Envisioning the future of health care data exchange

Georgia Interoperability Forum | September 2024

LEAVITT PARTNERS

Leavitt Partners Builds Alliances

Leavitt Partners' executives have been at the forefront of alliances for over two decades. We have a proven process for achieving results through collaboration, as outlined in *Finding Allies, Building Alliances*, a book co-authored by Leavitt Partners co-founders. We are successful because we bring diverse, multi-sector stakeholders together to build effective alliances focused on solving complex, long-standing policy challenges through development of consensus solutions.

DEVELOPING
We establish alliances that are positioned for success by defining the objective, testing viability, and recruiting cross-sector members, and thought leaders.

CONVENING AND MANAGING
We organize and manage the necessary stakeholders using a suite of tools and processes to keep stakeholders together, focused, and advancing.
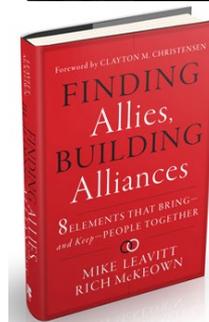
ADVISING
We advise alliances on complex policy issues necessary to develop consensus solutions that are viable.

EXECUTING STRATEGY
We develop and execute strategies to successfully implement consensus-driven solutions through industry adoption, regulatory reform, or statutory reform.

Who am I and what do I work on every day?

R. Ryan Howells, M.H.A., PMP
Principal, Leavitt Partners
(Lives in Athens, Georgia. . . Go Dawgs!)

- 25+ years in Healthcare Technology
- Developed the **first nationwide, interoperable health plan claims processing utility** in the 90s
- Oversight for the **CMS RAC** Region A contract
- Implemented **3 different state-based ACA exchanges**
- Serve on **multiple digital health company boards**
- Executive Director, **CARIN Alliance**
  - Work has been named in multiple **federal regulations** across multiple agencies including the CARIN IG for Blue Button® which standardizes payer data on HL7® FHIR® APIs and won the *Fast Company* magazine's "World Changing Idea" award
- Co-led the **Helios Public Health FHIR accelerator** with CDC and ONC
- Co-founded **CMS / NCQA Digital Quality** Implementers Community (DQIC)
- Co-founder of the **Vaccination Credentialing Initiative (VCI)**
- Co-founded a **data quality and normalization** alliance with VHA, ONC, and CMS
- Leading the largest **HL7® FHIR® pilots in the country** in 3 different states
- Technical Advisor to the **National Alliance for the Social Determinants of Health (NASDOH)**
- **Carequality Steering Committee** member
- CMS **Medicaid** Information Technology Architecture (MITA) board member

The Evolution of Health Data

HITECH Act, 2009

21st Century Cures, 2016

CMS and ONC B2B Interoperability Rules take effect, 2027

Prior to 2008
Health data stored on paper records

2009 – 2015
Electronic health records, but limited data sharing

Future
Tools to make healthcare data sharing as simple as apps for financial and other transactions

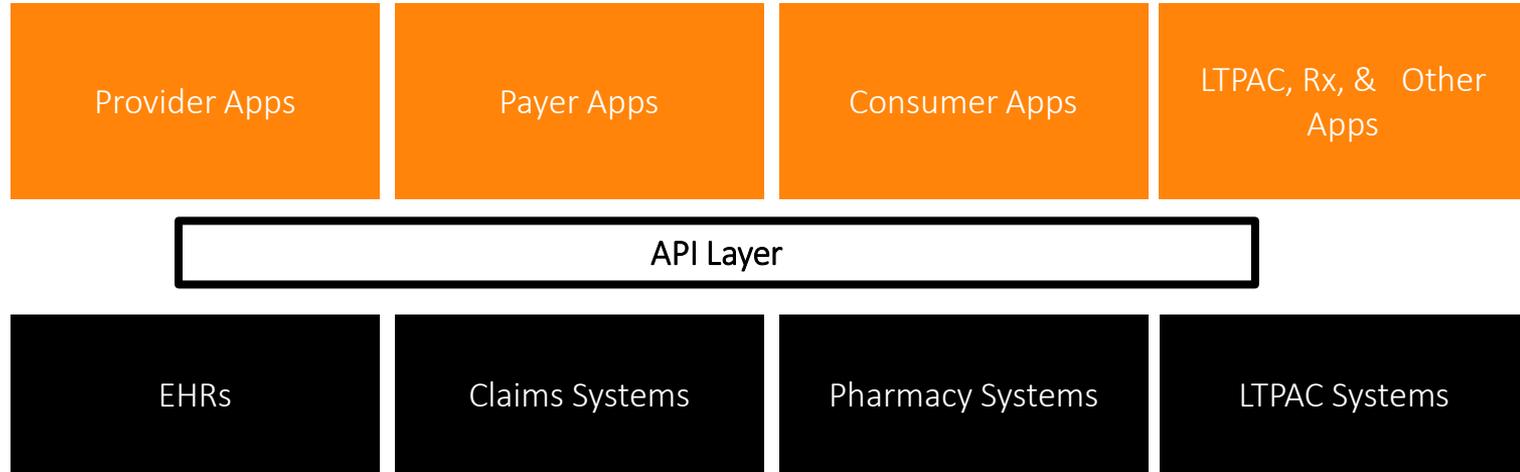# Why are Standards Important? | U.S. Railroad Gauges

- In the past, railroads across the U.S. operated on seven different gauges. When trains entered a new section of railroad with a different gauge, cargo had to be transferred from train to train.

- In 1863, Congress specified that railroads were to use *standard* gauge of 4 feet 8 ½ inches.

- This new *standard* created speed and cut travel time of goods exponentially.
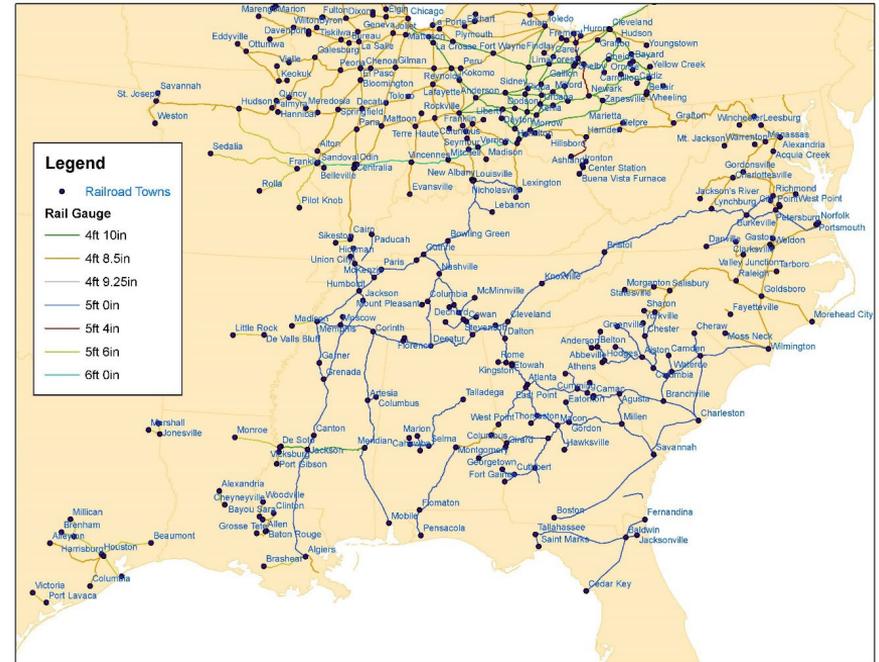
- HL7® FHIR® APIs[*] are the digital health equivalent of standard railroad gauges.

- FHIR APIs will enable seamless health care data exchange among stakeholders to improve patient care and reduce administrative burden

The Future of Digital Health

| Provider Apps | Payer Apps | Consumer Apps | LTPAC, Rx, & Other Apps |

API Layer

| EHRs | Claims Systems | Pharmacy Systems | LTPAC Systems |

Key Assumptions

- As it relates to innovation. . . "One sector does not an industry make"
- Everyone wants interoperability but very few want to pay for it
- Need to discern between commodities, functionality, and innovation
- Application Programming Interfaces (APIs), Applications, and Artificial Intelligence (AI) will ignite the innovation economy in health care over the next decade
- The overarching goal: Person-centric, disease specific, risk-based, world class recommendations at the point of care for patients and providers

Lessons Learned as we create the future
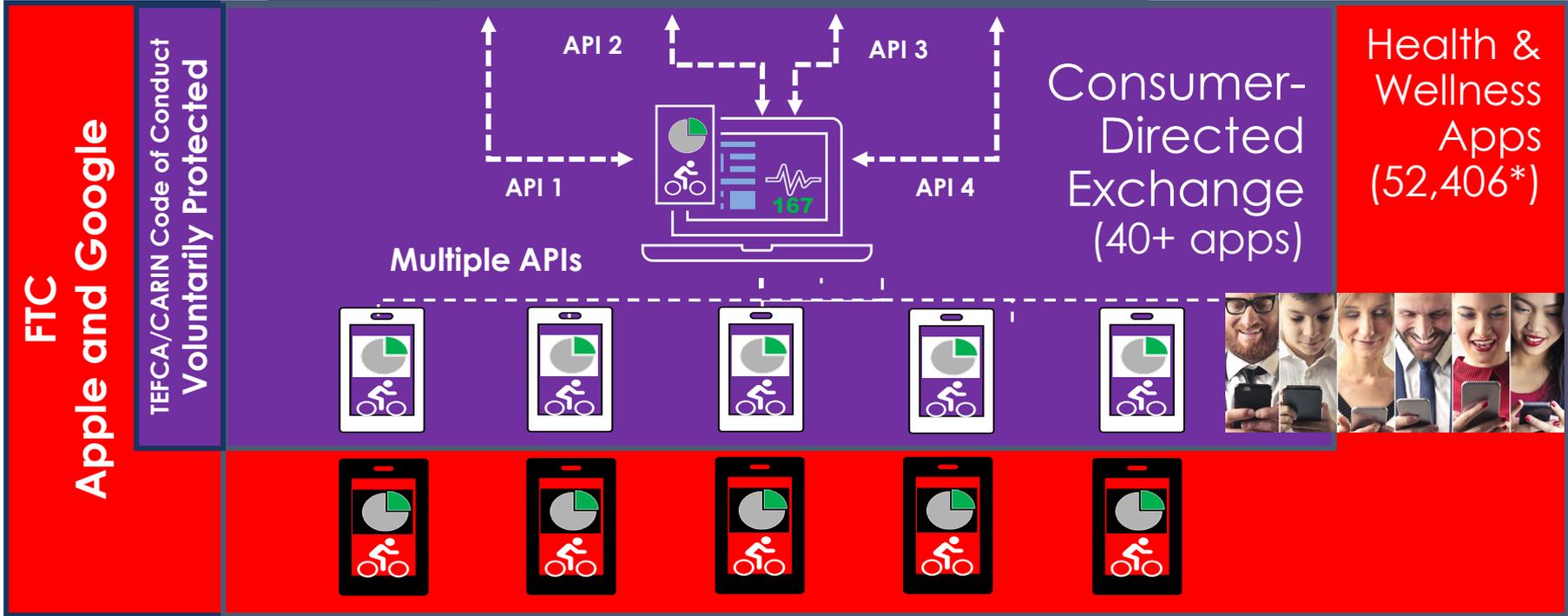
The CARIN Alliance

Our Vision

To rapidly advance the ability for consumers and their authorized caregivers to easily get, use, and share their digital health information when, where, and how they want to achieve their goals.

*Sample list of CARIN members. For a full list of the CARIN board and members go to: https://www.carinalliance.com/our-membership/carin-board-participants/

How will consumers aggregate and share data in the future?

LP

HIPAA ONC OCR

FTC Apple and Google

TEFCA/CARIN Code of Conduct Voluntarily Protected

API 2

API 3

API 1

API 4

167

Consumer-Directed Exchange (40+ apps)

Multiple APIs

Health & Wellness Apps (52,406*)

* = FTC APP SOURCE: https://www.statista.com/statistics/779910/health-apps-available-ios-worldwide/ ** = MyHealthApplication.com

Achieving Consumer's new "digital front door" to health care

"The Key"
Digital Identity and Authentication for the Individual
What: Acceptance or creation of an IAL2 identity proofed digital credential
Solution: Federated Digital Identity

"The Door"
Standardized FHIR-based API data exchange
What: Standardized clinical, financial, administrative, and SDOH APIs
Solution: Development of an API Gateway and FHIR API Endpoint Discovery

"Community of Problem Solvers"
B2C health and health care applications
What: Innovative applications solving a myriad of health care use cases
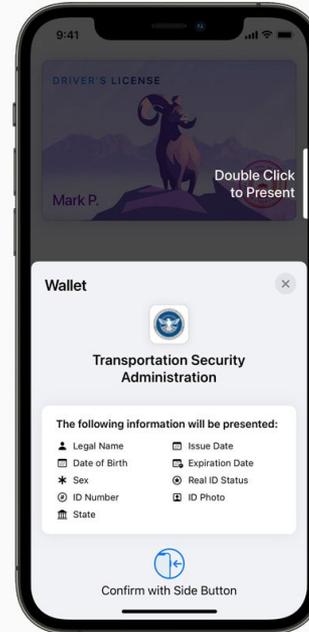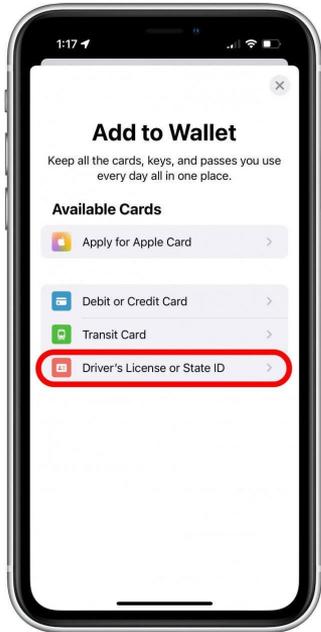**Solution:** Standardized Application Registration Process

"Your Family"
Individual consent-based data sharing framework
What: Consumers consenting to when, where, and how they want to share their data
Solution: Federated eConsent data sharing framework
(As a start: CARIN's Code of Conduct and Trust Framework)

Mobile Driver's Licenses (mDLs) are in production today

Sept 2024 list of supported states: Arizona, California, Colorado, Georgia, Iowa, Louisiana, Maryland, New York, Ohio, Virginia, and Utah

Airports supporting mDLs

Digital Identity – Creating a Single-Sign On (SSO) Framework for Healthcare
More than 85M+ American Adults Have a NIST 800-63-3 IAL2 Credential

IRS

Sign In or Create a New Account

IRS now offers a sign-in option with ID.me, which offers access to IRS online services with a secure account that protects your privacy.

ID.me is an account created, maintained, and secured by a technology provider.

If you don't have an ID.me account, you must create a new account.

Sign in with an existing account

Sign in with ID.me

OR

Create a new account

ID.me Create an account

IAL1 Providers

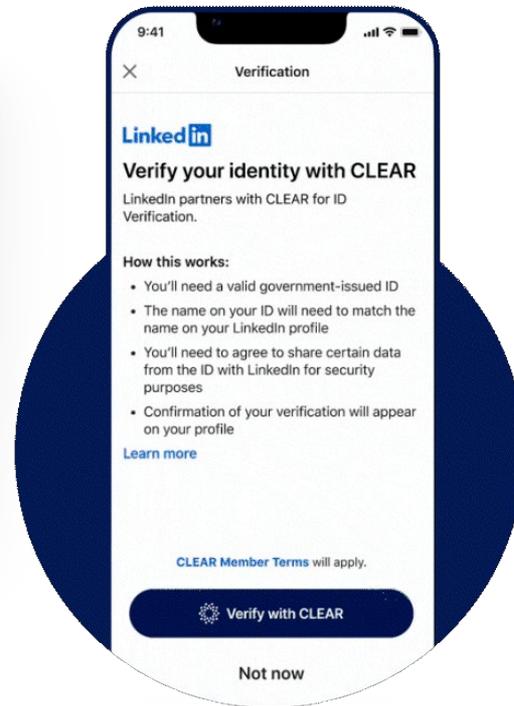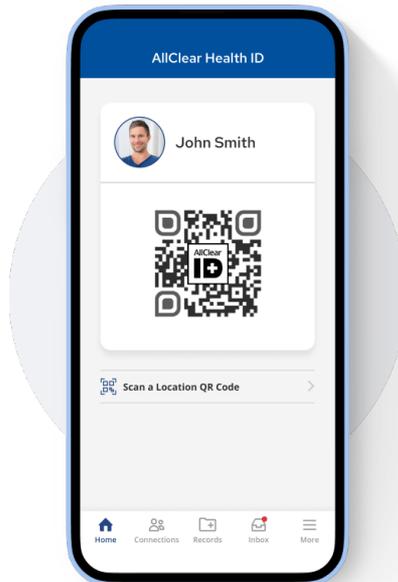|		
Log in with Facebook	Log in with Google	Log in with GitHub
Log in with Twitter	Log in with Amazon	Log in with Instagram
Log in with LinkedIn	Log in with Microsoft	Log in with Buffer
Log in with Telegram	Log in with Apple	Log in with Discord

IAL2 Providers

Sign in with ID.me   CLEAR   PingIdentity®   persona   AllClear ID™   1KOSMOS

AllClear Health ID
John Smith
Scan a Location QR Code

9:41
Verification

LinkedIn
Verify your identity with CLEAR
LinkedIn partners with CLEAR for ID Verification.

