



**Federal Agency FHIR Adoption:  
From Vision To Reality**

# Panelists

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# **FHIR: From vision to reality**

ONC Annual Meeting

15-Dec 2023

Grahame Grieve

# FHIR: The web, for Healthcare



## Open Community

- Make it easier to exchange healthcare information
- Open Participation - uses web infrastructure (social media)
- Lead by HL7 - deeply connected to world wide health community

## Open Standard

- Describes how to exchange healthcare information
- Public Domain (<http://hl7.org/fhir>)
- A web API - web standards where possible
- Continuity with existing healthcare standards



# Vision

- Open responsive Standards
- Based on the web culture / tech stack
- Integrate terminology into the picture
- Scalable community and technology
- Supported by open source tooling – validation, publication, community building



# Reality

- Standards still very hard to land
- Things are improving
- Adoption still not mission critical
- Still a very divided eco-system



# Interoperability is a Team Sport

- Why do people contribute? To drive change
- Companies and institutions give us their best people
- Create a platform for delivery of their ideas
- They're richer if they don't own the platform
- We're building public treasure that we all own
- Ultimate goal of FHIR: make the *platform* public property



# **ONC Action Plan for Federal FHIR Engagement and Investment**



# Ensure Federal Investments in FHIR are Positioned for Success

- **Provide Strategic Alignment:** Focus federal efforts on areas that have the most significant potential for impact within 1 -3 years.
- **Empower Decision Makers:** Communicate the benefits and potential applications of FHIR to instill confidence and empower decision makers to make informed choices that align with their agency's objectives.
- **Share Knowledge and Resources:** Equip implementers to navigate the FHIR landscape efficiently, leading to faster and more successful adoption of FHIR based solutions.
- **Minimize Burden to Maximize Adoption:** Avoid duplication of effort to promote efficient resource allocation and help accelerate the adoption of FHIR nationwide.

# Why FHIR?

## Simplicity and Flexibility

Built on modern open internet standards (like RESTful web services, HTTP, and JSON) that simplify data exchange and reduce implementation complexities

## Precision and Granularity

Allows users to define precisely what data they need to exchange and are authorized to access, ensuring relevance and efficiency



