Download the mobile app on the App Store or Google Play

- Access the web app from your laptop: https://whova.com/portal/webapp/hleve_202312/

- Scan the QR code at the registration desk
Schedule Changes

Please notify Mary Ann of any schedule changes:

WGMHelpDesk@HL7.org
Evaluations

- Tutorial evaluation links will be sent to participants.
- Meeting evaluation links were in the welcome letter and will also be sent after the meeting concludes.
- There will be a drawing for $500 towards HL7 Education!

https://www.surveymonkey.com/r/Sept2023WGM
Birds of a Feather Meetings

- Tuesday 12:30 PM
  - Gravity – Phoenix D

- Tuesday 5:30 PM
  - Helios – Phoenix E
  - Da Vinci – Phoenix B
  - Dental – Paradise Valley
  - CARIN – Deer Valley
  - FAST – Encanto A

- Wednesday 9 AM
  - Government – Phoenix A

- Wednesday 12:30 PM
  - CodeX – Phoenix D
Join us for the Women of HL7 Networking Reception tonight at 5:15 PM in Phoenix 3rd Street Foyer

Sponsored by HL7 Australia & Lantana
Thanks to Our Sponsors

Women of HL7 Reception Sponsor

Connectathon Sponsor

Women of HL7 Reception Sponsor

WGM Lanyard Sponsor
Bow Tie SIG
Have a fabulous day!

Tuesday, September 12, 2023
37th Annual Plenary & Working Group Meeting
Phoenix, Arizona

Wednesday, September 13, 2023
Welcome

Mark McDougall
Executive Director
HL7 International
Wednesday

- **Annual Business Meeting**
  - CEO’s Report
  - Secretary’s Report
  - Treasurer’s Report
  - 3-Year Plan Update

- **Recognition & Awards**
  - Individuals & Companies
  - Volunteers of the Year

- **Final Announcements**
Wednesday

CEO’s Report

Charles Jaffe, MD, PhD
Chief Executive Officer
HL7 International
HL7's Approach to Generative AI

Chuck Jaffe
HL7 CEO

Brief Report for the HL7 Membership

Developed in collaboration with
Dan Vreeman, CSDO
Diego Kaminker, DCSIO

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Building a Roadmap for 2023, 2024 & beyond

1. What is Generative AI?
2. How can Generative AI be leveraged in Healthcare and Interoperability?
3. Can Generative AI support our own HL7's processes?
4. Are there any existential threats to HL7 from Generative AI?
5. Can we protect our stakeholders from unethical use of Generative AI?
6. Current related projects inside HL7
7. Roadmap and next steps
What is Generative AI?

"An artificial intelligence (AI) system capable of generating text, images, or other media in response to prompts"

Everyday mentions:
ChatGPT, DALL-E, Midjourney, GitHub Copilot, etc…

Christina Farr @chrissyfarr 15m
From everything I've seen, I'm getting more & more bought into the hype around LLMs for clinical uses. We need to free doctors up to actually focus on the patient, not be logging and thinking about coding. Lots to fix & I'm aware of the issues. And I'm a realist. But I'm excited.
Applying Generative AI in Healthcare

- **Traditional AI**: Limited to specific tasks - identify objects in images or translate languages.

- **Generative AI**: Potential to improve workflow in patient care, reduce costs, and accelerate medical research.

“We have a surplus of solutions, so I need you to create a bunch of new problems.”
The Future of Generative AI in Healthcare

Generative AI will revolutionize the way healthcare is delivered, and is likely to play an increasingly important role in the years to come.

Most implementations will utilize 'GenAI plug-ins' into current systems.
Generative AI for HL7 processes

**Our purpose:** Convene and create consensus to develop interoperability standards and speed their implementation.

**Our approach:** Identify challenges and opportunities in the standards development and implementation lifecycle that…

- may utilize Generative AI for creating interoperability standards (HL7 as a convener: community consensus).
- may leverage Generative AI for our internal processes.
Generative AI for HL7 processes

• **Short Term**
  - Note-taking and meeting minutes (in person or Zoom)
  - Make a checklist for speakers at our virtual event that uses Zoom
  - Summarize the survey results from a questionnaire

• **Long Term**
  - ChatHL7: train a model on chat.fhir.org responses and confluence.fhir.org content
  - Auto-generate FHIR profiles, queries, and text-based narrative descriptions

• **Medium Term**
  - Create a lay person summary of the "MCC eCare Plan Implementation Guide"
  - Create multiple examples of FHIR Coverage resources that conform to the Resource Profile: US Core Coverage Profile
  - Create “album art” for our specs to convey the spirit of standards development for a non-technical audience
  - Summarize this!
Existential Threats of Generative AI

- Member job contraction
- Membership erosion
- Industry consolidation
- Enabling interoperability solutions that do no require standards
- Accelerating obsolescence
- Auto-creation of false clinical records
- Development of non-standardized interoperability solutions
Challenges in the use of Generative in Regulation

- **Hype vs Actual Use**: Formulating processes to aid our community in navigating hype versus actual (realistic) use cases.

- **Computing Resources**: Recognizing the requirement of Generative AI for an extremely large amount of computer resources.

- **Inaccuracy and Bias**: Elaborating concerns about the accuracy and bias (gender, race, SDOH) of Generative AI models and the data to train them.

- **Security and Privacy**: Protecting access to large amounts of sensitive data to train models.
Current Generative AI related projects in HL7

- The EHR Workgroup is creating:
  - A white paper on the use of AI in Healthcare (not focused on GenAI)
  - A specification on the AI Data

- Other discussions: (GenAI+existing FHIR specs)
  - How to call an AI service: CDS Hooks
  - How to get Get recommendations from an AI service: CDS Hooks+SMART-on-FHIR
  - How to Identify the device and the algorithm: IG on Provenance for AI+Extensions and (if needed) algorithm bias
  - How to identify the resource as preliminary and/or created by an AI algorithm: Utilizing verificationStatus or similar resource or tagging the resources as ‘preliminary’ or ‘created by AI’: tag/element in the resource metadata
Roadmap and next steps

- The HL7 Board charged the Executive Leadership Team with the advancement of 3 areas, within the scope of the Three-year plan:
  - **Outreach:**
    - Create a virtual event "What is GenAI to HL7", before the end of this calendar year.
    - Create an "innovation award" for creative uses of HL7 standards with GenAI.
  - **Relevance:** Identify use cases, stakeholders, and themes for GenAI use in HL7's domain (based upon current WG projects & other sources).
  - **Agility:** Find concrete ways to leverage GenAI Bots or tools to improve our processes.
Additional References & Resources

- The Lancet Regional Health – Embracing generative AI in Health Care
  https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(23)00096-0/fulltext

- Epic, Microsoft partner to use generative AI for better EHRs

- Draft HL7 White Paper on AI (EHR WG)
  https://tinyurl.com/wpaihl7

- AI LifeCycle
  https://jira.hl7.org/browse/PSS-2149
Wednesday

- **Annual Business Meeting**
  - CEO’s Report
  - Secretary’s Report
  - Treasurer’s Report
  - 3-Year Plan Update
- **Recognition & Awards**
  - Individuals & Companies
  - Volunteers of the Year
- **Final Announcements**
Annual Business Meeting

Secretary’s Report

Julia Skapik

For

Virginia Lorenzi

Secretary

HL7 International Board of Directors
Board Election Results

- Treasurer: John Hatem
- Directors: Josh Mandel, MD, Marjorie Rallins
- Affiliate Directors: Giorgio Cangioli, Fernando Campos
International Council Co-Chair Election Results

- International Council Co-Chair: Ron Parker
TSC Election Results

- Chair Elect: Rick Geimer
- Implementer Rep: Jeff Brown
- Work Group Reps: Riki Merrick, Lloyd McKenzie
- Affiliate Rep: Alexander Zautke
WG Co-Chair Election Results

- Arden Syntax – Peter Adlassnig
- Biomedical Research and Regulation – Maryam Garza
- Clinical Decision Support – Robert Jenders, Kensaku Kawamoto, Bryn Rhodes
- Clinical Genomics – Robert Freimuth, Michael Watkins, Patrick Werner
- Clinical Information Modeling Initiative – Nathan Davis, Stan Huff
- Clinical Interoperability Council – Bruce Bray, Russ Leftwich
- Clinical Quality Information – Paul Denning, Yan Heras, Stan Rankins
- Community Based Care and Privacy – David Pyke
Co-Chair Election Results

- Conformance – Robert Snelick
- Cross-Group Projects – Floyd Eisenberg
- Devices – Todd Cooper, John Garguilo, Elliot Silver
- Electronic Health Records – Mark Janczewski, John Ritter, Lincoln Weed
- Emergency Care – James McClay
- FHIR Infrastructure – Gino Canessa, Grahame Grieve, Yunwei Wang
- Financial Management – Celine Lefebvre, Mark Scrimshire
- Human Services – Brian Handspicker, Michelle Zancan
WG Co-Chair Election Results

- Imaging Integration – Jonathan Whitby
- Implementable Technology Specifications – Paul Knapp
- Infrastructure and Messaging – Tony Julian
- Learning Health Systems – Bruce Bray, Maria Michaels
- Mobile Health – Matthew Graham
- Modeling and Methodology – Ron Shapiro
- Orders and Observations – Lorraine Constable, Robert Hausam, Ralf Herzog, JD Nolen
- Patient Administration – Reinhard Egelkraut, Cooper Thompson
WG Co-Chair Election Results

