Office of the National Coordinator for Health Information Technology

Public Health Data Infrastructure Modernization

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Office of Policy, ONC

August 29, 2022

Agenda

- Who is ONC?
- Current State of Public Health Data Systems
- USCDI/USCDI+
- FHIR (Fast Healthcare Interoperability Resources) Initiatives
- TEFCA (Trusted Exchange Framework and Common Agreement)
- How to participate, learn and get involved?

Office of the National Coordinator for Health IT

- **Founded in 2004 by executive order, established in statute in 2009**
- **ONC is charged with formulating the federal government's health IT strategy to advance national goals for better and safer health care through an interoperable nationwide health IT infrastructure**

Laying the foundation of EHRs across the industry

- $40B CMS investment to subsidize EHRs for hospitals and ambulatory providers
- ONC certification of EHR systems to support CMS and CDC programs

Leveraging EHRs to drive value

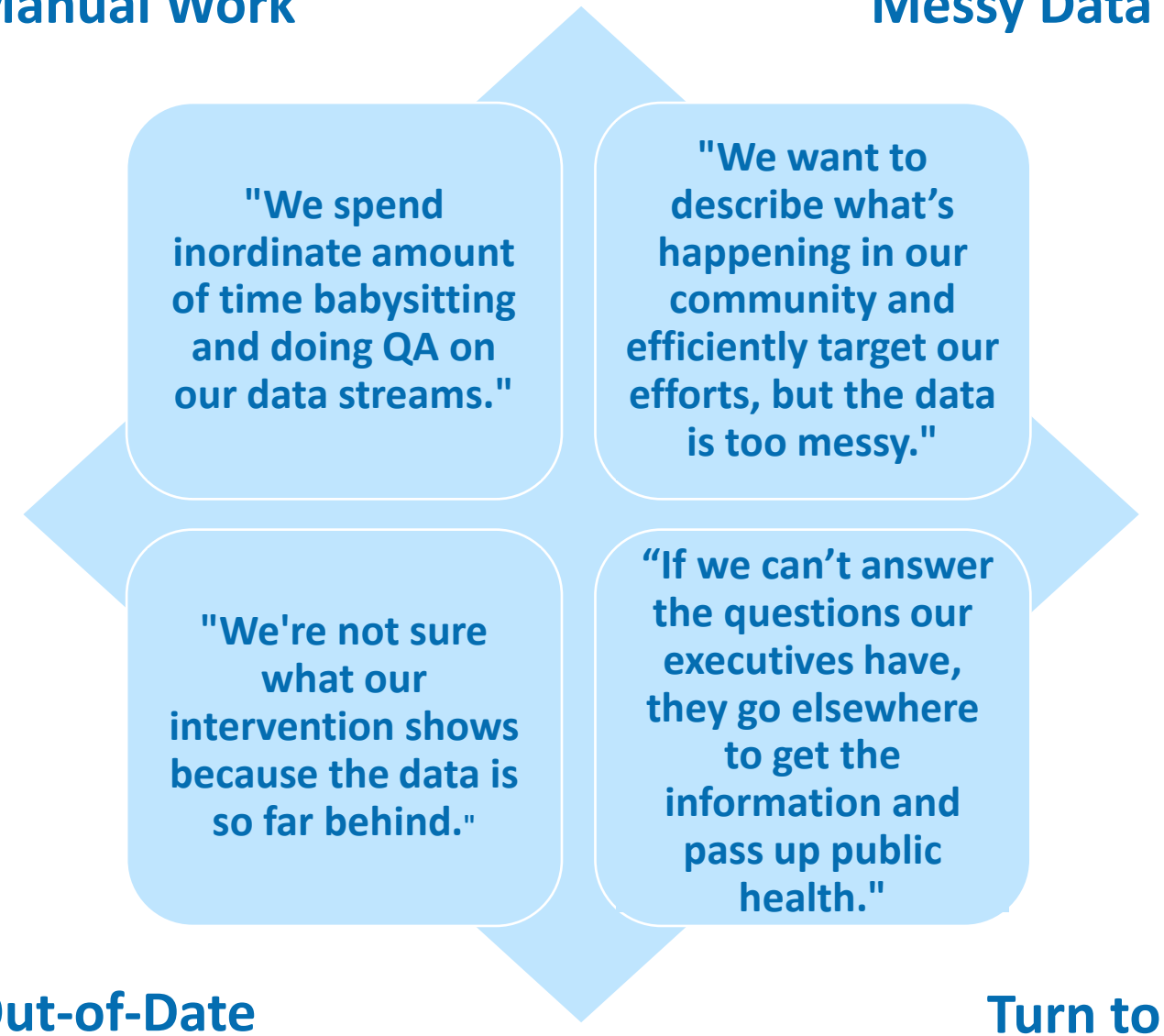
- Information blocking: Prohibits providers, technology developers, and health information networks from interfering with access, exchange, and use of electronic health information
- Standards: Requires access to information through APIs "without special effort"
- TEFCA: Requires nationwide governance for health information exchange networks – Trusted Exchange Framework and Common Agreement

