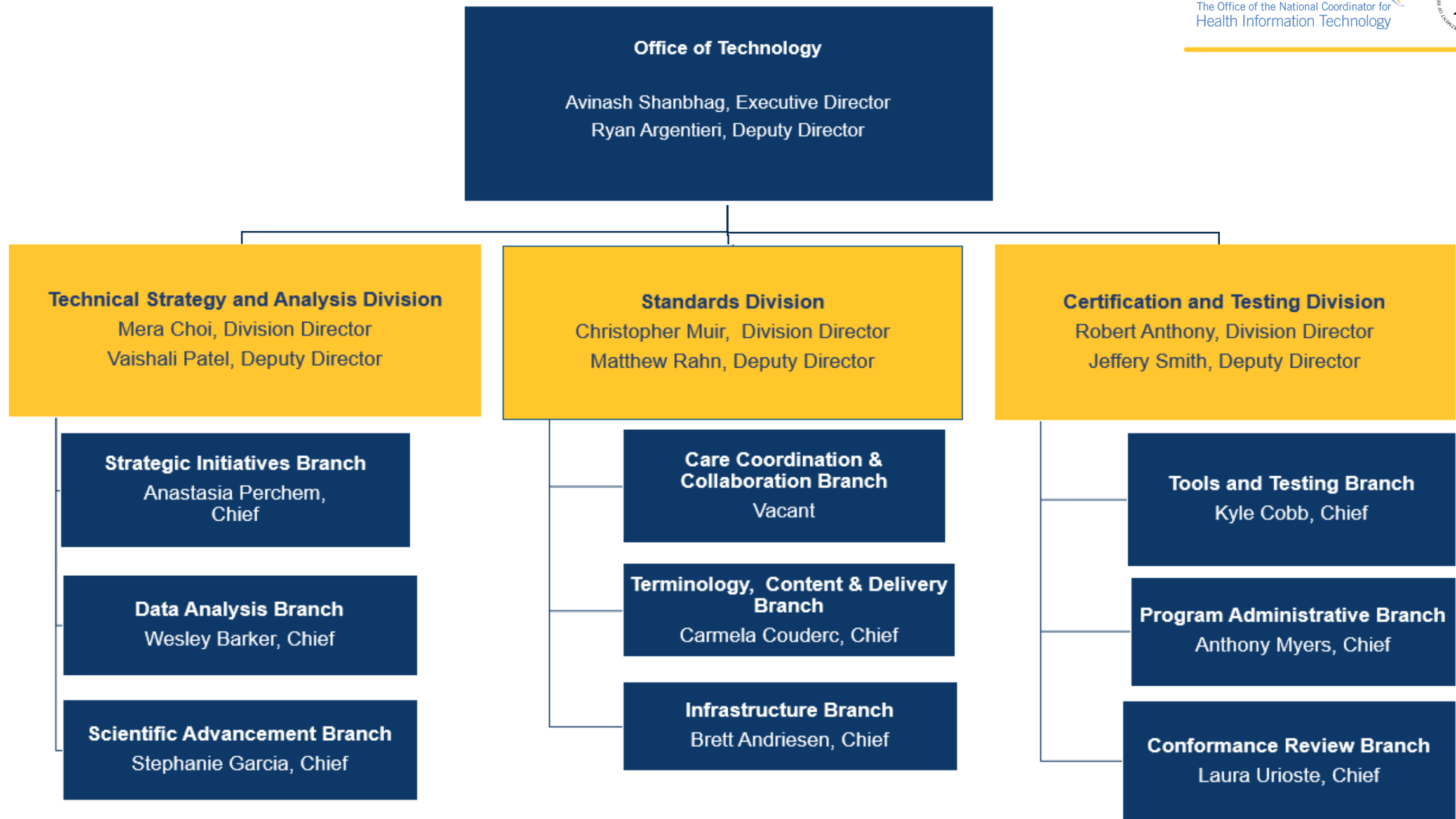# Overview of Office of Technology

Avinash Shanbhag, Executive Director of Office of Technology

January 19, 2023

Agenda

1. Introduction to Office of Technology

2. Health Information Technology Certification & Testing

3. Standards Coordination

4. Health IT Advancement via monitoring and analysis

Office of Technology

Avinash Shanbhag, Executive Director
Ryan Argentieri, Deputy Director

Technical Strategy and Analysis Division
Mera Choi, Division Director
Vaishali Patel, Deputy Director

Strategic Initiatives Branch
Anastasia Perchem, Chief

Data Analysis Branch
Wesley Barker, Chief

Scientific Advancement Branch
Stephanie Garcia, Chief

Standards Division
Christopher Muir, Division Director
Matthew Rahn, Deputy Director