- Patient Care – Laura Heerman Langford, Emma Jones, Michael Tan
- Patient Empowerment – Kim Herman, Abigail Watson
- Payer/Provider Information Exchange – Chris Johnson, Karuna Relwani
- Pharmacy – Jean Duteau, Frank McKinney
- Public Health – Erin Holt, Forest White, Danny Wise
- Security – Kathleen Connor, Alexander Mense
- Services Oriented Architecture – Jerry Goodnough, Stefano Lotti, Ken Rubin
- Structured Documents – Joanne Dehnbostel, Gay Dolin, Benjamin Flessner
- Vocabulary – Jessica Bota, Marc Duteau, Robert Hausam
Recipients of Woody Beeler Memorial Scholarship

- Haotian Huang, Victoria, Australia
- Michael Tan, North Holland, Netherlands
Wednesday

- **Annual Business Meeting**
  - CEO’s Report
  - Secretary’s Report
  - Treasurer’s Report
  - 3-Year Plan Update
- **Recognition & Awards**
  - Individuals & Companies
  - Volunteers of the Year
  - Final Announcements
Treasurer’s Report

Floyd Eisenberg, MD
Treasurer
HL7 International Board of Directors
Treasurer’s Report

- Highlights of 2022 yearend financials
- Highlights of 2023 yearend financial forecast
- Preliminary insight to the 2024 budget that is under development
## Highlights of 2022 Operating Financials*

<table>
<thead>
<tr>
<th></th>
<th>2022 Budget</th>
<th>2022 Actual</th>
<th>Variance</th>
<th>Variance %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>7,099,850</td>
<td>7,751,023</td>
<td>651,173</td>
<td>9%</td>
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<tr>
<td>Expenses</td>
<td>8,842,917</td>
<td>7,605,623</td>
<td>-1,237,294</td>
<td>-14%</td>
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<tr>
<td>Net Income</td>
<td>-1,743,067</td>
<td>145,400</td>
<td>1,888,467</td>
<td>108%</td>
</tr>
<tr>
<td>2022 Yearend Reserves</td>
<td>9,178,097</td>
<td>11,066,564</td>
<td>1,888,467</td>
<td>21%</td>
</tr>
<tr>
<td>Reserves in months of operating expenses</td>
<td>12.45</td>
<td>17.46</td>
<td>5.0</td>
<td>40%</td>
</tr>
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</table>

*Excludes pass-through funds for ONC funded projects and FHIR accelerators.
## Highlights of 2023 Yearend Forecast Financials*

<table>
<thead>
<tr>
<th></th>
<th>2023 Budget</th>
<th>Yearend Forecast</th>
<th>Variance</th>
<th>Variance %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>10,313,729</td>
<td>10,073,126</td>
<td>-240,603</td>
<td>-2.3%</td>
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<tr>
<td>Expenses</td>
<td>11,734,477</td>
<td>10,612,992</td>
<td>-1,121,485</td>
<td>-9.6%</td>
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<tr>
<td>Net Income</td>
<td>-1,420,748</td>
<td>-539,866</td>
<td>880,882</td>
<td>62%</td>
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<tr>
<td>2023 Yearend Reserves</td>
<td>9,645,816</td>
<td>11,376,215</td>
<td>1,730,399</td>
<td>18%</td>
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<tr>
<td>Reserves in months of operating expenses</td>
<td>9.86</td>
<td>12.86</td>
<td>3.0</td>
<td>30%</td>
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</table>

*Excludes pass-through funds for ONC funded projects and FHIR accelerators.
Looking ahead to HL7’s 2024 budget

2024 Budget advance highlights:

- Budget reconfigured from previous years to incorporate the 3-year business plan highlighted during yesterday’s general session presentation
  - Project-line expense and revenue accounting including staff time
  - Business-centered accountability enabling expansion of services with focus on the bottom line
- Includes significant investments for additional resources and events as well as new sources of income
  - New events
  - Additional support infrastructure
  - Additional staff support
- Finance Committee will review the proposed budget to the HL7 Board of Directors over the next 2 ½ months with final approval no later than December 4th
Treasurer’s Report

- Should you have any questions, please contact me at feisenberg@iparsimony.com or our HL7 Controller, Nagham Sabah at Nagham@HL7.org

- Thank you!
Wednesday

- **Annual Business Meeting**
  - CEO’s Report
  - Secretary’s Report
  - Treasurer’s Report
  - 3-Year Plan Update

- **Recognition & Awards**
  - Individuals & Companies
  - Volunteers of the Year

- **Final Announcements**
3-Year Plan Update

Dan Vreeman, DPT
HL7 International CSDO

Viet Nguyen, MD
HL7 International CSIO
HL7 International 3-Year Plan

HL7 WGM September 2023

Charles Jaffe
HL7 CEO
cjaffe@hl7.org

Dan Vreeman
HL7 CSDO
dan@hl7.org

Viet Nguyen
HL7 CSIO
viet@hl7.org

Diego Kaminker
HL7 DCSIO
diego@hl7.org
Our Foundation:
*Core Principles and 2022-2024 Strategic Goals*

**Focus**
Advance the global adoption of HL7 FHIR, while maintaining other HL7 standards currently in use

**Agility**
Optimize HL7 processes and make HL7 more approachable and simpler to be engaged in

**Global Relevance**
Ensure all our products and services have global relevance and reach a global market

**Community**
Expand HL7 reach beyond our traditional communities to include implementers and consumers

**Sustainability**
Pursue diversification and expansion of our funding sources to increase long-term sustainability of the organization
From Principles to 3-Year Plan

From the **Principles** and the detailed Re-envisioning Task Force(s) Recommendations, we developed **10 overarching Strategies**

- **S01** - Leverage and expand the success of the HL7 FHIR Accelerator program
- **S02** - Increase quality, value, and reach of HL7 education offerings
- **S03** - Create a platform to enable discovery and testing of HL7 specifications
- **S04** - Pursue new communities
- **S05** - Empower patient participation and patient-awareness/friendliness of our standards
- **S06** - Work proactively in global outreach
- **S07** - Develop and execute a contributor engagement program
- **S08** - Extend our portfolio of standards advancement projects through external funding
- **S09** - Migrate legacy web platform to a modern content management system
- **S10** - Continue HL7’s “flywheel” activities that perpetuate our momentum
The Plan is organized by this framework

Each **Strategy:**
- links to the **Recommendations** on which it is based
- has a responsible person from one of HL7’s 3 divisions
- has a corresponding **Business Plan**
The future is becoming the now
3 years from now…we’ll be able to say:

- We are a vibrant, diverse, global and continuously-welcoming community
- We have a complete portfolio of role-based courses and certification tracks
- We have an active portfolio of grant/contract funding complementing other revenues
- We have a place to understand and test every HL7 Implementation Guide
- We have a network of training partners
- The robust HL7 FHIR Accelerator program catalyzes standards development and use
10 Strategies for Becoming the Re-envisioned HL7
Leverage and expand the success of the HL7 FHIR Accelerator program

Based on our learned best practices, we will develop a standardized and sustainable **Accelerator Blueprint** as the model to grow our community and support the adoption of FHIR around the world.

*SID (Viet Nguyen)*

- Improved cross-Accelerator coordination
- Established and applied the **Accelerator Blueprint**
- Supported Gravity in transition to new PMO
- Initiated discussions with key, representative stakeholders to discuss value of a Quality-Metrics Accelerator
- Supporting CodeX PMO RFP and transition
- Advised development of Accelerator workflow

- Launch 2 new Accelerators
- Further maturation of Accelerator workflows with input from PMOs
- Implement workflows as applicable
- Coordinate with Accelerators to maximize effectiveness of HL7 and Accelerators at HIMSS
- Continued coordination with SDD on events
S02 Increase quality, value and reach of HL7 education offerings

Create new education programs to increase the value (through credentialing), volume (through partnering) and quality (through certifying education providers) of HL7 Education.

SID (Diego Kaminker)

**Partnering Program Launch**: Contract templates and web page prepared. Three partners signed up. First course created by a Partner released in August (TW)

**Credentialing Program**: Contract signed August 2023. Working on Blueprint and Job/Task Analysis for the first test / certification.

**Partnering**: September 2023: Launch / Announce the Program / Sign up at least 2/4 partners next year

**Credentialing**: Finalize and launch the new test and credentials by Q1 2024.
Create a platform for discovery and testing of our specifications

Create an open platform (the **FHIR Foundry**) where anyone in the world can **discover**, **test/try**, and **install** reference implementations of HL7 specifications.

**SID (Diego Kaminker)**

| Maintained the Logica Sandbox running (lights-on) | Secure budget for FYI 2024 |
| Created Foundry EOI and met with the selected vendors | First MVP for Q1 2024 |
| Created the roadmap for MVP+one product cycle | Create the Foundry Advisory Council for future roadmap |
| Installed Reference Implementations for IPS and OMOP-Reasoning Modules running in HL7 Assets | Enable Community Edition and minimal set of services for current users of the Logica Sandbox |
Pursue new communities

Proactively reach new communities by leveraging industry opportunities and paving new paths.

