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Kill the Clipboard:
What the CMS-Aligned Network Strategy Means for the Future of Interoperability

August 2025
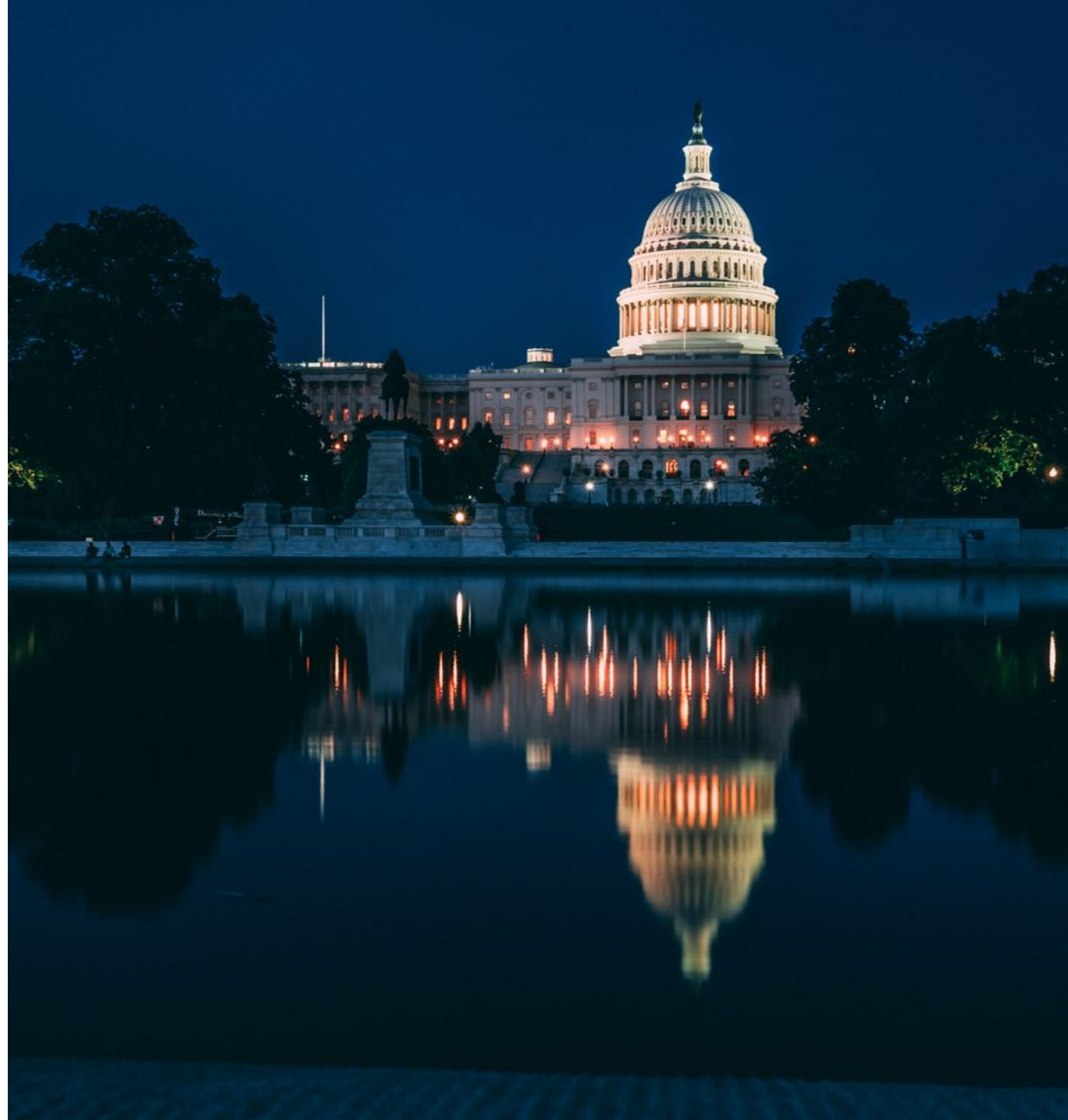
Today's Learning Objectives

Discuss the CMS-aligned network announcement and how private sector initiatives can help implementers

Discuss lessons learned regarding past public / private sector partnerships

Discuss the CARIN Alliance work which has been focused on consumer-directed exchange for nearly 10 years

Discuss the business opportunities of implementing a modern, API-based architecture

Technical Context

This conversation is primarily designed for CIOs, CTOs, and others working in the digital policy and digital health space.

Submitting Questions

Please use the Q and A feature to submit questions. A summary of the questions submitted will be distributed after the webinar session. We may not get to all of the questions on the webinar.

Additional Resources

All registrants will receive a copy of the slides and the appendices, the recording link, the Q and A summary document and future opportunities to learn more on this topic.

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TODAY'S PRESENTERS

Ryan Howells
Principal
Leavitt Partners
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David Lee
Principal
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Aneesh Chopra
Chief Strategy Officer
Arcadia
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Ryan Howells

Principal
Leavitt Partners

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> Advisor to **the private sector, Congress, and the Administration** on digital health and interoperability topics

> Serves on **multiple digital health company boards**

> **Vice Chair of the Carequality Steering Committee**

> Co-founder, **CARIN Alliance** (www.carinalliance.com) since 2016

> Co-led the **Helios Public Health FHIR accelerator** with CDC and ONC

> Co-founded **CMS / NCQA Digital Quality Implementers Community (DQIC)**

> Co-founded the **PIQI Alliance** to develop an open scorecard to objectively measure the quality of patient data across systems

> Co-led the largest **Payer/Provider HL7® FHIR® pilot in the country**

> Co-led the largest **Digital Identity Federation pilot** in the country

> Co-author of the **Kill the Clipboard! whitepaper that was part of the CMS-aligned network Kill the Clipboard announcement in 2025**

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David Lee

Principal
Leavitt Partners

> Advisor to **the private sector, Congress, and the Administration** on digital health and interoperability topics

> Co-founder, **CARIN Alliance** (www.carinalliance.com) since 2016

> Co-led the largest **Payer/Provider HL7® FHIR® pilot in the country**

> **Led the development of the CARIN Alliance Code of Conduct** that was pointed to in multiple federal regulations and adopted across the industry to protect consumer health care data in the FTC regulated space

> Co-author of the **Kill the Clipboard! whitepaper that was part of the CMS-aligned network Kill the Clipboard announcement in 2025**

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Aneesh Chopra

Chief Strategy Officer
Arcadia

> Served as the **first U.S. Chief Technology Officer** under the Obama Administration where he led efforts to modernize the nation's health care infrastructure through electronic health records and health information exchanges

> Served as **Virginia's Secretary of Technology** under Governor Tim Kaine where he advocated for the growth of Virginia's tech sector, innovation in government operations, and improved public-private collaboration

> Wrote a book entitled *Innovative State: How New Technologies Can Transform Government*, published in 2014

> Recognized as the **100 Most Influential People in Healthcare** by Modern Healthcare and as one of **the top 25 "Doers, Dreamers, and Drivers"** by Government Technology magazine

> Serves on **multiple digital health company boards**

> **CEO of CareJourney** and now **Chief Strategy Officer at Arcadia**

> Co-founder, **CARIN Alliance** (www.carinalliance.com)

AGENDA

> Government and Private Sector Alignment: Lessons Learned

> CMS-aligned Network and Kill the Clipboard Announcement

> The CARIN Alliance – Pioneers in Consumer-directed Exchange

> What Does This Mean For You?

