COMMUNITY HEALTH CARE ASSOCIATION of New York State

CHCANYS NYS-HCCN presents

Interoperability: What's Next and Why it Matters

Day 1
November 1, 2023

For more information, please email Anita Li at ali@CHCANYS.org

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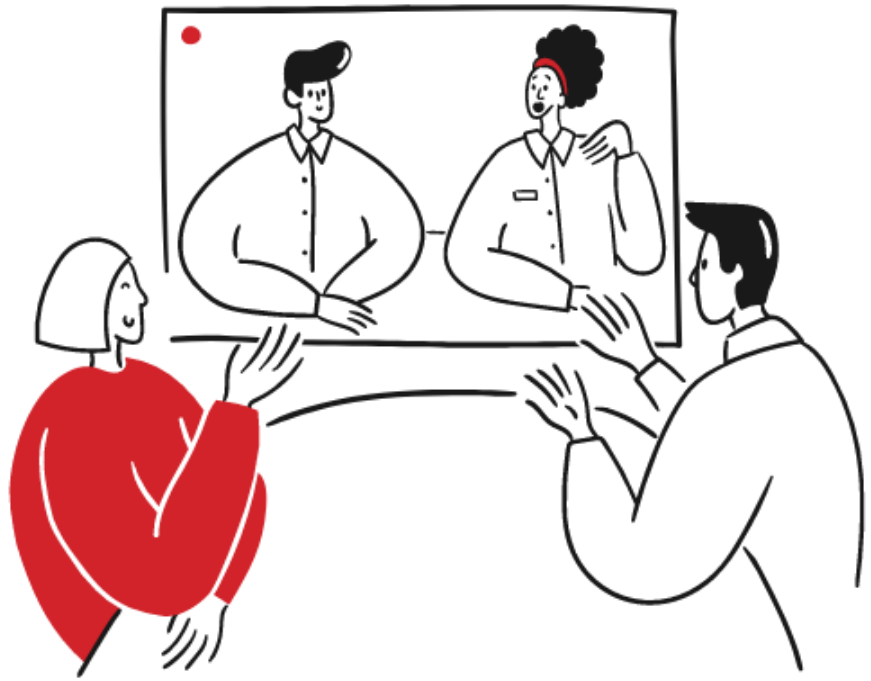
Zoom Guidelines

- You have been muted upon entry. Please respect our presenters and stay on mute if you are not speaking.
- Please share your questions in the chat. CHCANYS staff will raise your questions to our speakers and follow up as needed if there are unanswered questions.
- The workshop is being recorded and will be shared after the session along with the slide deck.



Agenda

- Introductions
- CHCANYS FQHC Landscape
- Clinical Terminology and Data Standards Fundamental to Data Quality and Integrity in Community Health Centers and Networks
- Interoperability Readiness Scorecard
- Q&A
- Closing & Evaluations

New York State HCCN Objectives

Project Period 2022-2025

1. **Clinical Quality**
2. **Patient-Centered Care**
3. **Provider and Staff Wellbeing**

2022-2025 Project Period

- Patient Engagement
- Patient Privacy & Cybersecurity
- Social Risk Factor Intervention
- Disaggregated Patient-level Data (UDS+)
- **Interoperable Data Exchange & Integration**
- Data Utilization
- Leveraging Digital Health Tools
- Health IT Usability & Adoption
- Health Equity and REaL Data Collection*
- Improving Digital Health Tools- Closed Loop Referrals*

** - Applicant Choice Objective*
Bold- Objective Carried over into 2022-2025

Schedule of Events

Day 1 (11/1)

- **Interoperability Standards Overview & Readiness**

Day 2 (11/8)

- SDOH & Interoperability
- Closing Care Gaps and Transitions of Care Promising Practices

Day 3 (11/15)

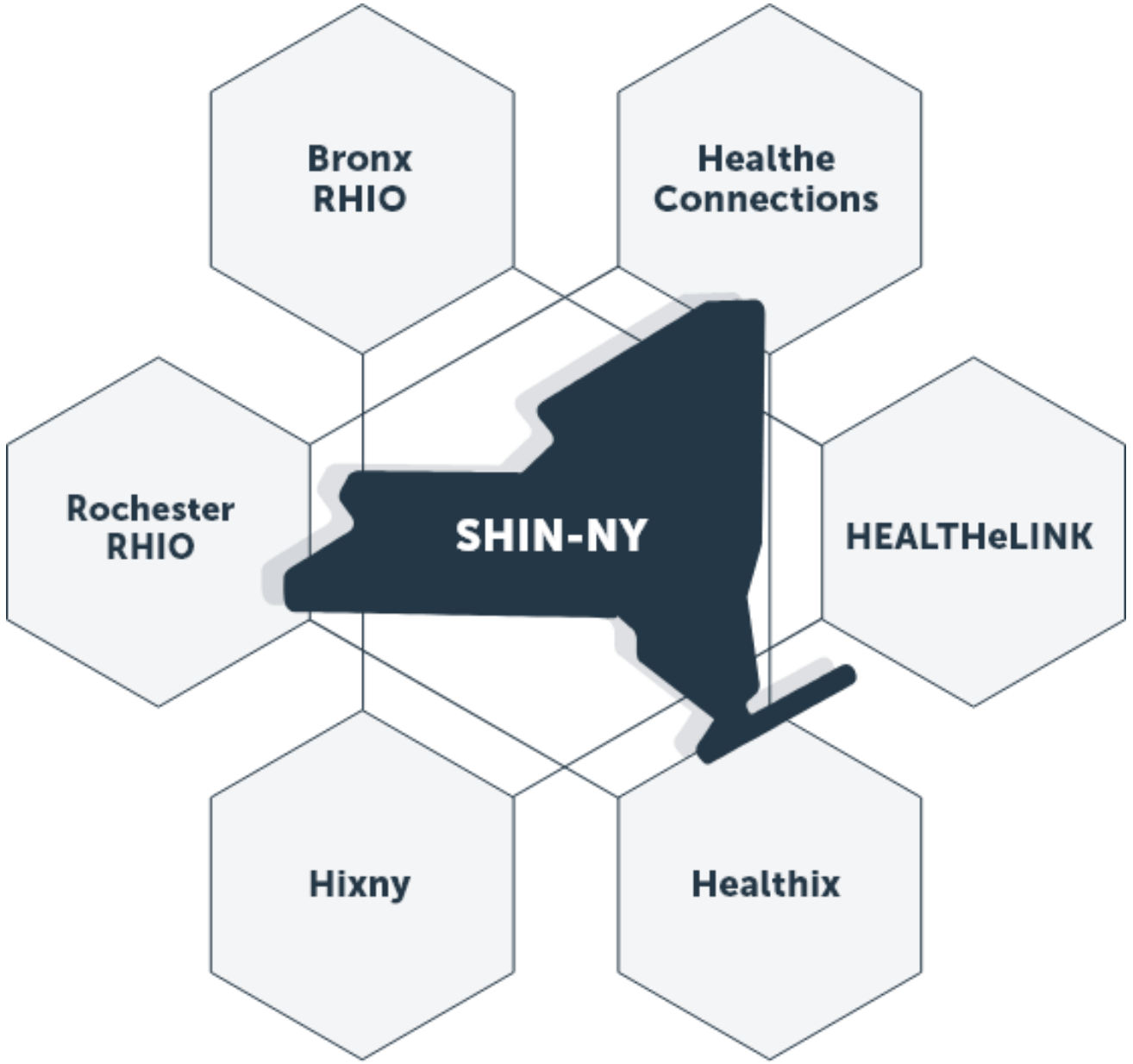
- RHIO Conversations
  - HealtheConnections
  - HEALTHeLINK
  - Rochester RHIO

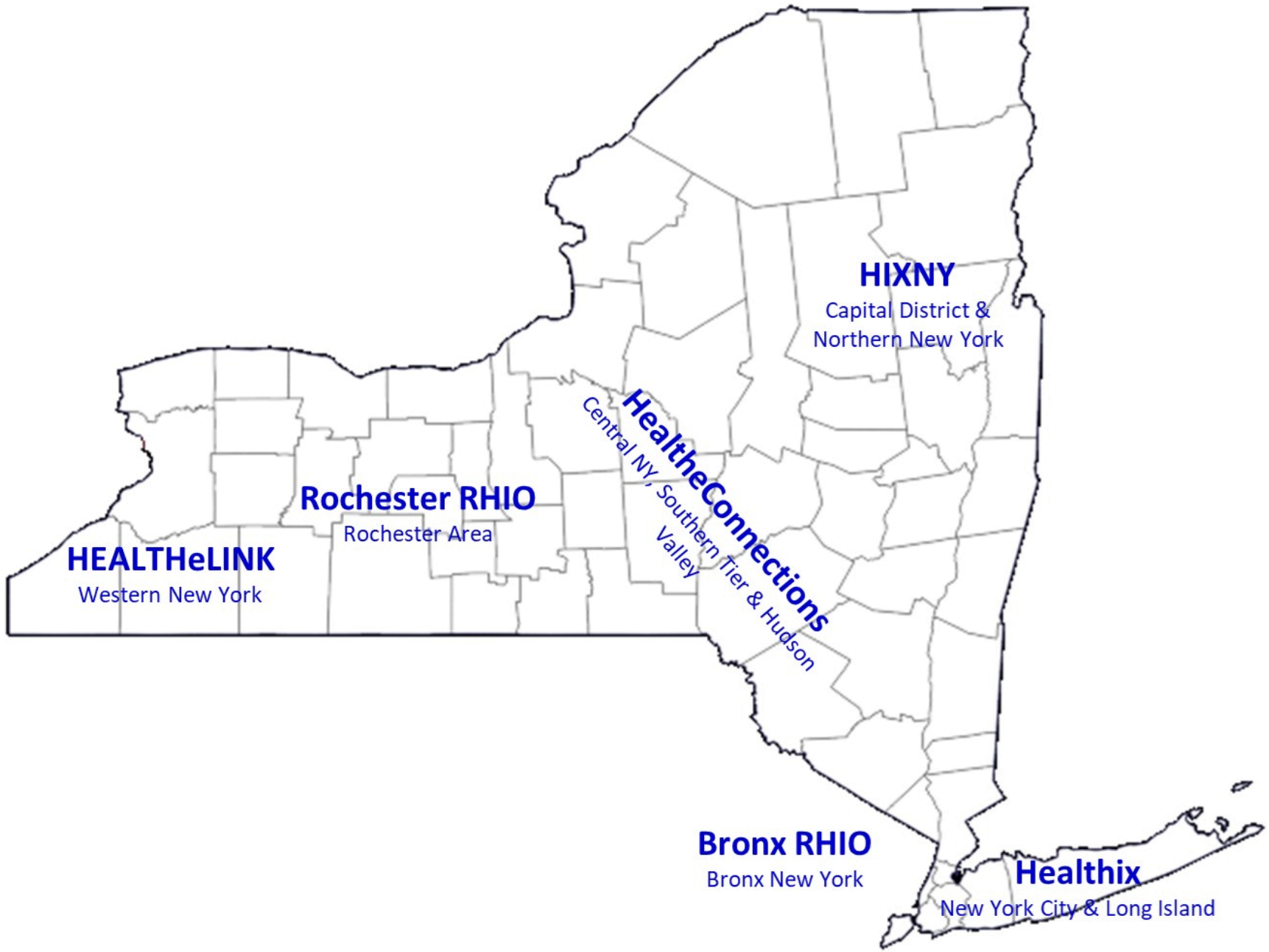
Day 4 (11/16)