_SID (Diego Kaminker + Chuck Jaffe)_

### Progress

- **FHIR in the Clouds** Virtual Edition (HL7 / Jul 2023)
- **FHIR Synthetic Data Event** (HL7 / Aug 2023)
- **FHIR Security Event** (HL7 / Aug 2023)
- Oncology Summit (Sep 2023)
- BIDMC-AMIA AI Summit (Sep 2023)
- ACP Medical Informatics Symposium (Oct 2023)
- AMIA Annual Symposium (Nov 2023)
- NODE Health Summit (Dec 2023)

### Plans

**2024 Events:**

- FHIR Data Science Institute
- Open Data on FHIR
- AMIA HL7 FHIR App Competition
- FHIR Open Source
Reinforce HL7’s commitment to proactively involve patients and caregivers in the full life cycle of standards development and implementation.

*SID (Diego Kaminker + Chuck Jaffe)*

**Progress**

- First Implementation Guide with friendly narrative published
- Notre Dame Health Equity Data Lab Participation

**Plans**

- Patient empowerment Event (2024)
Work proactively in global outreach

Improve the vitality of our affiliate network and expand our partnerships through deliberate outreach, targeted communication, and developing shared services available for use in their local programs.

SID (Diego Kaminker + Chuck Jaffe)

**Progress**
- Terminology Best Practice Playbook
- Reference Implementation Best Practice Playbook
- Signed Agreements with: Helina (Africa) and WHO
- Events: First African on-site FHIR Workshop (Kenya)
- Participation in Medinfo and Devdays
- APEC Annual Interoperability Summit
- EMA IDMP Workshop

**Plans**
- Agreement with RACSEL (Network of countries in SouthAm)
- Agreement with AeHIN (Regional Partner in SouthEast Asia)
- Participation in AeHIN Annual Meeting
- New affiliate in Central America (RECAINSA)
We must inspire, expand, and engage with an ever-broader set of global stakeholders to fuel our collective progress in developing and implementing HL7’s standards.

*SDD (Dan Vreeman)*

<table>
<thead>
<tr>
<th>Community metrics</th>
<th>Onboard HL7 Community Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruiting: HL7 Community Manager</td>
<td>Develop community health roadmap</td>
</tr>
<tr>
<td>Co-chair perspectives survey (findings + follow-up)</td>
<td>Address additional frustration points</td>
</tr>
<tr>
<td>Addressing common frustrations through sharing <strong>best practices</strong> and <strong>infrastructure improvements</strong></td>
<td>Implement respectful communication education into HL7 leadership training</td>
</tr>
</tbody>
</table>
Extend our externally-funded standards advancement portfolio

We will continue delivering on our existing funded portfolio, while cultivating and expanding externally funded activities through grants, contracts, and cooperative agreements.

*SDD (Dan Vreeman + Chuck Jaffe)*

- Operating 40+ projects: **standards advancement, core infrastructure development, process improvement, pilot testing, and dissemination.**
- Projects are advancing all ten 3 Year Plan strategies
- Submitted 3 additional proposals to new agencies
- Supported **Friends of HL7** for more legislative funding

Continue aligning sponsored project objectives with HL7 mission and 3 Year Plan strategies

- Build internal capabilities for sustaining project innovations
- Strategically pursue additional funding opportunities
Revamp and re-imagine our web platform on a modern, open-source content management system with a vision towards integration with our standards development and publication infrastructure.

*SDD (Dan Vreeman)*

- Prototype Project Life Dashboard on new platform
- Stabilized Ballot Desktop and Con Call Center
- Single Sign-On (planned roll-out Oct 2023)
- Specification Lifecycle
- Modern branding / UI for registry.fhir.org

- Kickoff hl7.org design cycle
- Phase 2 Project Life Dashboard (data automations)
- Add additional apps to SSO
- Consolidate / rewrite stand-alone apps
Continue HL7’s “flywheel” activities that perpetuate our momentum

HL7’s core activities serve as the organizational circulatory system that sustains our vital momentum. To keep things running smoothly, we monitor and look for opportunities for continuous improvement.

**Operations (Mark McDougall) + SDD (Dan Vreeman)**

Convening WGMs, WGM+, FHIR Connectathons, FHIR Connectathons, CMS Connectathon, FHIR DevDays, etc

Maintaining core admin and technical infrastructure

Conducting routine ballot cycles

Operating core business services

Keep the flywheel turning!
Here today. *Towards* tomorrow.

**hl7.me/plan**

**HL7 International 3-Year Plan**
Becoming the re-envisioned HL7

**Our Foundation**
Core Principles and 2022-2024 Strategic Goals

**Focus**
Advance the global adoption of HL7 PHIR, while maintaining other HL7 standards currently in use

**Agility**
Optimize HL7 processes and make HL7 more approachable and simpler to be engaged in

**Global Relevance**
Ensure all our products and services have global relevance and reach a global market

**Community**
Expand HL7 reach beyond our traditional communities to include implementers and consumers

**Sustainability**
Diversify and expand our funding sources to increase long-term sustainability of the organization
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  - Volunteers of the Year

- **Final Announcements**
Recognition of Individuals & Companies

Mark McDougall
Executive Director
HL7 International
Congrats! HL7 John Quinn Fellows Class of 2023

- Adam Chee
- Carmela Couderc
- Suzanne Gonzales-Webb, CPhT
- Chuck Jaffe, MD, PhD
- Joginder Madra
- Mitra Rocca
- Dan Vreeman, DPT
Recognition of Long Time Members

HL7 members for 20-24 years:

Noam Arzt
Ann Badame
Mary Lynn Bushman
Christopher Chute
Gora Datta

Tom de Jong
Helen Drijfhout-Wisse
Gerard Freriks
Sheldon Gilmer
Hugh Glover
Recognition of Long Time Members

HL7 members for **20-24** years

Matthew Greene  
Norman Gregory  
Grahame Grieve  
Smita Hastak  
John Hatem  
Robert Hausam  
Beat Heggli  
Kai Heitmann  
William Hess  
Masaaki Hirai
HL7 members for **20-24** years:

- Martin Hurrell
- Jeff Jacobs
- Lenel James
- Robert Jenders
- Phillip Kiefer
- Michio Kimura
- Elizabeth King
- Gunnar Klein
- Peter Kranich
- Austin Kreisler
Recognition of Long Time Members

HL7 members for 20-24 years:

David Marotz
James McClay
Robert McClure
Lloyd McKenzie
Tim McNeil

Eliot Muir
Nancy Orvis
David Parker
Ron Parker
Nick Radov
Recognition of Long Time Members

HL7 members for 20-24 years:

John Ritter          Spencer SooHoo
Ken Rubin            Corey Spears
Peter Scholz         Robert Stegwee
Masakazu Shimomura   Sandra Stuart
Judith Snow          Sadamu Takasaka
Recognition of Long Time Members

HL7 members for 20-24 years:

Sylvia Thun
Denise Warzel
Recognition of Very Long Time Members 1/2

HL7 members for **25-29** years:

- Liora Alschuler
- Bernd Blobel
- Philip Caillouet
- Ray Duncan
- Carl Dvorak
- Peter Haug
- Tony Julian
- Christopher Melo
- Karen Nocera
- Frank Oemig
Recognition of Very Long Time Members 2/2

HL7 members for **25-29** years:

- Durwin Day
- Vassil Peytchev
- AbdulMalik Shakir
- Rene Spronk
- Timo Tarhonen
- Franklin Wilcox
Recognition of Very Long Time Members

HL7 members for 30-34 years:

Hans Buitendijk
Gary Dickinson
Ted Klein

Virginia Lorenzi
Clem McDonald
Doug Pratt
Recognition of Very Long Time Members

HL7 members for 35+ years:

Ed Hammond
Recognition of Long Time Affiliates

Affiliates for more than 20 years:

- HL7 Argentina
- HL7 Australia
- HL7 Brazil
- HL7 Canada
- HL7 China
- HL7 Croatia
- HL7 Finland
- HL7 Germany
- HL7 India
- HL7 Japan
- HL7 Korea
- HL7 Netherlands
- HL7 New Zealand
- HL7 Switzerland
- HL7 Taiwan
- HL7 UK
Organizations for **more than 20 years**:

Accenture
American College of Radiology
ARUP Laboratories
Blessing Hospital
Blue Cross Blue Shield of South Carolina
Cedars-Sinai Medical Center
Computrition, Inc.
Epic
Food and Drug Administration
Organizations for more than 20 years:

GE Healthcare
Health Care Service Corporation
HLN Consulting
IBM
Merck & Co. Inc.