> The Future Data Holder Architecture and Consumer Experience

Government and Private Sector Alignment: Lessons Learned

"All Hands-on Deck" Calls Are a Policy Lever

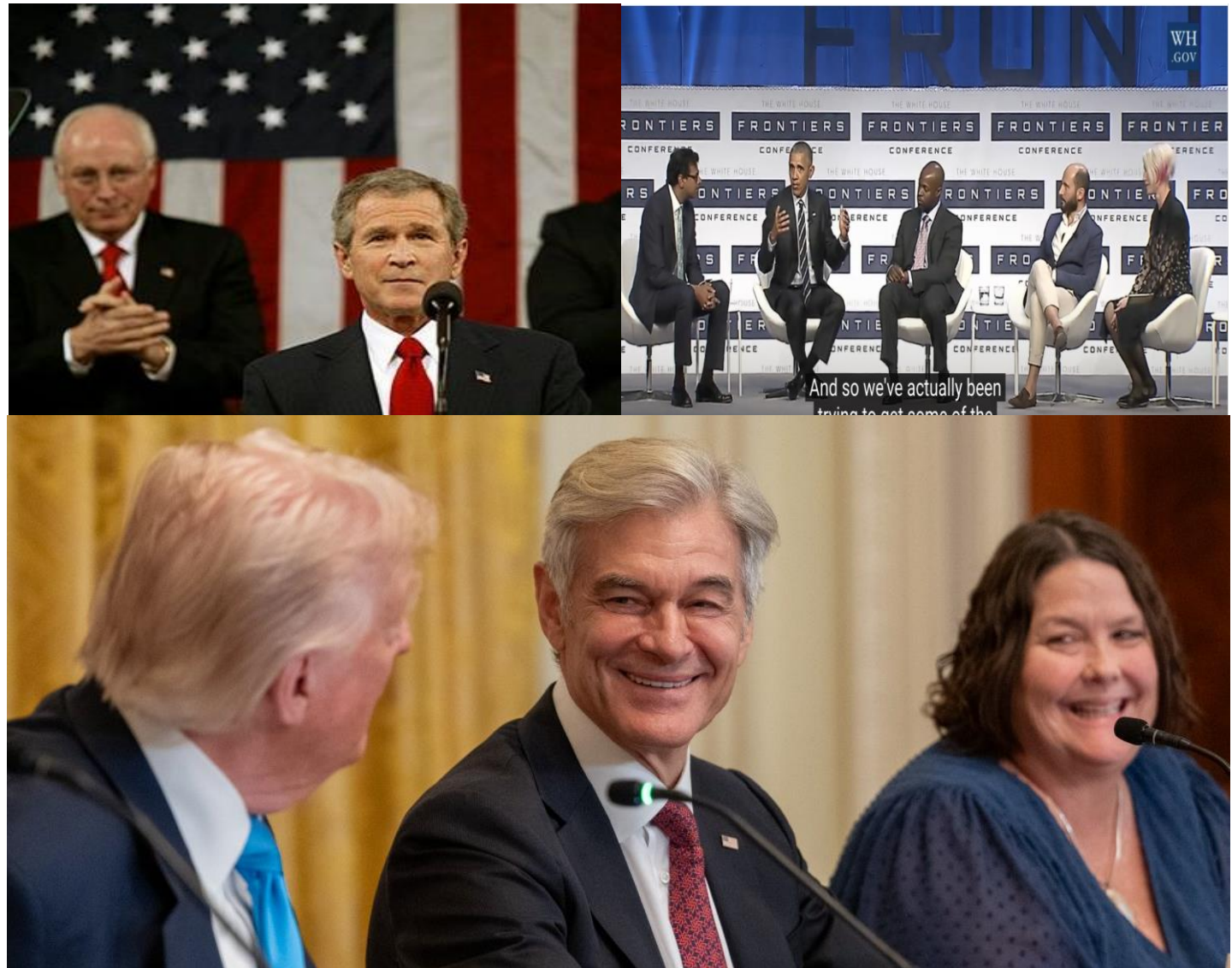## Tom Kalil on Policy Entrepreneurship

Taking Advantage of the Administration's "Bully Pulpit" and Ability to Convene

President Obama often highlighted the importance of an "all hands on deck" approach to solving problems. When actions by the federal government could not solve a particular issue, the president would often issue a "call to action" to inspire stakeholders (companies, research

President Bush (April '04): "When arriving at a physician's office, new patients do not have to enter their personal information, allergies, medications, or medical history, since it is already available." – *Executive Order*

President Obama (Jan '15): "…consumers have access to their own health data – and to the applications and services that can safely and accurately analyze it – so…we can empower individuals and families to invest in and manage their health." - *Fact Sheet*

President Trump (July '25): "The key breakthrough we've made is getting many of the biggest names…to agree to industry wide standards for electronic medical records." - *Transcript*
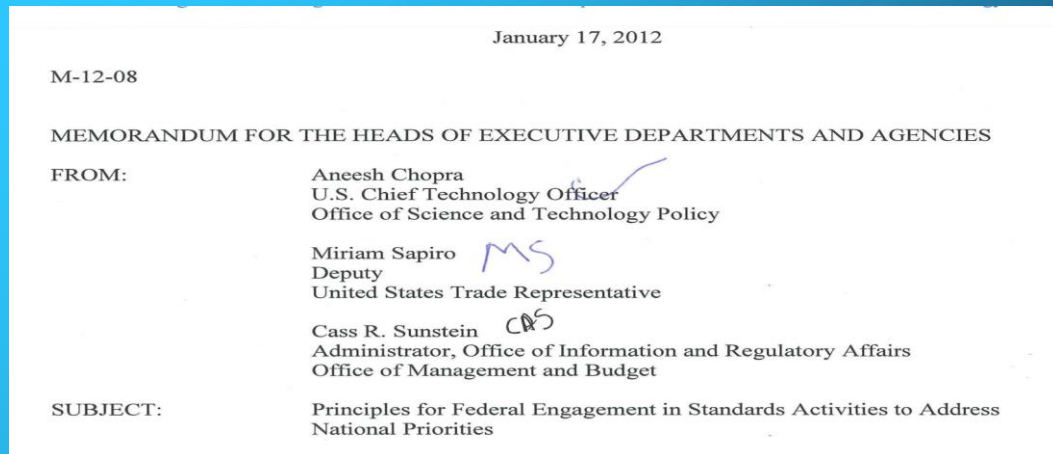

And so we've actually been trying to get some of the

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Primacy of Industry Consensus on Standards

OMB Circular A-119, Amended

January 17, 2012

M-12-08

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM:
Aneesh Chopra
U.S. Chief Technology Officer
Office of Science and Technology Policy

Miriam Sapiro
Deputy
United States Trade Representative

Cass R. Sunstein
Administrator, Office of Information and Regulatory Affairs
Office of Management and Budget

SUBJECT: Principles for Federal Engagement in Standards Activities to Address National Priorities

Achieving Widespread Use of Direct Secure Messaging by US Hospitals

Jordan Everson and Brett Andriesen | JULY 15, 2025
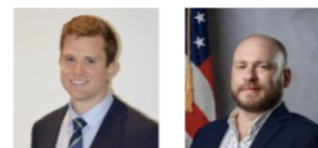
In 2010, our office helped launch the Direct Project amidst the rollout of the ONC Health IT Certification Program and Centers for Medicare & Medicaid Services Electronic Health Record Incentive Programs. The Direct Project created Direct Secure Messaging, a simple, secure, scalable, and standards-based method to send health information between partners and to provide a straightforward pathway to acquire unique provider and organizational addresses to engage in exchange that resembles secure email. Di-

"The Administration recognizes the importance of the Federal Government working with the private sector to address common standards-related needs and taking on a convening or active-engagement role when necessary to ensure a rapid, coherent response to national challenges." – Aneesh Chopra, Pat Gallagher, 1/31/12

NIST: "In addition to consideration of voluntary consensus standards, this Circular recognizes the contributions of standardization activities that take place outside of the voluntary consensus standards process." OMB Circular A-119, p. 19

DirectTrust Enabled Transactions by Quarter:

Number of Send and Receive Transactions To/From Trusted Endpoints

Q1 Q2 Q3 Q4
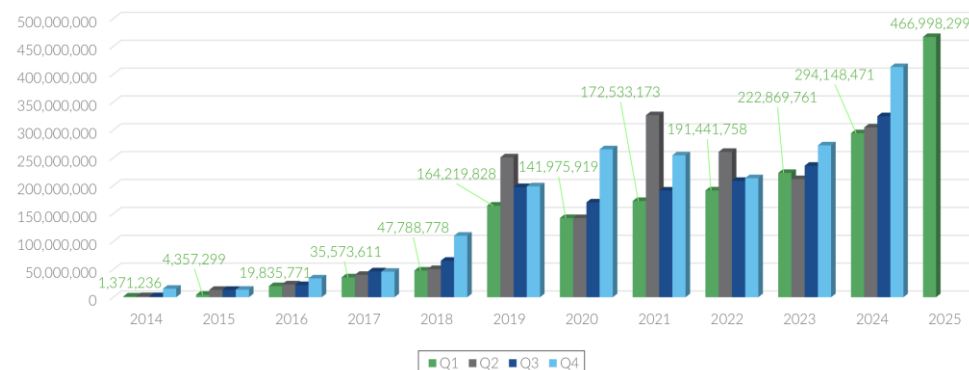
Focus on Outcomes, Not Launch Event

VA and 13 community health systems pledge to share data to improve Veteran health care

FOR IMMEDIATE RELEASE

October 6, 2023 9:00 am

Current list of Pledge Signers:

Atrium Health
Emory Healthcare
Inova
Intermountain Health
Jefferson Health
Kaiser Permanente Health Plan and Hospitals
Marshfield Clinic Health System
Mass General Brigham
Rush Health
Sanford Health
Tufts Medicine
University of California, Davis Health
University of Pittsburgh Medical Center

Adv Direct/POLST: None
HAR: None
Special Status: None

Perm. Comments: None
HM: None
Veteran Confirmed: Yes

☑ My Sanford Chart: Inactive

FYI: None
BestPractice Advisories: None
Care Team: No PCP

MultiCare Joins in 2024

Raising the bar for veteran care
April 23, 2025 | By Meredith Bailey

Matt McCay, manager of the Veteran Advocacy Program at MultiCare Yakima Memorial Hospital, talks with a patient about Veteran's Affairs (VA) benefits.