Care Coordination & Collaboration Branch
Vacant

Terminology, Content & Delivery Branch
Carmela Couderc, Chief

Infrastructure Branch
Brett Andriesen, Chief

Certification and Testing Division
Robert Anthony, Division Director
Jeffery Smith, Deputy Director

Tools and Testing Branch
Kyle Cobb, Chief

Program Administrative Branch
Anthony Myers, Chief

Conformance Review Branch
Laura Urioste, Chief

The Office of the National Coordinator for
Health Information Technology

ONC Certification: The Foundation of Health IT

ONC certification is now the **foundation of the US digital healthcare infrastructure**, covering 600+ health IT products used by 96% of hospitals and over 90% of clinical offices and required by numerous federal programs. Health IT systems regularly certified to keep pace with advances in medicine, technology, and policy.

ONC Health IT Certification:

- Establishes baseline technical capabilities for interoperability
- Promotes the exchange of electronic health information
- Establishes baseline privacy and security requirements
- Increases transparency in the functionality and use of certified health IT

The Use of Certified Health IT

Since ONC launched the Health IT Certification Program in 2010, almost all hospitals and approximately 3/4 of ambulatory providers now use certified EHRs.

22 Federal Programs

use ONC's Health IT Certification Program, accounting for hundreds of thousands of providers

Patient Empowerment

In the past ten years, the proportion of hospitals that let patients view their records has significantly increased.
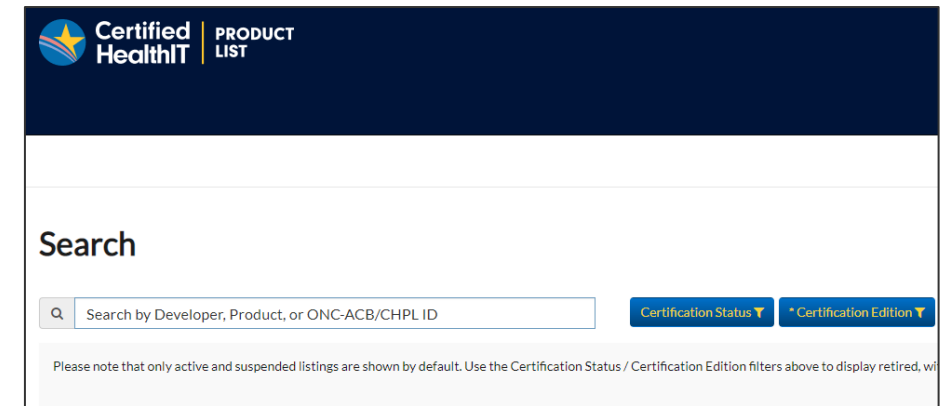
24% (2012) → 97% (2019)

Interoperability

70% of hospitals reported integrating data into their EHR from sources outside their health system (as of 2019).
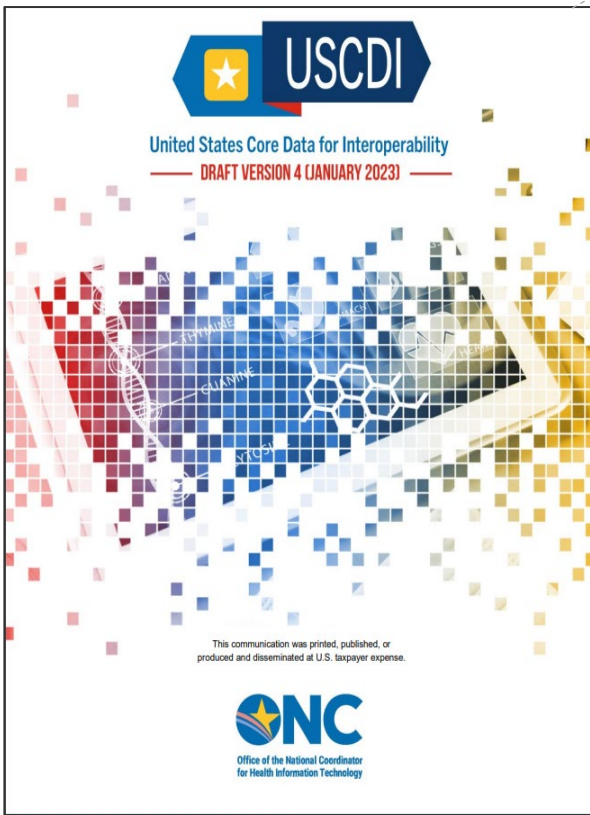
Managing the ONC Health IT Certification Program