Current state of public health agencies and public health data systems

- Over half of all respondents (n=~56) are in the process of **identifying systems or applications for modernization.**
- A majority of respondents are in the process of identifying **legacy and siloed systems.**
- A quarter of respondents have not yet evaluated the use case for **cloud** or **open-source applications.**
- Most respondents have implemented or are in the process of implementing activities to **enhance data exchange and data quality**.
- Most respondents have fully implemented or are in the process of implementing **data governance** strategies that impact how data is utilized within a jurisdiction and between collaborator groups.
- Most respondents are in the process of implementing **IT governance policies**, however, close to half of respondents have not implemented **API strategies or API management plans.**

CDC: Preliminary Findings on Current State from the Data Modernization Initiative (DMI) Assessment: State, local, and territorial public health capabilities and needs assessment
https://www.healthit.gov/sites/default/files/facas/2022-08-24_PDHS_TF_Meeting_Slides_Daniel_Weber.pdf

Heroic Efforts Have Been Made, But Ongoing Challenges Persist In Achieving Interoperability



Specific, Significant Shifts Are Occurring Which Can Benefit Public Health

Current State: High Processing Burden		Emerging State: Greater Connectivity & Flexibility
DATA USE AGREEMENTS NEGOTIATED ONE AT A TIME	ALIGNMENT WITHIN AND BEYOND PUBLIC HEALTH USCDI · HL7® FHIR® · TEFCA	COMMON AGREEMENTS & RULES OF THE ROAD ARE PRE-NEGOTIATED IN ADVANCE
DATA SENT MULTIPLE TIMES, IN MULTIPLE FORMATS TO MULTIPLE ENDPOINTS		DATA STANDARDIZED ONCE TO FILL MULTIPLE USERS' NEEDS
PUBLIC HEALTH NEEDS ARE NOT WELL UNDERSTOOD		PUBLIC HEALTH NEEDS ARE VALUED AND PRIORITIZED

New Data Standards and Policies are Transforming Digital Health Data

US Core Data for Interoperability (USCDI)

Create a Core Set of Standardized Data Elements for Health

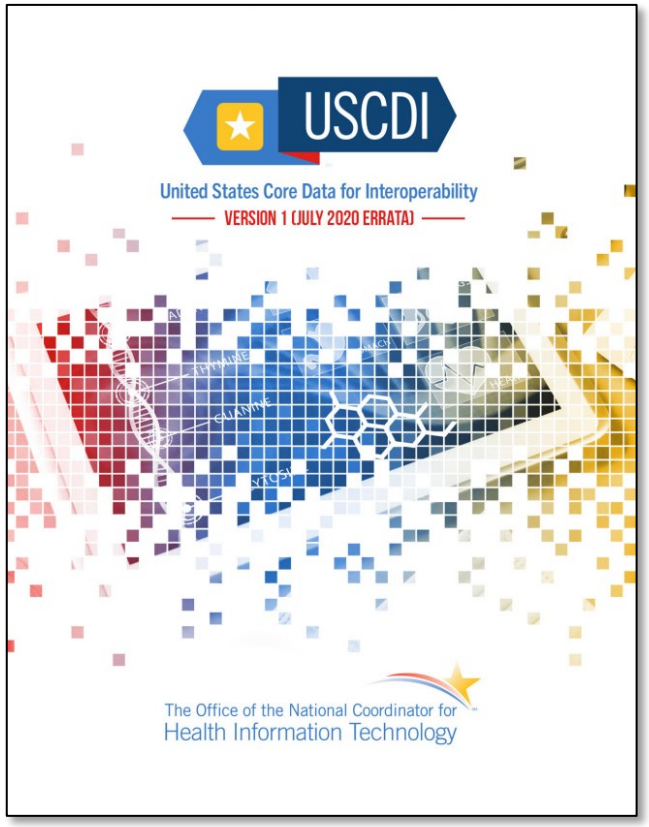
US Core Data for Interoperability (USCDI)