- RHIO Conversations
  - Bronx RHIO
  - Healthix
  - HIXNY

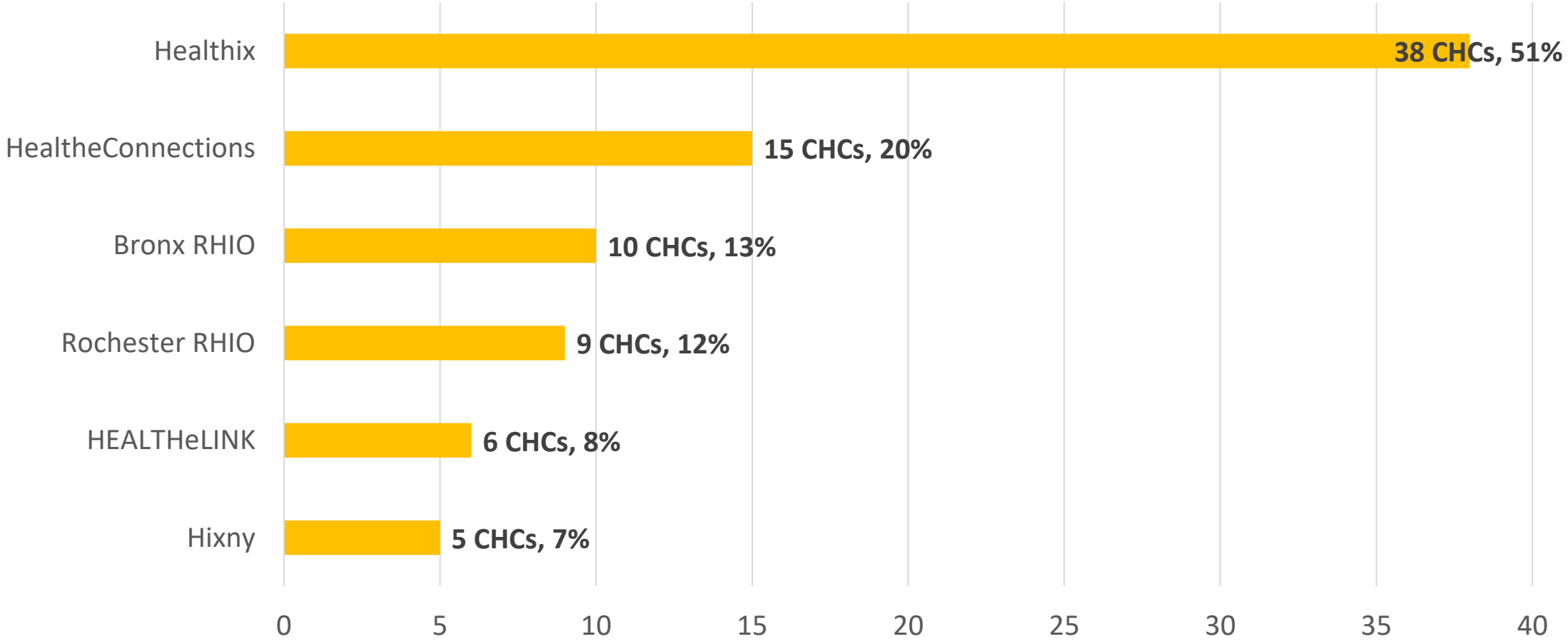
CHCANYS FQHC Landscape

New York State HIEs

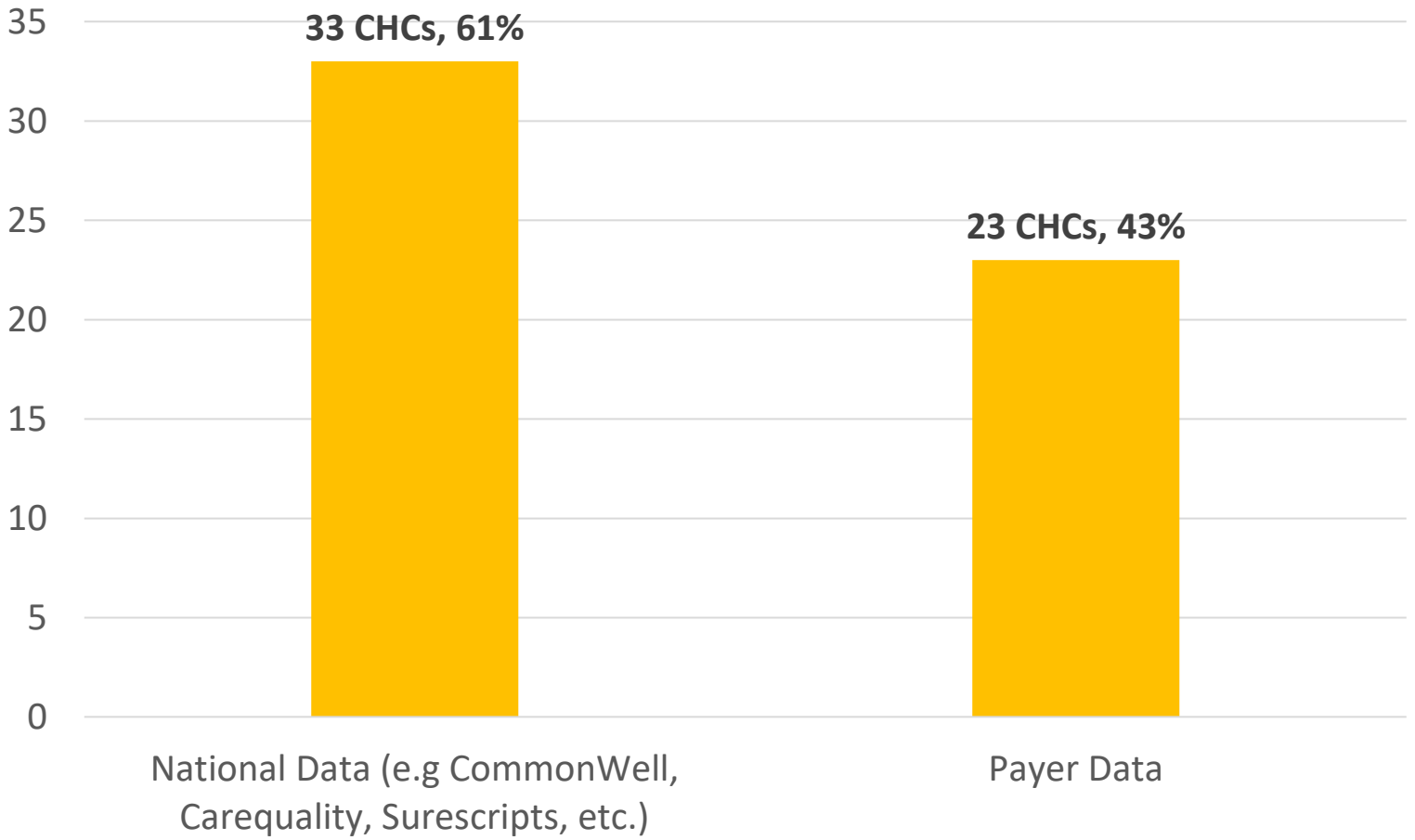



HIXNY
Capital District &
Northern New York
HealtheConnections
Central NY, Southern Tier & Hudson Valley
Rochester RHIO
Rochester Area
HEALTHeLINK
Western New York
Bronx RHIO
Bronx New York
Healthix
New York City & Long Island

CHCANYS Membership RHIO Connections



CHCANYS HCCN Members (n=54)



Clinical Terminology and Data Standards Fundamental to Data Quality and Integrity in Community Health Centers and Networks

Raymonde Uy, MD, MBA, ACHIP

Physician Informaticist

National Association of Community Health Centers (NACHC)

NATIONAL ASSOCIATION OF Community Health Centers®

Clinical Terminology and Data Standards Fundamental to Data Quality and Integrity in Community Health Centers and Networks

Raymonde Uy, MD, MBA, ACHIP

Physician Informaticist, NACHC

NACHC's STRATEGIC PILLARS

1

Equity and Social Justice

Center everything we do in a renewed commitment to equity and social justice

2

Empowered Infrastructure

Strengthen and reinforce the infrastructure for leading and coordinating the Community Health Center movement, notably consumer boards and NACHC itself

3

Skilled and Mission-driven Workforce

Develop a highly skilled, adaptive, and mission-driven workforce reflecting the communities served

4

Reliable and Sustainable Funding

Secure reliable and sustainable funding to meet increasing demands for Community Health Center services

5

Improved Care Models

Update and improve care models to meet the evolving needs of the communities served

6

Supportive Partnerships

Cultivate new and strengthen existing mutually beneficial partnerships to advance the shared mission of improving community health

To learn more about NACHC's Strategic Pillars visit https://www.nachc.org/about/about-nachc/

THE NACHC MISSION

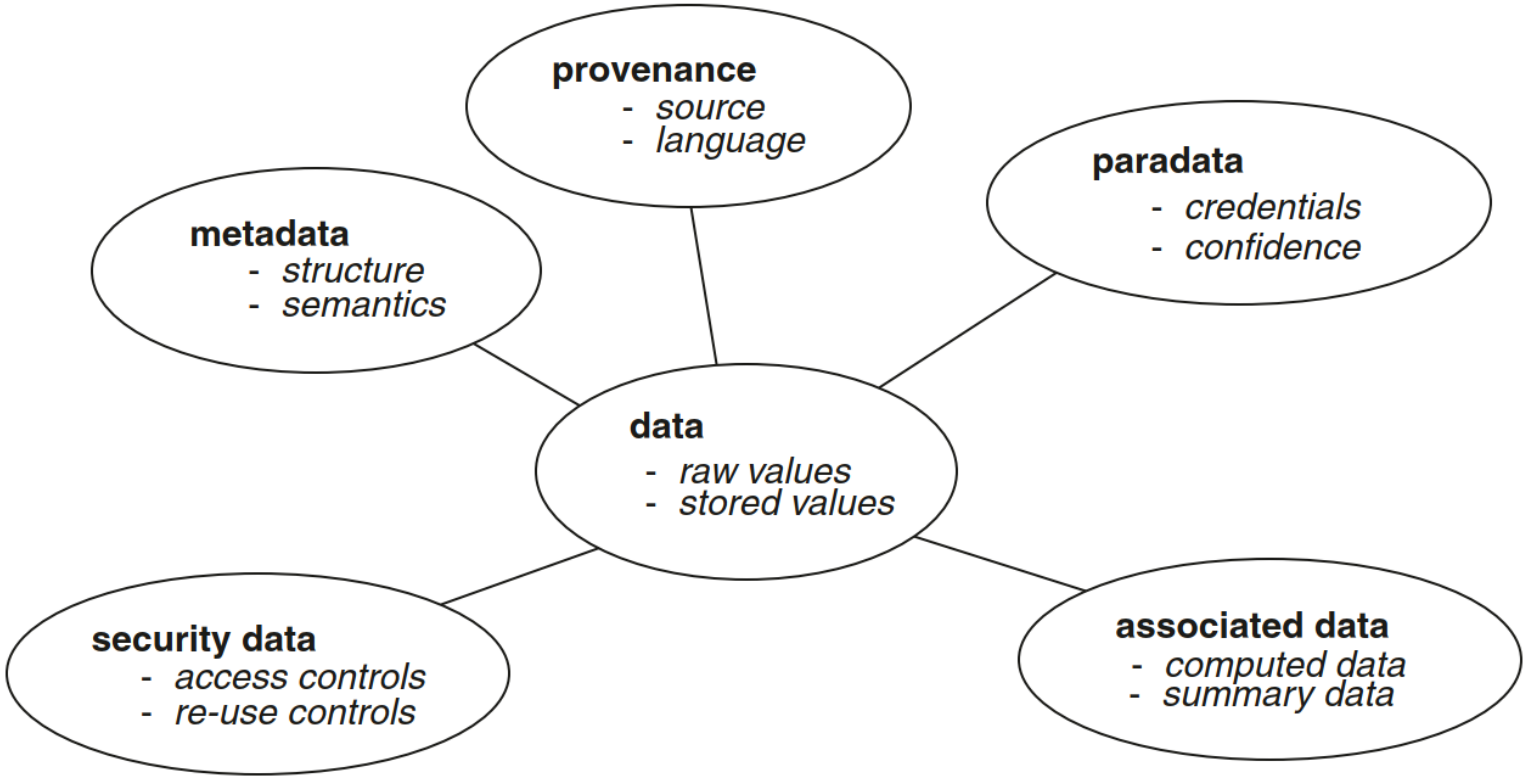
America's Voice for Community Health Care

The National Association of Community Health Centers (NACHC) was founded in 1971 to promote efficient, high quality, comprehensive health care that is accessible, culturally and linguistically competent, community directed, and patient centered for all.

NATIONAL ASSOCIATION OF Community Health Centers®


Salut!
Hi!
Hallo!
Hello!
नमस्ते
Bonjour!
Olá!
Ciao!
您好
مرحبا

When you can measure what you are speaking about, and express it in numbers, you know something about it

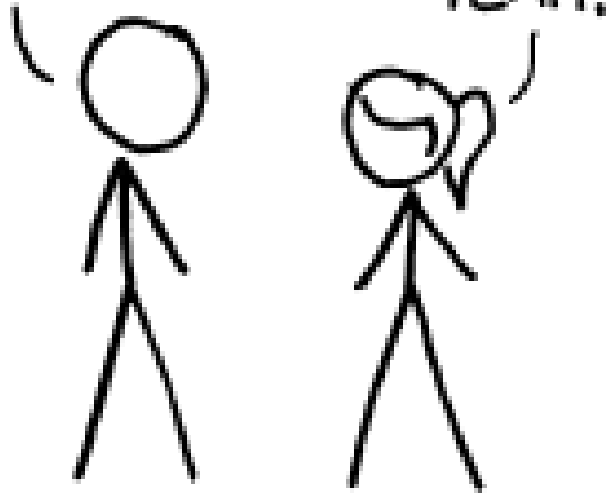


The Data Manifold

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)

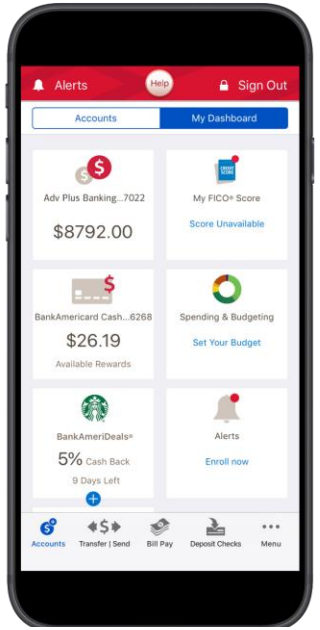
SITUATION:
THERE ARE
14 COMPETING
STANDARDS.