How this works:
- You'll need a valid government-issued ID
- The name on your ID will need to match the name on your LinkedIn profile
- You'll need to agree to share certain data from the ID with LinkedIn for security purposes
- Confirmation of your verification will appear on your profile

Learn more

CLEAR Member Terms will apply.

Verify with CLEAR

Not now

Federation and Trust
Digital Identity and Federation in Health Care (Dec 2020)

IDENTITY CREDENTIALS IN PHYSICAL WORLD VS. DIGITAL WORLD

To illustrate the principle of a "person-centric" identity in the digital world, we can describe it in terms of the process in the physical world now. In today's physical world, an individual who wants to establish a digital identity credential for a specific authorized purpose will go to a "trusted source" – a credentialing service provider (issuer), which is likely a state or federal government agency – to prove they are who they say they are. In the case of a driver's license, the individual will go to their state department of motor vehicles who has the authority to issue a driver's license (paper-based identifier). The state requests that the individual prove they are who they say they are using paper-based document from other third parties who have validated identifying information about the individual; for example, birth certificates, passports, mortgage papers, utility bills, etc. (identity evidence). After those documents have been validated, the individual receives a physical driver's license (digital identity credential) that can be used as a single, trusted identity credential anywhere in the physical world when someone is required to prove their identity (relying party). The challenge is that sharing everything on your driver's license for every use case when you are sharing your identity with a relying party often results in oversharing of information. Creating a digital identity credential can help in avoiding oversharing by allowing individuals to only share the specific identity evidence needed to fulfill a specific use case.
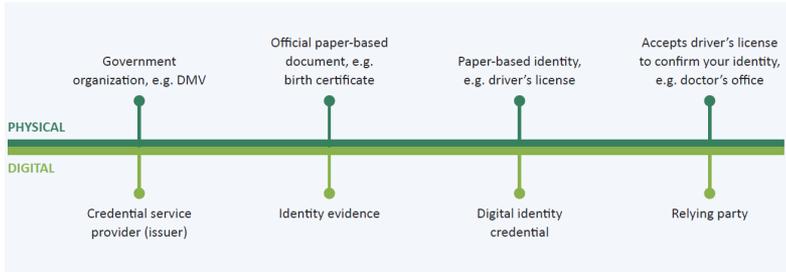
It is possible to replicate this process in the digital world to create a digital identity credential, but there are challenges. Digital identity is a relatively new concept, especially in health care. Organizations (relying parties) are hesitant to trust a digital identity credential issued by a credentialing service provider they do not have intimate experience or knowledge of in the same way that they trust a driver's license issued by a DMV in the physical world.[5] There are trust framework organizations which will certify that the digital identity credential was issued by a credentialing service provider that follows reliable, trusted, and agreed-upon processes; this creates the conditions for digital trust across organizations. In an ideal world, we could use that single digital credential, no matter which trust framework certified the credentialing service provider, to access our health information from different health care organizations, including health plans, providers, and applications. Currently, there are several different trust frameworks that do not have equivalency in the market today, and this restricts the portability of a digital identity credential.


FEDERATED TRUST AGREEMENT: AN OVERVIEW

PURPOSE

Within a trusted federated digital identity ecosystem, there are identity providers or issuers which provide organizational or individual identity products and services. Trust framework organizations are third-party organizations who certify the legal, policy, and technical aspects of the products being provided by the identity providers. A relying party is any stakeholder which needs a trusted identity to exchange data. The CARIN Alliance seeks to develop a digital federated trust agreement which outlines the technical, policy, legal and certification guidelines necessary for equivalency to link each of the trust framework organizations together. The benefit of this approach is that a relying party, which needs a verified identity to authorize access to health data, can trust and rely on an identity credential provided by any identity provider who has been certified by a trust framework organization who participates in the federated trust agreement.

The Federated Trust Agreement will address standardization and best practices related to security, data protection, authentication, identity proofing, privacy, user experience, interoperability and the conformance regime to ensure these specifications and policy obligations are certified and enforced by the trust framework organization. While our paper addresses a specific approach for US health care, there could be multiple schemes and technologies associated with a specific trust framework.

TRUSTED FEDERATED IDENTITY ECOSYSTEM

https://www.carinalliance.com/our-work/digitalidentity/
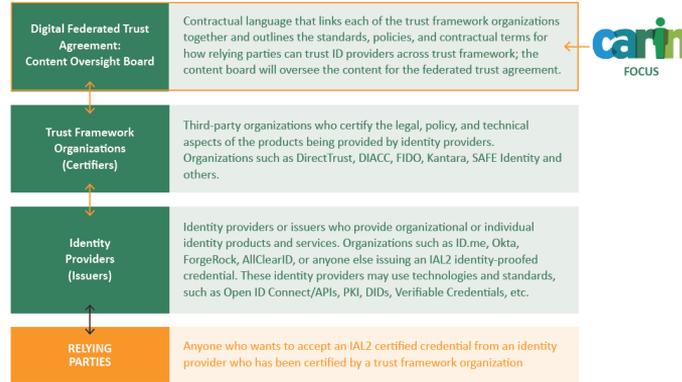
Production | CARIN / TEFCA Digital Identity Timeline

- **August 2017**: We first <u>recommended</u> to ONC they adopt the NIST 800-63-3 IAL2 guidelines
- **January 2018, April 2019, and January 2022**: First, Second, and Final versions of TEFCA recommended the adoption of a NIST 800-63-3 IAL2 digital credential
- **June 2019**: CARIN <u>Digital Identity Summit</u> in DC
- **December 2020**: CARIN released our <u>whitepaper</u> discussing how we could implement digital identity federation
- **January 2022**: CARIN launched the Healthcare Digital Identity Federation PoC with HHS, CMS, and ONC
- **June 2022**: The IAS Exchange Purpose Implementation SOP recommended the approach we discussed in our 2020 whitepaper
- **July 2022**: CARIN commented on changes to the IAS Exchange Purpose SOP
- **September 2022** : The final IAS Exchange Purpose Implementation SOP incorporated the changes CARIN recommended in July and <u>mandated a response from TEFCA network participants when an IAS provider follows the IAS SOP</u>
- **March 2023**: CARIN published the PoC Report and CARIN Credential Policy
- **July 2023**: Carequality published their patient request identity verification policy as part of their Technical Trust Policy that requires an IAL2 credential for patient access

The Office of the National Coordinator for Health Information Technology

ONC TEFCA RECOGNIZED COORDINATING ENTITY

Common Agreement for Nationwide Health Information Interoperability

Version 1

January 2022

To access the Healthcare Digital Identity Federation Proof of Concept Report, go to:
CARINAlliance.com and select Our Work → Digital Identity: https://www.carinalliance.com/our-work/digitalidentity/

SMART Health + CARIN Digital Insurance Card

FHIR Implementation Guide: http://build.fhir.org/ig/HL7/carin-digital-insurance-card/Use_Case.html
Testing: https://confluence.hl7.org/display/FHIR/2023+-+09+CARIN+IG+For+Digital+Insurance+Card

CARIN Alliance Application Registration Guide
https://tinyurl.com/yu54runx or the www.carinalliance.com home page

Provides a series of best practice recommendation for how applications register with data holders that are centered around 5 specific use cases:

(1) Easily search for and find CMS-regulated payers' respective developer portals, which provide publicly accessible links to all resources needed for them to understand and develop software to interact with the Rule's required API endpoints (Section 5.1).

(2) Testing the required APIs in a **sandbox** environment (Section 5.2).

(3) Registering with a payer to establish connections with the required APIs in a manner that complies with the Rule (Section 5.3).
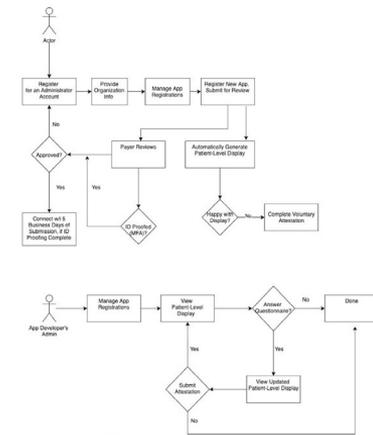
(4) Knowing in advance the information a payer will share with members about the developer's application privacy and security practices including **template questions related to the CARIN code of conduct** (Section 5.4).

(5) Understanding in advance the **payers' policies regarding session and refresh tokens**, and other service level expectations (Section 5.5).

Table 5.3.1 - App Registration Workflow - Information Requested, and Verification Methods

Information Requested	Verification Methods
About the Developer	
What's the legal name for the developer requesting an API connection?	
What type of legal entity is the requestor (e.g. corporation, partnership, LLC, sole proprietor)?	1. Check corporate information against public records.
Under the laws of what jurisdiction is the entity organized?	o Most jurisdictions support business entity search features through their respective corporation departments.
What is the name, job title, phone number and email address for the registrant's primary business point of contact?	2. Use public or subscription-based business look-up services to validate legal existence. 3. Validate the developer's provided email address and phone number.
What is the name, job title, phone number and email address for the registrant's primary technical/developer point of contact?	4. Use a recognized third-party legal entity verification service. The CARIN Alliance recommends using the Global Legal Entity Identifier Foundation (GLEIF) which is used and accepted globally across multiple countries, regulators, and industries. (https://www.gleif.org/en/about-lei/introducing-the-legal-entity-identifier-lei).
What is a physical address for the entity (not a P.O. box)? (home address for a sole proprietor)	
What is the URL for the entity's corporate website?	
About the Application	
What is the name of the application?	
If different from the developer, what's the legal name for the owner of the application, according to its terms of service and privacy policy?	1. Validate information against provid… 2. Check domains and IP addresses f…
Redirect URLs	URL against blacklists of maliciou… with undesirable and/or illegal acti…
As applicable, what is the application's: • Homepage URL? • iOS store link? • Android link? • Legal Terms of Service URL? • Privacy Policy URL?	o There are both commercia… services available, o An example of one com… Anomali, https://www.an… intelligence-feeds.

Figure 5.3 - Process Diagram - Registration for Production Environment

4. Transparency –

a. The Organization includes a publicly accessible link to the Application's Privacy Policy on its website and through the Application.

☐ Yes

☐ No

b. The Privacy Policy covers collection, use, and disclosure of Personal Data.

☐ Yes

☐ No

c. The Privacy Policy covers collection, use, and disclosure of De-identified Information.

☐ Yes

☐ No

d. The Organization provides updates when Privacy Policies have changed, and provides individuals with the option to re-affirm consent or to withdraw consent.

☐ Yes

Industry, CMS, & VHA Adoption of the CARIN Code of Conduct

LP

OCAMBIA
HEALTH SOLUTIONS

UPMC HEALTH PLAN

CVS Health

selecthealth

SHARP HEALTH PLAN

CENTENE Corporation

Florida Blue

Cigna

Anthem

Geisinger Health Plan

UnitedHealthcare

HealthPartners

hap

Magellan HEALTHCARE

Blue Cross Blue Shield of Rhode Island

An official website of the United States government. Here's how you know

Talk to the

VA | Lighthouse

Request an API Key   Sear

Documentation   News   Release Notes   Support

Overview	**Health API**
Benefits API	Use our Health APIs to build tools that help Veterans manage their health, view
Facilities API	VA medical records, and share their information with caregivers and providers.
Forms API	APIs also provide a Veteran the ability to view their eligibility information that
Health API	help them determine if they can receive urgent care and/or community care ba
Quickstart	facility proximity and a Veteran's ability to access care.

VA's Veteran Health and Urgent Care Eligibility APIs use HL7's Fast Healthcare Interoperability Resources
framework for providing healthcare data in a standardized format. FHIR solutions are built from a set of
components called "resources." These resources can be easily assembled into working systems that solv
world clinical and administrative problems.

Authorization

Community Care Eligibility API

Urgent Care Eligibility API (FHIR)

Veterans Health API (FHIR)

Veteran Verification API

When you register for access to the Health APIs, you will be granted access to a synthetic set of data (prov
the MITRE Corporation) that mimics real Veteran demographics. The associated clinical resources includ
generated from disease models covering up to a dozen of the most common Veteran afflictions.

VA is a supporter of the CARIN Alliance Code of Conduct.

https://developer.va.gov/explore/vaForms

Authorization   **Community Care**   **Urgent Care Eligibility**

CMS 9115-F states
"Payers can look to industry best practices, including the CARIN Alliance's Code of Conduct and the ONC Model Privacy Notice for other provisions to include in their attestation request that best meet the needs of their patient population."

CMS 0057-P states
"We also encourage app developers to follow industry best practices, including the CARIN Alliance's Code of Conduct and the ONC Model Privacy Notice (MPN)."

carequality

https://carequality.org/consumer-directed-exchange/
- MyHealthApplication.com
- Code of Conduct adoption
- Federated Trust Agreement

MyHealthApplication.com and Third-party certification

Code of Conduct ✕

Showing **40** out of **40** results

b.well Connected Health
Code of Conduct - Signed

b.well enables the digital transformation in healthcare that consumers are demanding. We work with healthcare organizations as the middleware for interoperability and aggregation, consolidating disparate data and point solutions in real-time to deliver one seamless experience to consumers.

Organize/Share Health Data | Make Appointments | Android | iOS | Web

1upHealth
Code of Conduct - Signed

At 1upHealth, we believe that you should be in control of your health information. You choose how much data to share and where you want to share it. Get connected today!

Organize/Share Health Data | iOS | Android

Apple Health
Code of Conduct - Signed

The Apple Health app provides a central and secure place for your health and fitness information, so it's easily accessible and under your control.

iOS | Direct Access

Buzz Secure Medical Messenger
Code of Conduct - Signed

Buzz is a HIPAA-secure communications platform for healthcare providers & patients. It Supports live video, texts, calls, audio, images reports.

Organize/Share Health Data | Make Appointments | Android | iOS | Web

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DocuSign Envelope ID: 197C38A9-8EA6-4424-9892-14ACC2C28580

We will:

a) Inform users about their personal data disclosure choices and the consequences of those choices including the risks, benefits, and limitations of data disclosure by providing educational materials ourselves or pointing to appropriate third-party resources.

ATTESTED BY:

Company	HUMETRIX
Chief Executive Officer (Print)	Bettina Experton
Chief Executive Officer (Signature)	*Bettina Experton* — 9535DDA6C0C4E2...
Date	November 10, 2020

Certification Program

EHNAC CANDIDATE — CARIN CODE OF CONDUCT

EHNAC ACCREDITED — CARIN CODE OF CONDUCT

Attestation to the CARIN Code of Conduct now includes **signed versions of the code of conduct** by the application's senior executive

Application **certification programs** have launched which includes attestation and independent certification options

Other Stakeholder collaborations and shaping the future

February 21st – Health IT's Inflection Point

WIRED SECURITY POLITICS GEAR BACKCHANNEL BUSINESS SCIENCE CULTURE IDEAS MERCH

ANDY GREENBERG SECURITY MAR 4, 2024 12:41 PM

Hackers Behind the Change Healthcare Ransomware Attack Just Received a $22 Million Payment

The transaction, visible on Bitcoin's blockchain, suggests the victim of one of the worst ransomware attacks in years may have paid a very large ransom.

American Hospital Association ✔ @ahahospitals · 9h

Today's @washingtonpost story on the cyberattack on Change Healthcare features, Molly Smith, AHAs VP of public policy states, "Our assessment is that this is the most significant attack on the health-care system in U.S. history." Read the full story:

> Second, the terms and conditions of the agreement are shockingly onerous. Among other things, your form agreement: (1) requires repayment of loans within 5 days of receiving notice; (2) allows your bank, Optum Financial Services, to recoup funds "immediately and without prior notification"; (3) permits Optum to change the agreement simply by providing notice; (4) requires providers to give UnitedHealth Group and its subsidiaries access to past, current and future claims payment data; and (5) contains broad waivers of liability and strict limitations on damages.
>
> Taken together, the limited eligibility and these one-sided contractual terms severely undermine the intent of this program. Indeed, we have heard from some hospitals and health systems that these simply are not terms they can accept, especially when their financial future becomes more unpredictable the longer Change Healthcare is unavailable. UnitedHealth Group, which is a Fortune 5 company that brought in more than $370 billion in revenue and $22 billion in profit in 2023, can — and should — be doing more to address the far-reaching consequences that result from Change Healthcare's inability to provide these essential hospital revenue cycle functions nearly two weeks after the attack.