- **Certified Health IT Product List (CHPL)**
  - Listing of health IT products tested and certified under ONC Health IT certification Program

- **Standards Testing Platform**
  - Inferno Framework developed to ensure compliance with FHIR API requirements in Cures Rule and for use by health IT developers
  - Standards Implementation & Testing Environment (SITE) for Consolidated Clinical Document Architecture (C-CDA) and Direct Standards Testing

- **Managing the Conditions of Certification requirements for health IT developers**
  - Attestation Condition of Certification every 6 months
  - Real World Testing Condition of Certification annually

Ensuring that Health IT developers are meeting the requirements of Certification Program and avoiding non-conformities

USCDI : the "minimum dataset" of the health care delivery system

Draft USCDI v4 Summary of Data Classes and Data Elements

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

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

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

Diagnostic Imaging
- Diagnostic Imaging Test
- Diagnostic Imaging Report

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

Facility Information ★
- Facility Identifier ★
- Facility Type ★
- Facility Name ★

Goals
- Patient Goals
- SDOH Goals
- Treatment Intervention Preference ★
- Care Experience Preference ★

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

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

Immunizations
- Immunizations

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

Medical Device △
- Unique Device Identifier - Implantable △

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

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

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

Patient Summary and Plan △
- Assessment and Plan of Treatment

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

Procedures
- Procedures
- Time of Procedure ★
- SDOH Interventions
- Reason for Referral

Provenance
- Author Organization
- Author Time Stamp

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

Key: ★ New Data Class or Element | △ Changed Data Class or Element Name | ➡ Data Element Reclassified

- **ONC standard for minimum dataset required for interoperability**
  - Defines required data elements and vocabulary standards
  - Agnostic to format
- **Updated on annual cycle with HITAC input**
  - Updates based on multiple criteria including standards maturity and public/industry priority
- **USCDI Version 1** is currently adopted as a standard in the 21st Century Cures Act Final Rule
- **USCDI Version 2** is approved by the National Coordinator for voluntary certification under the Certification Program via Standards Version Advancement Program (SVAP)
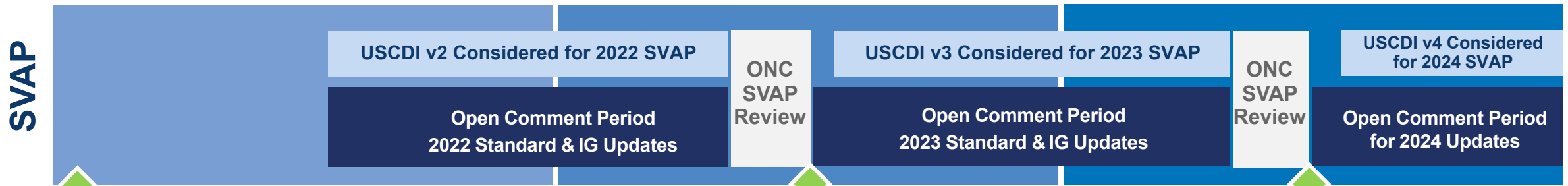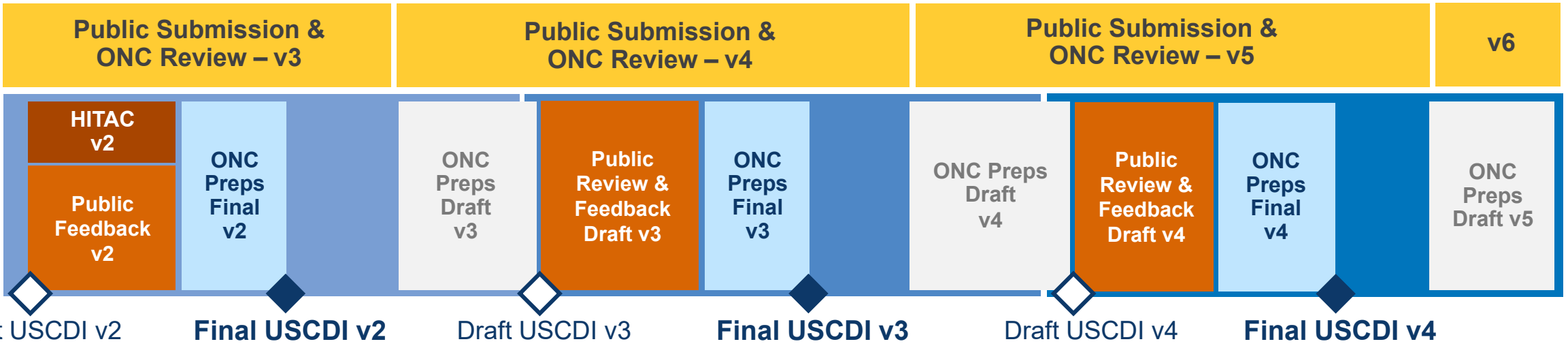
USCDI & SVAP