Common core of standardized data to support treatment, payment, healthcare operations, requests from patients, post-market surveillance, research, public health, and other authorized uses.

https://www.healthit.gov/topic/interoperability/uscdi-plus

https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi

Certified EHR Currently Adopting USCDI V1



USCDI v1 Summary of Data Classes and Data Elements

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

Assessment and Plan of Treatment
- Assessment and Plan of Treatment

Care Team Members
- Care Team Members

Clinical Notes
- Consultation Note
- Discharge Summary Note
- History & Physical
- Imaging Narrative
- Laboratory Report Narrative
- Pathology Report Narrative
- Procedure Note
- Progress Note

Goals
- Patient Goals

Health Concerns
- Health Concerns

Immunizations
- Immunizations

Laboratory
- Tests
- Values/Results

Medications
- Medications

Patient Demographics
- First Name
- Last Name
- Previous Name
- Middle Name (incl Middle Initial)
- Suffix
- Birth Sex
- Date of Birth
- Race
- Ethnicity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address

Problems
- Problems

Procedures
- Procedures

Provenance
- Author Time Stamp
- Author Organization

Smoking Status
- Smoking Status

Unique Device Identifier(s) for a Patient's Implantable Device(s)
- Unique Device Identifier(s) for a Patient's Implantable Device(s)

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

- **ONC standard for minimum dataset required for interoperability**
  - Defines required data elements and vocabulary standards
  - Agnostic to format
- **Updated on annual cycle with federal agency and industry input**
  - Updates based on multiple criteria including standards maturity and public/industry priority

USCDI Version 3

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

Assessment and Plan of Treatment
- Assessment and Plan of Treatment
- SDOH Assessment

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 Diagnosis
- Encounter Time
- Encounter Location
- Encounter Disposition

Goals
- Patient Goals
- SDOH Goals

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

Health Status/ Assessments ★★
- Health Concerns ➔
- Functional Status ★
- Disability Status ★
- Mental Function ★
- Pregnancy Status ★
- Smoking Status ➔

Immunizations
- Immunizations

Laboratory
- Test
- Values/Results
- Specimen Type ★
- Result Status ★

Medications
- Medications ★
- Dose ★
- Dose Units of Measure ★
- Indication ★
- Fill Status ★

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 ★
- Sex ★★
- Sexual Orientation
- Gender Identity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person's Name ★
- Related Person's Relationship ★
- Occupation ★
- Occupation Industry ★