AHA Congressional Letter

# Trusted Exchange Framework and Common Agreement (TEFCA)

- Why?
  - Single Nationwide Technology Connection
  - Single Data Use / Legal Agreement
  - Nationwide Record Location Service (RLS)
- Why not?
  - Can we technologically support it?
  - Will it always be voluntary?
  - Can everyone connect?
  - Can we trust each other?
  - Who will pay for it?
  - Will payers / providers work together?

HEALTH TECH

Epic, Particle Health dispute exposes broader challenges with sharing patient data, health IT experts say

By **Heather Landi** · Apr 15, 2024 7:30am

Future of HIEs
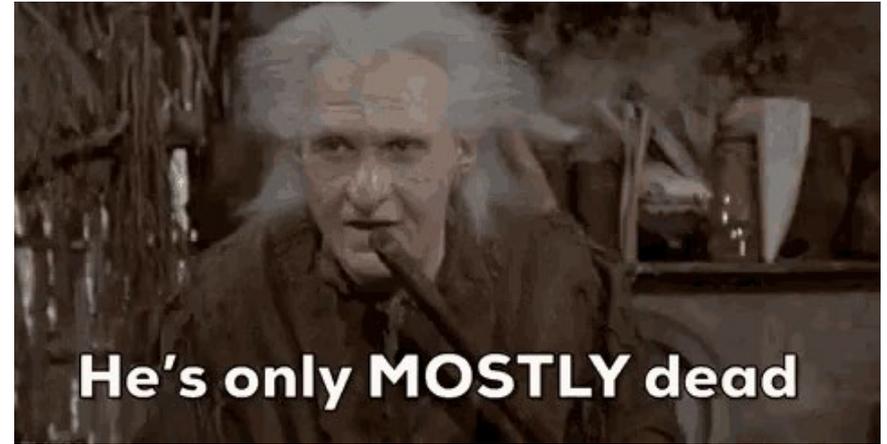
Future needs with HL7 FHIR

- Determine a business owner today!

- It's a future business strategic asset

- Your future front door to solution providers, business partners, and customers

- Implement SMART 2.2 – User Access Brands and Endpoints
  - https://build.fhir.org/ig/HL7/smart-app-launch/index.html

- Need a standard API directory framework and set of data elements for FHIR endpoint discovery
  - State of Utah / CARIN Alliance FHIR API Directory Framework

- Need an B2B and B2C application registration and vetting process

- Need a robust application testing and production development environment

- Open test harnesses for the entire country to help improve data quality

Social Determinants of Health (SDOH) and Health Related Social Needs data exchange

- Can it scale when most of the data is regulated by the FTC?

- How can we leverage consent and identity structures similar to the CARIN Alliance model?

- Are data exchange solutions scalable and sustainable?

- Should we include CBOs as part of VBC contracts?

- Can we scale open standards?

- January 1, 2024 – The questions are being asked; Will we have an answer? Can we compare answers to determine outcomes? How are we tracking and measuring responses?

Artificial Intelligence

- How exactly does it work?

- Can I get a consistent response?

- Can I find out what's behind the scenes?

- Is it functionality or regulatory capture? (Andreessen)

- Which federal agency is responsible and can/should they actually regulate it?
  - HINT: It's not HHS
  - National AI Advisory Committee (https://ai.gov/naiac)

- Is it FAVES (Fair, Appropriate, Valid, Effective, and Safe)?

- Does it work and does it do no harm?

Marc Andreessen 🇺🇸 ✓ @pmarca · Mar 6 · · ·

Either AI is a big scary existential threat, and the big AI labs need to be nationalized and militarized *right now*.

Or AI is just software and math, and the fear mongering and lobbying for regulatory capture need to stop.

One or the other.

💬 269 ⟲ 289 ♡ 2.3K 📊 261K

Additional Digital Health Convenings

The CARIN Alliance worked with CMS to develop the CARIN IG for Blue Button (EOB/claims information) which was named multiple times in federal regulation so that every CMS payer, provider, and patient will have access to it by 2027.

The Helios FHIR Accelerator for Public Health worked with ONC and CDC to develop Public Health FHIR related use cases and APIs which was also named in federal regulation.

The One Utah Digital Health Collaborative works with the Governor's office and Utah Department of HHS to convene a first-in-the-nation public / private partnership to implement the FHIR API use cases for the CMS 2027 prior authorization final rule.
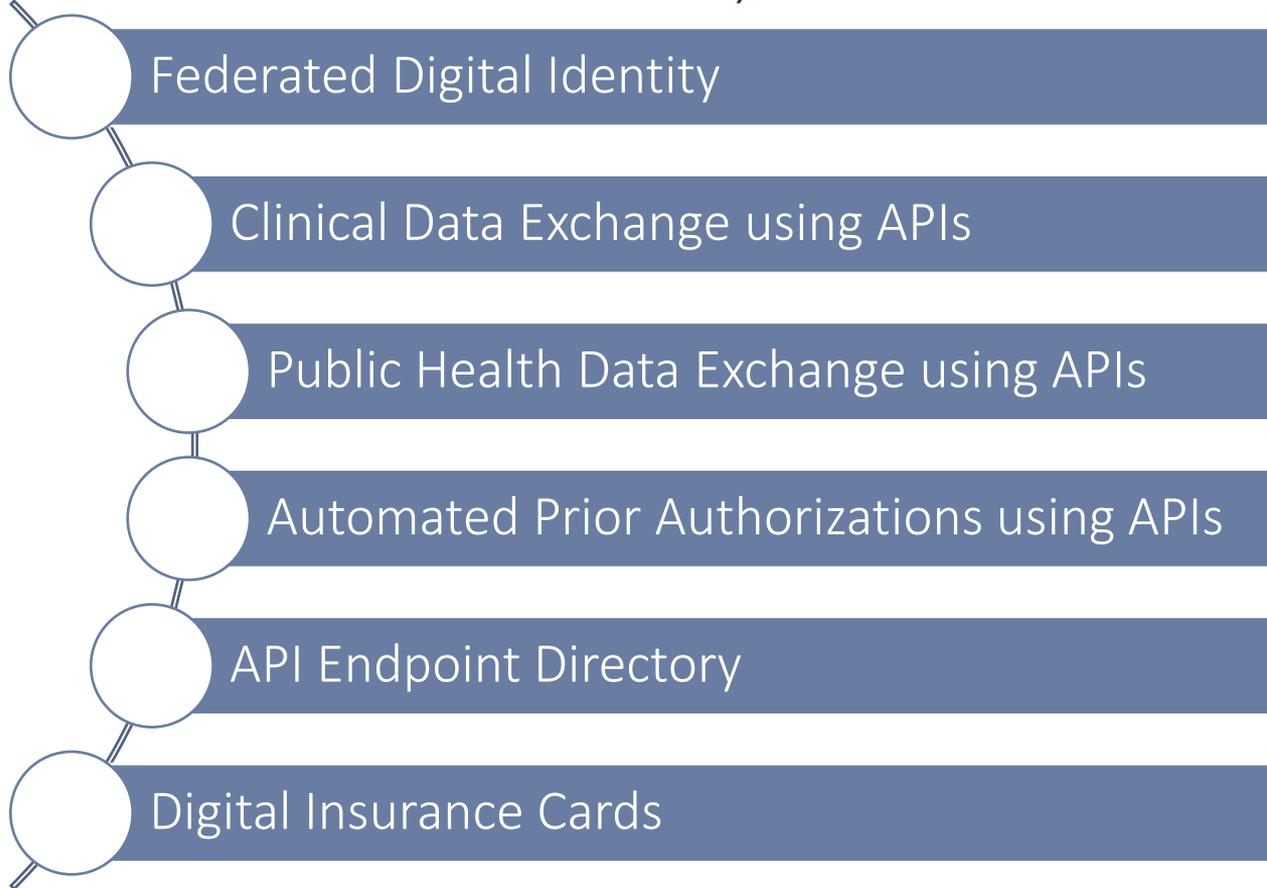
Working with CMS and NCQA, we are developing the FHIR API foundation for how digital quality measures will be reported, measured, and exchanged in the future as part of the Digital Quality Implementers Community (DQIC)

Working with HHS and HUD to develop the data exchange and payment standards for transferring housing data between homeless management information systems (HMIS) and other stakeholders.

- https://leavittcenterforalliances.com/

CMS Prior Auth rule CMS-0057-F requires state-based collaboratives; Let's do this in Georgia!

LP

- Federated Digital Identity
- Clinical Data Exchange using APIs
- Public Health Data Exchange using APIs
- Automated Prior Authorizations using APIs
- API Endpoint Directory
- Digital Insurance Cards

One Utah Health Collaborative

- The One Utah Health Collaborative is an independent 501(c)(3)
- Led by Governor Cox
- Committed to improving health outcomes in Utah
- The Utah Digital Health Interoperability Pilot is a workgroup within the One Utah Health Collaborative

Questions?

Contact Information

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@carinalliance | www.carinalliance.com | HL7.org/CARIN

Achieving "Buzz Word" Compliance:
Key Interoperability Regulations and Standards

Tim Pletcher, DHA | CEO
tim.Pletcher@velatura.org

Table of Contents

Velatura

Velatura Public Benefit Corporation (Velatura)

An interoperability network and solution provider that aligns and connects people, public and private organizations, technology, ideas, and information to improve healthcare, simplify work, & reduce costs.

Public Sector Healthcare

Private Sector Healthcare

Community Based Organizations

Velatura

Vision

Purpose & Community Benefit

Mission

Velatura
Public Benefit Corporation

Velatura
HIE Corp.
A Velatura Company

<u>Purpose & Community Benefit</u>: Align the public and private sectors to combine people, organizations, and technology, with ideas and information to transform health, simplify work, and reduce costs.

<u>Mission</u>: Enable a consolidation of health information networks, community-based organizations, and health data utilities to achieve national economies of scale with localized data sovereignty.

<u>Vision</u>: Create the most innovative, trusted, and inclusive health data network in the US and exponentially accelerate the use of interoperable information.

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Interoperability Defined*

"Interoperability is the ability of different information systems, devices or applications to **connect**, in a **coordinated manner**, within and across organizational boundaries to **access, exchange and cooperatively** use **data** amongst stakeholders, with the goal of **optimizing** the **health** of individuals and populations."

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A Lot Is Happening Around Interoperabiltiy

Achieving "Buzz Word" Compliance

Paint the Overall Landscape of Key Concepts & Identify

1. Policy to watch
2. Activities to track
3. Standards to know about
4. Opportunities to plan for

A General Theory of Buzzwords (Inquiries Journal) www.inquiriesjournal.com/articles/1538/a-general-theory-of-buzzwords-synergistic-meta-linguistic-paradigm-shifts)
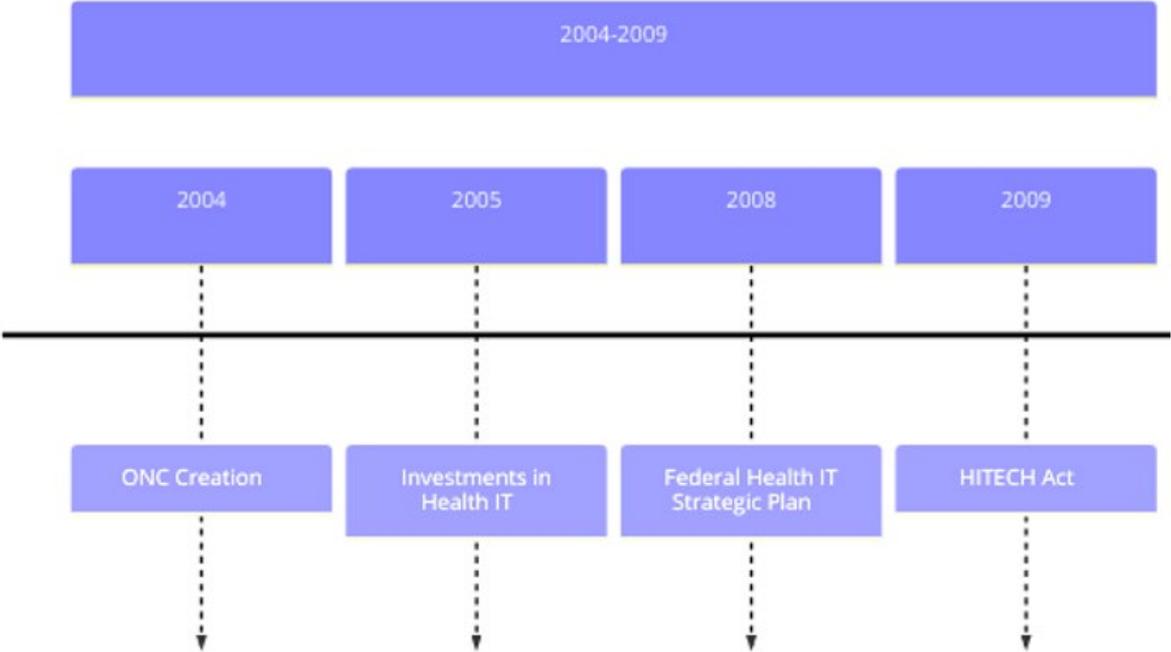
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Assistant Secretary for Technology Policy

- The **Assistant Secretary for Technology Policy (ASTP)**, formerly the Office of the National Coordinator (ONC), leads the national effort to advance health IT and promote the **secure electronic exchange** of health information. Located within HHS, ASTP's mission is to drive **systemic improvements in healthcare** through **data access, exchange, and use**, with a focus on person-centered care, health delivery transformation, and fostering innovation. It is the principal federal entity responsible for coordinating health IT policy across the U.S. healthcare system.

- For more details, visit About ASTP/ONC.
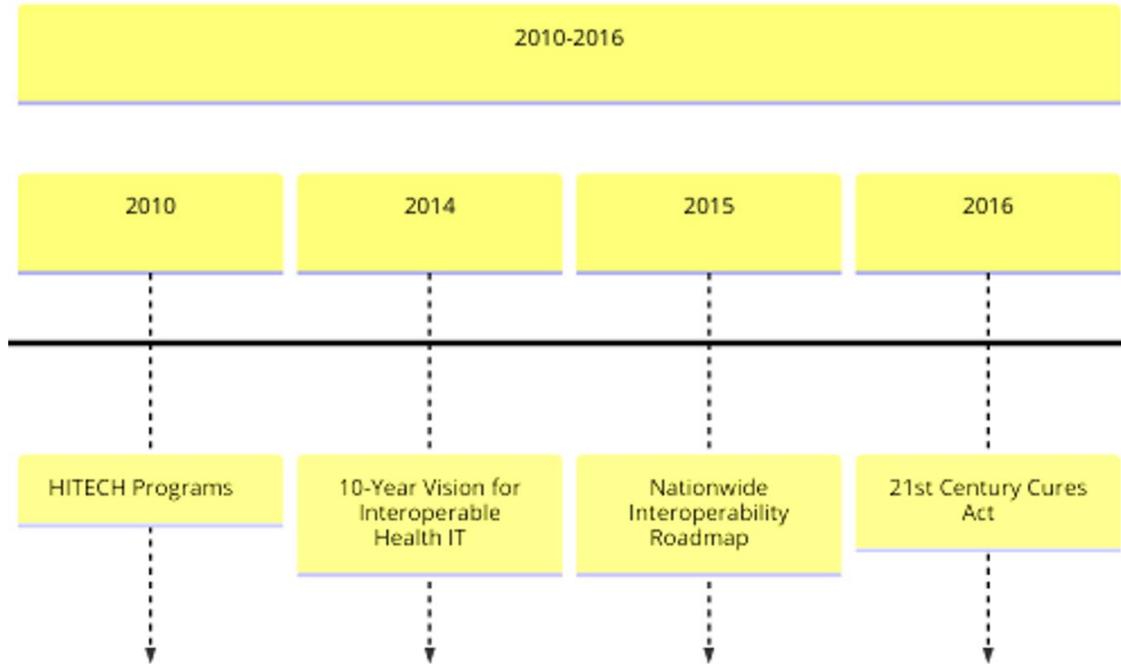
Benefits of the Restructure

- **Expanded Scope**: Reflects a broader focus beyond health IT, covering areas like **artificial intelligence** and **emerging technologies**.

- **Improved Coordination**: Enhances **interagency collaboration** across federal health initiatives.

- **Strengthened Policy Leadership**: Supports more comprehensive **technology policy development** that influences healthcare innovation, patient access, and data use.