14?! RIDICULOUS!
WE NEED TO DEVELOP
ONE UNIVERSAL STANDARD
THAT COVERS EVERYONE'S
USE CASES.



SOON:

SITUATION:
THERE ARE
15 COMPETING
STANDARDS.



PayPal

MasterCard VISA AMERICAN EXPRESS DISCOVER

NETFLIX

Spotify®

airbnb

Uber

Word Excel PowerPoint Outlook

OneNote Publisher Access

Current Situation: EHR Architecture

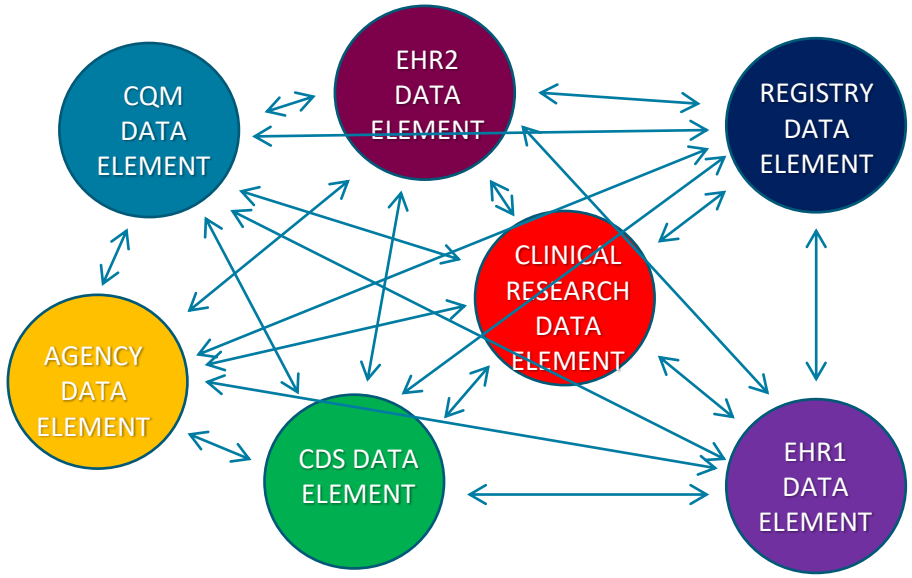
Epic Cerner

eClinicalWorks "Improving Healthcare Together" nextgen healthcare

Allscripts All possible athenahealth

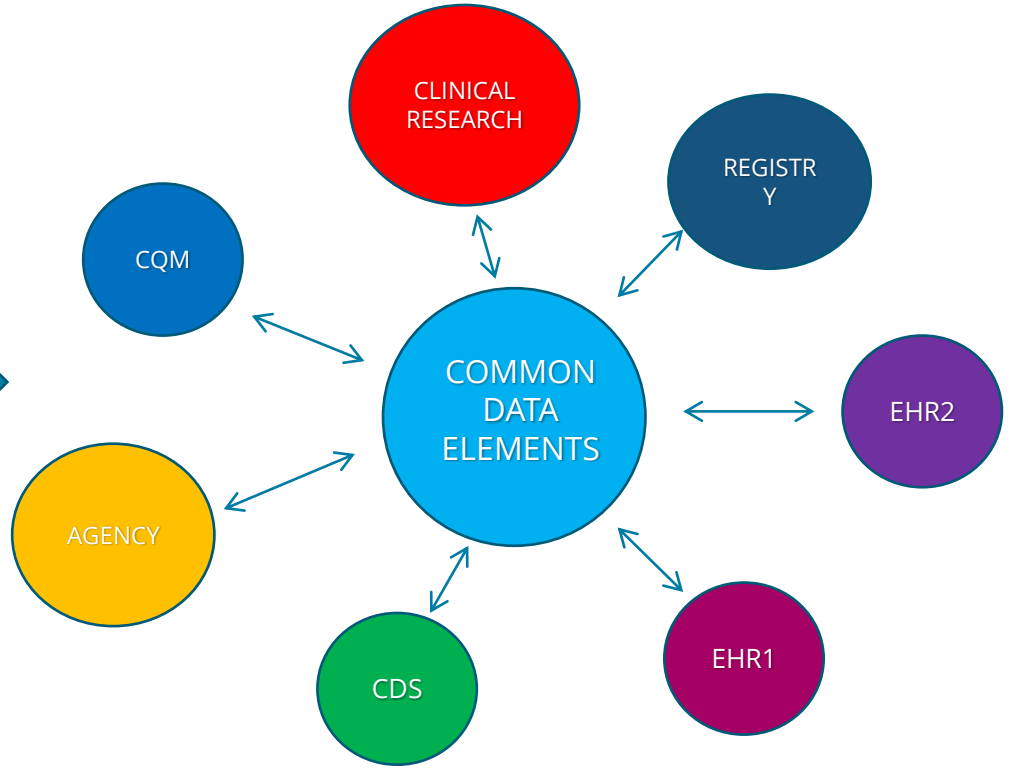
1. Sharing data is difficult
2. Data extraction is challenging and labor-intensive
3. There are unmet needs for health care applications and decision support
4. Software costs are higher, especially SaaS

Current State:
An Interoperability Nightmare



CDE Implementation

Future Vision:
Seamless, Semantic Interoperability



21st Century Cures Act

In a nutshell for Health IT and Clinical Informatics

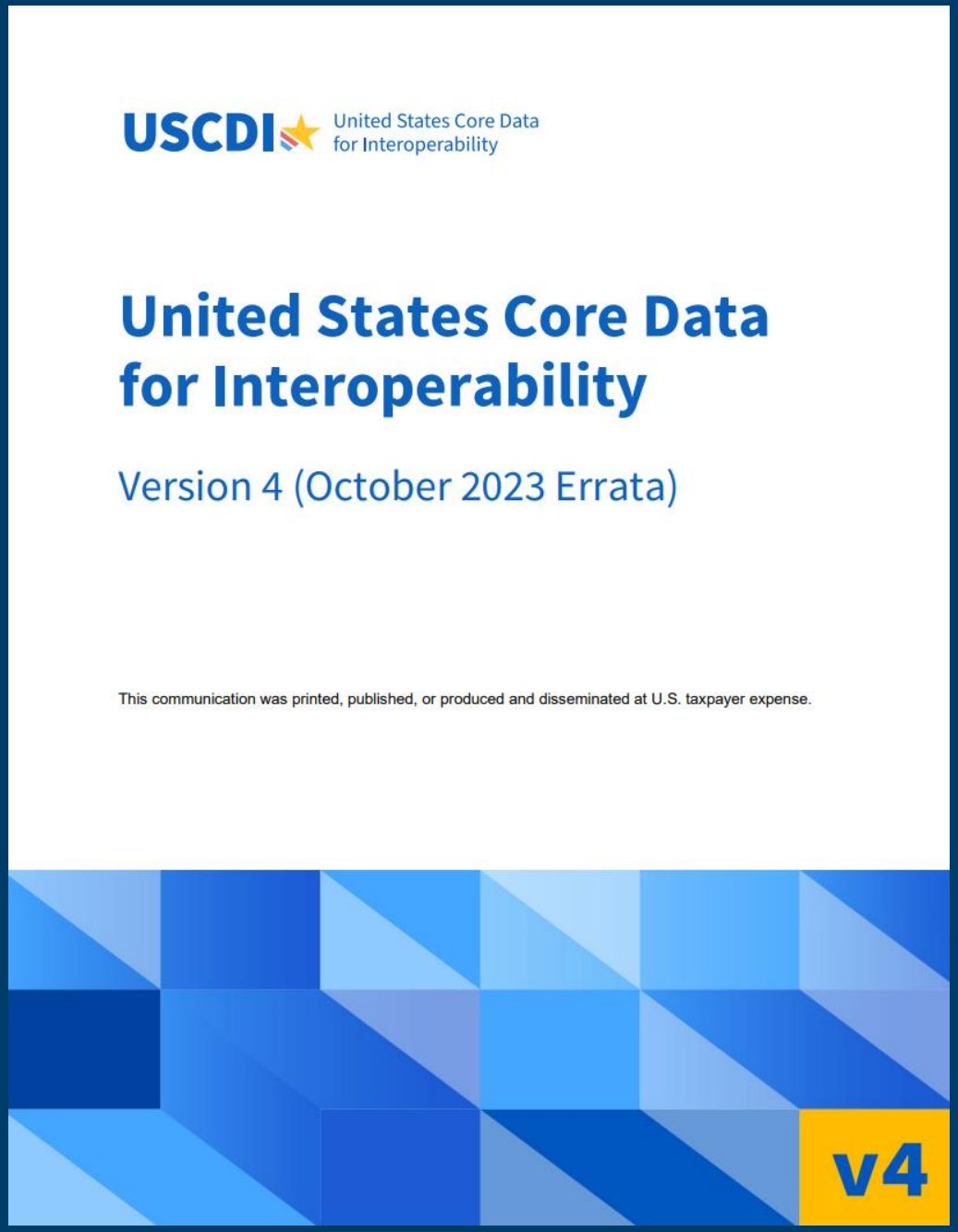
1. **Interoperability**: Ability of different health IT systems to exchange and use information. It encourages the adoption of standards and policies that enable seamless data sharing among healthcare providers, payers, and patients.

2. **Certification of Health IT**: Requires that EHRs meet specific standards to ensure they support interoperability and can securely exchange health information.

3. **Patient Access to Health Information**: It promotes patient access to their own health information through application programming interfaces (APIs) that allow patients to access and use their electronic health data.

4. **Precision Medicine and Personalized Health**: Tailoring medical treatment and interventions to the individual characteristics of each patient. This often involves extensive use of informatics for genetic and molecular data analysis.

5. **Information Blocking**: Addresses practices that hinder the exchange of electronic health information, known as "information blocking." It prohibits healthcare providers, IT developers, and health information exchanges from engaging in practices that unreasonably limit the availability, access, and use of electronic health information.



US Core Data for Interoperability (USCDI)

Supported by the 21st Century Cures Act

Establishes a standardized, minimum set of health data elements and classes that are essential and required for interoperability nationwide

A foundation for the exchange of health information among different healthcare providers, health IT systems, and patients.

Specifies the types of data (“data elements”) that should be accessible, exchangeable, and usable across various health IT platforms and systems.

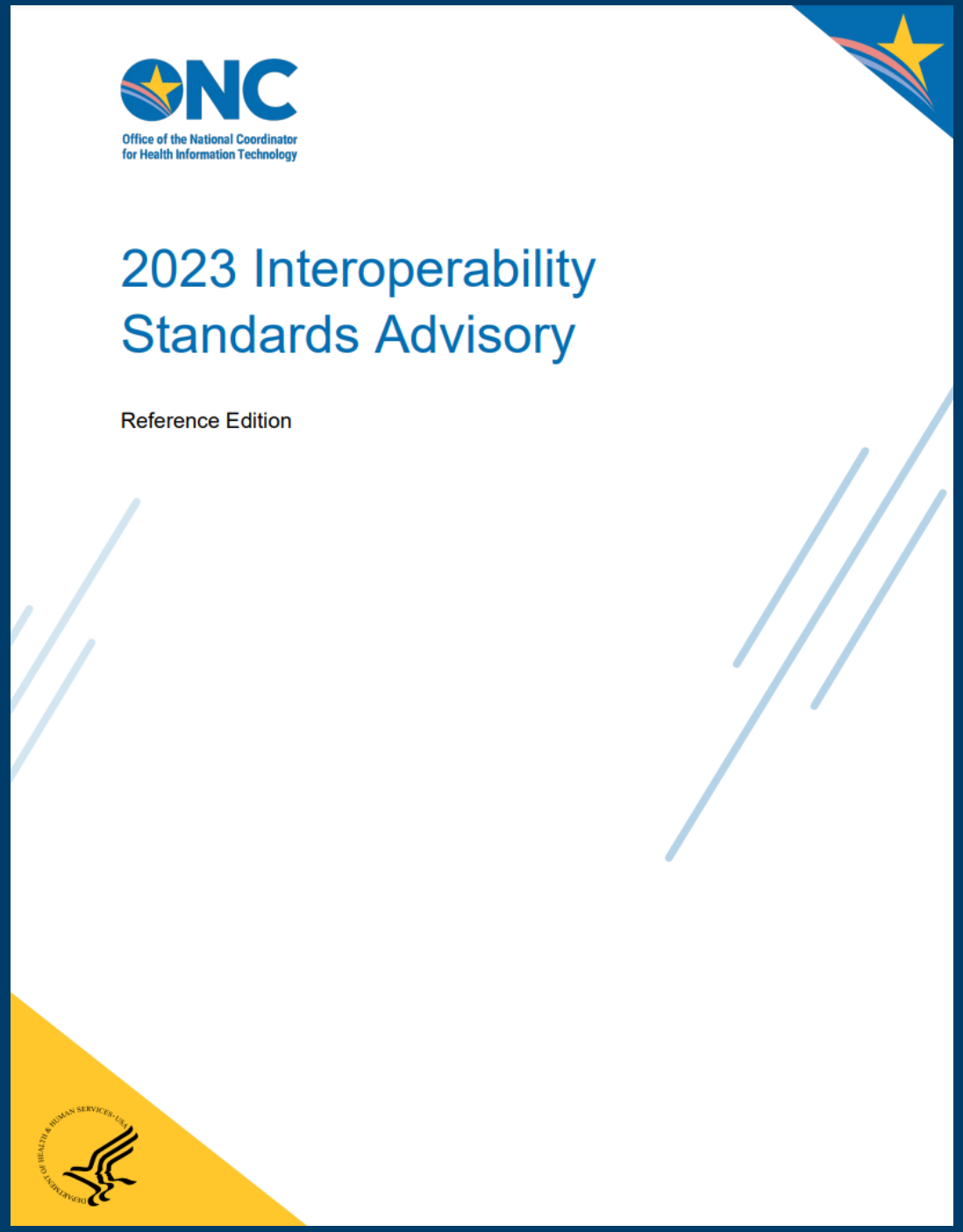
The USCDI is a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange.