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

Procedures
- Procedures
- SDOH Interventions
- Reason for Referral ★

Provenance
- Author Organization
- Author Time Stamp

Unique Device Identifier(s) for a Patient's Implantable Device(s)
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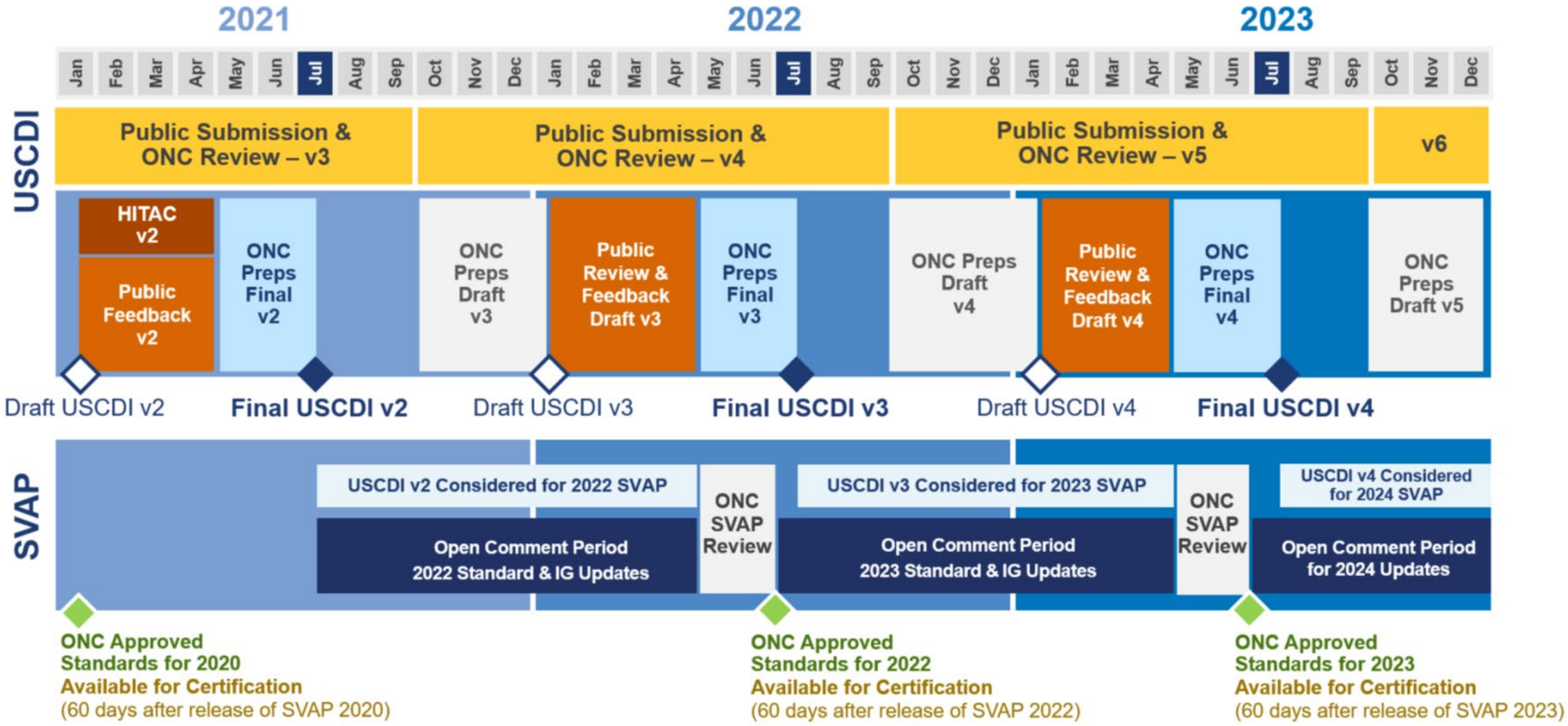
- Diastolic blood pressure
- Heart Rate
- Respiratory rate
- Body temperature
- Body height
- Body weight
- Pulse oximetry
- Inhaled oxygen concentration
- BMI Percentile (2 - 20 years)
- Weight-for-length Percentile (Birth - 24 Months) ★★
- Head Occipital-frontal Circumference Percentile (Birth - 36 Months)

★ New Data Classes and Elements ➔ Data Element Reclassified ★★ Name and Other Changes to Existing Data Classes/Elements