- **Focus on Interoperability**: Continues ONC's mission to promote seamless data exchange, fostering a more **person-centered healthcare system**.
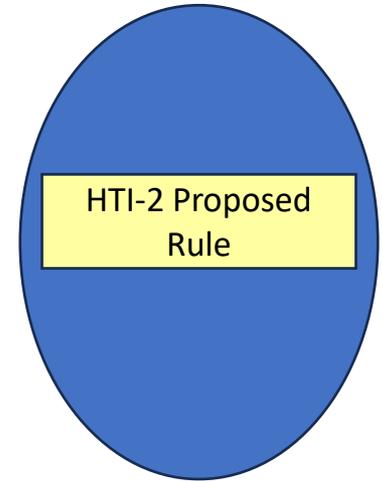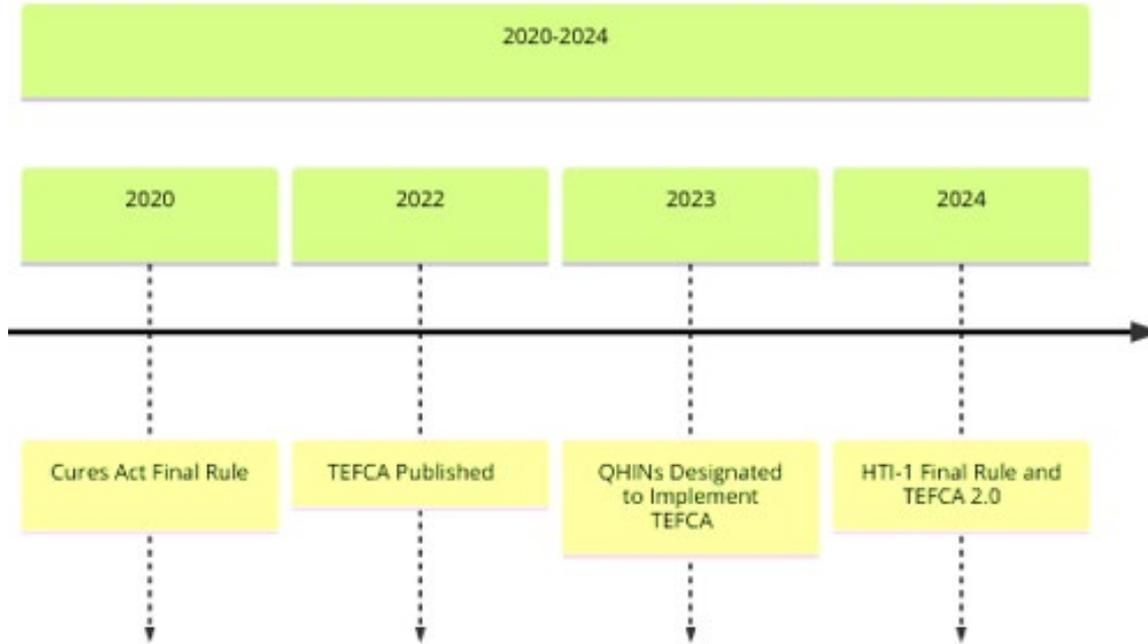
Getting Started

2004-2009			
2004	**2005**	**2008**	**2009**
ONC Creation	Investments in Health IT	Federal Health IT Strategic Plan	HITECH Act

Meaningful Use and Information Blocking

2010-2016

2010	2014	2015	2016

HITECH Programs

10-Year Vision for Interoperable Health IT

Nationwide Interoperability Roadmap

21st Century Cures Act

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Cures Act & TEFCA

2020-2024

2020	2022	2023	2024
Cures Act Final Rule	TEFCA Published	QHINs Designated to Implement TEFCA	HTI-1 Final Rule and TEFCA 2.0

HTI-2 Proposed Rule

ASTP Health IT Policy Timeline

|	
2009: HITECH Act	Incentivized EHR adoption, established Meaningful Use.
2011–2016: Meaningful Use Program	Promoted data capture, exchange, and patient engagement.
2016: 21st Century Cures Act	Mandated interoperability, prohibited information blocking.
2020: CMS Interoperability and Patient Access Final Rule	Required FHIR APIs for patient data access.
2022: TEFCA	Established framework for nationwide health data exchange.
2023-2024: HTI-1 and HTI-2 Rules	Expands patient engagement and public health interoperability

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Focused Interoperability Buzz Words

Key Word	Relevant Legislation
Meaningful Use	HITECH Act
Certified EHR Technology (CEHRT)	HITECH Act
FHIR (Fast Healthcare Interoperability Resources)	21st Century Cures Act
APIs (Application Programming Interfaces)	21st Century Cures Act
Information Blocking	21st Century Cures Act
TEFCA (Trusted Exchange Framework and Common Agreement)	21st Century Cures Act
USCDI (United States Core Data for Interoperability)	21st Century Cures Act
SMART on FHIR	21st Century Curses Act
Patient Access	CMS Interoperability and Patient Access Rule
Payer to Payer Data Exchange	CMS Interoperability and Patient Access Rule
CMS API Standards	CMS Interoperability and Patient Access Rule
SDOH	HTI-1 & HTI-2
Real-time API Access for Public Health Reporting	HTI-1 & HTI-2

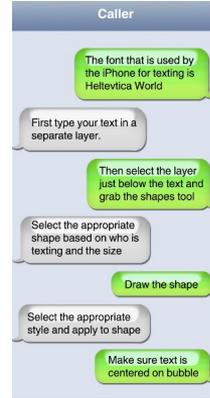Velatura

The Big 3 Data Standards

HL7 V2.x

HL7 v2.n series, v2.8 is the most current (1980's-now)
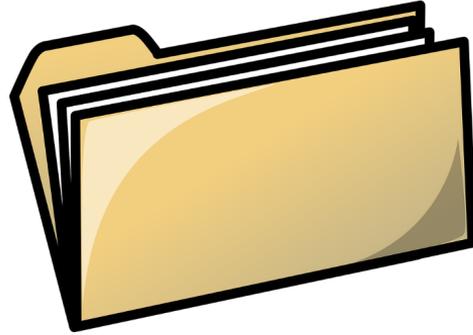
HL7 CDA version 3

HL7 Clinical Data Architecture
- Consolidated Clinical Document Architecture (CCDA)
  - ➤ Continuity of Care Document (CCDA)

HL7 FHIR

HL7 Fast Healthcare Interoperability Resources (FHIR)

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United States Core Data for Interoperability

The USCDI is a standardized set of health data classes and

constituent data elements for nationwide, interoperable Health information exchange.

Currently versions up to version 5 with #6 pending

USCDI v4 Summary of Data Classes and Data Elements

Allergies and Intolerances
- Substance (Medication)
- Substance (Drug Class)
- Substance (Non-Medication)
- Reaction

Care Team Member(s)
- Care Team Member Name
- Care Team Member Identifier
- Care Team Member Role
- Care Team Member Location
- Care Team Member Telecom

Clinical Notes
- Consultation Note
- Discharge Summary Note
- History & Physical
- Procedure Note
- Progress Note

Clinical Tests
- Clinical Test
- Clinical Test Result/Report

Diagnostic Imaging
- Diagnostic Imaging Test
- Diagnostic Imaging Report

Encounter Information
- Encounter Type
- Encounter Identifier
- Encounter Diagnosis
- Encounter Time
- Encounter Location
- Encounter Disposition

Facility Information
- Facility Identifier
- Facility Type
- Facility Name

Goals and Preferences
- Patient Goals
- SDOH Goals
- Treatment Intervention Preference
- Care Experience Preference

Health Insurance Information
- Coverage Status
- Coverage Type
- Relationship to Subscriber
- Member Identifier
- Subscriber Identifier
- Group Identifier
- Payer Identifier

Health Status Assessments
- Health Concerns
- Functional Status
- Disability Status
- Mental/Cognitive Status
- Pregnancy Status
- Alcohol Use
- Substance Use
- Physical Activity
- SDOH Assessment
- Smoking Status

Immunizations
- Immunizations

Laboratory
- Tests
- Values/Results
- Specimen Type
- Result Status
- Result Unit of Measure
- Result Reference Range
- Result Interpretation
- Specimen Source Site
- Specimen Identifier
- Specimen Condition Acceptability

Medical Devices
- Unique Device Identifier - Implantable

Medications
- Medications
- Dose
- Dose Unit of Measure
- Indication
- Fill Status
- Medication Instructions
- Medication Adherence

Patient Demographics/ Information
- First Name
- Last Name
- Middle Name (Including middle initial)
- Name Suffix
- Previous Name
- Date of Birth
- Date of Death
- Race
- Ethnicity
- Tribal Affiliation

Patient Demographics/ Information (cont.)
- Sex
- Sexual Orientation
- Gender Identity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person's Name
- Relationship Type
- Occupation
- Occupation Industry

Patient Summary and Plan
- Assessment and Plan of Treatment

Problems
- Problems
- SDOH Problems/Health Concerns
- Date of Diagnosis
- Date of Resolution

Procedures
- Procedures
- Performance Time
- SDOH Interventions
- Reason for Referral

Provenance
- Author Time Stamp
- Author Organization

Vital Signs
- Systolic Blood Pressure
- Diastolic Blood Pressure
- Average Blood Pressure
- Heart Rate
- Respiratory Rate
- Body Temperature
- Body Height
- Body Weight
- Pulse Oximetry
- Inhaled Oxygen Concentration
- BMI Percentile (2 - 20 years)
- Weight-for-length Percentile (Birth - 24 Months)
- Head Occipital-frontal Circumference Percentile (Birth- 36 Months)

USCDI ★ United States Core Data for Interoperability

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About the Gravity Project

A national public collaborative that develops consensus-based data standards to improve how we use and share information on social determinants of health (SDOH).


SDOH Domains

- FOOD INSECURITY
- TRANSPORTATION INSECURITY
- HOUSING INSTABILITY
- HOMELESSNESS
- INADEQUATE HOUSING
- EDUCATION
- ELDER ABUSE
- FINANCIAL INSECURITY
- INTIMATE PARTNER VIOLENCE (IPV)
- MATERIAL HARDSHIP
- SOCIAL CONNECTEDNESS
- UNEMPLOYMENT
- STRESS
- Health Literacy
- VETERANS
- Health Insurance Coverage Status
- Medical Cost Burden

Workstream Infinity Model

The following infinity model demonstrates how a Gravity Project is executed using the three workstreams (Terminology, Technical, and Pilots).
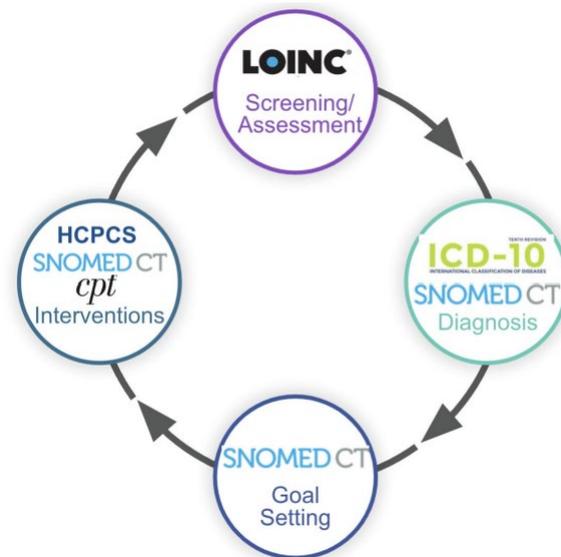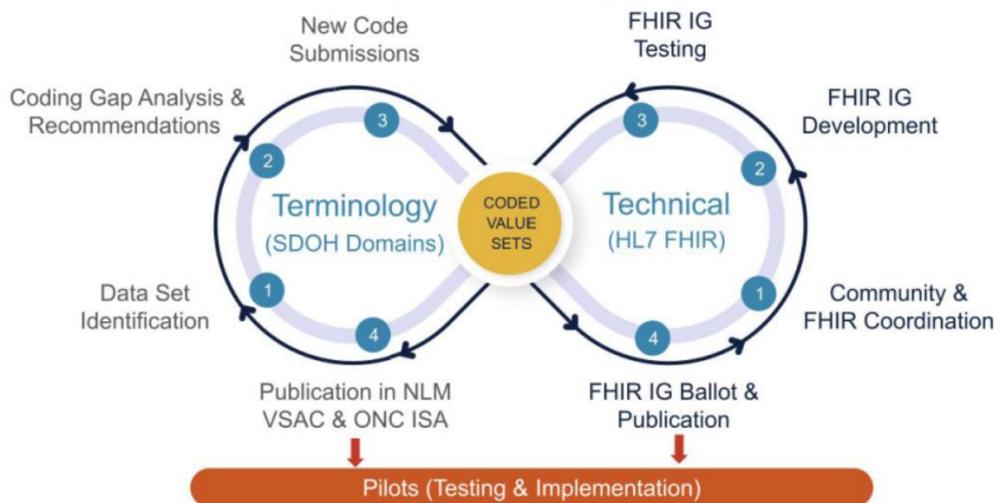
Example Terminology Standards: Semantic

LOINC	ICD 10	SNOMED CT	CPT
Logical Observation Identifiers Names and Codes. Developed by the Regenstrief Institute	International Classification of Diseases, Tenth Revision. It is a medical classification system maintained by the World Health Organization In the US used for diagnosis in medical billing	Systematized Nomenclature of Medicine -- Clinical Terms is maintained by SNOMED International and used to support the development of comprehensive high-quality clinical content in electronic health records	Current Procedural Terminology is maintained by the American Medical Association (AMA) used to report medical, surgical, and diagnostic procedures and services in the reporting and billing of medical services

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How These Get Used

- Observation made from a lab test:
  - Blood Glucose Level:
    - SNOMED CT 416536003
    - LOINC 2339-0
- Diagnosis determined by a doctor:
  - Type 2 Diabetes Mellitus:
    - SNOMED CT 44054006
    - ICD-10 E11
- Procedure by a surgeon
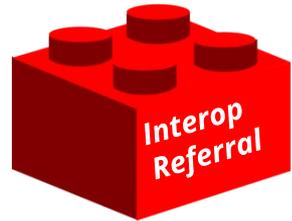 - Appendectomy:
    - SNOMED CT 80146002
    - CPT 44950

What Happens When They Aren't Used

- A patient's "family history" of "heart disease" is recorded in one system as "cardiovascular disease," causing confusion during patient transfer.
- One system records an allergy to "penicillin" but another system interprets this as an allergy to all antibiotics, leading to unnecessary restrictions.
- A diagnosis coded as "acute myocardial infarction" (heart attack) in one system is misinterpreted as "chronic ischemic heart disease" in another.
- A lab result indicating "elevated glucose" is interpreted as "diabetes" by another system, despite the absence of a confirmed diagnosis.
- A prescription for "metformin 500 mg" is misinterpreted as "metformin 50 mg" due to a misreading of dosage information.
- A procedure coded as "appendectomy" is misinterpreted as "laparoscopic appendectomy," leading to incorrect surgical records.
- A patient's "ethnicity" recorded as "Hispanic" in one system is misinterpreted as "race" in another system, leading to inaccurate demographic data.
- A blood pressure reading of "120/80 mmHg" is misinterpreted by another system as "120 over 80 kPa," leading to incorrect clinical decisions.
- A patient's "previous surgeries" field lists "gallbladder removal," but another system records it as "organ transplant," causing confusion in medical history.
- Discharge instructions for "bed rest" are interpreted as "no physical activity" by another system, leading to overly restrictive patient care plans.