In 2024, the program successfully identified and referred 116 patients for VBA ratings, a more than 230 percent increase over the previous year's referrals.

"Over time, this body of work will enable us to use veteran data to improve health outcomes for a population that commonly experiences health disparities. It will also improve our community education efforts — ensuring those who are eligible are utilizing the benefits they've earned."

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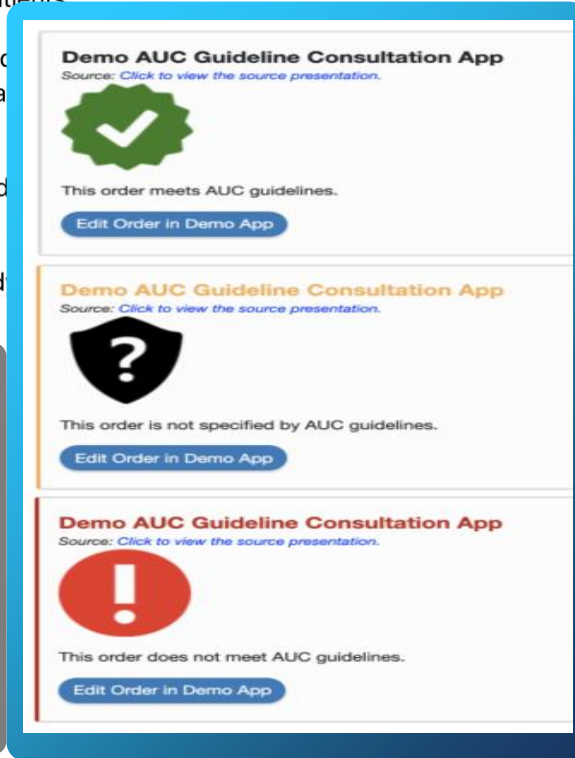## CMS Clinical Decision Support Program Paused — Not Repealed

The Protecting Access to Medicare Act of 2014 (PAMA) requires an appropriate use criteria (AUC) consult to be performed via a Centers for Medicare and Medicaid Services (CMS) qualified clinical decision support mechanism (qCDSM) when a healthcare provider orders advanced diagnostic imaging for Medicare patients.

The AUC-based CDS program is not cancelled. Schedule final rule simply paused implementa... improvements.

ACR® will continue to work with Congress and... requirement that has resulted in this pause.

ACR and CMS urge providers that have alread... pause.

CMS PFS PY2025: "...we have come to believe that the real-time claims-based reporting requirement prescribed by section 1834(q)(4)(B) of the Act presents an insurmountable barrier for CMS to fully operationalize the AUC program."

Demo AUC Guideline Consultation App
Source: *Click to view the source presentation.*

This order meets AUC guidelines.

Edit Order in Demo App

Demo AUC Guideline Consultation App
Source: *Click to view the source presentation.*

This order is not specified by AUC guidelines.

Edit Order in Demo App

Demo AUC Guideline Consultation App
Source: *Click to view the source presentation.*

This order does not meet AUC guidelines.

Edit Order in Demo App

07.25.2025

Chair Cassidy, Hassan, Marshall Highlight the Need to Fully Implement President Trump's No Surprises Act, Improve Price Transparency for American Patients

WASHINGTON — Today, U.S. Senators Bill Cassidy, M.D. (R-LA), chair of the Senate Health, Education, Labor, and Pensions (HELP) Committee, Maggie Hassan (D-NH), and Roger Marshall, M.D. (R-KS) highlighted the importance of fully implementing the No Surprises Act, which protects patients from surprise medical bills and ensures they know the cost of care before receiving it. This bipartisan legislation was signed into law by P...... transparency and lower health costs for American patients.

"Nearly five years ago, President Trump signed the No Surpri... protects patients from surprise medical bills and ensures that t... "Ensuring that patients have transparent, personalized cost est... implementation of both the good faith estimate and advanced... entirety of protections enacted under the No Surprises Act...V... and stand ready to assist to ensure a successful and complete...

CMS FAQs: "The Depts are closely monitoring industry's progress toward the development and testing of standards for the exchange of GFE data from providers to payers...we are also considering whether there are hybrid approaches...that would maximize innovation pathways..."

Facility Fees	27 Fees
Total Hip Replacement with Optional Grafting Surgeries 100% Association Index $17818 Estimated Charge	27130 CPT
Dynamic One-on-one Therapeutic Activity to Improve Functioning, 15 Minutes Each 100% Association Index $490 Estimated Charge	97530 CPT
Implantable Joint Device For Motion Restoration 89% Association Index $19119 Estimated Charge	C1776 HCPCS
Operating Room Services - General 84% Association Index $20766 Estimated Charge	0360 Revenue Code
Medical/surgical Supplies and Devices (also See 062x, an Extension of 027x) - Other Implants 82% Association Index $13596 Estimated Charge	0278 Revenue Code

Professional Fees	2 Fees
Total Hip Replacement with Optional Grafting Surgeries 100% Association Index $5057 Estimated Charge	27130 CPT
Anesthesia For Open Hip Joint Arthroplasty 82% Association Index $2039 Estimated Charge	01214 CPT

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A Balanced Table: Supply, Demand, Policy Aligned

CNBC NEWS RELEASES

CNBC's Christina Farr: Apple is Quietly Working on Turning Your iPhone into the One-Stop Shop for all Your Medical Info

PUBLISHED THU, JUN 15 2017•11:45 AM EDT

Why did you choose to access your Penn health information via Apple Health Records? (n=305)

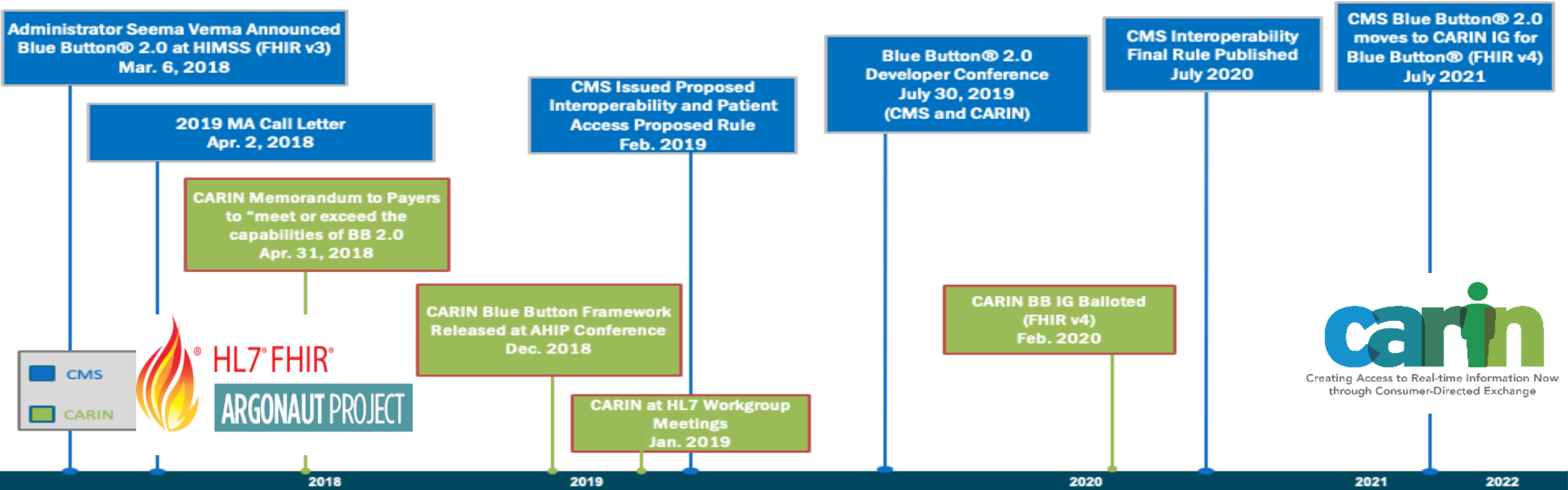|		
Convenience/ease of use	138 (45.2)	"It was very easy and I don't have to log in to view them"
Information in one place	54 (17.7)	"I love having all of my information in one place. I don't want to have an app for each provider. I am confident that Apple is keeping measures to keep my information secure"

Code of Conduct - Signed

Apple Health

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

carin CODE OF CONDUCT

Timeline

CMS (blue)

- **Administrator Seema Verma Announced Blue Button® 2.0 at HIMSS (FHIR v3) Mar. 6, 2018**
- **2019 MA Call Letter Apr. 2, 2018**
- **CMS Issued Proposed Interoperability and Patient Access Proposed Rule Feb. 2019**
- **Blue Button® 2.0 Developer Conference July 30, 2019 (CMS and CARIN)**
- **CMS Interoperability Final Rule Published July 2020**
- **CMS Blue Button® 2.0 moves to CARIN IG for Blue Button® (FHIR v4) July 2021**

CARIN (green)

- **CARIN Memorandum to Payers to "meet or exceed the capabilities of BB 2.0 Apr. 31, 2018**
- **CARIN Blue Button Framework Released at AHIP Conference Dec. 2018**
- **CARIN at HL7 Workgroup Meetings Jan. 2019**
- **CARIN BB IG Balloted (FHIR v4) Feb. 2020**

CMS
CARIN

HL7® FHIR®
ARGONAUT PROJECT

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

2018   2019   2020   2021   2022

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CMS-Aligned Network and Kill the Clipboard Announcement

Kill the Clipboard!
A Federal Policy and Industry Roadmap to Accelerate Innovation and Cut Administrative Waste

In March 2025, Leavitt Partners published a paper that included a multi-sector set of ideas for the public and private sectors to consider for how to improve data exchange and interoperability.