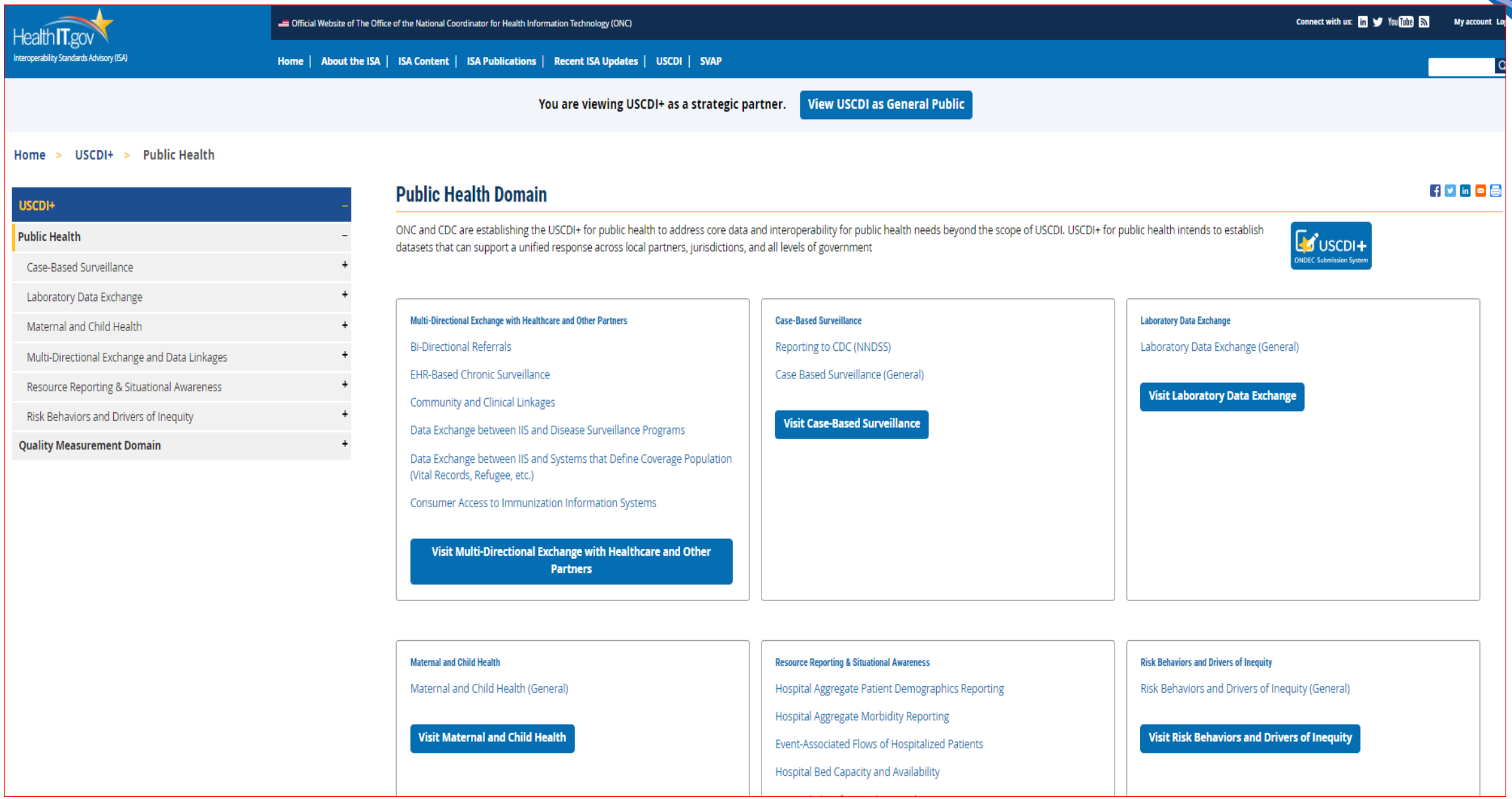
USCDI Continues to Evolve



USCDI vs. USCDI+ for Public Health

USCDI	USCDI+ for public health
Comprises a core set of data needed to support **patient care** and **facilitate patient access** using health IT.	Comprises a core set of data needed to specifically **support the needs of public health partners.**
Establishes a consistent baseline of data elements that can be **broadly reused across use cases**, including those outside of patient care and patient access	Establishes a consistent baseline of data elements that are **tailored to specific, high-priority, public health use cases**.
Expands incrementally over time via a weighing both anticipated benefits and **industry-wide impact**	Expands rapidly over time via a weighing federal **agencies and public health priorities and high impact** use cases

USCDI+ | HealthIT.gov
https://www.healthit.gov/buzz-blog/health-it/thinking-outside-the-box-the-uscdi-initiative


HealthIT.gov
Interoperability Standards Advisory (ISA)
Official Website of The Office of the National Coordinator for Health Information Technology (ONC)
Connect with us:
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Home | About the ISA | ISA Content | ISA Publications | Recent ISA Updates | USCDI | SVAP
You are viewing USCDI+ as a strategic partner.
View USCDI as General Public
Home > USCDI+ > Public Health
USCDI+
Public Health
Case-Based Surveillance
Laboratory Data Exchange
Maternal and Child Health
Multi-Directional Exchange and Data Linkages
Resource Reporting & Situational Awareness
Risk Behaviors and Drivers of Inequity
Quality Measurement Domain
Public Health Domain
ONC and CDC are establishing the USCDI+ for public health to address core data and interoperability for public health needs beyond the scope of USCDI. USCDI+ for public health intends to establish datasets that can support a unified response across local partners, jurisdictions, and all levels of government
USCDI+
ONDEC Submission System
Multi-Directional Exchange with Healthcare and Other Partners
Bi-Directional Referrals
EHR-Based Chronic Surveillance
Community and Clinical Linkages
Data Exchange between IIS and Disease Surveillance Programs
Data Exchange between IIS and Systems that Define Coverage Population (Vital Records, Refugee, etc.)
Consumer Access to Immunization Information Systems
Visit Multi-Directional Exchange with Healthcare and Other Partners
Case-Based Surveillance
Reporting to CDC (NNDSS)
Case Based Surveillance (General)
Visit Case-Based Surveillance
Laboratory Data Exchange
Laboratory Data Exchange (General)
Visit Laboratory Data Exchange
Maternal and Child Health
Maternal and Child Health (General)
Visit Maternal and Child Health
Resource Reporting & Situational Awareness
Hospital Aggregate Patient Demographics Reporting
Hospital Aggregate Morbidity Reporting
Event-Associated Flows of Hospitalized Patients
Hospital Bed Capacity and Availability
Risk Behaviors and Drivers of Inequity
Risk Behaviors and Drivers of Inequity (General)
Visit Risk Behaviors and Drivers of Inequity