ONC Interoperability Standards Advisory (ISA)

Seeks to be an environmental scan of content that is standards-based

A source for content for promotion to USCDI

May include content that has never been implemented



https://www.healthit.gov/sites/isa/files/inline-files/2023%20Reference%20Edition_ISA_508.pdf

USCDI Version 1

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 (including 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)

USCDI Version 2

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 Concerns
- Health Concerns

Immunizations
- Immunizations

Laboratory
- Tests
- Values/Results

Medications
- Medications

Patient Demographics
- First Name
- Last Name
- Previous Name
- Middle Name (including Middle Initial)
- Suffix
- Sex (Assigned at Birth)
- Sexual Orientation
- Gender Identity
- Date of Birth
- Race
- Ethnicity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address

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

Procedures
- Procedures
- SDOH Interventions

Provenance
- Author Time Stamp
- Author Organization

Smoking Status
- Smoking Status

Unique Device Identifier(s) for a Patient's Implantable Device(s)
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Vital Signs
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- Inhaled Oxygen Concentration
- BMI Percentile (2 - 20 Years)
- Weight-for-length Percentile (Birth – 36 Months)
- Head Occipital-frontal Circumference Percentile (Birth - 36 Months)

New Data Classes and Elements in USCDI v3

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

Health Status ★
- Functional Status
- Disability Status
- Mental Function
- Pregnancy Status

Laboratory
- Specimen Type
- Result Status

Patient Demographics
- Date of Death
- Tribal Affiliation
- Related Person's Name
- Related Person's Relationship
- Occupation
- Occupation Industry

Procedures
- Reason for Referral

Key: ★ New Data Class

45 CFR Parts 170 and 171

RIN 0955–AA03

Health Data, Technology, and Interoperability: Certification Program Updates, Algorithm Transparency, and Information Sharing

AGENCY: Office of the National Coordinator for Health Information Technology (ONC), Department of Health and Human Services (HHS).

ACTION: Proposed rule.

2023 ONC Proposed Rule: Health Data, Technology, and Interoperability: Certification Program Updates, Algorithm Transparency & Information Sharing (HTI-1)

Standards and Certification Criteria Proposals

- To adopt United States Core Data for Interoperability (USCDI) v3 as the new data set baseline across applicable certification criteria.
- To revise electronic case reporting certification criterion to be based on consensus-based, industry developed standards by HL7.
- To revise existing clinical decision support (CDS) certification criterion as the decision support interventions (DSI) certification criterion.
- To add new requirements for revoking access privileges.
- To add new data elements, and rename the demographics certification criterion.
- To update the transitions of care certification criterion to USCDI v3.
- To adopt a new patient requested restrictions certification criterion and to revise an existing criterion to support additional tools for implementing patient requested "privacy" restrictions

https://www.healthit.gov/sites/default/files/2023-04/HTI-1_At-A-Glance_fact%20sheet-508.pdf

HIPAA: Health Insurance Portability and Accountability Act

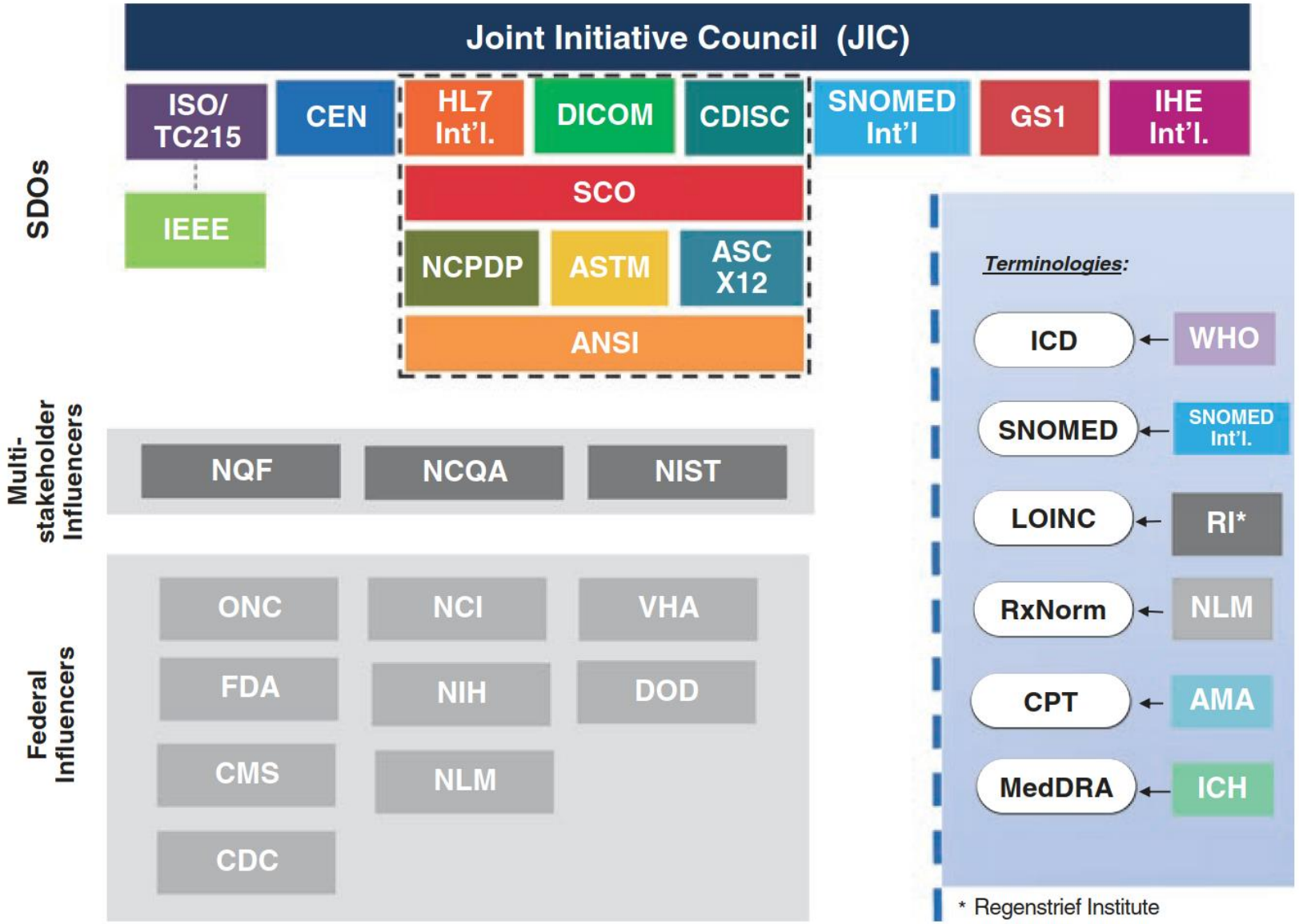
https://www.atlantic.net/hipaa-compliant-hosting/what-is-the-hipaa-security-rule-safeguard-checklist/

21st Century Cures Act

- HHS moved to require the use of an API in the 2015 Edition of Certification and in April 2021 a **FHIR API with support for USCore** which went into effect for clinical organizations in December 2022
  - Increased sharing of data will include patients and their technology tools

- **TEFCA (Trusted Exchange Framework and Common Agreement)** to improve data sharing across disparate health information networks by:
  - Convening stakeholders to develop or support a framework and agreement for the secure exchange of health information between networks
  - Providing for testing of the framework and agreement
  - Publish a list of networks that adopt the agreement.

HIT International Standards Landscape



ICD-10-CM
ICD-10-PCS
HCPCS

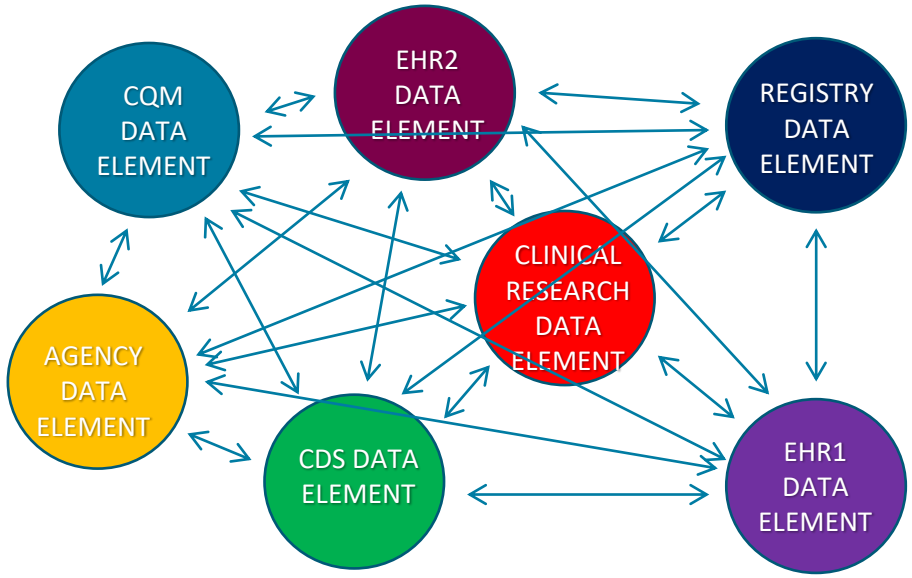
cpt®

SNOMED CT

LOINC®
from Regenstrief

MedDRA

Current State:
An Interoperability Nightmare



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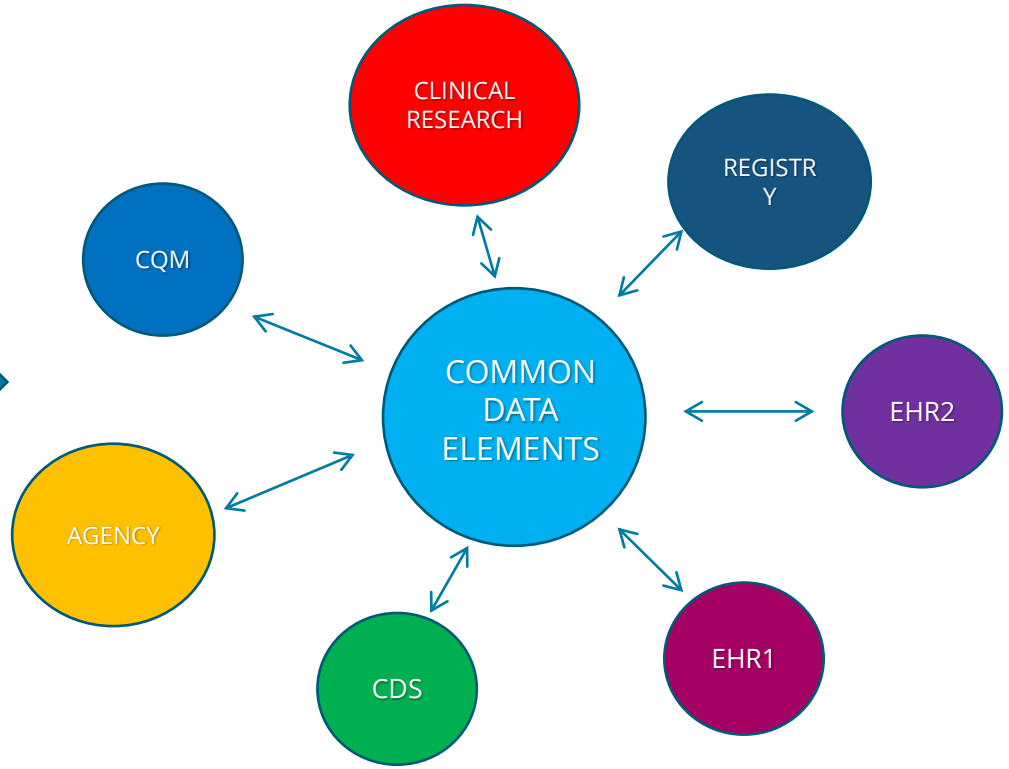