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Data exchange building blocks

Social Care Record TBD

Outcome

Screening/ Assessment

Screening mostly done in health care
Assessment mostly done in community (CBOs)

Some general referrals sent from health care to community (ex: Jackson 211, AAA)

SDOH screen

Some interventions carried out in health care setting (ex: dietician)
Most carried out by community (CBOs)
Multiple interventions may occur in sequence or in parallel to address one problem

(Interop Referral)

Healthcare Practitioner

Patient/ Client

Interventions

Diagnosis

Health care: assigns ICD Z-codes
Community: multiple approaches

Social care Practitioner

Caregiver

Interop Referral

(social) Problem List

Specific referrals sent after assessment - directed to individual CBO OR directed to 'narrow network' (Pathways) requesting intervention

Goals Setting

Done in community as part of care plan
NO STANDARDS YET

51 **Velatura**
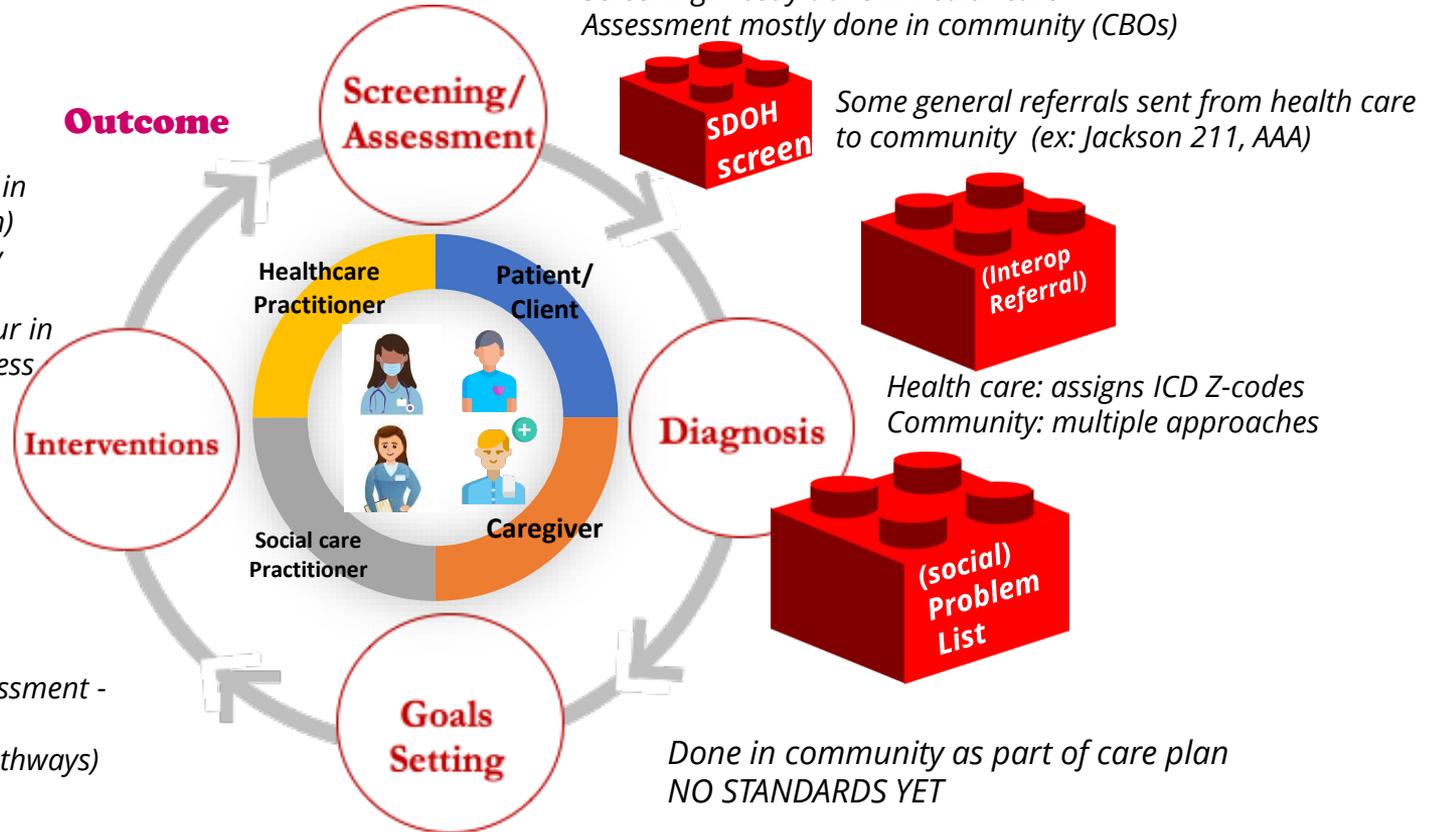
Georgia SDOH Exchange Opportunity

SDOH Screening Submission Year	Deduplicated Screening Count	Submitting Organization Count	Screening Practices Count
2023 Jan – Dec	2,075,645	28	1422
2024 Jan – Apr	667,009	27	1061

Another State's SDOH Use Case Statistics!

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Patient Access

- Patient access refers to an individual's ability to view, download, and transmit their health information electronically.

- It ensures that patients can access their medical records, including claims, encounter data, lab results, and clinical notes.

- Patient access is facilitated through standardized APIs like FHIR, allowing secure data sharing with third-party applications.

Figure 3: Methods individuals used to access their online medical records, 2020-2022.

Panel A: Methods individuals used to access their online medical records, 2022
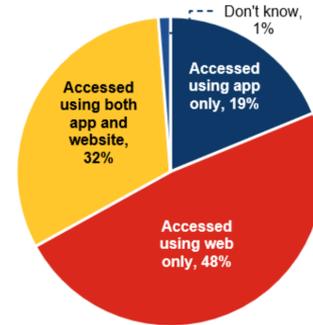
Panel B: Change in individuals' use of apps to access their online medical records, 2020-2022
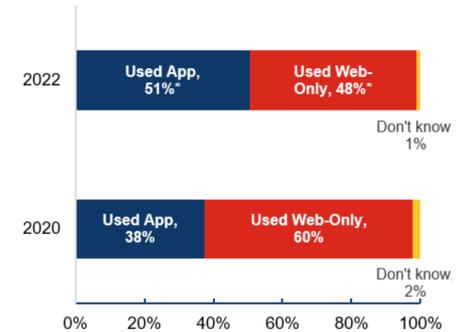
Source: Panel A: HINTS 6 (2022), Panel B: HINTS 5, Cycle 4 and HINTS 6 (2022).

Notes: Denominator represents individuals who accessed their online medical records at least once within the past year. In Panel B, "Used Web-Only" is equivalent to web only access in Panel A whereas "Used App" includes individuals who accessed their online medical records using an app only (19%) or using both an app and website (32%).*Significantly different from previous year (p<0.05).

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Related CMS Rules

CMS Interoperability and Patient Access Final Rule (2020)	Requires Medicare Advantage, Medicaid, and CHIP payers to provide patient access via FHIR-based APIs. Ensures real-time patient access to claims and encounter data.
CMS Interoperability and Prior Authorization Proposed Rule (2020)	Payers must implement APIs for electronic prior authorization submissions and real-time tracking. Sets timeframes for prior authorization decisions and transparency requirements for denials.
CMS Rule on Reducing Provider and Patient Burden (2022)	Builds on the 2020 rule, enhancing real-time data exchange and reducing administrative burdens. Focuses on faster response times and clear explanations for prior authorization requests.

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What is Payer-to-Payer Data Exchange?

Payer-to-Payer Data Exchange Overview:

- Payer-to-payer data exchange allows health insurance payers to transfer a patient's health data between insurers when a patient switches plans.

- It ensures continuity of care by providing the new payer with a complete health history of the patient.

- This exchange is typically enabled through the use of standardized APIs like FHIR to ensure data can be transferred seamlessly.

- Required under CMS interoperability rules to promote greater transparency and access to health data across the healthcare ecosystem.

Prior Authorization Interoperability Opportunity for Providers, Plans, and Patients

- Adoption of FHIR-based APIs for Medicaid and CHIP programs to handle prior authorization electronically.

- Real-time data exchange between providers and Medicaid agencies for efficient decision-making.

- Compliance with federal timelines (e.g., 72-hour response time for urgent cases) and transparency in denials.

- Collaboration with Health Information Exchanges (HIEs) for secure data sharing across the state.

- Integration of prior authorization data with public health systems to support continuity of care.

THANK YOU

About IOI

Interoperability Institute LLC (IOI) is a non-profit software technology research and development institute. Uniquely positioned as a health information technology innovation incubator, IOI's capabilities include applied research, software development, informatics, data science, artificial intelligence, machine learning, natural language processing, and solution enablement.

Partner Organizations

The Michigan Health Information Network Shared Services (MiHIN) is Michigan's state-designated entity for the technical, legal, secure, and private exchange of health information. Breaking down disparate and siloed data systems, the digital network is dedicated to transforming the healthcare experience, improving quality, decreasing cost and solving for health. MIHIN is a 501C3 non-profit, socio-technical collaboration that includes the State of Michigan, Health Information Exchanges, health systems, hospitals, care providers, behavioral health clinics, FQHC's, PIHPs, health plans/payers, pharmacies, post-acute care, hospices, and the Governor's Health Information Technology Commission.

Velatura strategically aligns and connects people, organizations, technology, ideas, and information to improve healthcare, simplify work and reduce costs. Offering market-driven solutions, as well as being the sole provider of MiHIN products and services, Velatura supports organizations in their mission to interoperate and streamline the sharing of pertinent electronic information.

Brief History: Michigan Health Information Network Shared Services

Federal Office of National Coordinator establishes State Health Information Exchange Cooperative Agreement Program

Michigan forms **Health Information Technology Commission**, which establishes MiHIN.

Active Care Relationship Service (ACRS) and *Admission Discharge, Transfer (ADT)* **Notifications** go live

97%
of *Admissions Discharge Transfer Notifications* statewide sent through MiHIN

Common Key Service introduced for patient matching

Velatura Public Benefit Corporation and Interoperability Institute established

131,133,812
cumulative *Immunization* Queries

MiHIN
Michigan Health Information Network

MiHIN Shared Services

velatura   INTEROPERABILITY INSTITUTE

2010 — **2012** — **2013** — **2014** — **2016** — **2017** — **2019** — **2020** — **2022**

More than
100 M
messages routed through statewide network

More than
1 BILLION
messages routed through statewide network

MiHIN completes its corporate affiliation of Great Lakes Health Connect (GLHC)

Statewide Health Information Exchange Creates Efficiency

BEFORE:
Duplication of effort, waste and expense
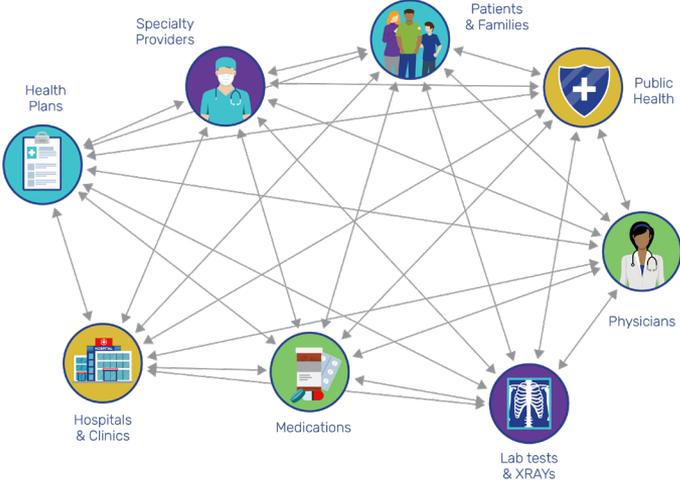
NOW:
Connect once to access shared services

Problem Statement

Universal challenge is to adequately prepare students for real-world jobs in Health Information Technology.

Just as professional students in fields like chemistry or physics gain hands-on experience in lab environments and are trained to use relevant tools and equipment, it is essential for health informatics students to have exposure to real-time software and tools used in the industry. Without this practical training, graduates may find themselves underprepared for the demands of the health IT workforce.

Universities are challenged with increased cost.

About the HIVE

Health Interoperability Virtual eLaboratory (HIVE)

- Virtual technology platform

- Shared datasets

- Shared software and data tools

- Course Packs for learning venues

Key Goals

- Leverage the collective expertise of the academe, industry, and public sector

- Foster development of a diverse, state-of-the-art health IT workforce

- Enable job placement for a skilled HIT workforce

A Vision for HIVE's e-Laboratory
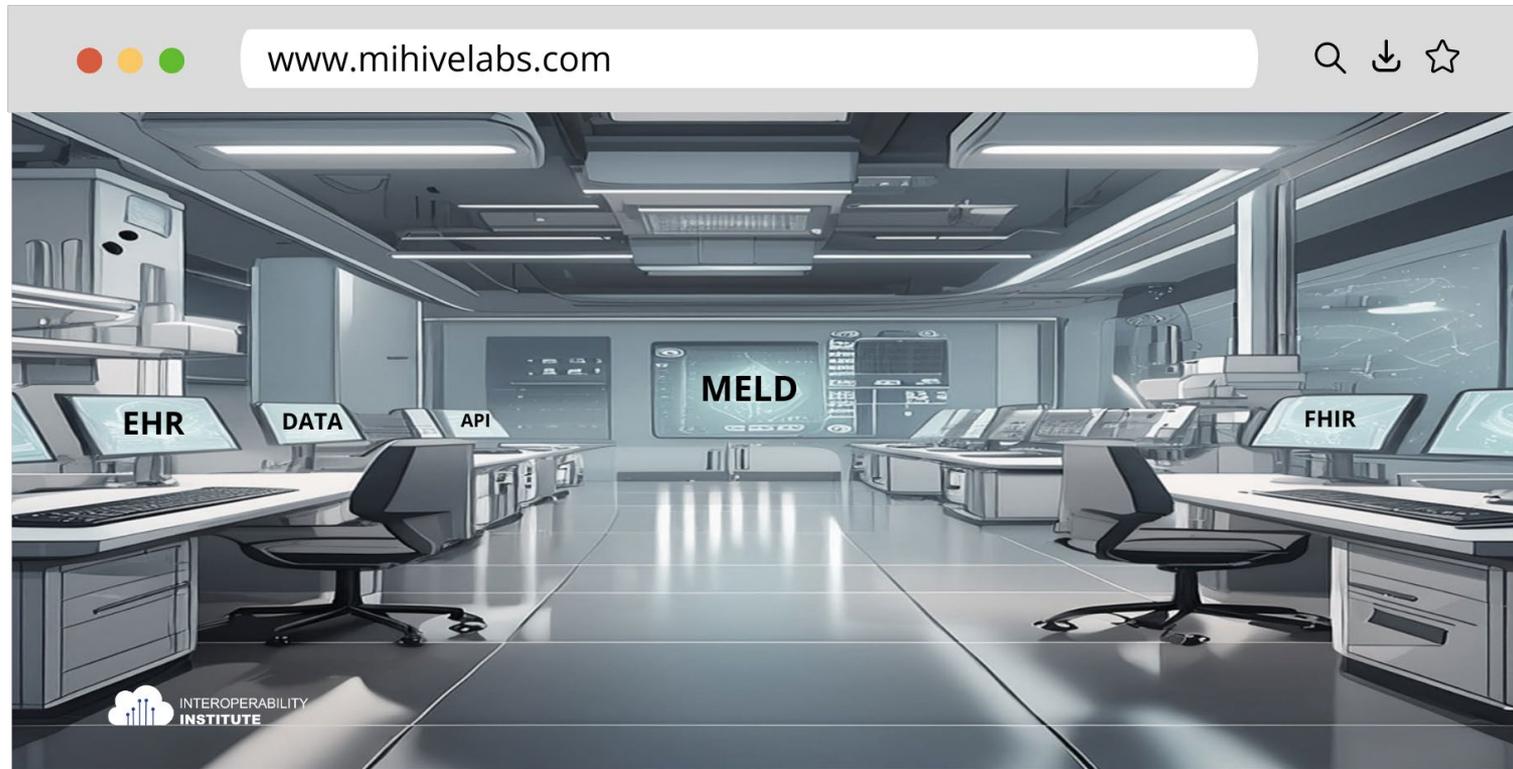
Meld: Open Source Sandbox>Digital Twin

HIVE Stakeholders
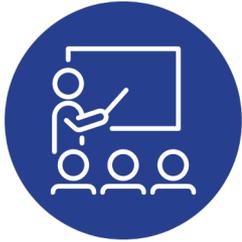
Health
Informatics
Academic Faculty

Private
Sector Industry
Advisors

Health
Informatics
Students

Public
Non-profit
Affiliates

Value Statement

- Shared electronic laboratory ecosystem
- Foster academic relationships and alleviate faculty burden
- Identify, shape and deliver mission-critical (HIT) services on which state and national HIT systems depend on for success
- Inform industry research and development
- Forge partnerships to advance discovery and innovation
- Participate in community through HIVE events:
  - Spring Evaluation Workshop
  - Summer Core Curriculum Element Build Workshop
  - Fall Industry Engagement Workshop at HIMSS
  - Student Challenge Events and Internships

Call to Action

- Sign up to join the Georgia HIVE discovery/planning series of webinars
    - Virtual demo of the MELD Platform – 1hr
    - Develop the framework for the Georgia HIVE community – 1hr
    - Discuss and prioritize program areas – Cybersecurity, FHIR, AI, etc – 1hr
- Two-way dialogue – What resources does Georgia have available today? What resources would Georgia HIVE desire ?
- Contribute your expertise to develop the Georgia HIVE partnership

interoperabilityinstitute.org

Advancing Digital Quality Transformation

Amol Vyas, VP of Interoperability

Why Digital Quality?

> Quality, while important, has been fragmented and burdensome.

> Emerging standards and regulations are enabling a digital transformation.

> Quality will be better aligned with care delivery and a learning health system.

> Leads to reduced burden and costs, better alignment, more relevant measures, and ultimately, better care and outcomes.

Industry Feedback

The market is asking for reduced measure burden, a more effective learning health system, and more support for value-based care.

Maturity of Standards

The industry has taken steps to adopt interoperability standards as regulatory forces drive investment, and quality is the top use case.