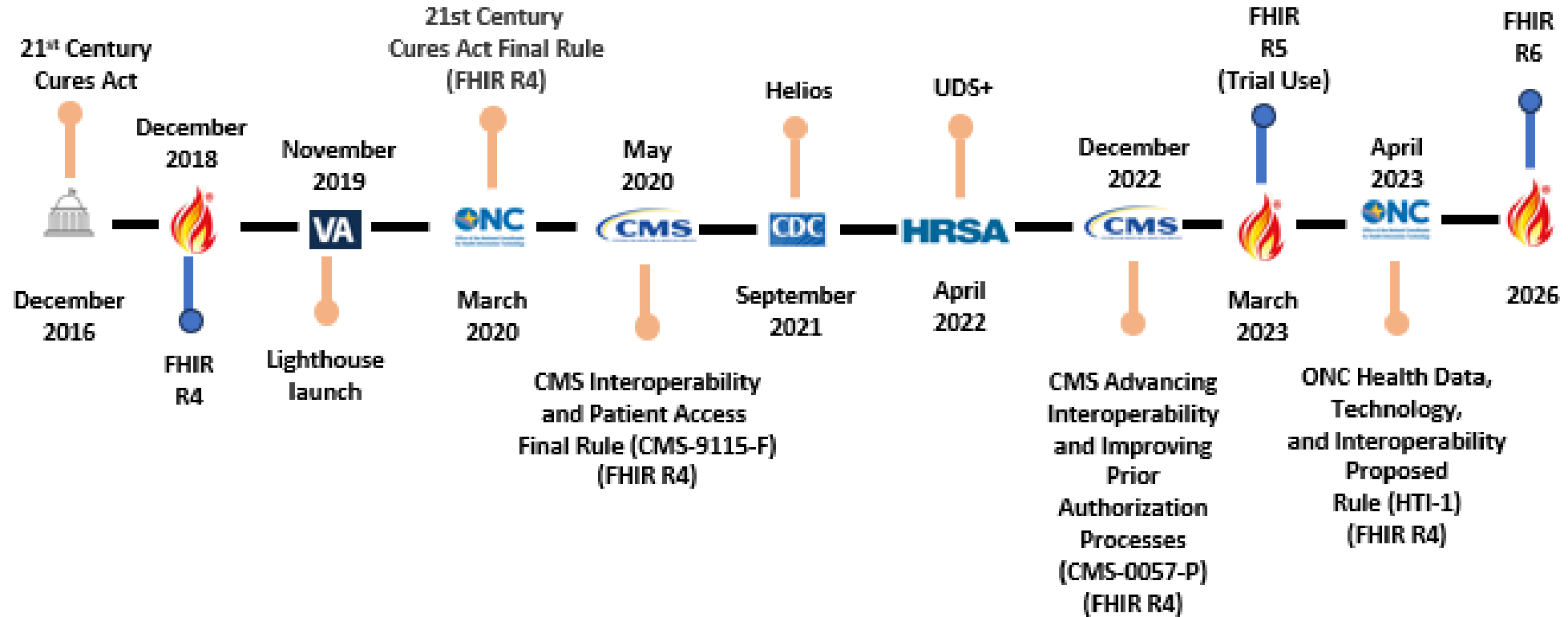
## Safety and Security

Built-in security features (OAuth2 and OpenID Connect) to help protect sensitive data without relying on complex proprietary security solutions

## Thriving User Community

Teams work together toward common goals using technologies software developers are already familiar with (like open APIs), which makes it simpler to create solutions that meet agency-specific needs

# Major Federal Contributions to FHIR Ecosystem



## Shared Foundation – Core Components

FHIR R4

US Core IG

SMART App  
Launch

Bulk Data  
Access

CDS Hooks

SMART  
Health Cards

Subscriptions

FHIR Write

# Joint Focus Areas



## Care Delivery and Engagement

- Facilitate decision support and ease patients' access to their health data

## Networks

- Develop highly reliable networks and connectivity using FHIR

## Payment and Health Quality

- Reduce burden for clinicians, patients and caregivers using FHIR

## Public Health Data Modernization

- Modernize public health data infrastructure and exchange using FHIR

## Research

- Drive towards a digital health system powered by FHIR for research

# Applying the Plan – Federal Agency Action Steps



- ALIGN**
  - Identify common workflows. Map to HHS and Federal priorities.
  - Participate in Connectathons. Engage HL7 workgroups and FHIR accelerators.
  - Develop test scripts. Support enhancements to Inferno.
- ADOPT**
  - Specify FHIR components to be re-used via testing, demos, and pilots.
  - Represent terminology and API definitions as services available via FHIR.
  - Update implementation guidance. initiate SVAP as appropriate.
  - Include FHIR in funding requirements, rulemaking, and certification criteria.
- ADVANCE**
  - Conduct and publish gap analysis. Identify key areas to maintain compatibility.
  - Make source code, implementation guides, and lessons learned available externally.
  - Demonstrate compatibility and re-usability of artifacts developed.



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# Putting FHIR® into Action at the CDC

ONC Annual Meeting  
December 15, 2023





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# Today's Discussion

- Background
- CDC Moving Towards Interoperability
- HL7<sup>®</sup> Helios Public Health FHIR<sup>®</sup> Accelerator
- CDC/National Partner Implementation Center Program
  - Funding Goals
  - Expectations
- Questions

## Background

Through the Public Health Data Strategy (PHDS), CDC has prioritized solving the data flow challenges faced across the public health ecosystem.