1 Eliminate Antiquated Interoperability Policy and Better Align Across the Federal Government

2 Improve Patient Access to Health Care Data

3 Improve Health Care Data Exchange to Ensure Faster Implementation of FHIR APIs for B2B Data Exchange

4 Improve the Trusted Exchange Framework and Common Agreement (TEFCA)

5 Automate Quality Measurement Reporting

6 Adopt Digital Identity Services (IAL2/AAL2) for Individuals, Payers, and Providers

Leavittpartners.com/kill-the-clipboard

KILL THE CLIPBOARD

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What is the government building and scaling?

June 3, 2025:
CMS outlined five commitments to build open-source utilities for the public to use or scale existing functions

THE FIVE CMS COMMITMENTS

› Building a dynamic, interoperable national provider directory (digital address book);

› Bringing modern identity verification processes to Medicare.gov to streamline credentials across the health care system;

› Expanding functionality of CMS' Blue Button 2.0 patient access application programming interface (API);

› Transitioning CMS's Data at the Point of Care pilot to general availability; and

› Enhancing CMS' participation in trusted data exchange.

White House, Tech Leaders Commit to Create Patient-Centric Healthcare Ecosystem | CMS

CMS COMMITMENTS TO ADVANCE INTEROPERABILITY

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THE JULY 30 CMS HEALTH TECH ECOSYSTEM AND KILL THE CLIPBOARD INITIATIVE

CMS highlights commitments from major companies to join a CMS Aligned Network

60+ organizations
across four domains—
payers, providers, consumer
facing, and data network—
are engaged in the initiative

**11 health systems
and providers**
pledge to become CMS
Aligned Network by
empowering patients,
providers, and their apps—
and, where appropriate,
payers—with real-time access
to complete and secure
health information,
protecting patient privacy
and following applicable
standards and regulations,
without friction or delay

21 data networks
commit to CMS' initiative and
promise to support their
customers participating in
CMS Aligned Network by
empowering patients,
providers, and their apps—
and, where appropriate,
payers—with real-time access
to complete and secure
health information

4 payers and
Medicare
commit to ensuring their
patients' health data is
accessible wherever and
whenever it's needed for the
benefit of the patient

Photo source: whitehouse.gov

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Context for the CMS Announcement

Voluntary Framework for the "Coalition of the Willing"

The federal government is not building a massive database, network, or tracking your health care information. **It's just the opposite— it's empowering YOU with YOUR data**.

Guiding principles:
• "Collaboration, not just compliance"
• "Movement, not a mandate"
• "Call to action, not a regulation"

Focus areas:
• Building reusable, modern, API-based infrastructure

• Public/Private sector collaboration related to these initiatives have been around for decades

• Improving person-centered health and engagement with capabilities for patients to send their data securely to their provider's EHR

Digital identity credentials required for both patients and providers

Pledge your support by emailing
HealthTechRFI@cms.hhs.gov

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Federal Alignment to Advance Interoperability

As written by Ruth Reader, *Politico Pulse*, 8/4/2025

"On the same day last week that the Centers for Medicare and Medicaid Services rolled out plans to ease the flow of health information, the Office of the National Coordinator for Health IT made two fairly significant announcements at an event in the Eisenhower building."

"The first was that we were going to continue our work on certification, and that this was going to include **certification of APIs to improve interoperability**," Tom Keane told Ruth. "The other thing I talked about is how we were going to **enforce the information blocking**."

Sector Commitments

Consumer-facing Apps

Deadline – Q1 2026

Standards that would support
• NIST 800-63-3 IAL2 / AAL2 and OpenID Connect
• US Core STU3 3.1.1 / USCDI v3 clinical data API
• CARIN IG for Blue Button claims data API
• SMART Health Cards and Links IG
• CARIN IG for Digital Insurance Card API
• CARIN Alliance MyHealthApplication.com Code of Conduct site

Patient-facing Applications
- Send and Receive digital identity credentials
- Send and Receive a summary of the patient visit from the provider
- Participate in CMS review and join the CMS App Store
- Send and receive a member's digital insurance card
- Patient consent preferences must be shared when included
- Appointments and encounters for patients
- Audit log transparency for all network transactions, including HIPAA TPO

Conversational AI Assistants
- Personalized AI-driven advice across the patient's clinical record
- Clearly indicate when responses are AI-generated
- Distinguish between educational vs. clinical guidance

Diabetes & Obesity Prevention and Management
- Use the clinical record to generate:
  – *Personalized coaching*
  – *Reminders*
  – *Risk alerts*
- Support for both prevention and active management
- Provide resources for individuals who are pre-diabetic

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Sector Commitments

CMS-Aligned Networks, Providers, EHRs, Payers, Consumer-facing Apps

Deadline – Q1 2026

Standards that would support

- NIST 800-63-3 IAL2 / AAL2 and OpenID Connect
- US Core STU3 3.1.1 / USCDI v3 clinical data API
- CARIN IG for Blue Button claims data API
- SMART Health Cards and Links IG
- CARIN IG for Digital Insurance Card API
- Digital Quality Implementers Community to improve HL7 CQL

Key Functional Expectations for the CMS-Aligned Network

Digital Identity & Access
- Send and receive digital identity credentials (e.g., CLEAR, ID.me) as SSO
- Patients should be able to:
  - Access their data from a provider's EHR and a payer's claims system
  - Send clinical data to their provider

Insurance & Authorization
- Send and receive a member's digital insurance card
- Patient consent preferences must be shared when included
- Audit log transparency for all network transactions, including HIPAA TPO

Delegation & Reciprocity
- Delegated model support (e.g., Business Associates)
  - No need to provide reciprocation unless contractually agreed

Data Use & Querying
- Payers (including CMS) and value-based care organizations may query for specific quality data elements (e.g., preventative measures) for payment or health care operations

Scheduling Interoperability
- Appointments and encounters on FHIR

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Sector Commitments

CMS-Aligned Networks, Providers, EHRs, Payers, Consumer-facing Apps

Deadline – July 4, 2026

Standards that need to be supported
• FHIR Bulk Data Access IG • Record Location Services (TEFCA) • HL7 Informative Document : Patient Information and Quality Improvement Framework

Technical and Operational Expectations for Aligned Networks FHIR API & Terminology Compliance
- Networks must provide or facilitate access to data using FHIR APIs
- Must support terminology compliance (e.g., labs in LOINC, meds in RxNorm, conditions in SNOMED)
- Networks should leverage FHIR Bulk Data Exchange

Record Location & Directory Participation
- Support Record Location Services accessible by all parties
- Share NPI-level participants and relevant endpoints for the CMS Directory

Reporting & Certification
- Provide metrics to CMS
- HITRUST certification required

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The CARIN Alliance: Pioneers in Consumer-directed Exchange

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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/

The CARIN Code of Conduct: Leading the Way on Patient Privacy

The CARIN Alliance Code of Conduct for Consumer-facing Applications, represents the consensus view of a group of multi-sector stakeholders that includes consumers, caregivers, leading providers, payers, health IT companies, EHR companies, consumer platform companies, and others focused on advancing consumer-directed exchange across the U.S.

The Code outlines the specific ways consumer-facing applications who are not covered by HIPAA should be transparent about and obtain consent for, the use, management, and exchange personally identifiable health information.

Voluntary Trust Framework and Code of Conduct

PHASE I – FOUNDATIONAL
- Application developers self-attest to the principles in the CARIN Code of Conduct

PHASE II – DISCLOSURE
- Application developers provide additional detail on how they meet the principles of the Code of Conduct and self-attest to how they will use, manage, and secure the consumer's health information

(Optional) PHASE III – VALIDATION
- Multiple, independent certifiers validate the self-attested questions & the application's systems, processes, clinical guidelines, clinical decision support, etc.

Annual update | CARIN Code of Conduct for Consumer-facing Applications

The Trust Framework and Code of Conduct Workgroup annually updates the Code of Conduct for Consumer-facing Applications to better align with new state laws, reflect new activities of consumer-facing applications, and provide additional definitional support for personal health record activities.