National Cancer Institute
National Institute of Standards
National Library of Medicine
New York State Department of Health
Organizations for more than 20 years:

New York-Presbyterian Hospital
NICTIZ
North Carolina Baptist Hospitals
Quest Diagnostics
Rady Children’s Hospital
Regenstrief Institute
Sharp HealthCare Information Systems
Stanford Children’s Health Surescripts
The CBORD Group Inc.
Organizations for more than 20 years:

- The CBORD Group Inc.
- U.S. Department of Defense
- U.S. Department of Veteran Affairs
- University of Nebraska Medical Center
- Washington State Department of Health
- XIFIN, Inc
2023 Benefactor Members

Accenture
Allscripts
Amazon Web Services, Inc.
American Medical Association
Centers for Disease Control and Prevention (CDC)
CGI Federal
Duke Clinical & Translational Science Institute
Edifecs, Inc
Epic
European Medicines Agency
Federal Electronic Health Record Modernization
Food & Drug Administration (FDA)
Google
InterSystems
Kaiser Permanente
2023 Benefactor Members

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NCQA
Office of the National Coordinator for Health IT (ONC)
Onyx Technology LLC
Optum
Oracle
Partners HealthCare System, Inc.
Pfizer

Philips Healthcare
PointClickCare
Quest Diagnostics, Incorporated
Ready Computing Inc.
U.S. Department of Defense, Military Health System
U.S. Department of Veterans Affairs
UnitedHealthcare
WAYSTAR
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<td>Blue Cross Blue Shield Association</td>
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<td>BlueCross BlueShield of Alabama</td>
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<td>Computable Publishing LLC</td>
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Computrition, Inc.
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Council of State and Territorial Epidemiologists
CU Anschutz Medical Campus
Dogwood Health Consulting Inc.
Double Lantern Informatics
Drummond Group

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EyeMD EMR Healthcare Systems, Inc.
Godfrey Systems LLC
Graphite Health Inc.
Health Care Service Corporation
Health Intersections Pty Ltd
Hi3 Solutions
IBM
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<td>Labware, Inc.</td>
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<td>Milliman IntelliScript</td>
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<td>MY Synergy Ltd.</td>
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<td>National Association of Community Health Centers</td>
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<td>National Association of Dental Plans</td>
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Gold Members

National Marrow Donor Program
NICTIZ
NIH/Department of Clinical Research Informatics
North Star Health Solutions
Northwestern Medicine
Optimoz, Inc.
P.G.M.D. Consulting S.r.l.
Public Health Informatics Institute

Redox
Regenstrief Institute, Inc.
Registry Clearinghouse
Rhoads Systems, Inc.
Rochester RHIO
RTI International
Samvit Solutions
Security Identification Systems Corporation
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<td>Tata America International Corp (TAIC)</td>
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<td>Skyward IT Solutions</td>
<td>The Sequoia Project</td>
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<td>SMART Health IT</td>
<td>Therap Services LLC</td>
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<tr>
<td>Starwest Tech</td>
<td>UC Davis School of Medicine</td>
</tr>
<tr>
<td>State Hygienic Laboratory at the University of Iowa</td>
<td>United Physicians</td>
</tr>
<tr>
<td>State of Delaware Division of Public Health</td>
<td>Univ of Texas Health Science Center</td>
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<td>Systex, Inc.</td>
<td>San Antonio</td>
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<td>University of Arkansas Medical Sciences</td>
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</tbody>
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Gold Members

USAging
UW Medicine Information Technology Services
VICO Open Modeling
VNB Health Solutions
Vynyl
Special thanks to two critically important groups
Recognition of the Backbone of HL7

Sincere thanks to our dedicated mentors, facilitators, TSC members, instructors and all co-chairs…

the **backbone** of HL7

*Please stand to be recognized*
Recognition of Long Time HL7 Staff at HQ

Staff who have been on our team for 15+ years:

- Lynn Laakso (15)
- Dave Hamill (16)
- Mary Ann Boyle (17)
- Andrea Ribick (17)
- Linda Jenkins (19)
- Anne Wizauer (24)
- Karen Van Hentenryck (27)
- Mark McDougall (32)
Wednesday

- **Annual Business Meeting**
  - CEO’s Report
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  - Treasurer’s Report
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- **Recognition & Awards**
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  - **Volunteers of the Year**

- **Final Announcements**
27th Annual Volunteers of the Year Award

W. Ed Hammond, PhD
27th Annual Volunteers of the Year Award

Rob Hausam, MD
27th Annual Volunteers of the Year Award

Mark Janczewski, MD, MPH, FAAFP, FAMIA
27th Annual Volunteers of the Year Award

Rob McClure, MD
27th Annual Volunteers of the Year Award

Lisa Nelson, MBA, MMI
27th Annual Volunteers of the Year

Rob Hausam, MD
Mark Janczewski, MD, MPH, FAAFP, FAMIA
Rob McClure, MD
Lisa Nelson, MBA, MMI
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- Final Announcements
Wednesday

Final Announcements

Mark McDougall
Executive Director
HL7 International
Evaluations

- Tutorial evaluation links will be sent to participants.
- Meeting evaluation links were in your welcome letter and will also be sent after the meeting concludes.
- There will be a drawing for $500 towards HL7 Education!

https://www.surveymonkey.com/r/Sept2023WGM
Reminder to co-chairs

Schedule Changes
Please notify Mary Ann of schedule changes:
WGMHelpDesk@HL7.org
Join us for the Networking Reception tonight at 5:15 PM in Phoenix C
Thanks to Our Sponsors

Women of HL7 Reception Sponsor

Connectathon Sponsor

Women of HL7 Reception Sponsor

WGM Lanyard Sponsor
Have an awesome day!

Wednesday, September 13, 2023
37th Annual Plenary & Working Group Meeting

Phoenix, Arizona

Thursday, September 14, 2023
Thursday

Welcome

Mark McDougall
Executive Director
HL7 International
Thursday

- FHIR Accelerator: FAST
- FHIR Accelerator: Argonaut
- FHIR Accelerator: Gravity
- FHIR Accelerator: Da Vinci
- FHIR Accelerator: CodeX
- Upcoming Education & Meetings
- The State of FHIR
- Final Announcements
Thursday

FHIR Accelerator: FAST

David Pyke
Member
FAST Update

September 2023 HL7 Annual Plenary & WGM
What is the Problem?

**TODAY - Exchange**
Exchange characterized by point-to-point interfaces
Adoption trajectory is slow, expensive, and fragmented

**FUTURE - Interoperability**
A common & consistent infrastructure approach to API implementation
Consensus on implementation guides for key enablers, such as directory, security, patient matching, exchange and testing

**DESIRED RESULT:**
A national interoperability approach that enables consistent data exchange via API. We have this for administrative transactions (X12, clearinghouses, WEDI) and pharmacy transactions (NCPDP, Surescripts). We do not have this for HL7 FHIR.
FAST 2023 Members
## FAST Implementation Guide Dashboard

<table>
<thead>
<tr>
<th>Implementation Guide</th>
<th>Project Page</th>
<th>Scenarios Included</th>
<th>IG Status</th>
<th>Reference Implementation</th>
<th>Number of Connectathons</th>
<th>Sponsoring Workgroup</th>
<th>Project Number</th>
<th>PSS</th>
<th>Zulip Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hybrid/Intermediary Exchange</strong></td>
<td><strong>FHIR at Scale (FAST): Exchange with or without Intermediaries</strong></td>
<td>Passive intermediaries</td>
<td>STU 1 Published</td>
<td>TBD</td>
<td>8</td>
<td>FHIR-1 WorkGroup Home</td>
<td>1653</td>
<td>PSS for FAST Exchange Metadata Using RESTful Headers</td>
<td>FHIR at Scale Taskforce (FAST): Exchange with/without intermediaries</td>
</tr>
<tr>
<td><strong>Interoperable Digital Identity and Patient Matching</strong></td>
<td><strong>Interoperable Digital Identity and Patient Matching Capabilities</strong></td>
<td>STU 1 Published</td>
<td><a href="https://github.com/HL7-FAST/identity-matching">Link</a></td>
<td><a href="https://github.com/HL7-FAST/identity-matching">Link</a></td>
<td>9</td>
<td>Patient Administration</td>
<td>1717</td>
<td>Patient Matching PSS</td>
<td>FHIR at Scale Taskforce (FAST): Identity</td>
</tr>
</tbody>
</table>

[Link](https://confluence.hl7.org/display/FAST/FAST+Implementation+Guide+Dashboard)
Identity
• Prioritized updates for STU2 with the team members
• Gathering additional SME feedback to refine the Identity Proofing
• Participated in HL7 Connectathon
• Requests:
  – Join workgroup discussions to provide input into STU 2 - 1st and 3rd Thursdays at 2pm ET (HL7 Conference Call Center)

Security
• Participated in recent HL7 Security Event
• Participated in HL7 Connectathon
  – Demonstrated adoption of Security IG outside of FAST (Da Vinci, CARIN and TEFCA)
• Collaboration with National Healthcare Directory, Da Vinci and CARIN on Provider Access API
• Weighing whether a new STU or an un-balloted update is needed
Testing and Versioning Discovery
• Completed discovery process which included gathering community feedback on needs
• Assuming Steering Committee approval, will move forward as a FAST project
• Requests:
  – Join workgroup discussions to provide input – next call on Thursday, Sept 21st at 10am ET (HL7 Conference Call Center)

National Healthcare Directory
• IG in HL7 ballot process to refine the single IG format and structural changes
• Driving the Provider Access API discussion at the WGM
• Requests:
  – Join workgroup discussions to provide input on the IG - Mondays at 3pm and Thursdays at 11am ET (HL7 Conference Call Center)
Completed initial consent discovery project identifying gaps, potential use cases and recommendations to inform FAST’s discussions of whether to take on consent-related project

- Explored scalability factors for consent management and enforcement to define what consent at scale means and entails
- Identified a high-level list of abstract use cases in consent management and enforcement and the requirements for scalability for each of these use cases
- Analyzed existing initiatives around consent cover and exposing the gaps within the existing work

Consent discovery team concluded there are sufficient consent scalability challenges to warrant FAST’s consideration of a Consent IG project