Payment Arrangements

The financial shift from fee-for-service to value-base care continues, driving new priorities and creating greater need for accountability and measurement at all levels and contexts of healthcare.

Industry Insights: What Are We Hearing?

Lower Cost, Burden, and Variability

Measures content can be developed and distributed easily and seamlessly to reduce interpretation, development, and maintenance needed today.

Support Learning Health System Use Cases

Measures content can be configurable and used in different workstreams for different use cases, including quality improvement, population management, and analytics.
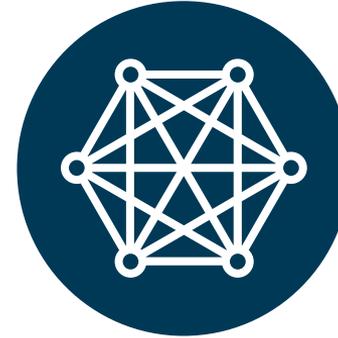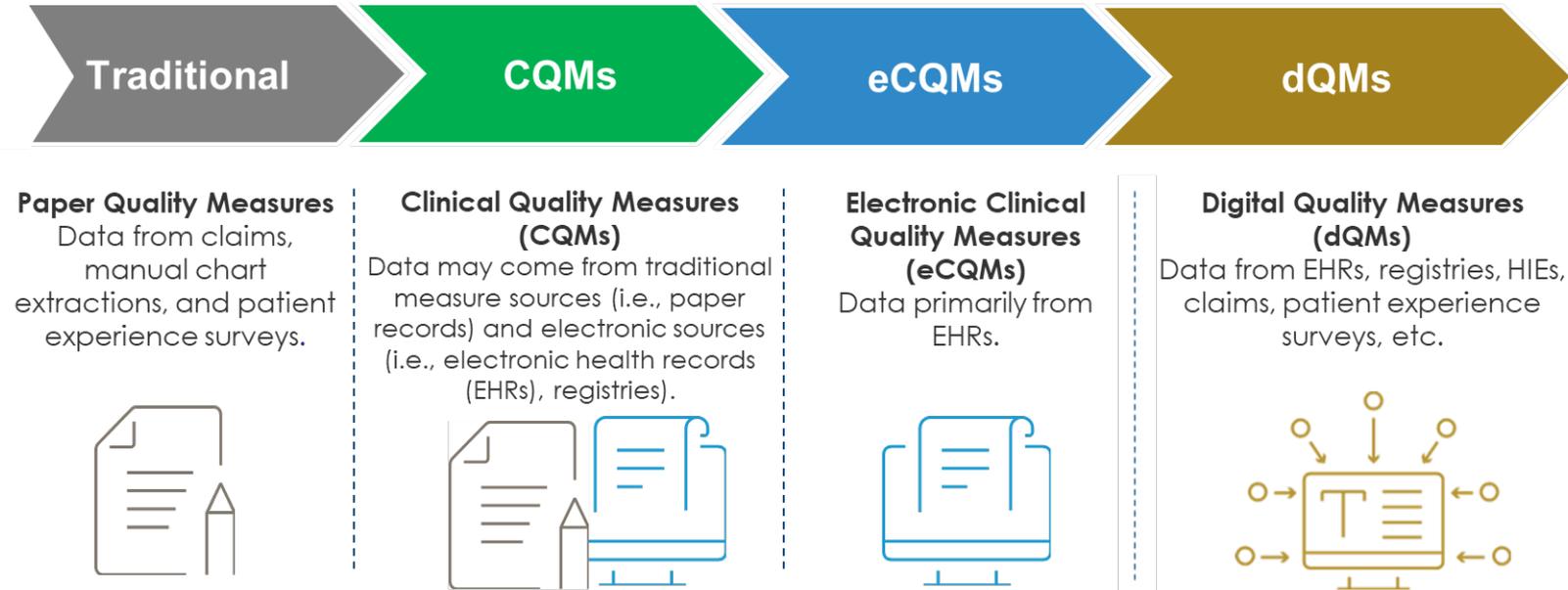
Better Value-Based Care Support

Quality measures must move beyond signals or gates to meet evolving VBC needs. The industry needs connected (data) and consistent (methodology), built around priority populations and conditions, to be relevant and actionable across contexts and accountability models.

Evolution of Quality Measures
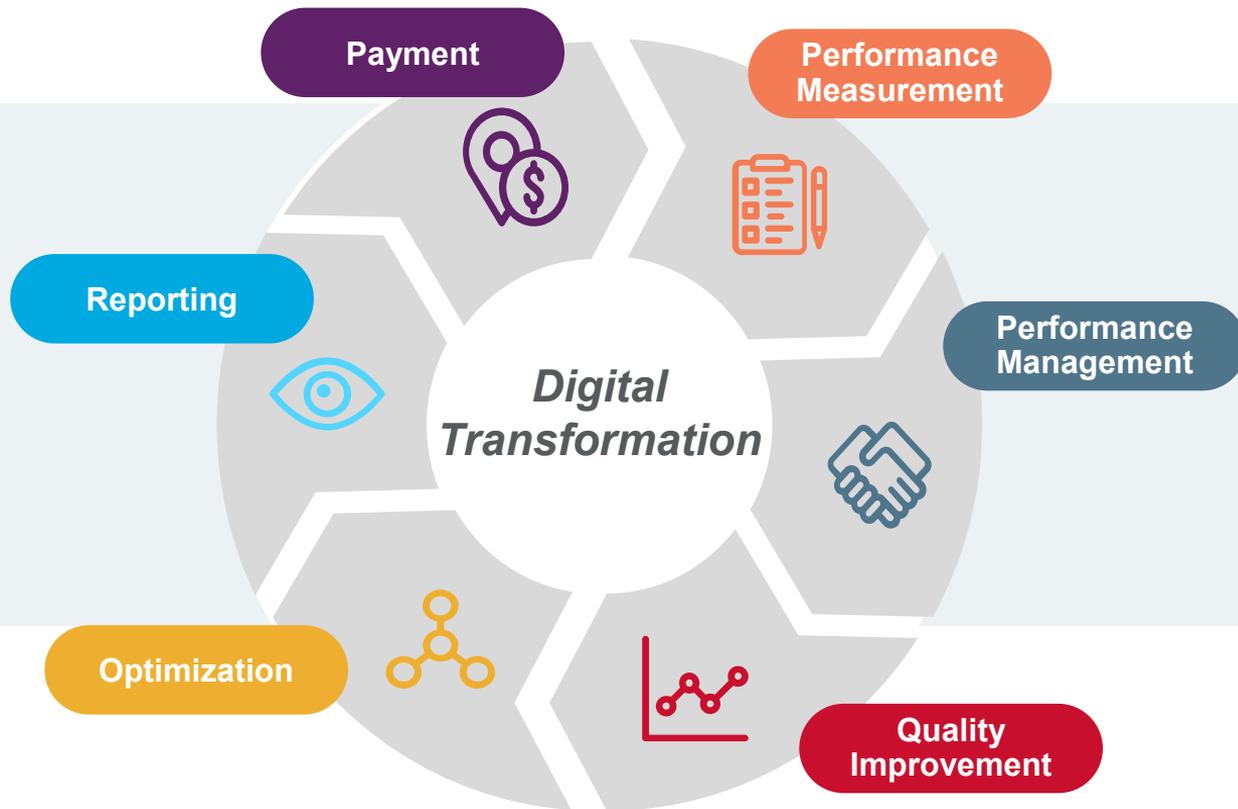
The Journey from Paper to Digital

| Traditional | CQMs | eCQMs | dQMs |

Paper Quality Measures
Data from claims, manual chart extractions, and patient experience surveys.

Clinical Quality Measures (CQMs)
Data may come from traditional measure sources (i.e., paper records) and electronic sources (i.e., electronic health records (EHRs), registries).

Electronic Clinical Quality Measures (eCQMs)
Data primarily from EHRs.

Digital Quality Measures (dQMs)
Data from EHRs, registries, HIEs, claims, patient experience surveys, etc.

Source: Centers for Medicare & Medicaid Services

Quality Workflow Use Cases

- **Configurable, FHIR® CQL digital quality HEDIS measures** that are expanded and executable.

- **dQM processing software system** to help you flow new measures through your technologies and workflows.

Payment

Performance Measurement

Reporting

Performance Management

Digital Transformation

Optimization

Quality Improvement

Regulatory Tailwinds

In 2020, ONC and CMS issued rules requiring EHR technologies and health plans to implement FHIR®-based application programming interfaces.

2020 ONC Rule

Certified EHR technology (CEHRT) required FHIR®-based application programming interfaces (APIs) supporting exchange of all United States Core Data for Interoperability (USCDI) version 1 data elements according to the US Core Implementation Guide (IG) by December 31, 2022

2020 CMS Rule

Regulated health plans must've implemented FHIR®-based APIs

For patient access of claims, encounter, and USCDI data by July 2021

To transfer USCDI data among payers by January 2022

Regulatory Tailwinds

CMS has prioritized digital quality measures to improve the quality and usefulness of clinical data.

CMS has set a goal of transitioning to all digital measures by 2030.

Its "Universal Foundation" aims to align quality measures across CMS quality programs.
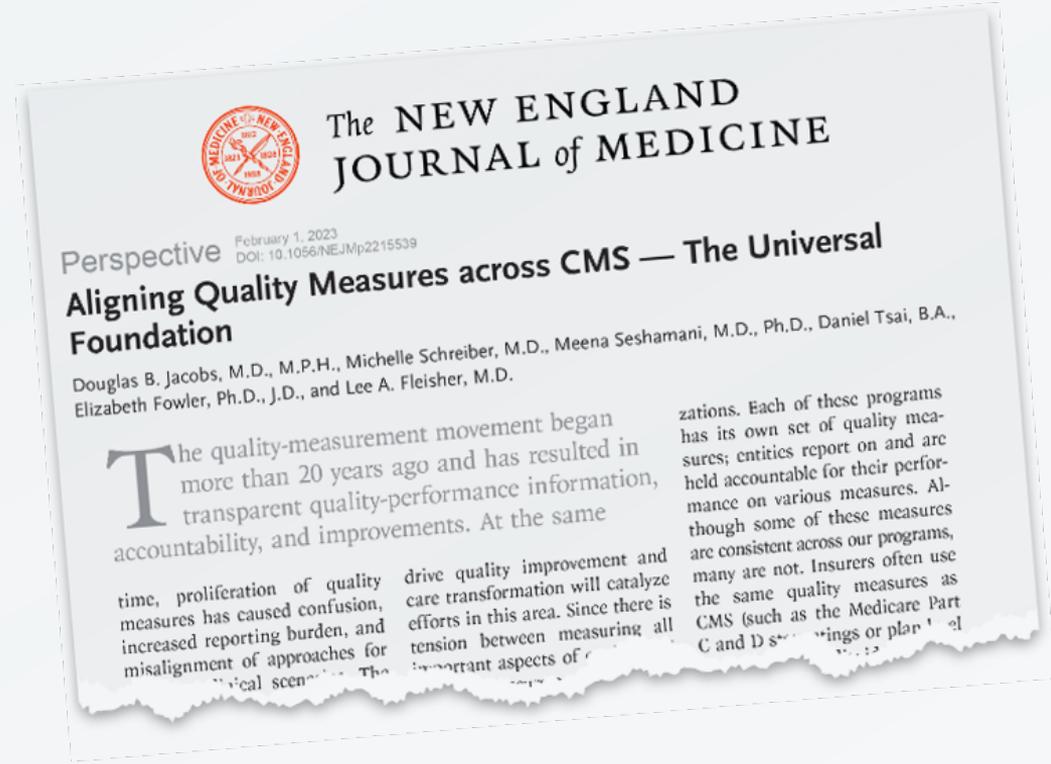
Regulatory Tailwinds

TEFCA Goals

1. Establish a universal governance, policy, and technical floor for nationwide interoperability

2. Simplify connectivity for organizations to securely exchange information to improve patient care, enhance the welfare of populations, and generate health care value

3. Enable individuals to gather their health care information
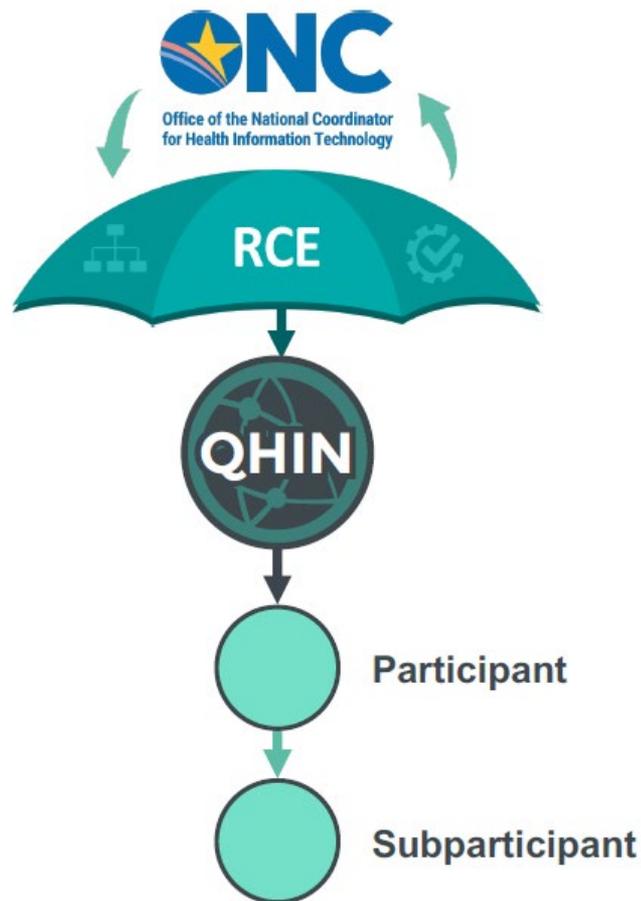
Regulatory Tailwinds

XP Code Level	XP	XP Code
Health Care Operations	T-HCO	Level 1
Care Coordination/Case Management *	T-HCO-CC	Level 2
HEDIS Reporting*	T-HCO-HED	Level 2
Quality Measure Reporting*	T-HCO-QM	Level 2

*Beginning 18 months following the initial publication date of the SOP, all Responding Nodes MUST Respond to Care Coordination, HEDIS, and Quality Measures

Standard Operating Procedure (SOP) – A written procedure or other provision that is incorporated by reference into the Framework Agreements to provide detailed information or requirements related to TEFCA Exchange.

The Exchange Purposes (XPs) SOP details specifications relevant to when and how information can be requested or shared through TEFCA Exchange.

Only Initiating Nodes of Health Plans and Health Care Providers that are Covered Entities or their Delegates may initiate transactions for Health Care Operations, Quality Measure Reporting, and HEDIS Reporting

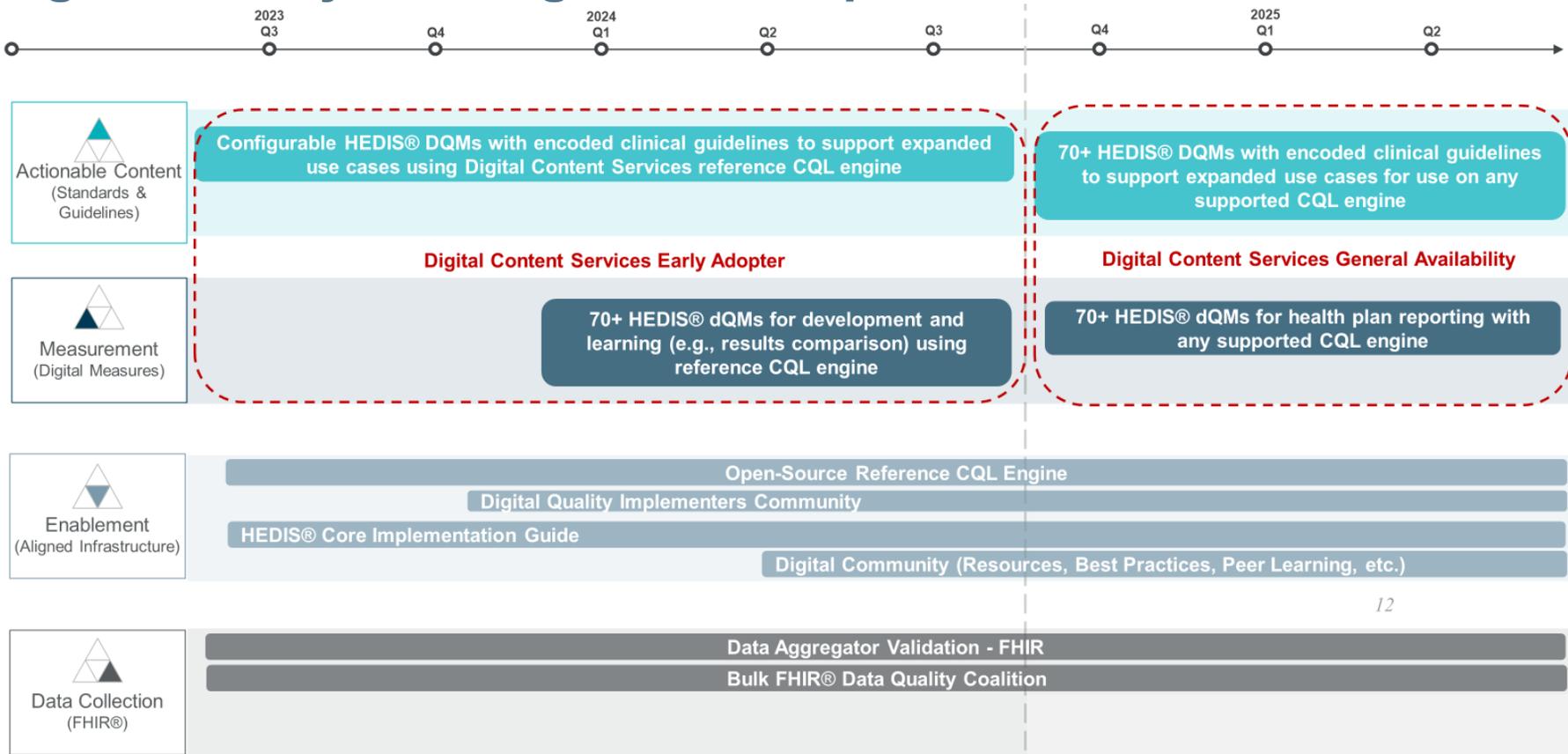Only Health Plans are permitted to initiate Queries for Care Coordination/Case Management

All Responding Nodes SHOULD reply to Health Care Operations Queries

Development Layers To Support Digital Quality Transformation

Develop digital quality applications to advance digital quality.