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Code of Conduct - Signed

Apple Health

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

Code of Conduct - Signed

Flexpa

Flexpa is a digital health application that allows users to access, manage, and provision access to their medical records.

Organize/Share Health Data Web

Code of Conduct - Signed

CommonHealth

CommonHealth helps people collect and manage their personal health data and share it with the health services, organizations and apps they trust.

Organize/Share Health Data Android

Code of Conduct - Signed

Fasten Health

Fasten is an open-source, personal medical record aggregator, designed to create a personal health record that never leaves the patient's hands without their consent.

Organize/Share Health Data Web Direct Access

Code of Conduct - Signed

b.well Connected Health

b.well Connected Health provides a scalable, FHIR-based platform that unifies health data into a longitudinal record, enabling consumer-directed access, data exchange, and control within our customers' connected health digital experiences.

Organize/Share Health Data Make Appointments Android iOS Web

Code of Conduct - Signed

Selfii

Selfii is a personal health application enabling users to search the country for their electronic health records. Selfii consolidates and organizes their data, empowering patients to take control of their medical records.

Web

Code of Conduct - Signed

OtisHealth

OtisHealth's mission is to empower people with personalized insights to improve their health, the health of their loved-ones, and lives in their community. We provide a free personal health management application for consumers and an enterprise platform for patient engagement, population health, and research.

Organize/Share Health Data Android iOS Web

ATTESTED BY:

Company	Apple Inc.
Representative (Print)	Evan Doll (Senior Director, Health Software)
Representative (Signature)	
Date	July 1, 2024

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Industry and CMS Adoption of the Code

Standard Operating Procedure (SOP): Individual Access Service (IAS) Provider Requirements

Version 2.0
July 1, 2024
Applicability: QHINs, Participants, and Subparticipants that offer Individual Access Services

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-F 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)."

Health API

Use our Health APIs to build tools that help Veterans manage their health, view their VA medical records, and share their information with caregivers and providers. The APIs also provide a Veteran the ability to view their eligibility information that will help them determine if they can receive urgent care and/or community care based on 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 (FHIR) framework for providing healthcare data in a standardized format. FHIR solutions are built from a set of modular components called "resources." These resources can be easily assembled into working systems that solve real world clinical and administrative problems.

When you register for access to the Health APIs, you will be granted access to a synthetic set of data (provided by the MITRE Corporation) that mimics real Veteran demographics. The associated clinical resources include data 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.

Publicly Accessible CARIN Resources for Consumer App Integration

Artifact	Description	Adoption and other information
CARIN IG for Blue Button API	FHIR API claims data model for payers	• Every CMS payer in the country has implemented the API for patient access • Every CMS payer is required to send to providers by 2027 (CMS-0057-F) • CMS has also implemented the API
CARIN IG for Digital Insurance Card API	An API and QR code for a digital insurance card	• 1.5M digital insurance cards in production today (Epic, Humana, United live)
CARIN Digital Identity Framework	An approach to federating digital identities	• CARIN has applied for an ONC LEAP grant to secure funding for a multi-stakeholder pilot • Identity Federation Framework Proof of Concept was completed in 2023
CARIN FHIR IG for consumer-facing real-time pharmacy benefit check	Real-time pharmacy benefit check for consumers	• Seven states require consumer real-time pharmacy benefit check and two states (CA and TX) require an API • Two major PBMs testing with CARIN
FHIR API Best Practices	How to best get FHIR working in production	• Applicable to consumer and payer/provider FHIR API connectivity

CARIN OPEN STANDARDS AND ARTIFACTS

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

What Does This Mean For You?

What This Means For CONSUMERS

HEADWINDS	TAILWINDS	OPPORTUNITIES AND IMPLICATIONS
Pharmacy costs	**Consumer-facing RTPBC**	50–75% reduction in OOP costs for the patient
Lack of a longitudinal personal health record	**Patient Access APIs**	Digital Identity and the patient access APIs enable a consumer to access their longitudinal health information
Too many clipboards!	**Kill the Clipboard!**	Patient online registration will prove their Digital Identity (reduces patient matching), aggregating your own health information (reduces data aggregation fees), and digital insurance cards (reduces revenue cycle management fees) thus helping to eliminate the clipboard
Personal data sharing preferences are not honored	**Consent and audit logs**	• Patients will know who has their data, when, and why • Helps with sensitive information
Fragmented user experience across different platforms	**Smart Health Cards, unified app ecosystems** (e.g., CMS app store)	Seamless digital experiences (insurance, records, benefits) across any consumer-facing application increases engagement and satisfaction

CONSUMERS AND CONSUMER-FACING APPLICATIONS

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What This Means For PROVIDERS/ACOs

HEADWINDS	TAILWINDS	OPPORTUNITIES AND IMPLICATIONS
Increasing revenue cycle management issues	Digital Insurance Card	Can be provided directly from payer to provider reducing a large percentage of RCM issues
OBBBA provider tax reductions and Medicaid cuts	Digital Insurance Card	API-based, dynamically generated coverage information paves the path for continuous enrollment
Labor and staffing costs and clinical shortages	Conversational AI on a patient's medical record	Fills a gap, does not replace, clinicians in rural and underserved areas
Clinician and staff burnout and turnover	Kill the Clipboard!	Patient online registration saves time and money
Increasing cybersecurity threats and identity fraud	Digital Identity Credentials	• More than 120M Americans have a credential • Incredibly secure SSO for providers and patients
Patient dissatisfaction with clipboards and the broken system	Kill the Clipboard!	• Patient online registration eliminates the clipboard • Clinician has a longitudinal view of the patient's medical history
Increasing denials on prior authorizations	ePrior Authorization APIs	• Relieves 93% of the requests in real-time • Transparency into the clinical guidelines for the decision

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What This Means For HEALTH PLANS

HEADWINDS	TAILWINDS	OPPORTUNITIES AND IMPLICATIONS
Risk adjustment chart chasing costs	**US Core and CARIN IG for Blue Button APIs**	Patient-authorized data sharing can reduce chart chase burden by enabling continuous data access
Prior authorization faxes and calls	**ePrior Authorization APIs**	Health plans must modernize workflows using FHIR-based Prior Auth APIs to comply with CMS 0057-F
Manual quality measurement reporting	**HL7 CQL and FHIR APIs are supported by CMS and NCQA**	Transition to digital quality measurement (dQMs) will require FHIR-enabled infrastructure and CQL logic
Member churn disrupts care continuity	**Payer-to-Payer FHIR APIs** (per CMS 0057-F)	Health plans must support longitudinal patient records and build interoperability with competitor plans
Fraud, waste, and abuse in claims-based care	**Real-time benefit APIs, ePA, digital ID innovations**	New data signals and AI integration create opportunities to flag inappropriate utilization in real time

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What This Means For STATE MEDICAID AGENCIES

HEADWINDS	TAILWINDS	OPPORTUNITIES AND IMPLICATIONS
Fragmented digital identity infrastructure across Medicaid, MCOs, and providers	CMS support for federated identity solutions (e.g., IAL2/AAL2)	Need to invest in digital identity alignment and may benefit from national identity networks and alliances (e.g., CARIN)
Varying readiness and implementation timelines across MCOs and Medicaid enterprise systems	CMS is enforcing common FHIR API requirements (Patient Access, Payer-to-Payer, Prior Auth, Provider Access)	States can use CMS alignment to drive standardized tech procurement and mandate vendor compliance
Limited resources for large-scale API infrastructure deployment and data governance	Federal funding pathways (e.g., MITA-aligned 90/10 funding, 0057-F compliance incentives)	Strategic opportunity to use federal matching funds to upgrade infrastructure while meeting regulatory mandates
Low data quality and inconsistent terminologies (e.g., RxNorm, LOINC, SNOMED) impact API utility	CMS emphasis on terminology compliance and structured FHIR profiles	Medicaid APIs and partners will need to incorporate data normalization and mapping tools into pipelines such as the PIQI framework
Siloed pharmacy, Behavioral Health, and SDOH data sources limit holistic care coordination	CMS encourages use-case expansion (e.g., post-acute, pharmacy, dQMs, value-based care)	Opportunity to integrate multiple sectors (e.g., 1115 pilots, pharmacy, SDOH) through shared infrastructure and aligned APIs

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What This Means For HEALTH IT

HEADWINDS	TAILWINDS	OPPORTUNITIES AND IMPLICATIONS
Lack of FHIR adoption	**CMS-aligned network**	Expedites adoption of FHIR and additional use cases
Poor patient data quality	**PIQI Framework**	Open standard that objectively measures the quality of the data so it can be improved at the source
Lack of structured data elements	**FHIR APIs and Inferno**	Provides structured data elements that are conformant to the regulations
Interoperability gaps between clinical and claims data	**CARIN Blue Button® and Da Vinci Payer Data Exchange IGs**	Opportunity for IT platforms to unify clinical and claims data for value-based care and analytics
Difficulty proving AI model safety/performance	**CMS/ASTP interest in explainable AI and structured input/output**	Drives demand for auditable, standards-based AI tools embedded in clinical workflows
QHIN onboarding friction or overlap with HIEs	**TEFCA SOPs, FHIR-based RLS, and participant directory models**	Opens opportunity for infrastructure vendors to support hybrid models (federated RLS, directory-as-a-service)

HEALTH IT, EHR, NETWORK, CLOUD,
QHIN, HIE, DIGITAL HEALTH, AI COMPANY

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The Future Data Holder Architecture and Consumer Experience

What Could This Look Like In the Future?