Request: Review the FAST Birds of a Feather presentation for full update and contact FAST at fast@hl7.org with feedback or questions.
• FAST develops Implementation Guides to address common implementation challenges but that’s just step one!
• FAST is dedicated to supporting & encouraging the implementation community to ensure FAST IGs are being widely adopted and provide clarification or address confusion where any exists
• FAST also encourages testing early and often
• FAST is working collaboratively with governing bodies to build alignment with their mandates
Thursday

- FHIR Accelerator: FAST
- **FHIR Accelerator: Argonaut**
- FHIR Accelerator: Gravity
- FHIR Accelerator: Da Vinci
- FHIR Accelerator: CodeX
- Upcoming Education & Meetings
- The State of FHIR
- Final Announcements
Thursday

FHIR Accelerator: Argonaut

Brett Marquard
Project Manager and SME
The Argonaut Project is an implementation community comprising leading technology vendors and provider organizations to accelerate the use of FHIR and OAuth in health care information exchange.
<table>
<thead>
<tr>
<th>Technology Vendors</th>
<th>Technology Vendors (cont)</th>
<th>Provider Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Accenture</td>
<td>• Epic</td>
<td>• Intermountain Health</td>
</tr>
<tr>
<td>• Allscripts</td>
<td>• Google</td>
<td>• Mayo Clinic</td>
</tr>
<tr>
<td>• Apple</td>
<td>• Humana</td>
<td>• Partners Healthcare</td>
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<tr>
<td>• Athenahealth</td>
<td>• MEDITECH</td>
<td>• SMART at Boston Children’s Hospital</td>
</tr>
<tr>
<td>• Cerner</td>
<td>• Microsoft</td>
<td></td>
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<tr>
<td>• eClinicalWorks</td>
<td>• Optum</td>
<td></td>
</tr>
</tbody>
</table>
Prior Initiatives

• SMART on FHIR support
• Data Query and Document Query
• Provider Directory
• Scheduling
• CDS Hooks support
• Bulk Data
• Questionnaire and Questionnaire Response
• Clinical Provenance
• SMART Health Links

• Clinical Notes
• SMART Web Messaging
• Clinical Data Subscriptions
• US Core Argonaut - USCDI
• SMART on FHIR Granular Controls
• Patient List
• FHIR Write
• Patient Access Brands
• EHI Export API
• International Patient Access
API Access to Images
- Make imaging data accessible through the same SMART on FHIR API as clinical data.
- One authorization flow + one access token enables access to clinical + imaging.
  Bridge to DICOM web services under the hood.

FHIR Write – Vitals
- Provider facing-app or Patient facing-app: sprint focused on writing back Vitals.
- This information is structured in systems today, and Health Systems report they want to bring this discrete data into the EHR.

US Core design to support USCDI v4
- Consistent deployment of USCDI requires, review, testing, and the development of clear FHIR profiles.
- Test new designs for USCDI
Enable patient-provider secure messaging from app (4-5 calls!)
  - Patients using an app who want to share information with their providers need to screenshot or copy that information and then log in to a separate health system app to send a message

Testing of Patient Access Brands
  - FHIR endpoints and associated branding information to create a seamless user experience connecting patients to their health records through various applications.
  - Apps display recognizable cards or tiles representing different healthcare providers, payers, or organizations

Assessment Sprint
  - Mini sprint to test new US Core design of Observation vs QuestionnaireResponse
  - Updated design included in US Core 6.0.0 (expected publication May 2023!)
“We don’t make the FHIR APIs you deploy, we make them better”
Participation

How to Participate
● Review existing designs and comment using HL7 JIRA
● Zulip Chat Channel - Argonaut
● Argonaut Confluence Page

Contacts
○ Gino Canessa
○ Dan Gottlieb
○ Eric Haas
○ Josh Mandel
○ Brett Marquard
Thursday

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Thursday

FHIR Accelerator: Gravity

Dan Vreeman, DPT
Member
Consensus-driven Standards on Social Determinants of Health

Gravity Project General Update
HL7 WGM Q1 Thursday September 14, 2023

Dan Vreeman (Gravity Steering Committee HL7 Liaison, Former Gravity Technical Director)
Gravity Overview

A collaborative initiative with the goal to develop consensus-driven data standards to support the collection, use, and exchange of data to address the social determinants of health (SDOH).
2023 **Project** Sponsors, Members and Partners

- **AMA**
- **AARP**
- **AHIMA**
- **AmeriHealth Caritas**
- **BlueCross BlueShield Association**
- **althea.ai**
- **CMS**
- **Elevance Health**
- **Mulesoft**
- **GuideWell**
- **Humana**
- **Kaiser Permanente**
- **CommonSpirit**
- **ONC**
- **Highmark**
- **Ontada**
- **UnitedHealthcare**
- **UniteUS**
- **US Aging**

**Founding Sponsors**

Special thanks to the following for your in-kind contributions to Gravity Project: AMA, Civitas Networks for Health, and Saffron Labs.
Gravity Strategic Goals 2023 Refresh

➢ Grow and maintain a vibrant community with sustainable governance, funding, and an operational model that strengthens Gravity Project partnerships and community-led consensus-based goals.
➢ Convene and support a diverse community with expertise and lived experience of addressing and meeting social needs, through care, administrative support and informatics.
➢ Accelerate data standard solutions to address the payment and reporting needs of community-based organizations and other stakeholders that limit equitable health and social care, leveraging HL7® FHIR®, in conjunction with other standards as needed.
➢ Enable Health and Social Care organizations to effectively implement and test Gravity Project SDOH data exchange and terminology standards to ensure they better meet community needs.
➢ Increase awareness of Gravity work among broader stakeholder groups.
New! Gravity Governance Model

Key takeaway: Members lead as decision-makers

*Stakeholder Groups
1. Patients/Consumers**
2. Providers
3. Payers
4. Health IT
5. Community Based Orgs**
6. Federal Government

**Denotes stakeholder group that would be considered for designated membership

Confluence link to Gravity Project Governance
Terminology Workstream

Recent Accomplishments

New Consensus Social Risk Domains
- Consensus development of priority terms for **Digital Access** and **Digital Literacy** with the support of Kaiser Permanente

Value Set Enhancements to Support Implementation
- **SDOH CC IG**: Developed domain-level Question and Answer value sets to support implementation and better integrate Gravity validated instruments into the SDOH CC IG
- **C-CDA**: Inclusion of Gravity SDOH value sets into 2023 C-CDA release

Priority: Widespread Adoption and Use of Gravity Project Terminologies
- **Implementation Materials**: Developed “For Implementers” area on confluence with easy access to value sets, validated instruments, and general implementation guidance
- **Pilots Technical Support**: Providing technical support to the Gravity Pilots
Technical Workstream
Recent Accomplishments

Gravity SDOH Clinical Care FHIR Implementation Guide (IG)

- Standard for Trial Use v2.1 (STU2.1) publication in August 2023.
  - Updates focused on making implementation easier and more accessible to all stakeholders.
  - Replaced Supplemental Guide with integration of all value sets into Value Service Authority (VSAC) and reference in Gravity IG, including Screening Assessments Panels, Questions and Answers.

- Updates to the Reference Implementation (RI) for stability improvements
- July 2023 CMS HL7 Connectathon:
  - Testing of the IG and Reference Implementation
  - Successful Proof of Concept Test to determine social care supplemental benefits with FHIR, leveraging Da Vinci IGs.
  - for FHIR-based API Join us in January 2024!
- Reviewed and participated in the September 2023 BSeR IG Ballot.

*Priority:* Widespread Adoption and Use of SDOH Clinical Care IG
Pilot Workstream: Gravity Pilots Across the Nation

This is a sample (not all-inclusive list) of organization locations that have participated in the Gravity Pilots Affinity Group. We are grateful to all organizations adopting the work of Gravity to advance SDOH standards.

Pilots Workstream 2023 - Phase 2

- Focus on public health and health equity
- Partnering with Civitas Networks for Health, with support from the Robert Wood Johnson Foundation*.
- Tier 2 Pilot Sites kicked off in April 2023 include:
  - Bronx (RHIO)/New York State
  - MyHealth Access Network/Oklahoma State;
  - University of Colorado Hospital/Denver Metro Area;
  - Pima County Department of Public Health & Southwest Tribe/Pima County Arizona
- Gravity Pilots Affinity Group monthly open forums are the last Thursday of the month

*Support for this initiative was provided by the Robert Wood Johnson Foundation. The views expressed here do not necessarily reflect the views of the Foundation.
How to Engage

Gravity convenes participants from across the health and human services ecosystem via the following virtual meetings:

1. Terminology Workstream: **Bi-weekly** Public Collaborative meetings Thursdays 4:00 to 5:30 pm ET (Next Meeting: September 28th)

2. Technical Workstream: **Bi-weekly** Implementation Guide/Connectathon Work Group meetings Wednesdays from 1:00 to 2:00 pm ET (Next Meeting: September 27th)

3. Pilots Workstream: **Monthly** Pilots Affinity Group meetings - Last Thursday each month 2:30 to 4:00 pm ET (Next Meeting: September 28th)

View the **Upcoming Meeting Information** confluence page and HL7 conference call calendar for meeting details: [https://www.hl7.org/concalls/](https://www.hl7.org/concalls/)

---

**Become a Gravity Project sponsor!**

[https://thegravityproject.net/sponsors/](https://thegravityproject.net/sponsors/)  
Contact: vanessa.candelora@pocp.com
Visit us at:

Gravity Website: https://thegridvityproject.net/
Gravity Confluence Page: https://confluence.hl7.org/display/GRAV/The+Gravity+Project

Help us with Gravity Education & Outreach

Use Social Media handles to share or tag us to relevant information:

@thegridvityproj
https://www.linkedin.com/company/gravity-project

Thank you!