2021 **2022** **2023**

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |

USCDI

Public Submission & ONC Review – v3

Public Submission & ONC Review – v4

Public Submission & ONC Review – v5

v6

HITAC v2

Public Feedback v2

ONC Preps Final v2

ONC Preps Draft v3

Public Review & Feedback Draft v3

ONC Preps Final v3

ONC Preps Draft v4

Public Review & Feedback Draft v4

ONC Preps Final v4

ONC Preps Draft v5

Draft USCDI v2

Final USCDI v2

Draft USCDI v3

Final USCDI v3

Draft USCDI v4

Final USCDI v4

SVAP

USCDI v2 Considered for 2022 SVAP

USCDI v3 Considered for 2023 SVAP

USCDI v4 Considered for 2024 SVAP

ONC SVAP Review

ONC SVAP Review

Open Comment Period 2022 Standard & IG Updates

Open Comment Period 2023 Standard & IG Updates

Open Comment Period for 2024 Updates

ONC Approved Standards for 2020 Available for Certification (60 days after release of SVAP 2020)

ONC Approved Standards for 2022 Available for Certification (60 days after release of SVAP 2022)

ONC Approved Standards for 2023 Available for Certification (60 days after release of SVAP 2023)

Interoperability Standards Advisory (ISA) – "Standards-o-pedia"

- ONC curated list of available health IT standards constantly updated based on public comments

- ISA serves as resource to health IT community

- 2023 ISA Reference Edition is now available at https://www.healthit.gov/isa/
  - Pharmacy Interoperability
  - Human and Social Service
  - Adverse Event Reporting
  - Race and Ethnicity

ISA Table of Contents

Vocabulary/Code Set/Terminology | Content/Structure | Services/Exchange | Administrative | Appendices

Vocabulary/Code Set/Terminology Standards and Implementation Specifications

A-H
- Allergies and Intolerances
- Biologics
- Clinical Notes
- Clinical Tests
- Cognitive Status
- COVID-19 Novel Coronavirus Pandemic
- Demographics
- Dietary and Nutritional Needs
- Emergency Medical Services
- Encounter Diagnosis, Assessment and Plan
- Family Health History
- Family Health History (Clinical Genomics)
- Functional Status/Disability
- Goals

I-P
- Imaging (Diagnostics, Interventions and Procedures)
- Immunizations
- Laboratory
- Medications
- Nursing
- Patient Clinical Problem List (i.e., "Conditions")
- Preferred Language
- Pregnancy Status
- Procedures
- Provenance
- Public Health Emergency Preparedness and Response

R-V
- Race, Ethnicity and Tribal Affiliation
- Research
- Sex at Birth, Sexual Orientation and Gender Identity
- Social, Psychological and Behavioral Data
- Tobacco Use
- Units of Measure
- Vital Signs
- Work Information