Fast Healthcare Interoperability Resources (FHIR) Initiatives

Access and Share Health Information Seamlessly

Fast Healthcare Interoperability Resources (FHIR)

Set of best practices and open standards being developed and adopted by a global community to make data sharing more flexible and effective.

https://www.cdc.gov/surveillance/pdfs/20_319521-D_DataMod-Initiative

ONC FHIR API Requirements: Access “without special effort”

Open “application programming interfaces” (APIs) and apps are what make it easy to check your bank account or buy stocks or order meal delivery on your smartphone

- We want providers and patients to have that same experience the health care system

21st Century Cures Act requires availability of APIs that can be accessed “without special effort”

- ONC rule takes steps to prevent business and technical barriers to information-sharing

By December 31, 2022, all certified technology developers required to deploy a standard FHIR API across their entire customer base

- Will create a climate for innovation as apps can now be developed that will work across all EHR systems

Public Health FHIR® Implementation Collaborative (PHFIC)

1. **Build a public health FHIR® community**
2. **Identify key challenges**
3. **Implement FHIR® solutions**
4. **Provide training and support for use and scalability**

The Collaborative aims to build a public health FHIR® community that identifies key implementation challenges within and across public health, provides training and learning opportunities, and demonstrates small scale impact before wide adoption.

PHFIC Areas of Focus in 2022

1. **Establish the PHFIC Steering Committee**
   - Charter finalized and accepted on February 11, 2022
   - Soon to begin expansion of the Collaborative once pilots begin

2. **Partner with a few state and local pilot sites to identify small, but key opportunities for FHIR® based solutions**
   - State and local pairing conversations are identifying use cases
   - Finalizing agreements with pilot partners: VA, WA and MN.

3. **Build FHIR® capacity across STLTs in a learning community through activities such as workshops, office hours, and publishing a Playbook**
   - Ongoing weekly office hours
   - Workshops held on February 7, May 11 and June 6, 2022.
   - Playbook to be published upon completion of pilots

WHAT IS HELIOS AND WHAT DO ITS MEMBERS SEEK TO ACCOMPLISH?

HELIOS OVERVIEW

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

01 Multi-Sector Alliance

Diverse teams—across public health, healthcare, philanthropic organizations, and the private sector—work together to tackle longstanding challenges and explore new opportunities to advance interoperability.

02 Official HL7 FHIR Accelerator

Align with and address known gaps in the FHIR standard to help promote more flexible and effective data exchanges with healthcare, the public, and other sectors beyond public health.

03 Focused on Impact

Prioritize a small set of use cases that complement what exists today and make it easier for public health officials to act swiftly, share insights effectively, and have a greater impact in their communities.

HELIOS

Helios Priority Areas for 2022

Make Data in Public Health Systems Accessible in Bulk

Align and Optimize Public Health Data Sharing

Deliver Aggregate Information to Public Health

HELIOS

Learn More and Get Involved → https://confluence.hl7.org/display/PH/2022+Use+Cases

Trusted Exchange Framework and Common Agreement (TEFCA)