Contact Us: gravityproject@hl7.org
Program Manager: Vanessa.Candelora@pocp.com
Thursday

- FHIR Accelerator: FAST
- FHIR Accelerator: Argonaut
- FHIR Accelerator: Gravity
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Thursday

FHIR Accelerator: Da Vinci

Viet Nguyen, MD
Technical Director

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HL7® Da Vinci Project
Update
Sept 2023
VBC Programs Drive Focus to Patient Outcomes

Da Vinci members are industry leaders and health IT technical experts who are working together to accelerate the adoption of HL7 Fast Healthcare Interoperability Resources (HL7® FHIR®) as the standard to support and integrate value-based care (VBC) data exchange across communities.

VBC programs enable providers to see right data at right time for specific patient coverage, benefits and care coordination.

Focus:

Use cases linked to high volume, manual activities that would benefit from automation of portions of the workflow that collect and exchange critical data to improve outcomes.
For current membership:
https://confluence.hl7.org/display/DVP/Da+Vinci+Project+Members

The above listed Blue Cross and Blue Shield companies are independent licensees of the Blue Cross and Blue Shield Association. Rev 7/17/23.
### USE CASE & IG READINESS

---

#### Clinical Data Exchange
- **Payer Coverage Decision Exchange**
- **Clinical Data Exchange (CDex)**
- **Payer Data Exchange (PDex)**

#### Coverage, Transparency & Burden Reduction
- **Coverage Requirements Discovery (CRD)**
- **Documentation Templates and Rules (DTR)**
- **Prior-Authorization Support (PAS)**

#### Foundational Assets
- **Member Attribution List**
- **Notifications**
- **Health Record Exchange (HRex)**
- **Remittance Advice (Discovery)**

#### Quality & Risk
- **Value Based Performance Reporting (VBPR)**
- **Data Exchange for Quality Measures/Gaps In Care (DEQM/GIC)**
- **Risk Adjustment (RA)**

---

- * Referenced in or supports Federal Regulation
- ◆ Aligned with expected Federal Regulation
- + Guide Paused and Core Functionality moved to PDex
- ⌂ Dial denotes progress in current STU Phase

---

**Overall Maturity:**
- Most Mature
- Active Growth
- Least Mature

---


Updated Sept 2023
DA VINCI PROGRAM 2023 PRIORITIES

Foundation is in place. It is the Year of Implementation.

FHIR & Da Vinci Core and Build Progress

1. Continue investment in progress and maturity of Da Vinci guides
   - FHIR based clinical data exchange. Expand examples and specific scenarios for Clinical Data Exchange (CDex) use
   - Invest in a FHIR-based API for Remittance Advice
   - Develop requirements for next phase of Patient Cost Transparency (PCT) to support No Surprises Act
   - Advance and broaden Burden Reduction and supporting guides to support proposed regulation

2. Expand membership of Da Vinci to solidify healthy foundation for work to move to normative

Industry & Policy Impact

- **Build awareness and transparency of FHIR** adoption progress and success metrics from early adopters
- Provide clear guidance on the role of Da Vinci guides to support Interop 3 and Attachments NPRMs
- **Continue to evangelize and provide thought leadership** across Da Vinci community and key industry organizations e.g., AAFP, CMS, HIMSS, HL7, VIVE, WEDI
  - Prioritize member journey, results from implementation as focus
  - Introduce newest guides and opportunities to engage
  - Provide visible home for providers, payers and vendors to share their progress across guides and find each other
  - Grow and advance content and breadth of Community Roundtable, Case Studies

Resources:
Da Vinci In Action: https://confluence.hl7.org/display/DVP/Da+Vinci+In+Action+Interactive+-+Implementations+To+Date
Industry statements: https://confluence.hl7.org/display/DVP/Da+Vinci
2023 DA VINCI IMPLEMENTATION GUIDE ROADMAP

**Deliverables**

Event - see calendar on Confluence:
https://confluence.hl7.org/display/DVP/Da+Vinci+2023+-+Calendar

**JAN Ballot**
- STU2 Member Attribution List
- STU4 Data Exchange for Quality Measures (DEQM)

**Publication**
- STU2 Clinical Data Exchange (CDex)
- STU1 Patient Cost Transparency (PCT)

**Discovery**
- Postable Remittance

**MAY Ballot**
- STU2 Risk Adjustment

**Expected Publications**
- STU1.1 Coverage Requirements Discovery (CRD)
- STU1.1 Documentation Templates & Rules (DTR)
- STU1.2 Prior Authorization Support (PAS)
- STU2 Payer Data Exchange (PDex)

**Potential STU Updates: Timing TBD**
- PDex Plan Net
- PDex Drug Formulary Notifications

**2024**
- HL7 Connectathon
- VIVE Conference
- HIMSS23 Demonstration, Showcase, and Presentations
- HL7 Connectathon
- CMS HL7 Connectathon
- HL7 Connectathon
- HL7 Connectathon
Use Case | Schedule
--- | ---
Value Based Performance Reporting (VBPR) | Mondays at 2pm Eastern
Burden Reduction (CRD) | Wednesdays at 11am Eastern
Notifications | First Wednesday of each Quarter 1pm Eastern (12/6)
Clinical Data Exchange (CDex) Health Record Exchange Framework (HRex) included | Wednesdays at 2pm Eastern
Member Attribution List (ATR) | Wednesdays biweekly at 3pm Eastern
Risk Adjustment (RA) | Thursdays at 3pm Eastern
Burden Reduction (PAS) | Thursdays at 4pm Eastern
Patient Cost Transparency (PCT) | Wednesdays at 129m Eastern (new time!)
Payer Data Exchange (PDex, Formulary, PlanNet) | Fridays at 12pm Eastern
Burden Reduction (DTR) | Fridays at 12pm Eastern

Conference Call Sign Up
- [HL7 Conference Call Center](#) - check the HL7 calendar for cancellations/changes!
- [Da Vinci Conference Call Sign Up Instructions](#)
- Note: There is no invitation, add to your own calendar
- [HL7 Da Vinci General Inquiries](#) - [DaVinciPMO@pocp.com](mailto:DaVinciPMO@pocp.com)

Sign Up for Da Vinci Community Roundtable and News:
[https://confluence.hl7.org/display/DVP/Da+Vinci+Welcome](https://confluence.hl7.org/display/DVP/Da+Vinci+Welcome)
Community Roundtable Schedule

- 2023 schedule anticipates monthly: 4th Wednesday at 4 pm ET
  - Next Session: Sept 27, 2023
  - Stay informed through Da Vinci’s listserv

- Registration details will be posted to the Da Vinci Calendar
  - Recordings and slides available here
Industry Events

- **NCQA Health Innovation Summit**
  - Oct 23 – 25, 2023, Orlando, FL
  - [https://www.ncqasummit.com/](https://www.ncqasummit.com/)

- **ONC Annual Meeting**
  - Dec 14 – 15, 2023, Washington, DC

- **ViVE 2024**
  - Feb 25 – 28, 2023, Los Angeles, CA
  - [https://www.viveevent.com/](https://www.viveevent.com/)

- **HIMSS Global Health Conference**
  - March 11 – 15, 2024, Orlando, FL
  - [https://www.himss.org/global-conference](https://www.himss.org/global-conference)

HL7 Events

- **HL7 Sept FHIR Connectathon**
  - Sept 9 - 10, 2023, Sheraton Phoenix Downtown

- **HL7 Sept Working Group Meeting**
  - Sept 11 - 15, 2023, Sheraton Phoenix Downtown
  - [https://www.hl7.org/events/working_group_meeting/2022/09/](https://www.hl7.org/events/working_group_meeting/2022/09/)

- **HL7 Jan FHIR Connectathon**
  - Jan 16 - 18, 2023, Virtual Event

- **HL7 Jan Working Group Meeting**
  - Jan 29 – Feb 2, 2023, Virtual Event
• **Da Vinci** has publicly available Confluence resources!

• **Da Vinci Welcome** – Confluence page to learn about Da Vinci project and signup for Listserv

• **Da Vinci Implementation Guide Dashboard** – Confluence summary view of information and links per use case

• New to Da Vinci? Check out the **Implementer Resource Page**

• **Da Vinci Use Cases** – Confluence parent page to each use case containing meeting meetings and use case materials

• **Da Vinci Video Presentations** – Confluence page to view past slides, recordings from Community Roundtable and more!

**Request an Account** – HL7 Jira/Confluence accounts are free and available to anyone (including non-members)

Quick Links have presentation slides for community to leverage
HL7 Da Vinci Program Support:
Jocelyn Keegan,
Program Manager, Point of Care Partners
Jocelyn.Keegan@pocp.com
781-264-1630

Crystal Kallem,
Project Manager, Point of Care Partners
Crystal.Kallem@pocp.com
515-689-7819

HL7 Da Vinci General Inquiries:
DaVinciPMO@pocp.com

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Thursday

- FHIR Accelerator: FAST
- FHIR Accelerator: Argonaut
- FHIR Accelerator: Gravity
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- **FHIR Accelerator: CodeX**
- Upcoming Education & Meetings
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Thursday

FHIR Accelerator: CodeX

Su Chen, MD
Program Manager
CodeX™ HL7® FHIR® Accelerator Update

September 2023
Better Data
Better Health

The CodeX community is singularly focused on bringing standards to healthcare data so patients have the care and research journey they deserve and should expect.