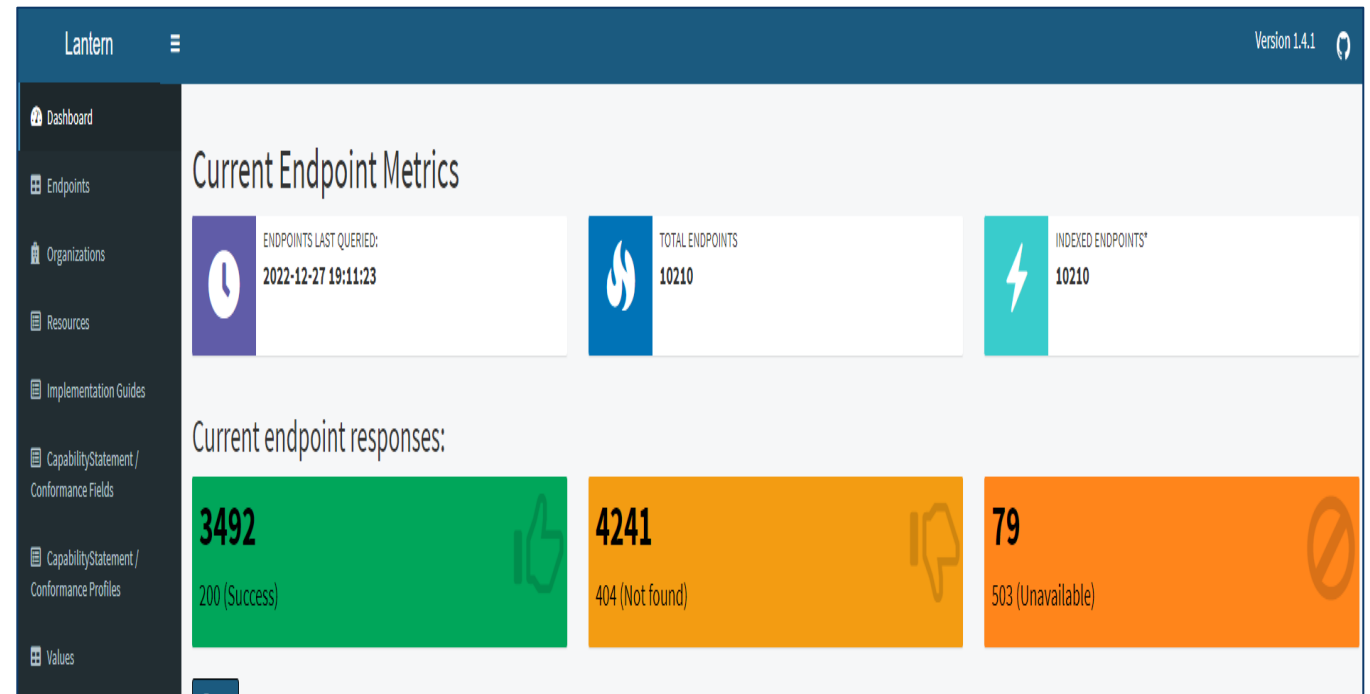# HL7® Fast Healthcare Interoperability Resources (FHIR) Advancement

- ONC actively supports FHIR standards development
  - Active member of several HL7 FHIR Accelerators
  - Development and maintenance of FHIR standard and implementation guide publishing tool
  - Development and publication of US Core Implementation Guide
  - Development of Bulk Data Access Implementation Guide
  - FHIR Connectathons, ballot process tooling
  - Terminology related activities

Monitoring of FHIR APIs

Lantern (Website: lantern.healthit.gov)

- The ONC Cures Final Rule requires Certified API Developers to publish service base URLs (endpoints) for all health IT modules certified to the *Standardized API* criterion that can be used by patients to access their electronic health information.

- *Lantern* is designed to monitor FHIR API endpoints to identify the locations and capabilities of nationwide FHIR deployments.

Analyze national level progress related to interoperability

- ONC data analysis team regularly publishes results on impact of health IT on outcomes and challenges (https://www.healthit.gov/data)
  - Data Briefs and Quickstats
  - Peer-review publications
  - Datasets

Information Blocking Claims: By the Numbers

The 21st Century Cures Act (Cures Act), signed into law by President Obama in December 2016, directed ONC to implement a standardized process for the public to report claims of possible information blocking. This Quick Stats page displays data on claims…

View →

Individuals' Perceptions of the Privacy and Security of Medical Records and Health Information Exchange

A majority of individuals (84%) are confident their medical records are safe from unauthorized viewing, but have concerns (66%) when health information is electronically exchanged. More individuals are now confident their records are safe from…

View →

Gaps in Individuals' Information Exchange

Eight-one percent of individuals went to a health care provider at least once within the past year. Overall, 32 percent of individuals who went to a doctor in the past 12 months reported experiencing a gap in information exchange. About 1 in 20…

View →

Electronic Public Health Reporting among Non-Federal Acute Care Hospitals During the COVID-19 Pandemic, 2021

Hospitals play an important role in support of public health functions by contributing timely and accurate data to state and local public health agencies (PHAs). However, the COVID-19 pandemic revealed substantive gaps in our public health…

ONC Data Brief | No.62 | September 2022

Health Equity, Health IT

Disparities in Patient Access to Electronic Health Information: Insights from a National Survey

Chelsea Richwine | JANUARY 5, 2023

To "Recap" – Office of Technology

- Ensures that Health IT developers are meeting the requirements of Certification Program and avoiding non-conformities
  - Certified Health IT Product List (CHPL) Website
  - Testing Platform

- Manages the advancement of United States Core Data for Interoperability (USCDI) and broader interoperability through ISA

- Supports the advancement of the FHIR standard and development of implementation specifications and participates in FHIR Accelerators

- Actively monitors the availability of FHIR APIs via Lantern and publishing insights related to interoperability

Questions

Contact ONC

📞 **Phone:** 202-690-7151

💬 **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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