Public Utility (TEFCA RLS)

All external systems and individuals (Consumers and Consumer Apps, Payers, Provider, HIEs, QHINs, etc.)

Public Utility (CMS Provider and FHIR API endpoint directory)

Trusted Digital Identity Providers that support IAL2/AAL2; (e.g. ID.me, CLEAR. etc.)

OpenID Connect

Identity Stores

API Gateways, Developer Portal, and Test Sandbox

Cloud-based Consolidated Enterprise Data Store (Graphite Health Open Data Model)

AI for Patients, providers, and research (based on patient consent)

Payer-Managed FHIR Services

APIs
- *CARIN® Blue Button*
- *Da Vinci CMS-0057 APIs*
- *CARIN RTPBC (future)*
- *SMART Health Cards/Links*
- *CARIN® Digital Insurance Card*

HL7® FHIR® | SMART on HL7® FHIR®

Provider-Managed FHIR Services

APIs
- **G10 Clinical APIs (US Core)**
- **SMART Health Cards/Links**
- **DaVinci Cdex**

CDS HOOKS™ | HL7® FHIR® | SMART on HL7® FHIR®

Aggregators/Consolidators (Payer/Provider Contracted)

APIs
- **G10 Clinical APIs (US Core)**
- **DsVinci CDex**
- *CARIN® Blue Button*
- *Da Vinci CMS-0057*
- *SMART Health Cards/Links*
- *CARIN® Digital Insurance Card*

CDS HOOKS™ | HL7® FHIR® | SMART on HL7® FHIR®

Data Conformance / Data Quality

INFERNO
Conformance Testing (Network or local)

PIQI
Data Quality Open Scorecard (Open Source, multiple implementations)

Legacy Data

Payer-Managed
Claims | Admin | EDW

Provider-Managed
EHR | Reporting | RCM

Other Clinical Data
Lab | ADT | QRDA

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How Could Open Standards and Federal Policy Improve the Consumer Experience?

Key Questions	What providers are in-network with this plan? What are my estimated out-of-pocket costs? What is the premium? Are my meds covered?	Does this provider accept my insurance? Does this provider have available appointments? Is this provider nearby and accessible?	What is the out-of-pocket cost if I use insurance? What is the cash pay cost of the service?	What providers have I previously seen? What is my current insurance? What other health information to report (medications, allergies, conditions, etc.)?	What is my provider's digital endpoint? Can I retrieve post-visit summaries, images, and other information from my appointment? What are the results of my tests?
	Select Plan →	**Select Provider →**	**Estimate Cost →**	**Check-In →**	**Access Data →**
APIs & Data Required	Provider Directory API Patient Access API Formulary Data Coverage Rules Price Transparency MRFs	Provider Directory API Patient Access API Appointment Scheduling API (Provider)* Schema.org Provider Profiles on Website*	Advanced EOB Good Faith Estimates Price Transparency MRFs GFE Request API* Project Clarity Bundles CARIN Real-Time Pharmacy Benefit Check API	Patient Access API (Payer) Patient Access API (Provider) Identity-Proofed Digital Credentials for SSO Digital Insurance Card	Patient Access API Identity-Proofed Digital Credentials for SSO CMS FHIR API Endpoint Directory Framework

SOURCE: A collaboration between Defacto Health and Leavitt Partners

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LeavittPartners.com/Kill-The-Clipboard

Appendices
A – Acronym Definitions
B – Additional Opportunities for Early Adopters
C – Model State Medicaid Technical Architecture

Appendix A :
Acronym Definitions

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Common Acronyms

1 of 3

Acronym	Meaning	Description
APIs	Application Programming Interfaces	Standardized communication for disparate software systems to communicate
ASTP/ONC	Assistant Secretary for Technology Policy/Office of the National Coordinator	Principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and the electronic exchange of health information. Set up by Congress as ONC, the name was changed to ASTP in 2024.
CARIN Alliance	Consumer Access to Real-time Information Now	Multi-sector health care alliance committed to enabling consumers and their authorized caregivers to easily get, use, and share their digital health information when, where, and how they want to achieve their goal
CMS	Centers for Medicare and Medicaid Services	Federal agency within the U.S. Department of Health and Human Services that administers the nation's major healthcare programs including Medicare, Medicaid, and the Children's Health Insurance Program.
CQL	Clinical Quality Language	Standardized, domain-specific programming language designed to enable clinical informaticists and IT staff to build and execute queries to support clinical quality measurement and clinical decision support

Common Acronyms

Acronym	Meaning	Description
DQIC	Digital Quality Implementers Community	Collaborative consensus-based effort to develop, advance and standardize tools and platforms that optimize digital quality measurement, initially focusing on Clinical Quality Language engines
dQMs	Digital Quality Measures	Measures that use standardized, digital data from one or more sources of health information that are captured and exchanged via interoperable systems, using standards-based code packages that are computable without additional effort
FFEs	Federally Facilitated Exchanges	Health insurance marketplaces operated by the federal government in states that did not establish their own exchanges, where individuals and small businesses can shop for qualified health plans and access federal subsidies
FHIR	Fast Healthcare Interoperability Resources	Modern data exchange standard that makes it easier for systems to share healthcare information, enabling seamless data sharing and robust measure logic for digital quality measures.
HIE	Health Information Exchanges	Organizations established that enable the secure electronic sharing of patient health information across different healthcare entities, improving care coordination, reducing medical errors, and supporting better patient outcomes through directed, query-based, and consumer-mediated exchange methods.

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Common Acronyms

Acronym	Meaning	Description
NCQA	National Committee for Quality Assurance	Nonprofit organization dedicated to improving healthcare quality through accreditation, measurement, and quality improvement programs for health plans and healthcare providers
PSV	Primary Source Verification	Long-standing process in health care credentialing, mandated by accrediting bodies like NCQA, where an organization directly confirms the authenticity of a healthcare provider's qualifications from the original issuing sources.
QHP	Qualified Health Plan	Health insurance plan that is certified by a Health Insurance Exchange, provides essential health benefits, follows established limits on cost-sharing, and meets other requirements under the Affordable Care Act
TEFCA	Trusted Exchange Framework and Common Agreement	A comprehensive framework that establishes a standardized, nationwide approach for secure health information exchange across disparate networks through Qualified Health Information Networks (QHINs), enabling authorized access for treatment, payment, public health, and other specified purposes, while adhering to privacy and security principles. Established by the 21st Century Cures Act.

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Appendix B : Additional Opportunities for Early Adopters

CARIN IAS Digital Identity Early Adopter Effort

OPPORTUNITY THROUGH THE ASTP/ONC LEAP GRANT (IF AWARDED)

LEAP Grant Goal & Objectives

> **Goal:** Address challenges inhibiting interoperable health IT development and enable widespread adoption to improve healthcare outcomes.

> **Key Objectives:**
>> Identify technical barriers for IAS Provider participation in TEFCA
>> Develop and test innovative technical solutions
>> Demonstrate solutions for TEFCA IAS exchange infrastructure

Strategic Impact: Comprehensive early adopter effort enables testing all OIDC implementation combinations, advancing identity verification standards and TEFCA interoperability solutions

Early Adopter Demonstrations

> **Focus:** Test and validate OIDC implementation solutions across diverse network configurations
>> Pilot #1: IAL2 with RLS using SMART on FHIR EHR portal
>> Pilot #2: IAL2 with XCPD demographics match and HIE(s)
>> Pilot #3a/b: IAL2 using OIDC with single QHIN (CDA/FHIR)
>> Pilot #4a/b: IAL2 using OIDC with multiple QHINs (CDA/FHIR)
>> Pilot #5a/b: Facilitated FHIR with FAST Security IG + B2B
>> Pilot #6: Cross-platform credential acceptance (ID.me ↔ Clear)

CARIN IAS Digital Identity Federation Participants

1Kosmos
AETNA/CVS Health
Amazon
athenahealth
b.Well
Carequality
Cedars-Sinai
Centene
CLEAR
Commons Project
CommonWell
DirectTrust
eHealth Exchange
Emory Healthcare
Epic
Evernorth

Experian Health
Fasten Health
Flexpa
Google
Health Gorilla
HealthEx
HL7 *FAST*
ID.me
Intermountain
Kantara Initiative
Kennedy Krieger Institute (KKI)
MedAllies
NCPDP
OtisHealth
Patient Link

Praia Health
Providence
RUSH
Samsung Health
Selfii
University of Georgia
UTS
Veterans Affairs

Consumer-facing Real-time Pharmacy Benefit Check Update | Early Adopter Effort and Testing

CARIN RTPBC STANDARDS HARMONIZATION INITIATIVE

Challenge and Solution:

› **Key Challenge:** Current gaps between RTPB Standard V12/13 and CARIN RTPBC IG create inconsistent experiences across the healthcare ecosystem

› **Our Solution: April 2025 to November 2026**
  › Monthly and ad-hoc meetings
  › Synchronize consumer-facing and prescriber facing RTPB standards
  › NCPDP Foundation Grant award
  › Tactics: IG updates, Connectathons, testing, balloting, early adopter efforts, publish updated IG in 2026

Priority Harmonization Areas:

› **Additions that could be harmonized:**
  › Deductible accumulator fields (512-FC, 513-FD)
  › Sex assigned at birth vs. gender identity
  › Formulary status and preference level
  › Next available fill date (refill-too-soon logic)
  › Pricing guidance: component-level transparency
  › Coverage restriction code alignment (ex. "Fill Too Soon," "Route Not Covered")

Digital Insurance Card Update and Testing

Goal:

Update IG to include additional real-world use cases, support for leveraging the Patient Access API and RTPBC, adding new data elements, updates to the Coverage profile, upgrade the IG to the latest version of US Core, among others.