Most Common & Important Clinical Terminologies

ICD-10-CM	(for clinical diagnoses and problem lists)
CPT	(for billing codes sent to payers for reimbursement for performed procedures)
LOINC	(for laboratory test and results, observations)
SNOMED CT	(for problem lists | reference terminology for concepts extracted from free text)
RxNorm	(for medications)

“Billing” Terminologies and Classifications

ICD

The International Statistical Classification of Diseases and Related Health Problems

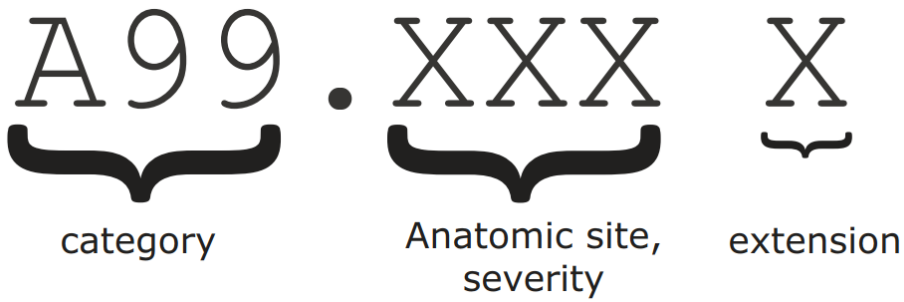
1592 - Began in London by *The Worshipful Company of Parish Clerks*
- Mortality statistics *"London Bills of Mortality"*
"griping in the guts" | "rising of the lights" (croup)
"king's evil" (tubercular infection) | "bit with a mad dog" | "fall from the belfry."

1893 - Jacques Bertillon *"Bertillon Classification of Causes of Death"*
1898 - American Public Health Association (APHA), recommended for USA adoption
1949 - World Health Organization (WHO) endorsement and stewardship – ICD-6
1978 - ICD-9
1992 - ICD-10 (ICD-10-CM 2013 -> 2014 -> 2015)
2019 - ICD-11

**** "Clinical Modification / CM" – NCHS & CMS – used for diagnoses and conditions in billing**
**** "Procedure Coding System /PCS"– used to describe procedures**

Anatomy of an ICD-10 Code

A00-B99	Certain infectious and parasitic diseases
C00-D49	Neoplasms
D50-D89	Diseases of the blood and blood-forming organs
E00-E89	Endocrine, nutritional and metabolic diseases
F01-F99	Mental, behavioral and neurodevelopmental disorders
G00-G99	Diseases of the nervous system
H00-H59	Diseases of the eye and adnexa
H60-H95	Diseases of the ear and mastoid process
I00-I99	Diseases of the circulatory system
J00-J99	Diseases of the respiratory system
K00-K95	Diseases of the digestive system
L00-L99	Diseases of the skin and subcutaneous tissue
M00-M99	Diseases of the musculoskeletal system and connective tissue
N00-N99	Diseases of the genitourinary system
O00-O9A	Pregnancy, childbirth and the puerperium
P00-P96	Certain conditions originating in the perinatal period
Q00-Q99	Congenital malformations and chromosomal abnormalities
R00-R99	Symptoms, signs and abnormal clinical and laboratory findings
S00-T88	Injury, poisoning and other consequences of external causes
V00-Y99	External causes of morbidity
Z00-Z99	Factors influencing health status and contact with health services



CODE	EXPLANATION
H66	Suppurative and unspecified otitis media
H66.0	Acute suppurative otitis media
H66.00	Acute suppurative otitis media without spontaneous rupture of eardrum
H66.001	Acute suppurative otitis media without spontaneous rupture of eardrum, right ear

The letter H specifies diseases of the eye, ear and mastoid process. H65-H75 are disease of the middle ear and mastoid process

ICD-10

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ICD-11
icd.who.int

Chapter	Title
01	Certain infectious or parasitic diseases
02	Neoplasms
03	Diseases of the blood or blood-forming organs
04	Diseases of the immune system
05	Endocrine, nutritional or metabolic diseases
06	Mental, behavioural or neurodevelopmental disorders
07	Sleep-wake disorders
08	Diseases of the nervous system
09	Diseases of the visual system
10	Diseases of the ear or mastoid process
11	Diseases of the circulatory system
12	Diseases of the respiratory system
13	Diseases of the digestive system
14	Diseases of the skin
15	Diseases of the musculoskeletal system or connective tissue
16	Diseases of the genitourinary system
17	Conditions related to sexual health
18	Pregnancy, childbirth or the puerperium
19	Certain conditions originating in the perinatal period
20	Developmental anomalies
21	Symptoms, signs or clinical findings, not elsewhere classified
22	Injury, poisoning or certain other consequences of external causes
23	External causes of morbidity or mortality
24	Factors influencing health status or contact with health services
25	Codes for special purposes
26	Supplementary Chapter Traditional Medicine Conditions - Module I
V	Supplementary section for functioning assessment
X	Extension Codes

Current Procedural Terminology

Registered trademark & developed by the American Medical Association (AMA) – **not free for use**

Medical, Surgical, & Diagnostic services (Outpatient and Ambulatory) -> Billing

Codes sent to payers for reimbursement

1966 - First publication | Updated annually

1996 - HIPAA + HHS = “Final Rule”
- Selected CPT for reporting physician services for payments for CMS.

Three Categories

Category I

5-Digit Numeric Codes

Established and Approved

Proven Clinical Efficacy

Resource-based relative value scale (RBRVS)

- 54% Physician Work
- 41% Practice Expense
- 5% Malpractice Expense

Relative Value Units (RVU)

- Adjusted by geographic region

Category II

5-Character Alphanumeric Code

- Ends with an “F”

Supplementary tracking codes

- Quality and Performance Measures
- P4P (Pay-for-Performance)

Category III

5-Character Alphanumeric Code

- Ends with a “T” - Temporary

New / Emerging Technologies

CPT Examples in the Emergency Department

SERVICE	CPT CODE	RVU
EKG rhythm interpretation	93042	0.22
Application of finger splint	29130	0.83
Single laceration up to 2.5 cm (scalp, neck, axillae, external genitalia, trunk-including hands and feet)	12001	1.27
Level III ED exam	99283	1.75
Single laceration repair 2.6–7.5 cm (scalp, neck, axillae, external genitalia, trunk-including hands and feet)	12002	2.08
Endotracheal intubation	31500	3.24
Critical care (30–74 min)	99291	6.31
Treatment of shoulder dislocation	23650	8.18

SNOMED CT

Systematized Nomenclature Of Medicine *(previously)* | Now a 'brand name', not an acronym

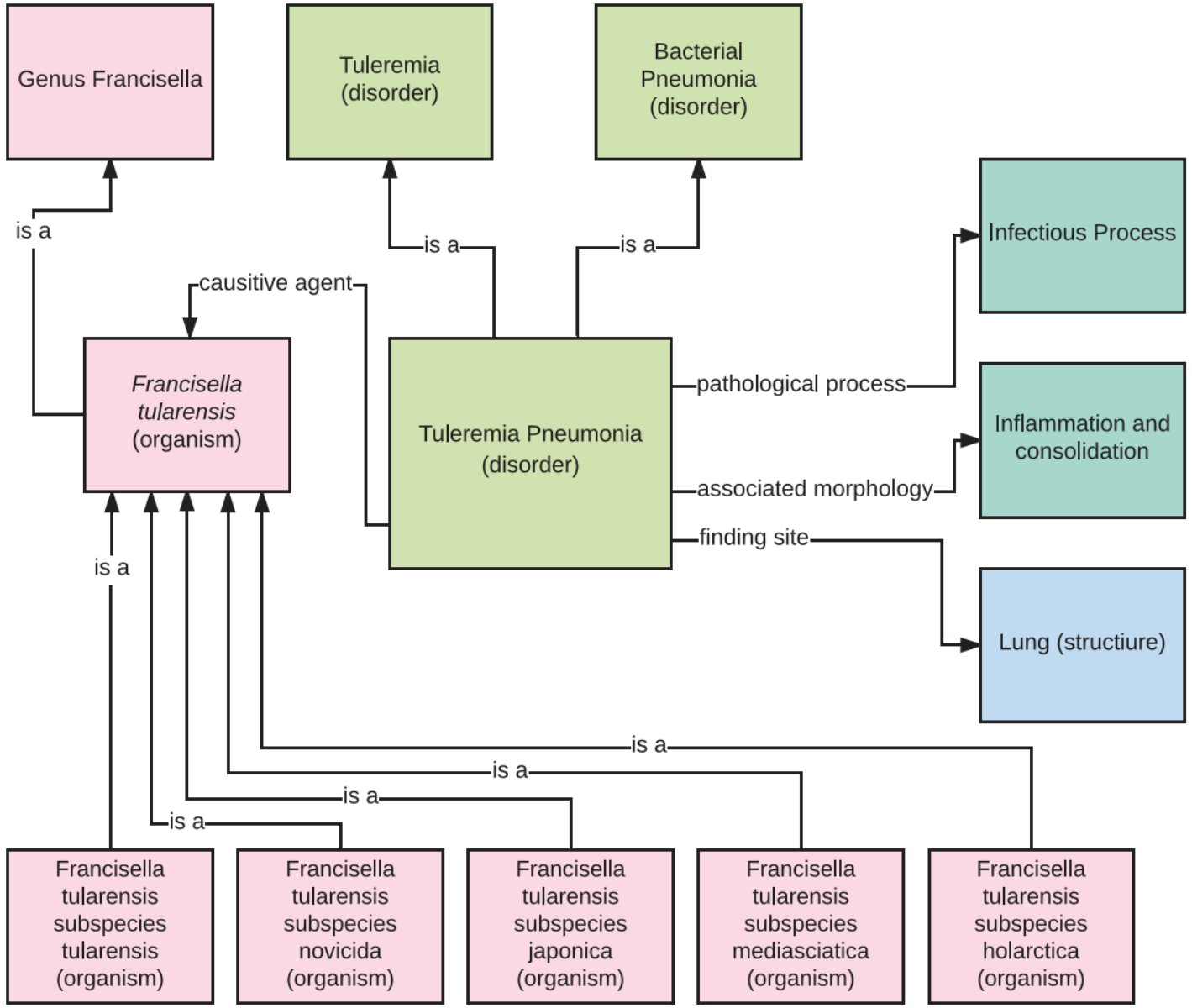
SNOMED Clinical Terms – SNOMED CT®

"Concept-oriented terminology" -> Allows for machine read-ability (e.g. 104817019 "left cusp of aortic valve").

Larger concept towards more specific concepts

"anatomical or acquired body structure" -> "anatomical structure" -> "body organ structure" -> "organ part" -> "cardiovascular organ part" -> "heart part" -> "cardiac internal structure" -> "cardiac valve structure" -> "aortic valve structure" -> "structure of cusp of aortic valve" -> "structure of left cusp of aortic valve"

Ontological Relationships in SNOMED



Free Text / Unstructured Note -> SNOMED Concepts

44 year old man complains of moderate, constant pain in the bilateral lower back for the past 3 weeks	Age more than 40 years (699716008); Male (248153007); Constant pain (426206001); Lower back (37822005); Moderate Severity (6736007); 3 weeks (4831000175101)
Past medical history: pulmonary embolism	History of pulmonary embolus (161512007)
Medications: Xanax 1 mg bid	Administration of substance via oral route (434589000); Alprazolam 1 mg tablet (371281008); Twice a day(229799001)
Lab results: Hgb 15 mg/dL	Hemoglobin normal (165399006)
CT scan of head: negative	Computerized axial tomography of brain without radiopaque contrast (396205005); Has interpretation (363713009); Negative (260385009)
Plan: follow up with Dr. Hinds 1 week	Referral to doctor (306253008); Private doctor (310174000); 1 week (4791000175109)

Logical Observation Identifiers Names and Codes

Standard for laboratory and clinical observations in the USA and internationally

80,000+ defined entries for laboratory (2/3) and clinical observations (1/3)

- Laboratory (chemistry, microbiology, etc.)
- Imaging tests
- Clinical measurements (e.g., vital signs, EKG, physical exam, patient reported outcomes, etc.).
- Names for document titles (discharge summary, radiation oncology consult note, etc.), radiology reports and section headings (social history, objective, etc.).
- Used to encode observations like survey questions and clinical assessments

Logical Observation Identifiers Names and Codes

FREE for use

1994 - Created and maintained by the Regenstrief Institute | Indiana University
Non-profit biomedical informatics and healthcare research organization

Meaningful Use program requires LOINC in:

- messages reporting laboratory test results
- exchanging medical summaries
- sending data to cancer registries and public health agencies.