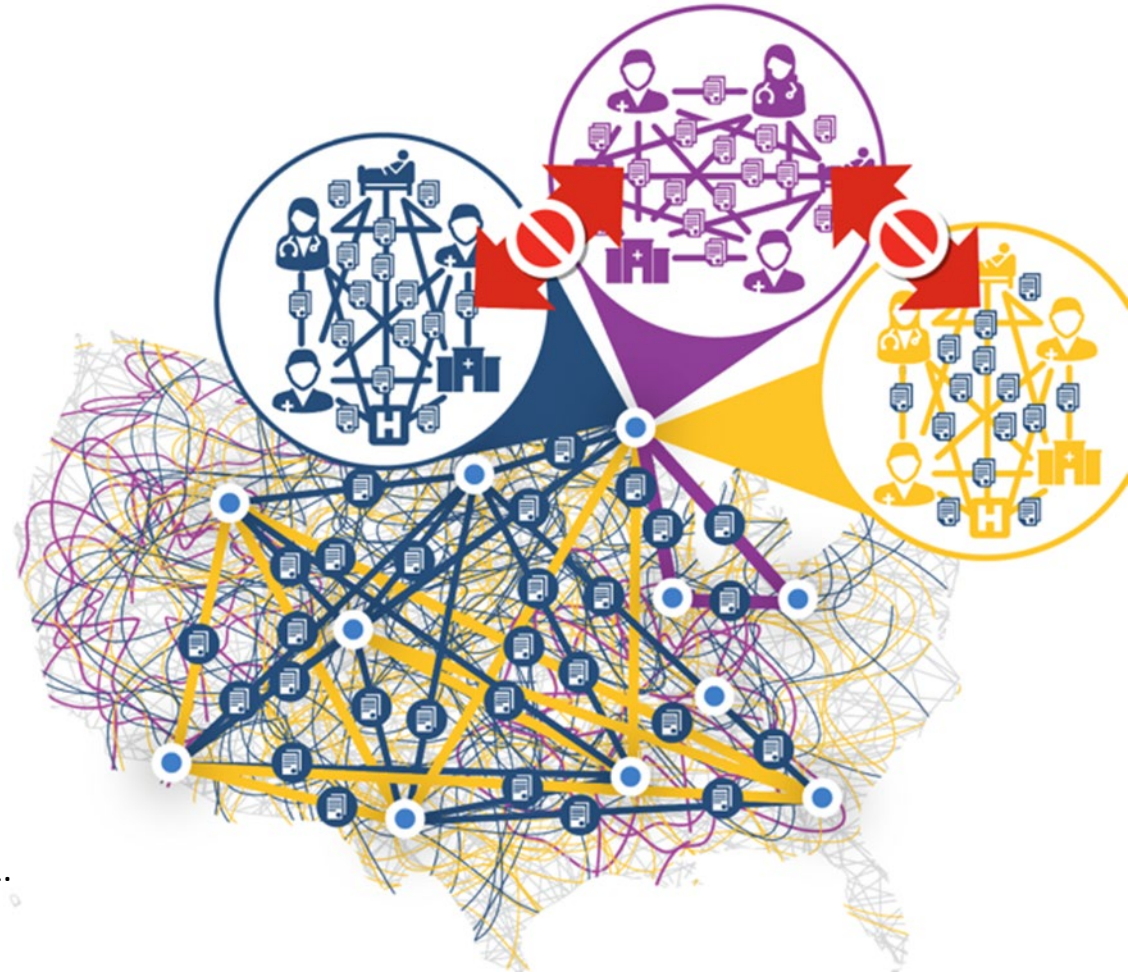
21st Century Cures Act - Section 4003(b)

"[T]he National Coordinator shall convene appropriate public and private stakeholders to develop or support a trusted exchange framework for trust policies and practices and for a common agreement for exchange between health information networks."

[emphasis added]

TEFCA Will Simplify Health Data Exchange

- **Proliferation of Agreements**
- **While there has been growth in national networks, many organizations must join multiple Health Information Networks (HINs)*, and many HINs do not share data with each other.**
- **The COVID pandemic also underscored the need to share information for care and public health purposes.**
- **Health data exchange must be simplified in order to scale.**



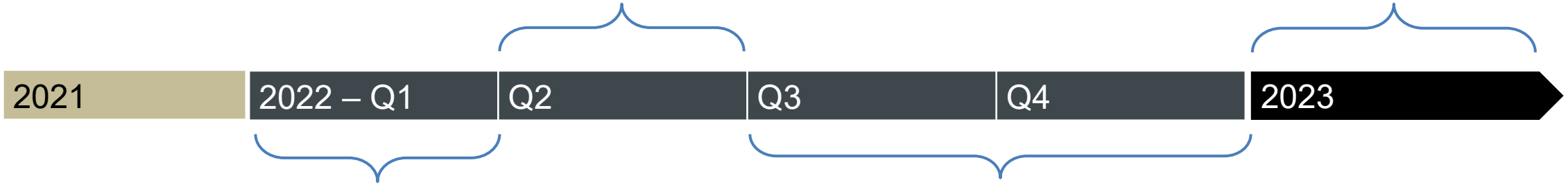
*Capitalized terms have the definitions set forth in the Common Agreement Version 1.