FHIR API Standard : https://hl7.org/fhir/us/insurance-card/

Next steps:

> Recently convened (June 2025)
> Working with CMS to discuss updates to the IG
> Test the updates to the IG: September 2025 and January 2026 HL7 Connectathons
> Identify gaps, errors or modifications, then make IG updates
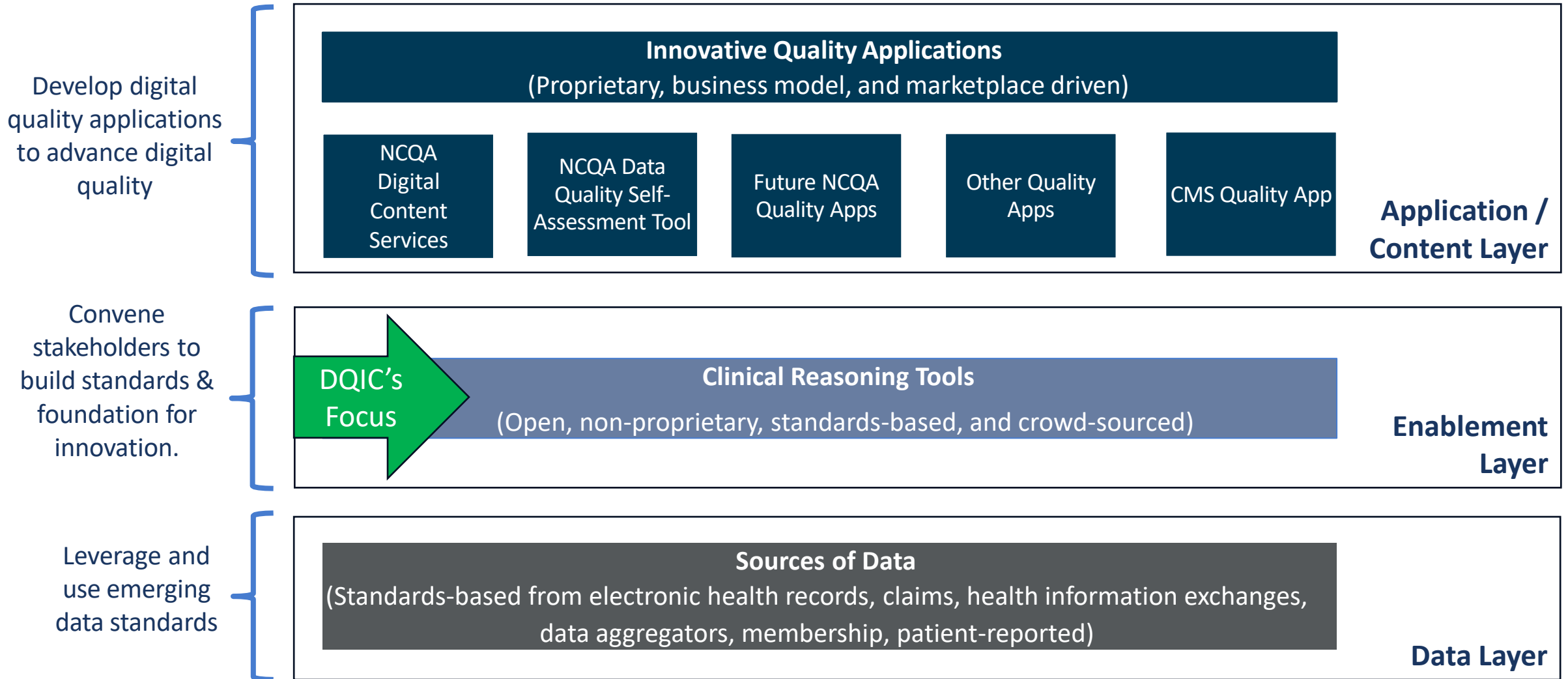> Publish in January/May 2026.

The Digital Quality Implementers Community (DQIC)

The DQIC is a collaborative consensus-based effort to develop, advance, and standardize tools and platforms that make digital quality measurement possible.

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 | Future NCQA Quality Apps | Other Quality Apps | CMS Quality App |

Application / Content Layer

Convene stakeholders to build standards & foundation for innovation.

DQIC's Focus

Clinical Reasoning 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, membership, patient-reported)

Data Layer

The PIQI Framework is:

- A standard methodology for creating data quality scorecards using a flat, simplified, format-agnostic approach, evaluating the quality of electronic patient data.
- It aims to enhance the usability of shared patient information by ensuring it meets specific criteria for accuracy, conformity, availability, and plausibility.
- Steered by an open, cross industry, community of practice with a goal of improving the quality and usability of healthcare data across the entire healthcare ecosystem

The PIQI Framework can:

- Provide a standard quality and usability score for a single patient message, assessing data against a standard, such as USCDI v3. This feedback enables data sources to make necessary adjustments to meet quality requirements.
- Provide industry-wide agreement on acceptable quality using shared standard profile for evaluation (rubrics)

Patient Information Quality Improvement (PIQI) Framework and Alliance
### https://piqiframework.org/

PIQI Framework

- An **open framework for evaluating the quality of electronic patient data**. It aims to **enhance the usability of shared patient information** by ensuring it meets specific criteria for **accuracy, conformity, availability, and plausibility.**

- **Assesses data** against a standard, such as USCDI v3, **generates a scorecard**, and provides **insights into issues affecting the quality score.**
  - This feedback **enables data sources** to make necessary adjustments to meet quality requirements.

- Built on four core principles: 1) **simplified patient data model for standard processing**, 2) **health care data quality taxonomy for issue analysis**, 3) **modular and shareable assessment approach**, and 4) **user-configurable implementation for diverse evaluation needs.**

PIQI Alliance

- In 2024, a group of stakeholders established an alliance to advance implementation of the **PIQI Open Scorecard Framework**

- The alliance recommended integration of the scorecard into the **CEHRT upgrade process** once adopted as an **HL7 open standard**

- We are actively testing and balloting the PIQI Informative Document as a standard within HL7 (https://build.fhir.org/ig/HL7/piqi/)

- The alliance will provide **ongoing governance and oversight** of the PIQI framework