Some of the most commonly used codes in LOINC

ID	NAME	CLASS
02160-0	Creatinine [mass/volume] in serum or plasma	CHEM
00718-7	Hemoglobin [mass/volume] in blood	Hem/BC
02823-3	Potassium [moles/volume] in serum or plasma	CHEM
02345-7	Glucose [mass/volume] in serum or plasma	CHEM
02951-2	Sodium [moles/volume] in serum or plasma	CHEM
03094-0	Urea nitrogen [mass/volume] in serum or plasma	CHEM
02028-9	Carbon dioxide, total [moles/volume] in serum or plasma	CHEM
02075-0	Chloride [moles/volume] in serum or plasma	CHEM
00789-8	Erythrocytes [#/volume] in blood by automated count	HEM/BC
00786-4	Erythrocyte mean corpuscular hemoglobin concentration [mass/volume] by automated count	HEM/BC

Fully-Specified Name (FSN) – Mapping
Long Common Name (LCN) – Primary Display Name [Seen Above]
Short Name – Legacy systems

RxNorm

National Library of Medicine (NLM)

Designated terminology for medications and medication allergies

Normalizing drug terminologies for generic and branded drugs

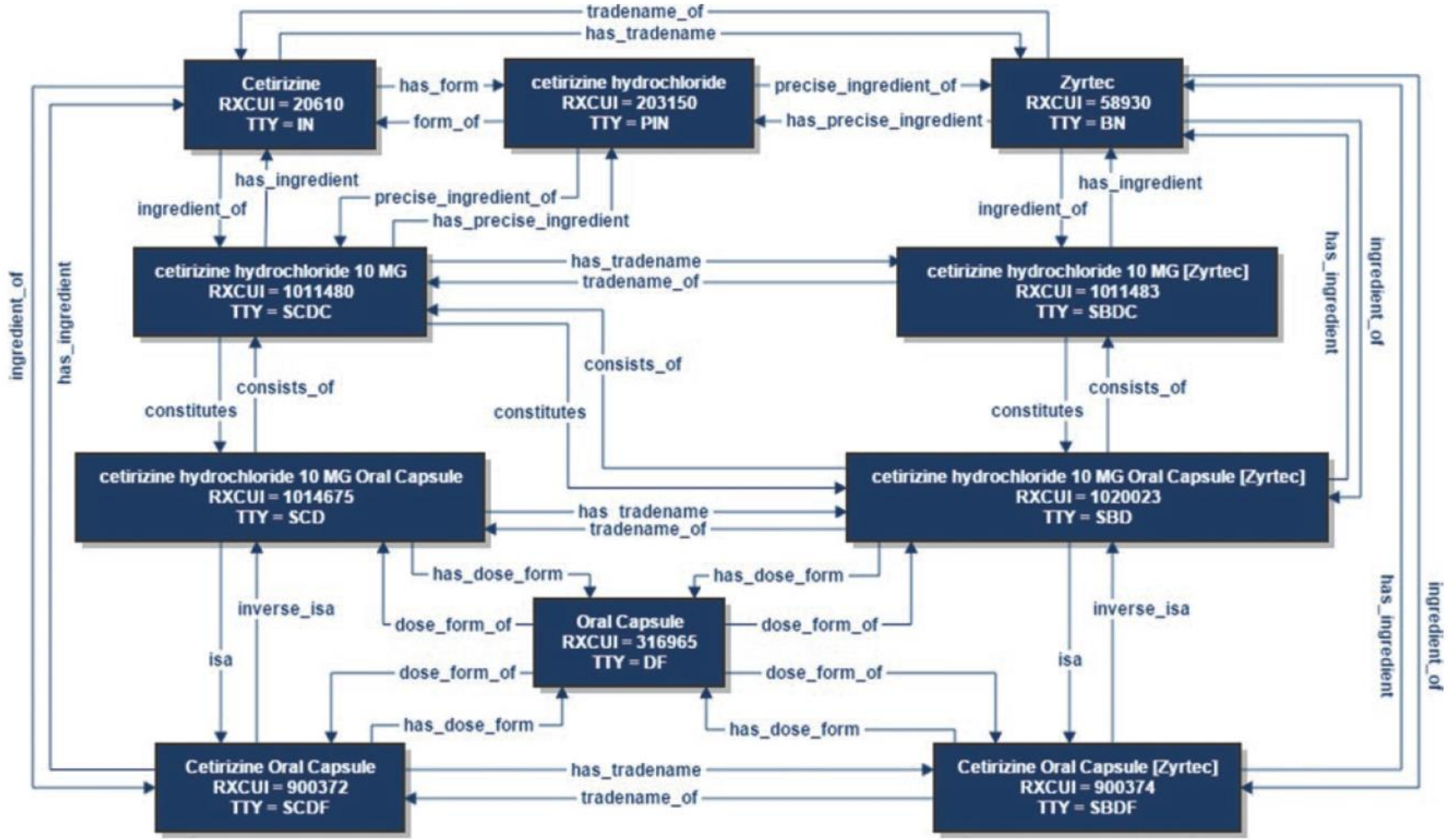
Contains data at level of medication categories (both functional and biochemical), ingredient, specific drug entity

RxNorm

Aggregation of multiple sources of drug information

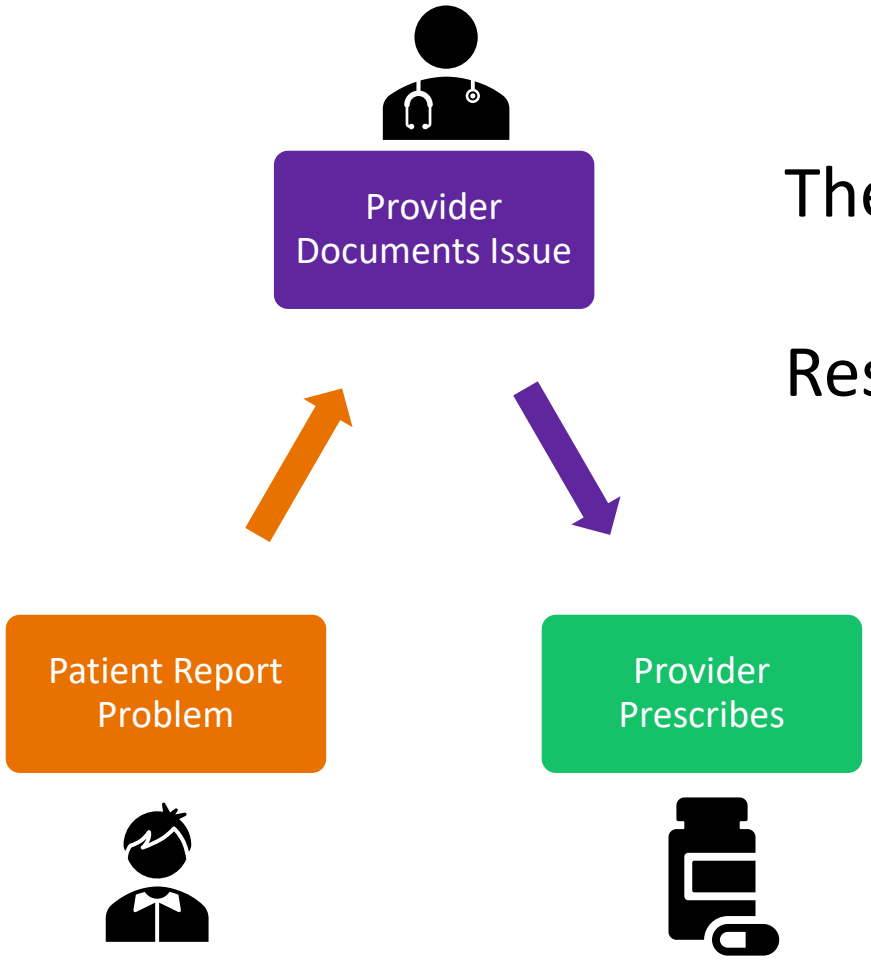
1. FDA Product Labels / National Drug Code (NDC)
2. National Drug File Reference Terminology (NDF-RT) | VA
3. Medical Subject Headings (MeSH)
4. Micromedex®
5. First Databank®
6. MediSpan
7. Gold Standard Drug Database
8. Multum
9. DrugBank
10. Anatomical Therapeutic Chemical (ATC) drug classification system

Semantic Map of Cetirizine



RXCUI (RxNorm Concept Unique Identifier)
TTY (Term Type)

Typical approach



The provider is the keeper of the problem list

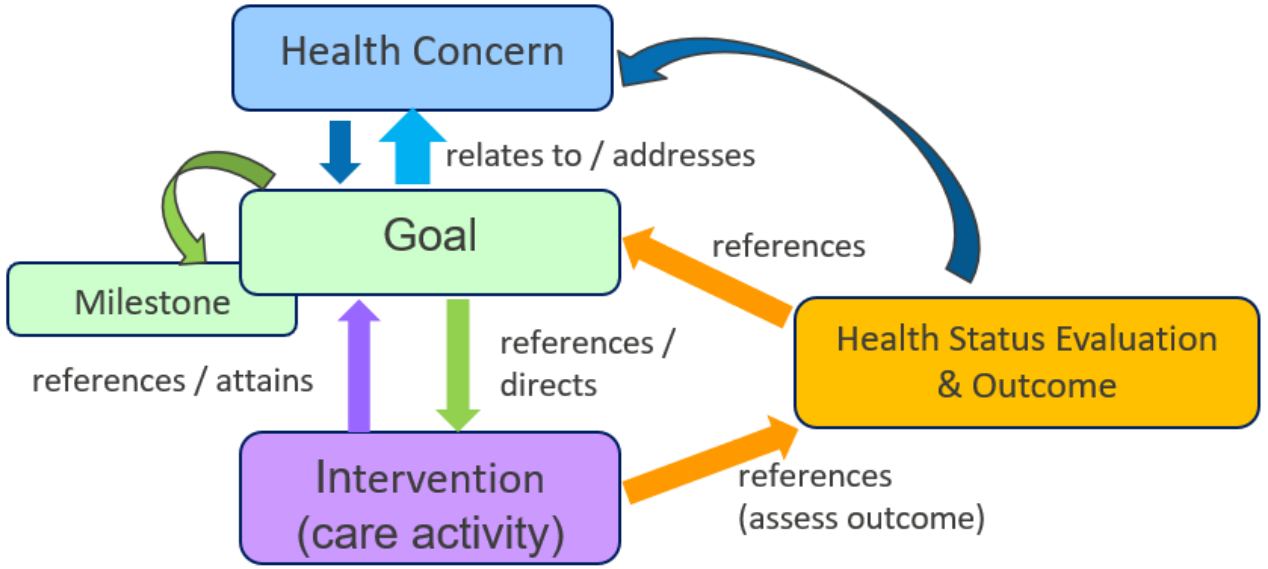
Responsible for updating and maintaining it

The 4 cornerstones of a care plan

Care plan concept – introduced in 1980s

Care plans in the 1980s:

- Static structure
  - Problem(s)
  - Interventions
  - Variances
- Care coordination (if done)
  - Completely manual



Content:

- Health concern(s)
- Health goal(s)
- Activity/intervention
- Progress/outcome

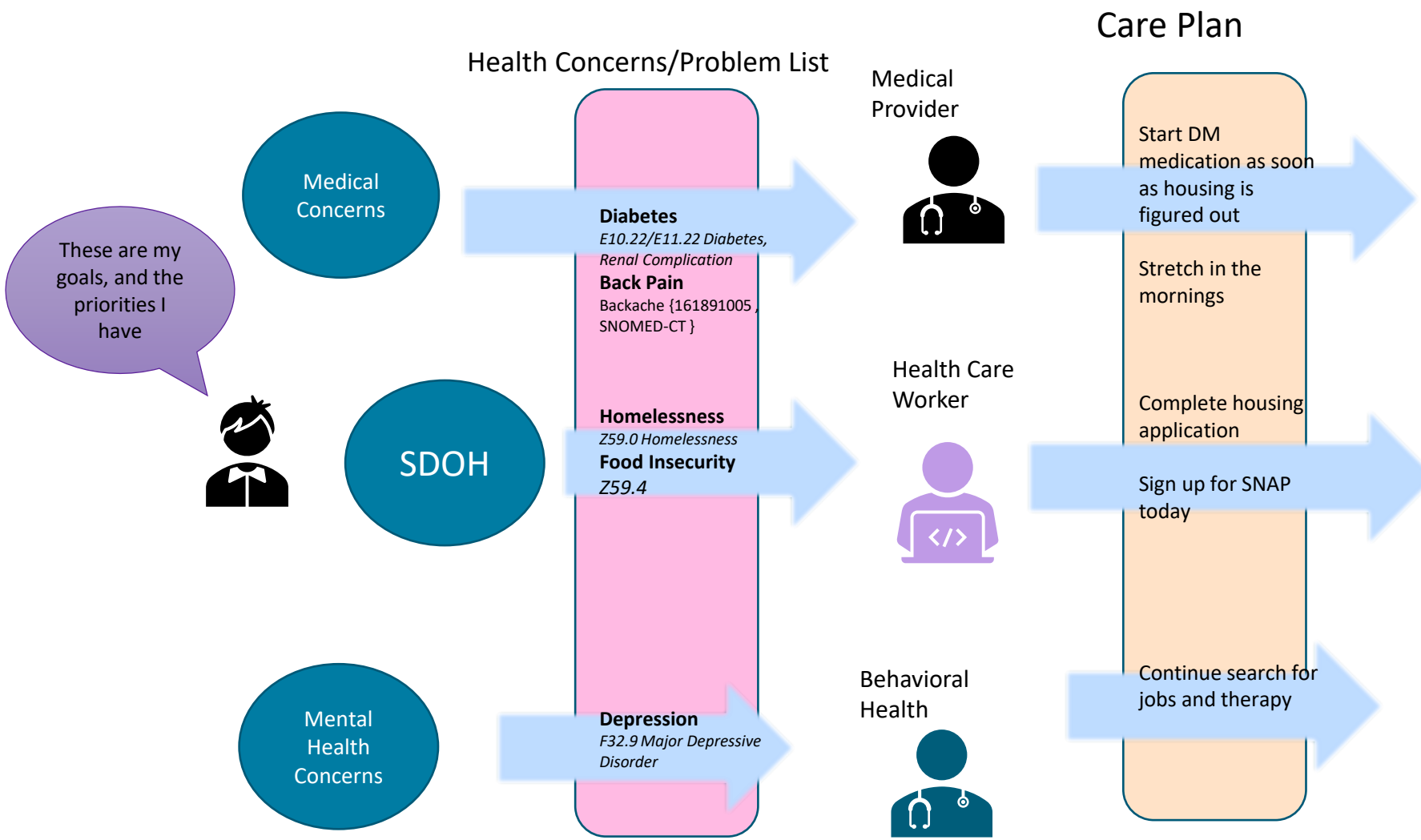
and more …

Dynamic behavior:

- Machine assisted care coordination

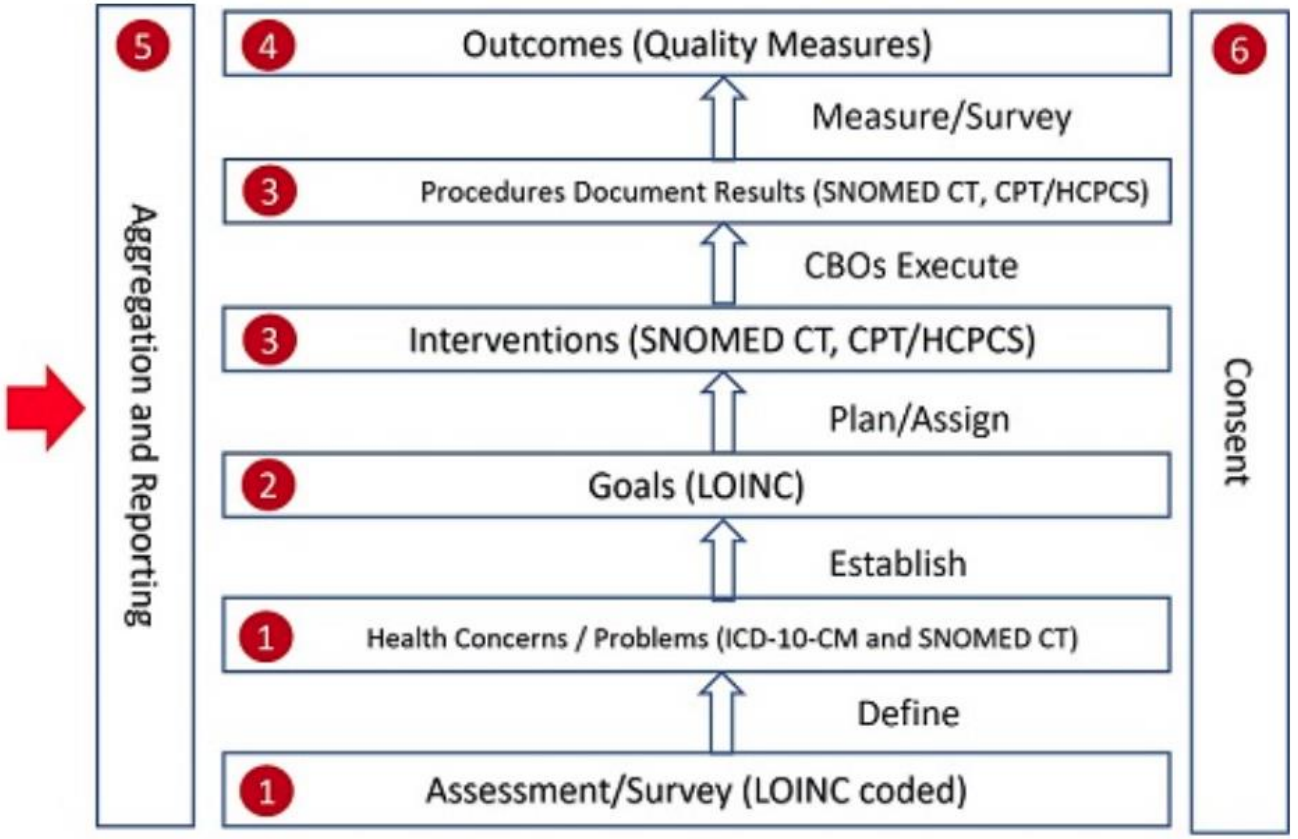
Vision Today

A new approach

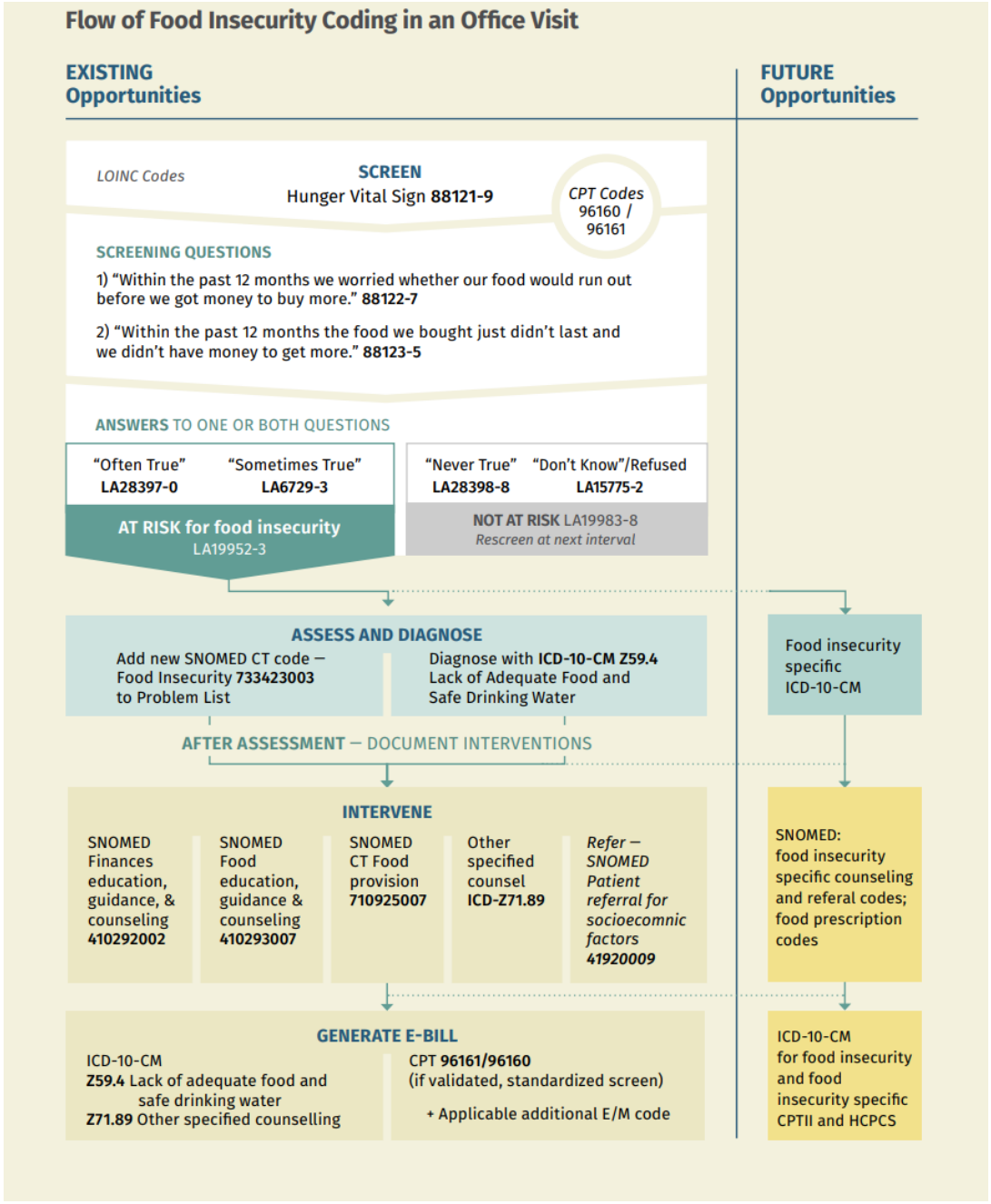


Closed Loop Referral Process

1. Document SDOH data in conjunction with the patient encounter and define Health Concerns / Problems.
2. Patient and provider establish SDOH related goals.
3. Plan, communicate, and track related interventions to completion.
4. Measure outcomes.
5. Establish cohorts of patients with common SDOH characteristics for uses beyond the point of care (e.g., population health management, quality reporting, and risk adjustment/ risk stratification).
6. Manage patient consent

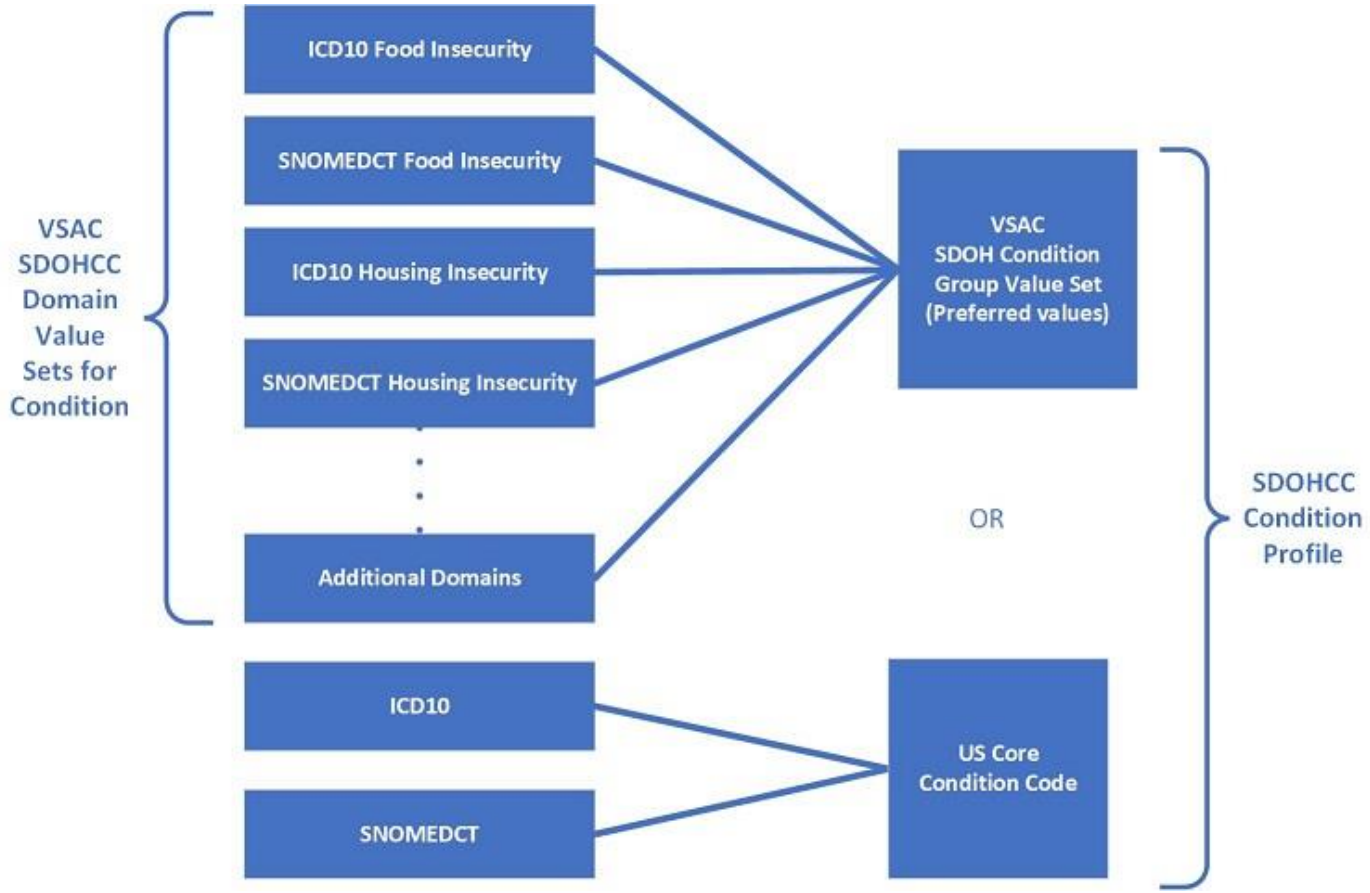


http://build.fhir.org/ig/HL7/fhir-sdoh-clinicalcare/sdoh_clinical_care_scope.html