Innovative Quality Applications
(proprietary, business model and marketplace driven)

| NCQA Digital Content Services | NCQA Data Quality Self-Assessment Tool | Other Quality Apps |

Application/ Content Layer

Convene stakeholders to build standards and foundation for innovation.

Clinical Reasoning and Tools
(open, non-proprietary, standards-based and crowd-sourced)

Enablement Layer

Leverage and use emerging data standards.

Sources of Data
(Standards-Based from Electronic Health Records, Claims, Health Information Exchanges, Data Aggregators, Patient Reported)

Data Layer

Digital Quality Offerings: Roadmap

2023 Q3 · Q4 · **2024 Q1** · Q2 · Q3 · Q4 · **2025 Q1** · Q2

Actionable Content (Standards & Guidelines)

Configurable HEDIS® DQMs with encoded clinical guidelines to support expanded use cases using Digital Content Services reference CQL engine

70+ HEDIS® DQMs with encoded clinical guidelines to support expanded use cases for use on any supported CQL engine

Digital Content Services Early Adopter

Digital Content Services General Availability

Measurement (Digital Measures)

70+ HEDIS® dQMs for development and learning (e.g., results comparison) using reference CQL engine

70+ HEDIS® dQMs for health plan reporting with any supported CQL engine

Enablement (Aligned Infrastructure)

Open-Source Reference CQL Engine

Digital Quality Implementers Community

HEDIS® Core Implementation Guide

Digital Community (Resources, Best Practices, Peer Learning, etc.)

12

Data Collection (FHIR®)

Data Aggregator Validation - FHIR

Bulk FHIR® Data Quality Coalition

NCQA

NCQA's Interoperability Initiatives for Digital Quality

Bulk FHIR Quality Coalition

- Led by NCQA, guided by Aneesh Chopra (former CTO of the United States).

- A public/private sector collaboration of organizations performing end-to-end, real-world testing of regulated, interoperable (FHIR), population-level data.

- Leverage HEDIS Digital Quality measurement as the compelling business use case and driver for B2B exchange of interoperable, population-level data.

SCAN FOR MORE INFORMATION

NCQA's Interoperability Initiatives for Digital Quality

Digital Quality Implementers Community

- Led by NCQA, managed by Leavitt Partners.

- A public/private sector collaboration of organizations implementing standards-based infrastructure and tooling (aka the enablement layer), including CQL Engines, CQL-to-SQL Transformers, etc.

- Create open, non-proprietary, and standardized requirements, definitions and testing for this enablement layer, to ensure consistent support for computable content across the quality ecosystem.

SCAN FOR MORE INFORMATION

NCQA

Thank you

More information:
www.ncqa.org/digital

Where Interoperability is Headed: Payor to Payor, Automation of Prior Authorization, and the 21st Century Cures Act

Michele Madison
September 11, 2024

Agenda

- 21st Century Cures Act – Interoperability

- Information Blocking

- TEFCA

- API Development

- Prior Authorization
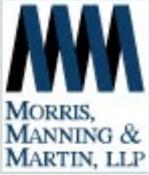
21st Century Cures Act

ONC's Cures Act Final Rule supports seamless and secure access, exchange, and use of electronic health information.
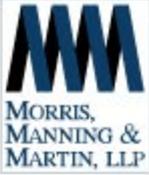
21ˢᵗ Century Cures Act

Conditions and Maintenance of Certification

- Information Blocking

- Assurances

- Communications

- Application Programming Interfaces

- Real World Testing

- Attestations

Information Blocking

Information blocking is a practice by an "actor" that is likely to interfere with the access, exchange, or use of electronic health information (EHI), except as required by law or specified in an information blocking exception.

Actors

Healthcare Provider

Health Information Network/Exchange

Health IT Developer

Exceptions

9

EXCEPTIONS TO THE INFORMATION BLOCKING PROVISION

PREVENTING HARM PRIVACY SECURITY

EXCEPTIONS THAT INVOLVE not fulfilling requests to access, exchange, or use EHI

INFEASIBILITY HEALTH IT PERFORMANCE

LICENSING FEES CONTENT

EXCEPTIONS THAT INVOLVE procedures for fulfilling requests to access, exchange, or use EHI

TEFCA MANNER EXCEPTION

EXCEPTIONS THAT INVOLVE practices related to actors' participation in the Trusted Exchange Framework and Common Agreement

Information Blocking- Enforcement

- Under the Medicare Promoting Interoperability Program, an eligible hospital or critical access hospital (CAH) that has committed information blocking and is referred to CMS by OIG will not be a meaningful electronic health record (EHR) user during the calendar year of the EHR reporting period in which OIG refers its determination to CMS. If the eligible hospital is not a meaningful EHR user, the eligible hospital will not be able to earn *three quarters of the annual market basket increase they would have been able to earn for successful program participation;*

- CAHs, payment will be reduced to 100 percent of reasonable costs instead of 101 percent.

- Health IT Fines up to $1Million Dollars

Information Blocking Enforcement

April 5, 2021-July 31, 2024

Total number of information blocking portal submissions received	1,104
Total number of possible claims of information blocking	1,031
Total number of submissions received that did not appear to be claims of potential information blocking	73

Trust Exchange Framework and Common Agreement

1. Establishes a universal floor for interoperability across the country.

2. Provides individuals and organizations with easier, more efficient, secure access to more health information.

3. Significantly reduces the number of connections that individuals, health care providers, and other interested parties need to make to get the health information they seek.

Source: https://www.healthit.gov/sites/default/files/page/2023-11/TEFCA_2-Pager_Digital_508.pdf

Trust Exchange Framework and Common Agreement

4. Creates baseline governance, legal, and technical requirements that will enable secure information sharing across different networks nationwide.

5. Enables an expanded set of exchange purposes beyond Treatment including Individual Access Services, Public Health, Payment, Health Care Operations, and Government Benefits Determination—all built upon common underpinnings.

6. Supports existing health information networks and expands and improves the access to health information they can provide.

Source: https://www.healthit.gov/sites/default/files/page/2023-11/TEFCA_2-Pager_Digital_508.pdf

TEFCA

Exchanges Information for the Following Purposes:
1. Treatment
2. Payment
3. Healthcare Operations
4. Public Health
5. Government Benefits Determination
6. Individual Access

TEFCA

The Recognized Coordinating Entity® (RCETM) provides oversight and governing approach for the Qualified Health Information NetworkTM (QHINTM).

Common Agreement

Standard Operating Procedures

QHIN Technical Framework

QHIN:

CommonWell Health Alliance

eHealth Exchange

Epic Nexus

Health Gorilla

Kno2

KONZA National Network

MedAllies

Provider Focus

1. Examine Information Technology Infrastructure and Technical Framework

2. Update Notice of Privacy Practices

3. Update Consents with Patients for Communication

4. Educate the Medical Staff

Interoperability 2024

Interoperability Rule

January 17, 2024 Interoperability and Prior Authorization Final Rule

This final rule emphasizes the need to improve health information exchange to achieve appropriate and necessary access to health records for patients, healthcare providers, and payers. This final rule also focuses on efforts to improve prior authorization processes through policies and technology, to help ensure that patients remain at the center of their own care.
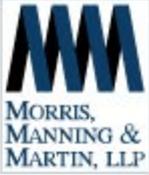
Interoperability Rule

Applies to:

1. Medicare Advantage (MA) organizations,

2. state Medicaid and Children's Health Insurance Program (CHIP) Fee-for-Service (FFS) programs, Medicaid managed care plans,

3. CHIP managed care entities, and

4. Qualified Health Plan (QHP) issuers on the Federally Facilitated Exchanges (FFEs)

Interoperability Rule

- January 1, 2027
  - Patient Access API (add prior authorization information)
  - Payer to Provider API
  - Prior Authorization API
    - Individual claims and encounter data (without provider remittances and enrollee cost-sharing information);
    - Data classes and data elements in the United States Core Data for Interoperability (USCDI); and
    - Specified prior authorization information (excluding those for drugs).

Interoperability Rule

Prior Authorization API:

1. List of covered items and services,
2. Identify documentation requirements for prior authorization approval, and
3. Supports a prior authorization request and response.

These Prior Authorization APIs must also communicate whether the payer approves the prior authorization request (and the date or circumstance under which the authorization ends), denies the prior authorization request (and a specific reason for the denial), or requests more information.

Interoperability Rule

- January 1, 2026
  - Government Payers (excluding QHP on Exchange)
  - Prior Authorization and Specific Reason
  - Respond within 72 hours or 7 days (nonurgent)
  - MIPS Measurement on Prior Authorization

Interoperability Rule

- **MIPS eligible clinicians** must attest "yes" to requesting a prior authorization electronically via a Prior Authorization API using data from certified electronic health record technology (CEHRT) for at least one medical item or service (excluding drugs) ordered during the CY 2027 performance period or (if applicable) report an exclusion.

- **Eligible hospitals and CAHs** must attest "yes" to requesting a prior authorization request electronically via a Prior Authorization API using data from CEHRT for at least one hospital discharge and medical item or service (excluding drugs) ordered during the 2027 EHR reporting period or (if applicable) report an exclusion.

HTI-2 Proposed Rule

Proposed on July 10, 2024

- Two sets of new certification criteria, designed to enable health IT for public health as well as health IT for payers to be certified under the ONC Health IT Certification Program. Both sets of certification criteria focus heavily on standards-based application programming interfaces to improve end-to-end interoperability between data exchange partners (health care providers to public health and to payers, respectively).

- Technology and standards updates that build on the HTI-1 final rule, ranging from the capability to exchange clinical images (e.g., X-rays) to the addition of multi-factor authentication support.

- Requiring the adoption of United States Core Data for Interoperability (USCDI) version 4 by January 1, 2028.

HTI-2 Proposed Rule

- Adjustments to certain "exceptions" to the information blocking regulations to cover additional practices that have recently been identified by the regulated community, including a new "Protecting Care Access" exception, which would cover practices an actor takes in certain circumstances to reduce its risk of legal exposure stemming from sharing information.

- Establishing certain Trusted Exchange Framework and Common Agreement™ (TEFCA™) governance rules, which include requirements that implement section 4003 of the 21st Century Cures Act.

Next Steps

1. Change in Behavior
2. Coordination of Health Information Management Department and Information Technology Department
3. Update Patient Consents
4. Notice of Privacy Practices

Questions?
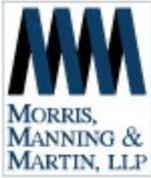
Disclaimer

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Overview

1. Background

2. Interoperability Evolution

3. Why FHIR and Why now?

4. Functional value of FHIR

5. FHIR and the future of HIE

6. Conclusion and Questions

Background

- How "interoperability" evolves in computer networks
- Standards and defacto standards
- Market drivers make networks evolve
- Open standards create a competitive landscape for innovation

Network Evolution

- In the 1980s there was not one ubiquitous way computers communicated at the network level

- Each computer vendor had their own network protocols:

  - IBM's SNA, Digital Equipment Corporation's DECNET, Novel's IPX, Apple Talk, and Microsoft's NetBIOS

- The first solution was to put in a router to handle the protocols

- But this was expensive and complex to manage; a single protocol was needed

- In the 1990's Internet usage was growing rapidly and so the decision was driven by the market to use Ethernet (hardware level) and TCP/IP (inter-network and transmission level) as the defacto standard

Where HL7 Fits in the Network
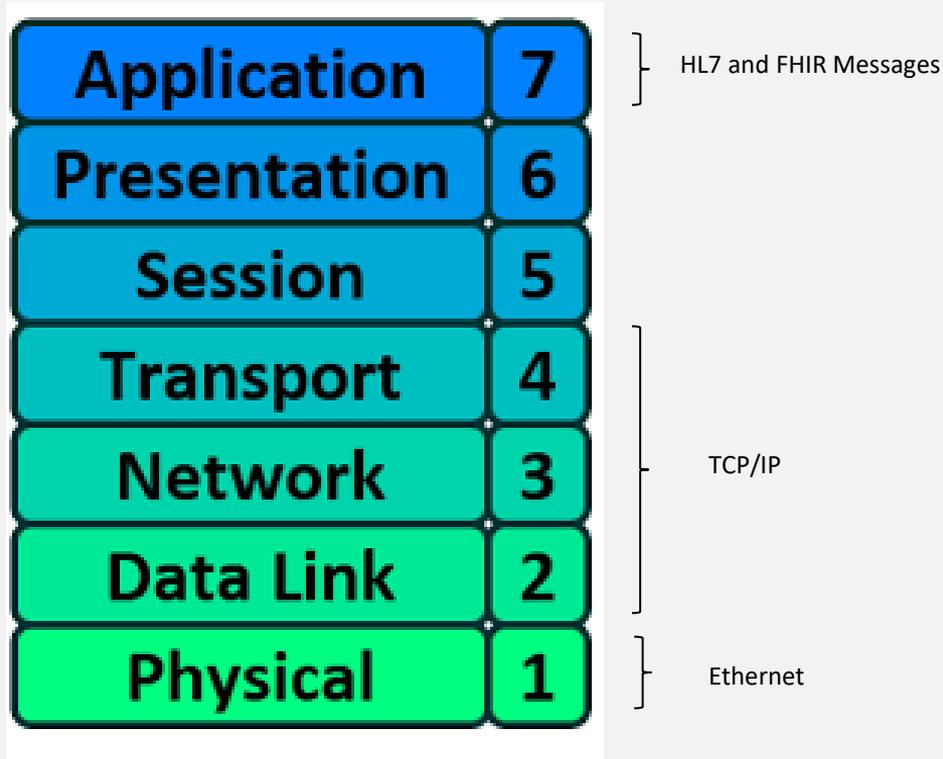
Interoperability Evolution

- How does this relate to HL7 and the various protocols?
- The evolution of message standards in health care
- HL7 v2
  - String based text messages with embedded encoding
- HL7 v3
  - Documents with web page formatting
- HL7 FHIR
  - Structured clinical data sets as components

Sample HL7 v2 ADT

MSH|^~\&|ADT1|GOOD HEALTH HOSPITAL|GHH LAB, INC.|GOOD HEALTH
HOSPITAL|198808181126|SECURITY|ADT^A01^ADT_A01|MSG00001|P|2.8|| EVN|A01|200708181123||
PID|1||PATID1234^5^M11^ADT1^MR^GOOD HEALTH
HOSPITAL~123456789^^^USSSA^SS||EVERYMAN^ADAM^A^III||19610615|M||C|2222 HOME
STREET^^GREENSBORO^NC^27401-1020|GL|(555) 555-2004|(555)555-
2004||S||PATID12345001^2^M10^ADT1^AN^A|444333333|987654^NC|
NK1|1|NUCLEAR^NELDA^W|SPO^SPOUSE||||NK^NEXT OF KIN
PV1|1|I|2000^2012^01||||004777^ATTEND^AARON^A|||SUR||||ADM|A0