Oncology  -  Radiation Oncology  -  Genomics  -  Cardiovascular Health
mCODE STU 3:
anticipated to publish September 2023
https://build.fhir.org/ig/HL7/fhir-mCODE-ig/index.html

Release Notes:
https://build.fhir.org/ig/HL7/fhir-mCODE-ig/change_log.html

CodeX Radiation Therapy
STU 1 - PUBLISHED!

1.1 Background
Radiation therapy treatment details – critical for care coordination – are not readily available in information systems beyond radiation oncology information technology (RT) modules. Furthermore, creation of radiation therapy (RT) treatment summary documents is often a manual process, creating clinician burden and potential patient safety issues. Historical RT summary documents tend to be comprised of unstructured data; therefore, providers have been unable to leverage this information to meet reporting requirements (e.g., quality reporting, registry reporting) or support comparative effectiveness research without additional manual data entry.
## CodeX Growth

The CodeX framework spurs community-driven use case development and demonstration, piloted in-the-field by stakeholders expected to benefit in the future.

### Use Cases

- **6** in Execution
  - EHR Endpoints for Cancer Clinical Trials (ICAREdata)
  - Integrated Trial Matching for Cancer Patients and Providers
  - Cancer Registry Reporting
  - Radiation Treatment Therapy Data for Cancer
  - Prior Authorization in Oncology
  - Genomics Data Exchange

- **4** in Planning
  - CardX Hypertension Management
  - Genomics Operations
  - Risk Evaluation and Mitigation Strategies
  - Quality Measures for Cancer

<table>
<thead>
<tr>
<th>Year</th>
<th>Membership</th>
<th>Use Cases</th>
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<tr>
<td>2022</td>
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</tr>
</tbody>
</table>
Use Cases
The CodeX framework spurs community-driven use case development and demonstration, piloted in-the-field by stakeholders expected to benefit in the future.

Each CodeX Use Case progresses through three stages of development.

6
In Execution

• EHR Endpoints for Cancer Clinical Trials (ICAREdata)
• Integrated Trial Matching for Cancer Patients and Providers
• Cancer Registry Reporting
• Radiation Treatment Therapy Data for Cancer
• Prior Authorization in Oncology
• Genomics Data Exchange

4
In Planning

• CardX Hypertension Management
• Genomics Operations
• Risk Evaluation and Mitigation Strategies
• Quality Measures for Cancer
CodeX Use Case Spotlight: Quality Measures for Cancer
Can oncology quality measures be effectively authored and executed using mCODE and FHIR?

Challenge
Digital oncology measure development and authoring is constrained by disparate and unstructured data and a lack of interoperability. Most oncology quality measures require manual abstraction leading to less developed measures compared to other domains.

Need
• To author and evaluate quality measures using a FHIR data model with mCODE profile extensions and data elements for value-based programs and quality improvement in oncology.

Impact
• Provide a less burdensome path to data collection and quality measure authoring
• Ability to share standardized quality measures for oncology data across systems or organizations

Key Partners
ASTRO ASCO
Telligen
EVERNORTH
MITRE

Proposed Solution
Demonstrate that mCODE and FHIR can be used to author and execute measures in a standardized manner that will yield correct measure results. The effort will begin by authoring and developing electronic oncology quality measures, and associated test case bundles, in the medical and radiation oncology domains.

Status
Currently, developing and testing the conversion of oncology-based quality measures to FHIR as a proof-of-concept, with a focus on the beginning of a measure’s life cycle via quality measure authoring.
CodeX Spotlight: Quality Measures for Cancer

**We are here**

**Phase 0**
- **Proof of Concept 1.0 COMPLETED**
  - Converted existing oncology MIPS measure to FHIR with mCODE extension
  - Executed measure and measure report in tooling environment

**Phase 1**
- **Proof of Concept 2.0**
  - Expand portfolio of VA quality measures
  - Repeat measure mapping, authoring, test bundle creation and testing steps

**Phase 2**
- **Scale to MIPS, EOM**
  - Expand portfolio by aligning to proposed measure for the Advancing Cancer Care MVP (MIPS) and Enhanced Oncology Model (EOM)
  - Map subset to mCODE, authoring and support libraries
  - Execute measures using Telligen QME

**Phase 3**
- **Scale Data Sources**
  - Source real world Clinical Data Repository endpoints for measure data source

Use Case Kickoff Phase 0 Start
- August 2022

Phase 1 Start
- May 2023

Phase 2 Start
- December 2023

Hypothetical Connectathon
- May 2024
Federal Agency Support

- **CDC:**
  - Central Cancer Registry Reporting IG: cancer data elements point to mCODE
- **ONC:**
  - USCDI submissions
  - USCDI+: 8 mCODE and extensions elements in proposed **USCDI+ Quality Data Element list**
  - Upcoming: **USCDI+ for Cancer**
- **CMS**
  - **CMS Enhancing Oncology [Payment] Model (EOM):** leverages mCODE for data submission
  - Tracking CodeX PA and QM Use Cases. On PA: CMS, ONC Listening Sessions
CodeX Real World Traction

- **Industry Implementing mCODE and Extensions**
  - 13 Vendors implementing
  - 45% U.S. patients covered by mCODE consistent vendor systems
  - 80% of North American treatment sites supported by vendors adopting mCODE

- **International Traction**
  - 10 countries exploring (6) or actively adopting (4) CodeX standards

- **Adoption for Routine Care**
  - Oncolinicas, large cancer network in Latin America, adopted mCODE
    - Able to aggregate patient outcomes at previously unprecedented scale that correlate to scientific literature outcomes [https://ascopubs.org/doi/abs/10.1200/JCO.2022.40.16_suppl.e13022](https://ascopubs.org/doi/abs/10.1200/JCO.2022.40.16_suppl.e13022)
  - Mayo with pilots in routine use mCODE
    - [https://confluence.hl7.org/display/COD/2023-06-30+CoP+Meeting+Notes](https://confluence.hl7.org/display/COD/2023-06-30+CoP+Meeting+Notes)
  - Germany: routine exchange of genomics FHIR-based data
    - [https://confluence.hl7.org/display/COD/2023-08-25+CoP+Meeting+Notes](https://confluence.hl7.org/display/COD/2023-08-25+CoP+Meeting+Notes)

*Preliminary results to be updated based on 2023 mCODE implementation survey.*
Build and Innovate on Our Work

We enable high-quality computable data using HL7® and FHIR® standards to create a common language for clinical specialty domains in cancer, genomics, and cardiovascular health.

Get Engaged
CodeX hosts a monthly Community of Practice event to keep our community informed and engaged, and to make sure the public’s opinions are heard. We also hold Public Calls to give updates on ongoing CodeX use cases.

Attend Upcoming Events: https://confluence.hl7.org/display/COD/CodeX+Calendar

Expand Our Reach
There are currently over 250+ stakeholders involved in CodeX. We are looking to expand our membership and to partner with new health systems in our pilots. Spread the word and get involved as a CodeX Member!

Share our site: https://codex.hl7.org/  Become a Member: email CodeX@hl7.org

Support Our Mission
Funding from foundations, philanthropies, and government organizations will allow us to further scale and drive maximum adoption across systems. Please reach out about interesting opportunities that may apply to CodeX.

Email suchen@mitre.org or CodeX@hl7.org
A Member-driven community accelerating interoperable data modeling and implementation around CodeX HL7® FHIR® standards, such as mCODE, leading to substantial improvements in health care and research in cancer, cardiovascular health, genomics and beyond.

https://www.hl7.org/codex/
https://confluence.hl7.org/display/COD/CodeX+Home
Additional Detail
**CodeX Oncology Use Cases**

*Focus of 2023 is on expanding patient impact*

<table>
<thead>
<tr>
<th>EHR Endpoints for Cancer Clinical Trials (ICAREdata)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building foundation to transform clinical trials by capturing trial results in a standard way.</strong> When oncology patient data is consistently captured during trials, clinical researchers can learn more and help more patients with standard trial results. Three clinical sites participating.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrated Trial Matching for Cancer Patients and Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Automates existing clinical trial matching process, allowing eligibility screening to be completed in one step.</strong> Demonstrated feasibility of program with a 300% to 800% increase in matched trials with plans for a prospective approach including 2-3 implementation sites.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cancer Registry Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enables automated reporting of cancer data to registries, expediting researchers’ ability to identify better treatments.</strong> Completed the pilot and currently preparing to extend testing before transitioning to production in the future.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radiation Therapy (RT) Treatment Data for Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enables exchange of radiation therapy data for enhanced patient care coordination and data reuse, such as quality management, research, and payer-required reporting. Currently, proof of concept testing the exchange of treatment summary information between oncology information systems.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prior Authorization (PA) in Oncology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Automates PA for cancer treatment utilizing FHIR CRD, DTR, PAS IGs to expedite patient care, reduce manual processes for providers and payers</strong> with the target of 80% of determinations that do not require manual review. Currently preparing proof of concept for radiation oncology for prostate cancer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality Measures for Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demonstrates ability to author and evaluate oncology quality measures using FHIR data model and mCODE for value-based programs and quality improvement.</strong> Currently, developing and testing conversion of oncology-based quality measures to FHIR as a proof-of-concept.</td>
</tr>
</tbody>
</table>

Each CodeX Use Case progresses through three stages of development.