By improving the gaps in public health data, we will:

- Help our nation become response-ready
- Promote health equity
- Improve health outcomes for all



## Moving Towards Interoperability

The Public Health Data Strategy outlines the data, technology, policy, and administrative actions to advance this mission.

- Goal 1: Strengthen the Core of Public Health Data
- Goal 2: Accelerate access to analytic and automated solutions to support public health investigations and advance health equity
- Goal 3: Visualize and share insights to inform public health action
- Goal 4: Advance more open and interoperable public health data

**Achieving these goals requires CDC to champion FHIR®**



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# HL7® Helios Public Health FHIR Accelerator



# How the Pieces Fit Together

## Shared Priorities to Help Advance Public Health

### USCDI & USCDI+

Prioritize and harmonize data most crucial to the needs of public health and beyond



### FHIR® Advancement and Strategy

Adopt standards that can be more easily extended and reused as conditions change



### TEFCA

Develop common, pre-negotiated agreements to simplify data exchange nationwide



### North Star Architecture

Help public health jurisdictions share and analyze data with each other and CDC



### Certification of IT & Data Systems

Ensure IT & data systems used by public health are sustainable and meet baseline requirements for security and functionality



# HELIOS FHIR® Accelerator

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

## Focus on Impact

Prioritize use cases that complement what exists today and that will have an impact in their communities

## Multi-Sector Alliance

Create diverse teams to work together to tackle challenges and explore new opportunities to advance interoperability

## Align Efforts

Align with current FHIR activities to promote more flexible and effective data in public health and beyond

# HELIOS FHIR<sup>®</sup> Accelerator

## Community-led priority areas

Deliver Aggregate  
Information to  
Public Health



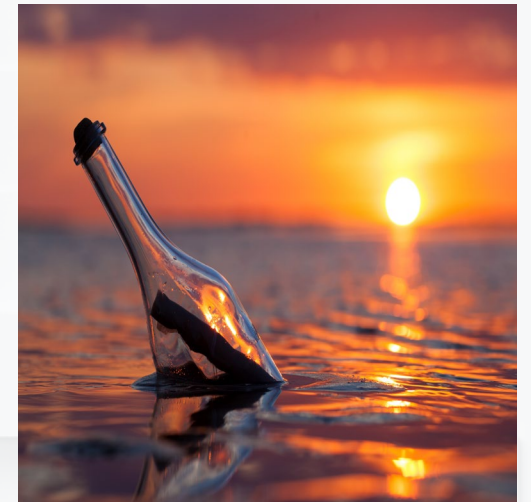
Make Data in Public  
Health Systems  
Accessible in Bulk



Public Health  
Query & Response  
**(New Priority Area)**



Public Health  
Messaging  
**(Pending evaluation)**



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# CDC Implementation Center Program





# Overview



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## Implementation Center National Partners (NP)

- ASTHO (Association of State and Territorial Health Officials)
- NNPHI (National Network of Public Health Institutes)
- PHAB (Public Health Accreditation Board)



## Each NP was granted \$30 million for the Implementation Centers

- **\$25 million** to support state and local jurisdictions
- **\$5 million** specifically for **tribal support**



This funding is layered on top of Public Health Infrastructure and Capacity Grants and Data Modernization funding

# Funding Goals

The purpose of the funding is to establish and coordinate efforts across 3-5 implementation centers to accelerate public health data exchange and data linkage with the intent to:



**Increase timeliness of data exchange** between healthcare and public health for public health reporting and priority use cases.



**Improve response time** to public health threat detection, prevention, and/or time to intervention.



**Reduce burden on healthcare systems/providers** and public health jurisdictions for public health data reporting and data exchange.



**Improve data quality and completeness** through the identification and implementation of data linkage methods (i.e., digital ID).

# Expectations of Implementation Centers

1



Identify state, territorial, local, and tribal health agencies (hereafter referred to as STLTs) that meet project requirements and agree to the expectations for participation

2



Support STLT participation in TEFCA, in coordination and alignment with overall strategic direction. This includes selection of a public health participation model and onboarding, technical and policy assistance, and training for STLTs.