TEFCA Timeline

2021
- Public engagement
- Common Agreement Work Group sessions
- RCE and ONC use feedback to finalize TEFCA

Q2 of 2022
- QHINs begin signing Common Agreement and applying for designation

2023
- Establish Governing Council
- Follow change management process to iterate Common Agreement, SOPs, and QTF, including to support FHIR-based exchange



Q1 of 2022
- Publish Common Agreement Version 1
- Publish QHIN Technical Framework (QTF) Version 1 and FHIR Roadmap
- Initiate work to enable FHIR-based exchange
- Public education and engagement

Q3 and Q4 of 2022
- Onboarding of initial QHINs
- Additional QHIN applications processed
- RCE establishes Transitional Council
- RCE begins designating QHINs to share data
- Prepare for TEFCA FHIR exchange pilots

New HHS Policy on Alignment of Health IT Activities

Interoperability

E Pluribus Unum

Micky Tripathi and Steven Posnack | AUGUST 5, 2022


Tweet Share Share Email

As our nation transitions to a digital healthcare system, our stakeholders are discovering new opportunities for using health information technology to advance health care delivery, public health, and research to improve people's lives. The federal government is no exception in this regard; agencies across the Department of Health and Human Services (HHS) are beginning to leverage the data and capabilities available through electronic health records for a broad range of federal activities and programs, including product safety and surveillance, real world data and real world evidence for regulatory approvals, research, pandemic response, and social service integration, to name just a few.

While this is an exciting development for HHS overall, it does call for more proactive alignment and coordination of health IT activities across the department to ensure that we are operating as efficiently and cohesively as possible. To that end, Secretary Becerra has put into place a department-wide management policy directing ONC to engage with HHS agencies to align and coordinate health IT-related activities in support of HHS health IT and interoperability goals. Specifically, the secretary has directed ONC to establish and oversee a consistent HHS-wide approach for: 1) incorporating standard health IT requirements language in all applicable HHS funding programs, contracts, and policies; and 2) providing direct ONC assistance to HHS agencies to maximize the use of HHS-approved standards and authorities (such as Section 3004 of the Public Health Service Act) in their agency programs.

While it won't happen overnight, what we expect to see over time is greater consistency in health IT-based activities across HHS, which should result in lower cost and higher effectiveness agency programs, more sharing of data and health IT infrastructure across programs and agencies, and lower burden on health care providers, technology developers, and other stakeholders who engage with multiple HHS agencies. Maximizing federal use of open-industry, non-proprietary, scalable standards and approaches – such as the US Core Data for Interoperability (USCDI) and FHIR APIs as called for by the 21st Century Cures Act – will multiply the impact of the department's regulations and purchasing power to reinforce HHS health IT and interoperability goals. It will also directly support key Biden-Harris Administration priorities in health equity, federal customer experience and service delivery, and promoting competition. ONC already works collaboratively with our federal agency partners, and we are excited to be able to better support our sister HHS agencies and ensure that HHS is more than the sum of its parts.

Specifically, the secretary has directed ONC to establish and oversee a consistent HHS-wide approach for: 1) incorporating standard health IT requirements language in all applicable HHS funding programs, contracts, and policies; and 2) providing direct ONC assistance to HHS agencies to maximize the use of HHS-approved standards and authorities (such as Section 3004 of the Public Health Service Act) in their agency programs.

How to Participate, Learn and Get Involved?

USCDI+ for Public Health:

- **Learn more** about USCDI (https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi) and USCDI+ (https://www.healthit.gov/topic/interoperability/uscdi-plus)
- **Help shape** USCDI and USCDI+ as they're being formed, email PHIOTeam@cdc.gov
- **Provide feedback** on first version of USCDI+, email uscdi.plus@hhs.gov to access the system for USCDI+

Public Health and FHIR

- **Learn more** about Helios priority areas for 2022: https://confluence.hl7.org/display/PH/2022+Use+Cases
- **Join** a Helios project team, email: helios@hl7.org
- **Learn more** about the Public Health FHIR Implementation Collaborative, session tomorrow at 0915 and https://sites.mitre.org/phfic/
- **Attend PHFIC office hours and workshops**, email phfic@mitre.org
- **Join** the public health FHIR Community of Practice, email PHIOTeam@cdc.gov

TEFCA:

- **Learn more** about how TEFCA benefits public health: https://rce.sequoiaproject.org/benefits-for-state-governments-and-pubic-health/
- **Attend public meetings** about TEFCA: https://rce.sequoiaproject.org/community-engagement/


Questions &
Discussion

Office of the National Coordinator for Health Information Technology

Contact ONC

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Health IT Feedback Form: https://www.healthit.gov/form/healthit-feedback-form

Twitter: @onc_healthIT

LinkedIn: Office of the National Coordinator for Health Information Technology

Youtube: https://www.youtube.com/user/HHSONC

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