Characteristics of V2
- Strings of text with delimiters (| and ^)
- Small messages but must follow specifications for what is in field 1, field 2, etc.
- Must be parsed and interpreted by interface engine or developed code
- Lots of variability in the message
- They are "events"

Sample HL7 v3 Message

```
*********************************************************

  CDA Header

*********************************************************

              <code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" code="34133-9" displayName="Summarization of Episode Note"/>

              <title>Good Health Health Summary</title>

              <effectiveTime value="20050329171504+0500"/>

              <confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>

              <languageCode code="en-US"/>

              <setId extension="111199021" root="2.16.840.1.113883.19"/>

              <versionNumber value="1"/>

              <recordTarget>

                         <patientRole>

                                  <addr use="HP">

                                           <!-- HP is "primary home" from codeSystem 2.16.840.1.113883.5.1119 -->

                                           <streetAddressLine>17 Daws Rd.</streetAddressLine>

                                           <city>Blue Bell</city>

                                           <state>MA</state>

                                           <postalCode>02368</postalCode>

                                           <country>US</country>

                                           <!-- US is "United States" from ISO 3166-1 Country Codes: 1.0.3166.1 -->
```

Sample HL7 v3 CCD

Characteristics of V3

- XML document with embedded definitions (code sets) and tagged fields
- Much larger messages that depend on an accompanying "style sheet" to determine how to present them
- Similar to how web pages are presented
- Must be parsed and interpreted by interface engine or developed code
- Lots of variability in the message
- They can be events (stable documents) or full patient summaries (CCD or C-CDA)
  - Stable document example: Surgical notes from recent surgery
- Care Summary: Patient CCD which generally includes:
  Header, Allergies, Problems, Procedures, Family history, Social history, Payers, Advance directives, Medications, Immunizations, Medical equipment, Vital signs, Functional stats, Results, Encounters, Plan of care

Example FHIR Message

"resourceType" : "Patient",
 "id" : "example",
 "identifier" : [{
          "use" : "usual",
          "type" : {
          "coding" : [{
                    "system" : "http://terminology.hl7.org/CodeSystem/v2-0203",
                    "code" : "MR“
 }] },
"system" : "urn:oid:1.2.36.146.595.217.0.1",
 "value" : "12345",
 "period" : {
          "start" : "2001-05-06" },
 "assigner" : {
          "display" : "Acme Healthcare"
} }],
 "active" : true,
 "name" : [{
          "use" : "official",
          "family" : "Chalmers",
          "given" : ["Peter", "James"]

Characteristics of FHIR

- JSON format ready for interpretation and coding
- Messages are broken into resources (see next slide) but can be bundled
- Uses standard web application calls (Get and Post) to access records
- Lots of standardization in the messages including code sets like LOINC for labs
- They are individual segments of a patient's record, etc.
- All Certified EHRs must have a FHIR endpoint (web address) that responds to FHIR queries

What is FHIR and Why Now?

- FHIR is the logical next progression of interoperability
- It is very likely to become the dominant interoperability standard in health care quickly
- It uses web application protocols that are ubiquitous in most other industries
- It requires standard responses and uses many coded terminologies
- Queries can be broken out into individual requests (resources) or combined together (bundles) depending on your application or use case needs

What is FHIR and Why Now?

- It uses well established web coding methods
- It is the standard that all CEHRT must implement _for query responses_
– There are FHIR push notifications, but these are not implemented in most use cases
- FHIR resource queries provide much more useful, segmented and standard data

FHIR Resources

USCDI
United States
Core Data for
Interoperability

Functional Value of FHIR

- FHIR Resources

– Being able to exchange more structured and standard data is very valuable

– The ability to get data on one resource (i.e. labs, meds, etc.) allows for specialized apps to be developed

- Examples

– Medication reconciliation across systems

Functional Value of FHIR

- FHIR API
- The FHIR API allows applications to be written
- These applications can then solve more use cases
- This "open" standard should have the same effect that TCP/IP had as a network standard: It opens the playing field to many new entrants into building these healthcare applications
- It can be a "disruptive" technology change to those that are not fully embracing this new model

Functional Value of FHIR

- FHIR improves the ability to obtain data from organizations

- An improved API and improved data segments (resources) are important but…

– FHIR does not address the fundamental strategic issue that a single patient's data is siloed in numerous *organization-centric* systems

– There are emerging FHIR resources for transactional push notifications, but they are not required today

– The data is still not indexed nor is it *patient-centric*

FHIR and the Future of HIE

- FHIR may improve the way data is exchanged among networks, but it does not solve for the inherent problem of data silos
- TEFCA and QHINs are an important and necessary step forward but
  - TEFCA does not solve this problem with QHINs
  - TEFCA puts in place the data sharing legal structure and creates interoperability between national networks
  - It is not a replacement for a statewide or regional network (HIE/HDU) because *it does not address the issues of local, state or regional data use cases*

FHIR and the Future of HIE

- We still need the original concept proposed by the early ONC of a network of networks

- HIE implements a more functional network by aggregating and indexing data which can solve for potentially hundreds of use cases

- HIEs also fully implement transactional services like results delivery

- HIEs manage local and state data governance policies and regulations (specialized consent or use of data for research for example)

Healthcare Network of Networks Conceptual Architecture
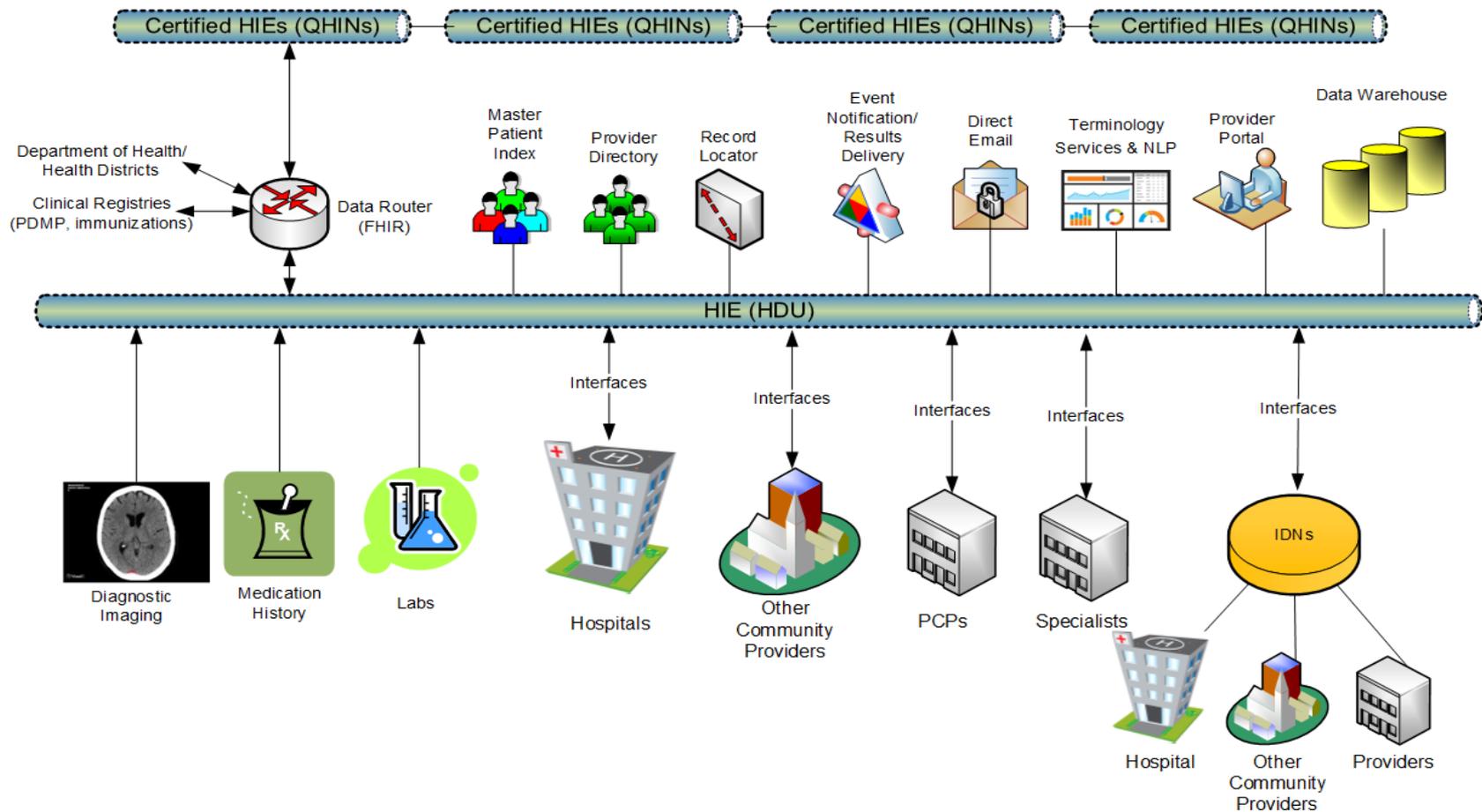
Conclusion

- FHIR is a major step forward in interoperability by providing the APIs for access to data in much more structured and standard formats

- TEFCA provides the national legal framework to connect organizations

- QHINs provide the technical infrastructure to query each other

- HIEs and HDUs provide the local functional network that aggregates data and truly makes it patient-centric while also building trust and implementing state-based data governance

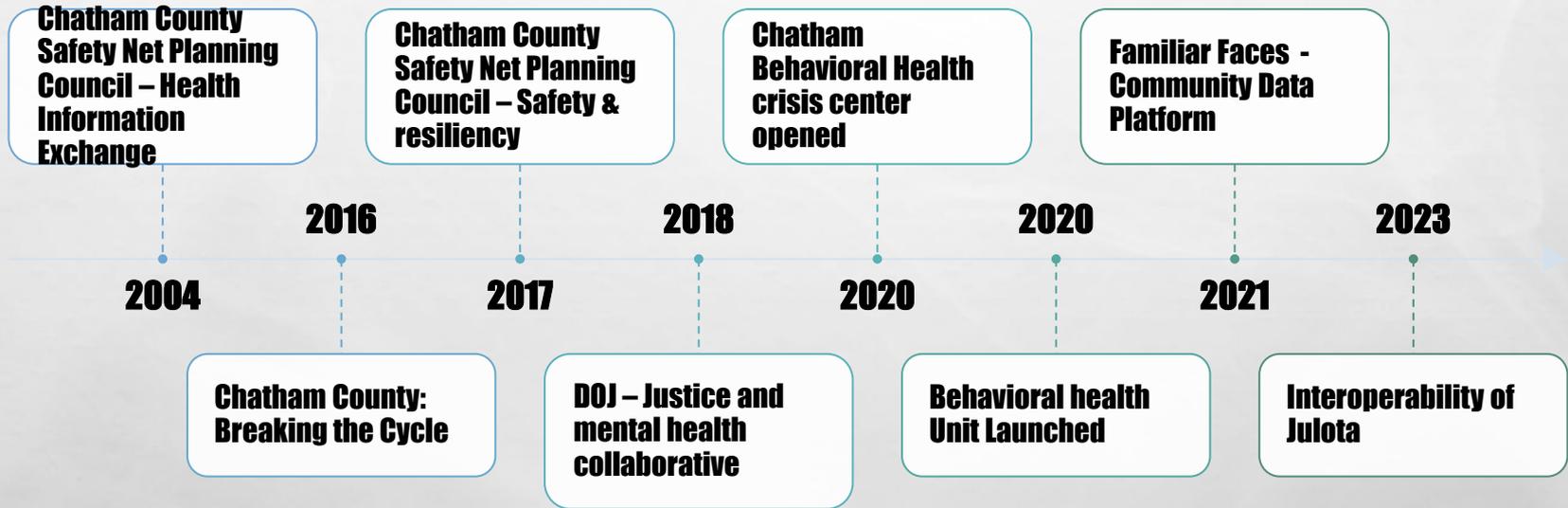# COMMUNITY DATA PLATFORM

CHATHAM COUNTY

WHY A COMMUNITY DATA PLATFORM?

IMPROVING OUTCOMES THROUGH COORDINATED HEALTH AND JUSTICE SYSTEMS

- GOAL: CONNECT INDIVIDUALS TO THE NEEDED SERVICES AND RESOURCES TO REDUCE THE BURDEN OF LIMITED FIRST RESPONDERS.

- CHATHAM COUNTY STAKEHOLDERS SEEK TO BETTER THE OUTCOMES FOR 'FAMILIAR FACES' – THOSE INDIVIDUALS WHO FREQUENTLY CYCLE THROUGH JAILS, HOMELESS SHELTERS, EMERGENCY DEPARTMENTS AND OTHER CRISIS SERVICES.

- THE PURPOSE OF THE FAMILIAR FACES PROJECT IS TO LOWER INCARCERATION RATES FOR VULNERABLE, HIGH-NEED RESIDENTS, EMPOWER SHARED DATA BETWEEN HEALTH AND JUSTICE SYSTEMS SO THEY CAN IDENTIFY INDIVIDUALS OF MULTIPLE SYSTEMS, CONNECT THEM TO SERVICES, REDUCE THE OVERUSE OF LIMITED RESOURCES AND BREAK THE CYCLE OF JUSTICE SYSTEM INVOLVEMENT AND HOSPITAL USAGE.

TIMELINE

Chatham County Safety Net Planning Council – Health Information Exchange

Chatham County Safety Net Planning Council – Safety & resiliency

Chatham Behavioral Health crisis center opened

Familiar Faces - Community Data Platform

2016

2018

2020

2023

2004

2017

2020

2021

Chatham County: Breaking the Cycle

DOJ – Justice and mental health collaborative

Behavioral health Unit Launched

Interoperability of Julota

WHAT DOES A COMMUNITY PLATFORM DO?

DATA BEING REQUESTED FOR THE INTERFACE

- NAME
- DOB/AGE
- RACE
- ETHNICITY
- ADDRESS (STREET, CITY, ZIP)
- CONNECTION TO RESOURCES - REFERRALS, SERVICES PROVIDED (UNLIMITED)
- CONNECTION TO PEOPLE - FAMILY MEMBERS (UNLIMITED)
- CASE NOTES (HIDDEN FROM SOME VIEW - LIMITED ACCESS)
- INCIDENT NUMBERS (IF APPLICABLE)
- CASE NUMBERS (IF APPLICABLE)
- ASSIGNED/APPOINTED ATTORNEY (IF APPLICABLE)
- OPPORTUNITY TO 'FLAG" THE CASE FOR SPECIAL CIRCUMSTANCES
- MEDICAL DIAGNOSIS (HIDDEN FROM SOME VIEW - LIMITED ACCESS)
- DOCUMENTS/SCANNED FILES

WHO IS PARTICIPATING IN CHATHAM?

Savannah Police Department

Chatham Emergency Services

Chatham County Police Department

Chatham Savannah Authority for the Homeless

Curtis V. Cooper

J.C. Lewis

Gateway Community Service Board

Future:

- *Chatham County Fire Department*
- *UWCE*
- *Courts*

TECHNOLOGY FOR COMMUNITY PLATFORM

- INTEROPERABILITY PLATFORM TO CONNECT EXISTING SYSTEMS
  - SHARE NEEDED CASE MANAGEMENT INFORMATION
  - CONSOLIDATED REPORTING
- HIPAA, 42 CFR PART 2, AND CJIS COMPLIANT
- ABILITY TO MANAGE USER ACCESS TO DATA THROUGH EXECUTED CONSENT AND RELEASE FORMS
- AUTOMATION TO NOTIFY STAKEHOLDERS OF NEW ENCOUNTERS/INCIDENTS/NEEDS

Julota®

- OVER 65 INTERFACES ESTABLISHED AND MANAGED CURRENTLY
  - API AND SFTP INTERFACES SUPPORTED
  - WE BUILD CUSTOM TO THE SYSTEMS AND DATA THAT NEED TO BE CONNECTED
  - ONE OR BI-DIRECTIONAL INTERFACING
  - CADENCE/FREQUENCY OF DATA TRANSFER SET BY STAKEHOLDERS
  - RECORD MATCHING, INCLUDING EMPI ACROSS HUBS IN CHATHAM COUNTY COMMUNITY DATA PLATFORM NETWORK
  - UPDATES, ENHANCEMENTS, EXPANSIONS ARE EXPECTED AND SUPPORTED

DATA TRACKING OF COMMUNITY PLATFORM

IMPACT	Improvement in Health Indicators	Improve Quality of Life	Address Inequities (Race, Gender, Cycle of Poverty)
OUTCOMES	State of Wellness	Change from Domain Specific to Whole Person Care	Change in Intervention and Interaction with People Helping People
OUTPUTS	Record Direct Referrals Look-Ups	Record Creation	Data Sharing	Direct Referrals

Funding provided by CJCC COSSAP

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- TGJENNINGS@CHATHAMCOUNTY.ORG

- 912-652-7954

THANK YOU!