- Discovery
- Planning
- Execution
GenomeX Data Exchange
Aims to create scenario-based profiles/import specifications with the FHIR Genomics IG so structured genomic data can be shared from a lab to receiving organizations (EHR/genomic data repository) so that providers can use the data in patient care. Currently building community and identifying specific problems and solutions.

GenomeX Operations
Aims to create a uniformed approach for FHIR Genomics operations so patients and providers can easily get actionable genetic variation information that can impact treatment options. Currently building community and identifying specific problems and solutions.

CardX Hypertension Management
Enables access to hypertension management data both at home and in the clinic so that patients and providers have increased awareness about how patients are managing their disease. Developing a minimal Cardiovascular FHIR IG that is consistent and interoperable with mCODE.

Risk Evaluation and Mitigation Strategies (REMS)
Streamlines FDA REMS process to speed equitable availability of essential medications for patients. Initiating a pilot to incrementally develop a new REMS data infrastructure in partnership with the FDA and industry participants.

Each CodeX Use Case progresses through three stages of development.
Thursday

- FHIR Accelerator: FAST
- FHIR Accelerator: Argonaut
- FHIR Accelerator: Gravity
- FHIR Accelerator: Da Vinci
- FHIR Accelerator: CodeX

- **Upcoming Education & Meetings**
  - The State of FHIR
  - Final Announcements
Thursday

Upcoming Education & Meetings

Sadhana Alangar, PhD
Director of Education
HL7 International
HL7 TRAINING & EDUCATION
AGENDA

- Upcoming Courses (2023)
- Future Webinars
- Partnerships
- Regional Affiliates
- Credentialing Program
2023: Asynchronous Courses

- September 14: HL7 FHIR Intermediate
- September 28: Comprehensive HL7 FHIR Proficiency Exam Prep Course
- October 5: FHIR Implementation and Guide Design Maintenance – Chinese Version
- October 26: HL7 FHIR Fundamentals
2023 Synchronous Online Classes

- October 3: Clinical Quality and Decision Support on FHIR
- October 24: Applied FHIR Questionnaire and Data Capture

TBD

- IPS Introduction and It’s Implementation
- Referrals and Orders – How to Ask for Stuff in FHIR
- FHIR Security and Privacy (Flipped Classroom Format)
- Interoperability for Clinicians and Policy Makers
1. Go to HL7.org
2. Click on Training tab or Education Calendar
3. Fill out form to download
Webinars

- October 12: Global Spotlight: Marching Forward on Interoperability and Standards for Better Health (90 minutes)
  - Developments from HL7 and its international community, global digital health leaders and innovators in Africa, Asia and the Middle East. Creating increased connectiveness, community and better outcomes through interoperable electronic health will be highlighted.

- A webinar (panel presentation) for health care workers, administrators and policymakers is being planned. Speakers from Epic, Oracle (Cerner) will participate. Payer and patient perspective will also be included.
Virtual Student Academy

- Check out our Student Academy and the Fall 2023 Module
  - [https://info.hl7.org/virtual-student-academy](https://info.hl7.org/virtual-student-academy)
  - Free and reduced-cost, on-demand modules.

- The Future of Interoperability Now
  - A series of 10 one-hour webinars designed for academic students and staff interested in learning about the FHIR standard and its role in enabling interoperability across the healthcare enterprise.
Education Partners

- Partnership Programs
  - National Taipei University of Nursing and Health Sciences
  - AEGIS.net, Inc., Rockville, MD
  - Firely, Amsterdam
Regional Affiliates

- AFRICA – HELINA
- AeHIN
  - 2024 EAC Key Initiative – Offer affordable education all over the world. Regional Affiliates to help with these initiatives.
Credentialing Program (2023 -2024)

- First Phase – Update the current FHIR Proficiency Review Exam
  - Test Design Development – Completed
  - Job Task Analysis – October
  - Item Writing Workshop
  - Item and Form Level Setting
  - Modified Angoff Standard Setting
Future HL7 Working Group Meetings

January Working Group Meeting
Virtual Event
January 29 – February 2, 2024

May Working Group Meeting
Renaissance Dallas Hotel
Dallas, Texas
May 18-24, 2024

38th Annual Plenary & Working Group Meeting
The Omni
Atlanta, Georgia
September 21-27, 2024

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Future Connectathons

HL7 FHIR Connectathon
Virtual Event
January 16-18, 2024

HL7 FHIR Connectathon
Renaissance Dallas Hotel
Dallas, TX
May 18-24, 2024

HL7 FHIR Connectathon
The Omni
Atlanta, Georgia
September 21-27, 2024
Future DevDays

HL7® FHIR® DevDays 2024
Minneapolis, Minnesota

June 10-13, 2024
https://www.devdays.com/
Thursday

- FHIR Accelerator: FAST
- FHIR Accelerator: Argonaut
- FHIR Accelerator: Gravity
- FHIR Accelerator: Da Vinci
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- Upcoming Education & Meetings
- The State of FHIR
- Final Announcements
Thursday - The state of FHIR

Diego Kaminker
Deputy Chief Standards Implementation Officer
HL7 International

Ward Weistra
Product Manager and FHIR DevDays content lead
Firely
2023 STATE OF FHIR®

Survey Results

Diego Kaminker & Ward Weistra

9/14/2023
2023 STATE OF FHIR® SURVEY

• Sent out to HL7 Affiliates and known national IG authors

• One or more knowledgeable responses per country
RESPONSE

32 RESPONSES

24 COUNTRIES

Argentina
Australia
Brazil (2)
Canada (2)
Chile
Colombia
Cyprus
Denmark
Estonia
Finland
France
Germany (4)
Israel
Luxembourg
Mexico
Netherlands
New Zealand (3)
Norway
Peru (2)
Slovakia
Taiwan
Thailand
United Kingdom
United States
EXPECTED CHANGE

CURRENT USE

MEDIUM/HIGH AND RISING
- Finland, Norway, Denmark
- United Kingdom, Germany, France, Netherlands
- Canada
- New Zealand, Australia
- Israel
- Chili, Argentina, Colombia

MEDIUM AND STABLE
- United States, Thailand

LOW AND RISING
- Brazil, Estonia, Luxembourg, Slovakia, Cyprus

LOW AND STABLE
- Peru, Mexico, Taiwan
CURRENT REGULATION

Regulation for the use of standards in electronic health data exchange?

- 27 (Yes)
- 4 (No)
- 1 (Don’t know)
OF THOSE WITH NATIONAL REGULATION

• More than half mandate or advise FHIR
• More than half have no deadline attached
• Majority have no fines for non-compliance

Nearly half have funds available stimulating FHIR adoption
NATIONAL STANDARDS

• Nearly all have a national standards organization on electronic health data exchange.

• Vast majority has a national FHIR data model

• Vast majority has one to many use-case FHIR standards
  – Almost all derive from their national FHIR data model.
Who?

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 (Care Prov.)</td>
<td>5</td>
</tr>
<tr>
<td>19 (App Dev.)</td>
<td>20</td>
</tr>
<tr>
<td>20 (EHR)</td>
<td>10</td>
</tr>
<tr>
<td>5 (Other)</td>
<td>2</td>
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</table>

Why?

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 (Innovation)</td>
<td>16</td>
</tr>
<tr>
<td>20 (Regulation &amp; grants)</td>
<td>17</td>
</tr>
<tr>
<td>16 (Improved care)</td>
<td>9</td>
</tr>
<tr>
<td>12 (Unclear benefits)</td>
<td>13</td>
</tr>
</tbody>
</table>

Why not?

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 (Lack of FHIR knowledge)</td>
<td>19</td>
</tr>
<tr>
<td>16 (Unclear regulations)</td>
<td>17</td>
</tr>
<tr>
<td>13 (High cost investment)</td>
<td>15</td>
</tr>
<tr>
<td>12 (Unclear benefits)</td>
<td>14</td>
</tr>
</tbody>
</table>

FHIR ADOPTION
PATIENT ADVOCACY

• Half of respondents were aware of patient advocacy for the availability of healthcare data
• Two thirds of those patient advocacy groups pay specific attention to health data standards
Eighty percent were aware of successful FHIR use cases.

- 8 (Improved healthcare outcomes)
- 8 (Lowered cost)
- 25 (Improved access to information)

Which led to...
2023 STATE OF FHIR® SURVEY

• **Full report** will be released on HL7 & Firely blogs
• Not represented? Reach out!

Co-authors
• Martine Berden – Firely
• Patricia Guerra and Andrea Ribick – HL7 International
SAVE THE DATE

HL7 FHIR DevDays 2024
The largest FHIR-only event in the world

June 10-13, 2024
Minneapolis, MN
McNamara Alumni Center
Thursday

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Don’t forget to fill out the WGM survey on Whova under **Resources > Survey** on the left-side navigation.

There will be a drawing of **$500** towards HL7 Education!

https://www.surveymonkey.com/r/Sept2023WGM
Thursday

Share your photos with the HL7 Community through Whova!

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WGM Lanyard Sponsor
Hope you’re Phoenix fine!

Thursday, September 14, 2023