PIQI Framework | High Level Component Diagrams

Patient-centric Information Quality Improvement (PIQI) Framework
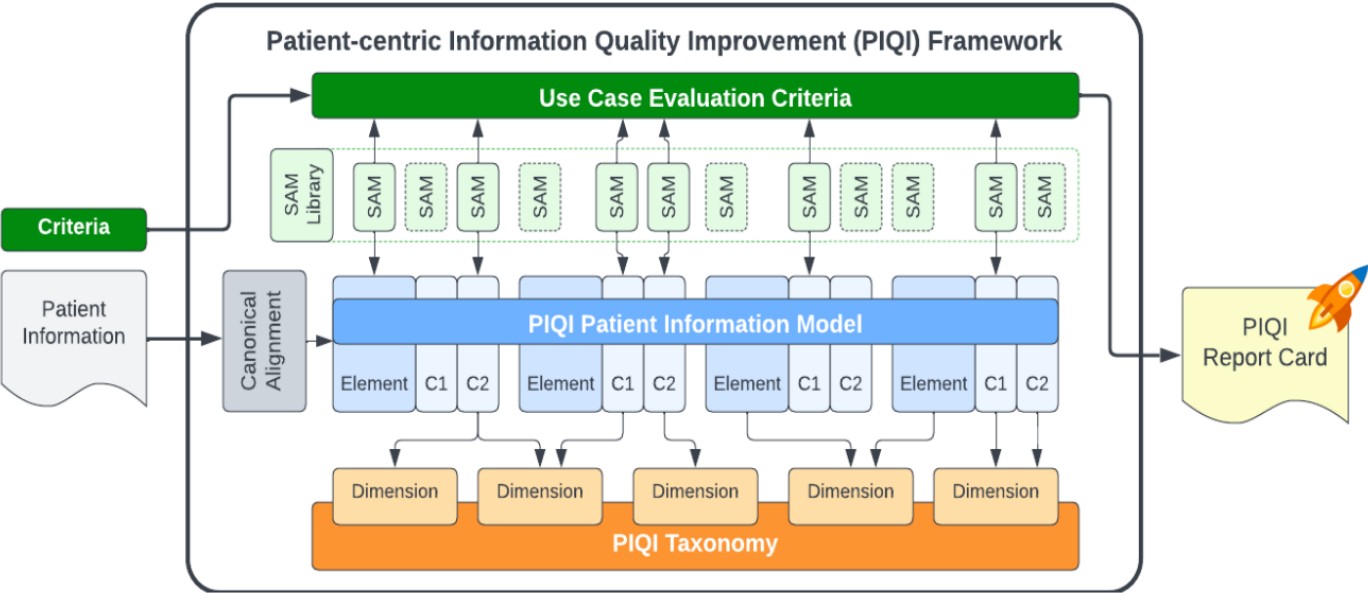
CATEGORY	DIMENSION	TAG	Attribute	Element	Patient
Availability	Missing	AV.MISS		☑	
	Unpopulated	AV.UNPOP	☑		
	Incomplete	AV.INCOMP	☑	☑	
Accuracy	invalid Format	ACC.INVFMT	☑		
	Invalid Value	ACC.INVVAL	☑		
	Invalid Grouping	ACC.INVGRP	☑	☑	
Conformity	Invalid Member	CNF.INVMBR	☑		
	Incompatible	CNF.INCMPT	☑	☑	
	Obsolete	CNF.OBSOL	☑		
Plausibility	Clinically Implausible	IMP.CLIN		☑	
	Temporally Implausible	IMP.TEMP	☑	☑	☑
	Situationally Implausible	IMP.SITU	☑	☑	☑

EVALUATION PROFILE		USCDI v3+						
SEQ	DATA CLASS	ENTITY	SAM	PARAMS	EFFECT	CONDITIONAL	WEIGHT	CRITICAL
1	Lab Result	Test	Concept is Conformant	LOINC	SCORING	NO	1	YES
2	Lab Result	Order	Concept is Conformant	LOINC	SCORING	NO	1	NO
3	Lab Result	Result Value	Value matches Type	-	SCORING	NO	1	NO
4	Lab Result	Result Value	Concept is Conformant	SCT	SCORING	YES	1	NO
5	Lab Result	Result Unit	Attribute is in list	UCUM	SCORING	YES	1	NO
6	Lab Result	Specimen Type	Concept is Conformant	SCT	SCORING	NO	1	NO
7	Lab Result	Result Status	Attribute is Populated	-	SCORING	NO	1	NO
8	Lab Result	Test	Concept is Semantic Match		INFORMATIONAL	NO	0	NO

Enhancing Interoperability in Dental Services Convening

JUNE 25, 2025 FROM 8AM-1PM ET

DESCRIPTION OF INITIAL EVENT

> On Wednesday, June 25, 2025, Leavitt Partners and the Dental Standards Institute, supported by the American Dental Association, held a convening on **Enhancing Interoperability in Oral Health** at the Leavitt Partners office in Washington, D.C. **Nearly 60 participants from across all sectors of the oral health industry attended**, including dental practices, technology providers, dental benefit organizations, health care payers, Health Information Exchanges, and Electronic Health Record systems. The discussions were informative and interactive, leading to several important decisions.

OUTCOMES AND NEXT STEPS

> Four key use cases emerged as possible "quick wins: (1) Automate Referrals using open standards, (2) Improve Sharing of Dental Data Across Platforms (3) Integrate Dental and Medical Claims, and Encounters (4) Implement Better Patient Access to Dental Records

> A virtual convening will be held in September. Additionally, two work tracks will be held at the HL7® FHIR® Connectathon in Pittsburgh (Sept. 13-19)

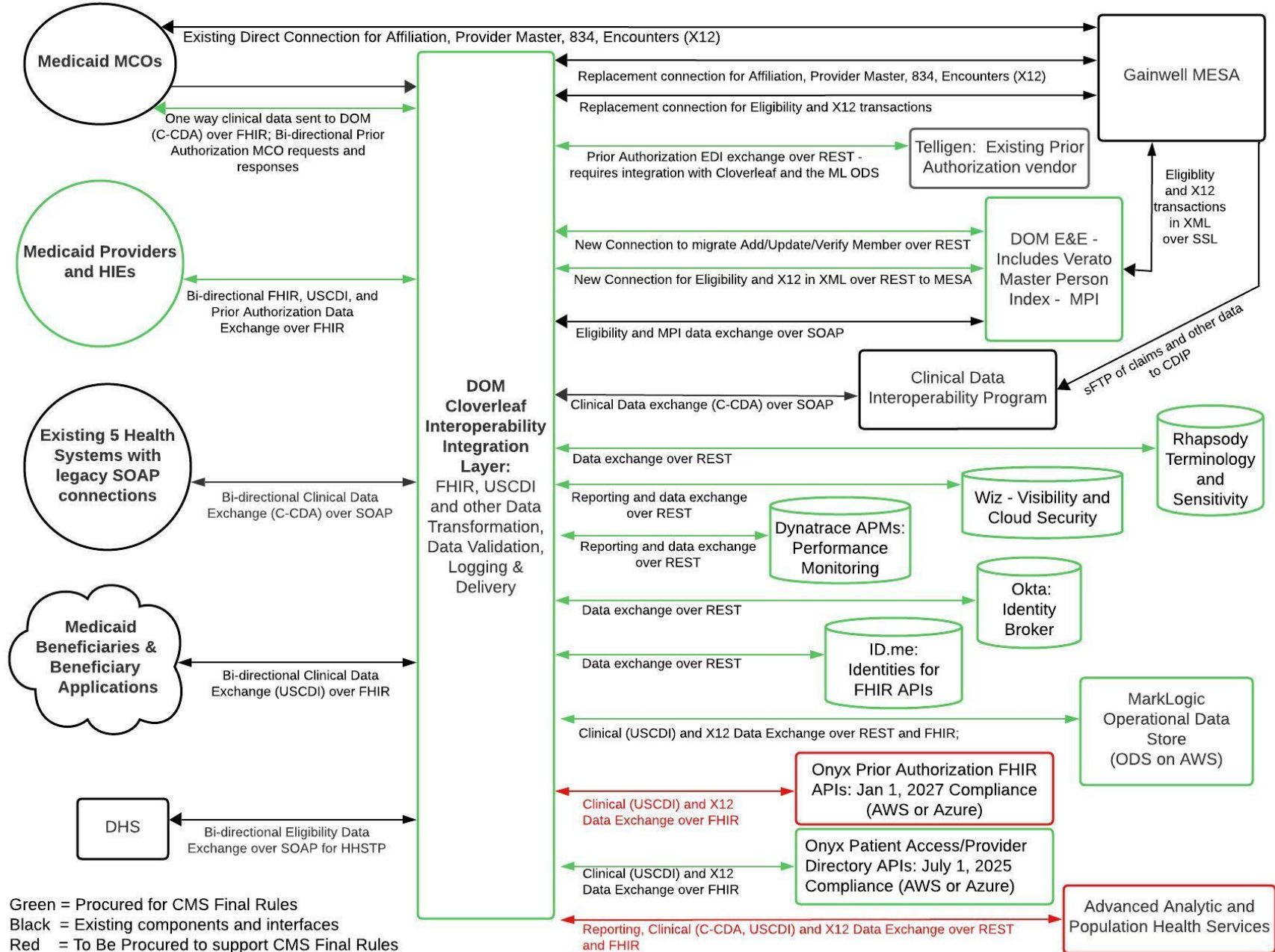# Appendix C : Model State Medicaid Technical Architecture

State of Mississippi Division of Medicaid CMS Final Rule Compliance Architecture (used with permission)

May 2025

**This type of approach will work for many other state Medicaid agencies and is scalable to hundreds of other use cases. The incremental costs to add more use cases to this is minimal.

THE RFI & THE FUTURE OF HEALTH CARE DATA EXCHANGE

Mississippi Division of Medicaid (DOM) CMS Final Rule Compliance May 2025

Green = Procured for CMS Final Rules
Black = Existing components and interfaces
Red = To Be Procured to support CMS Final Rules

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Leavitt Partners, an HMA Company, helps clients thrive at the intersection of healthcare and the federal government. We partner with healthcare and human services organizations to understand and influence the policy, political, stakeholder, and other dynamics impacting healthcare. Our team is driven to use our decades of government and private-sector experience to improve lives by advancing value and making health care more accessible, effective, and sustainable.

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