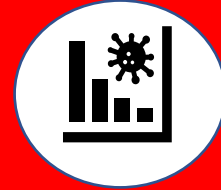
3



Operationalize automated electronic data exchange, moving toward FHIR-based exchange, for priority public health use cases as defined by the strategic direction of this overall effort.

- Where applicable, identify and implement novel data linkage approaches to improve data completeness within prioritized public health use cases.

4



Collaborate with Lead Coordinating Partner and other National Partners to evaluate the impact of implemented approaches for data exchange and data linkage on burden, timeliness, and public health detection and prevention.

## Next Steps

- The CDC is very excited about moving toward advanced data exchange nationally
- The National Partners have released an RFP to solicit contractors who are interested in becoming an Implementation Center
- Selections will be announced on January 19, 2024
- More information can be found at <https://www.astho.org/members/opportunities/>



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# Questions





# FEDERAL AGENCY FHIR ADOPTION: FROM VISION TO REALITY

**Anupam Banerjea**

*VA Lighthouse | Product Engineering Service*

Office of Information and Technology

ONC Annual Meeting  
December 15<sup>th</sup>, 2023



# VA Lighthouse

- Lighthouse is part of VA's Digital Modernization strategy.
- Since August 2018, we've been giving approved individuals and organizations secure access to the VA data they need.
- Enable high-quality, delightful, and secure digital experiences for Veterans
- Over 99.9% uptime including scheduled downtime, so there are no surprises.
- 136 Applications in production, with more on the way.
- 21 APIs (Application Programming Interface) added since we started, and we are still growing.



# VA Lighthouse Health APIs

- FHIR (Fast Healthcare Interoperability Resources) APIs for Patient Health, Clinical Health, and Provider Directory.
- Across the board usage of FHIR R4, supporting 21<sup>st</sup> Century Cures Act.
- APIs use OAuth 2.0 and OpenID Connect (SMART-Substitutable Medical Applications and Reusable Technologies on FHIR).
- More than 20 FHIR Resources supported, with many more being added.
- Serving more than 200 million requests every month.
- Near 100% US Core 5 conformance for offered resources.
- Near completion on (g)(10) conformance testing.



# Patient Health API

<https://developer.va.gov/explore/api/patient-health/docs>

- Return demographic and health data of patients, including Veterans treated at VA facilities.
- Search for an individual patient's appointments, conditions, immunizations, medications, observations including vital signs and lab tests, and more.
- 21 Approved Production Applications.
- FHIR Resources:
  - Appointment
  - Observation
  - Condition
  - Encounter
  - Immunization
  - And fifteen more



# Clinical Health API

<https://developer.va.gov/explore/api/clinical-health/docs>

- Return demographic and health data of patients, including Veterans treated at VA facilities, for a clinician at the point of care.
- Search for an individual patient's conditions, medications, observations including vital signs and lab tests, and more.
- 2 Approved Production Applications.
- FHIR Resources:
  - AllergyIntolerance
  - Condition
  - MedicationRequest
  - MedicationDispense
  - Observation
  - Patient
  - Practitioner



# Provider Directory API

<https://developer.va.gov/explore/api/provider-directory/docs>

- Return list of VA healthcare providers, locations, specialties, and office hours.
- Determine if a VA healthcare provider is taking patients.
- 6 Approved Production Applications.
- FHIR Resources:
  - Location
  - Organization
  - Practitioner
  - PractitionerRole



## On the Roadmap

- Financial API to help get improved access to Claims, Explanation of Benefits and more.
- Planned API support for Social Determinants of Health to help gather and exchange relevant data.



**Learn More**  
**<https://developer.va.gov>**

Digital**VA**



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for Health Information Technology

Thank you!

Audience Q&A



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