An Overview of Food Insecurity Coding in Health Care Settings: Existing and Emerging Opportunities
https://childrenshealthwatch.org/wp-content/uploads/An-Overview-of-Coding_2.15.18_final.pdf

SDOH Profile	Element	Base Value Set	VSAC Group Value Set
SDOHCCCondition	Condition.code	US Core Condition Code	Social Determinants of Health Conditions Value Set
SDOHCCGoal	Goal.description	SDOHCC Goal Codes	Social Determinants of Health Goals Value Set
SDOHCCServiceRequest	ServiceRequest.code	US Core Procedure Codes	Social Determinants of Health Service Requests Value Set
SDOHCCProcedure	Procedure.code	US Core Procedure Codes	Social Determinants of Health Procedures Value Set



32911000	Homeless (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96
Z59.00	Homelessness unspecified	ICD10CM	2022	2.16.840.1.113883.6.90
1156191002	Housing instability (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96
1156195006	Housing instability due to being behind on payments for place of residence (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96
1156193004	Housing instability due to frequent change in place of residence (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96
1156192009	Housing instability due to imminent risk of homelessness (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96
1156196007	Housing instability due to threat of eviction (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96
1156194005	Housing instability following recent homelessness (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96
Z59.819	Housing instability, housed unspecified	ICD10CM	2022	2.16.840.1.113883.6.90
Z59.812	Housing instability, housed, homelessness in past 12 months	ICD10CM	2022	2.16.840.1.113883.6.90
Z59.811	Housing instability, housed, with risk of homelessness	ICD10CM	2022	2.16.840.1.113883.6.90
105531004	Housing unsatisfactory (finding)	SNOMEDCT	2021-09	2.16.840.1.113883.6.96

Name:
Social Determinants of Health Procedures

OID:
2.16.840.1.113762.1.4.1196.789

Code System:

Steward: Contact
The Gravity Project

Value Set Definition

Definition Type:
Grouping

Definition Version:
20220106

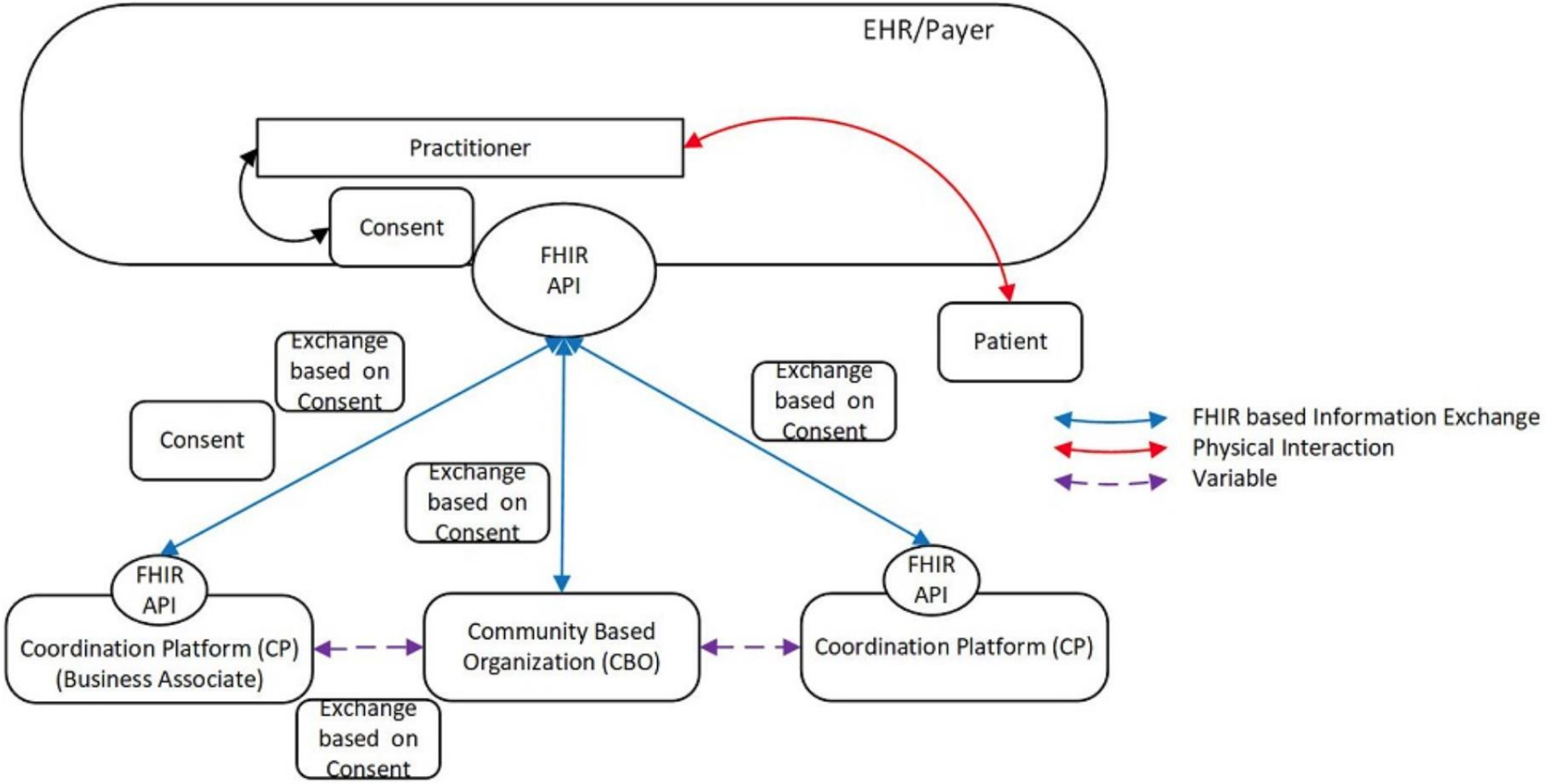
Value Set Members

Expanded Code List

View | Toggle | Clear | Page 1 of 4 | 60 | View 1 - 60 of 234

Code	Descriptor	Code System	Version	Code System OID
96156	Health behavior assessment, or re-assessment (ie, health-focused clinical interview, behavioral observations, clinical decision making)	CPT	2021	2.16.840.1.113883.6.12
97804	Medical nutrition therapy; group (2 or more individual(s)), each 30 minutes	CPT	2021	2.16.840.1.113883.6.12
97803	Medical nutrition therapy; re-assessment and intervention, individual, face-to-face with the patient, each 15 minutes	CPT	2021	2.16.840.1.113883.6.12
97802	Medical nutrition therapy; initial assessment and intervention, individual, face-to-face with the patient, each 15 minutes	CPT	2021	2.16.840.1.113883.6.12
96161	Administration of caregiver-focused health risk assessment instrument (eg, depression inventory) for the benefit of the patient, with scoring and documentation, per standardized instrument	CPT	2021	2.16.840.1.113883.6.12
96160	Administration of patient-focused health risk assessment instrument (eg, health hazard appraisal) with scoring and documentation, per standardized instrument	CPT	2021	2.16.840.1.113883.6.12
S5170	Home delivered meals, including preparation; per meal	HCPCS Level II	2022	2.16.840.1.113883.6.285
S9470	Nutritional counseling, dietitian visit	HCPCS Level II	2022	2.16.840.1.113883.6.285

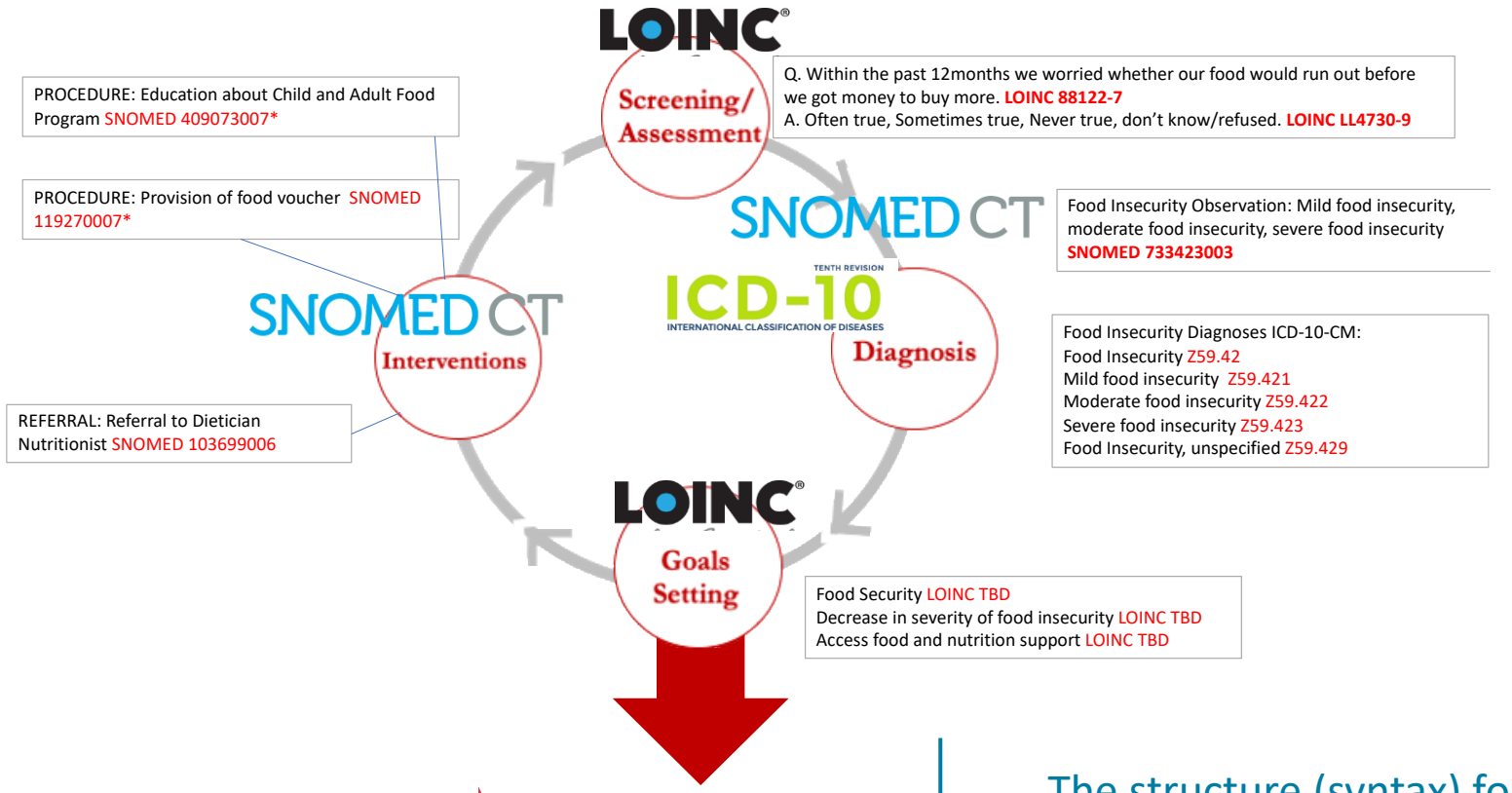
Closed Loop Referral Process



http://build.fhir.org/ig/HL7/fhir-sdoh-clinicalcare/exchange_workflow.html

Accelerating Adoption Using Nationally Recognized Standards

The universal language attributed to the concepts, so they are understood across users and systems (semantics)



HL7 FHIR

Fast Health Interoperability Resource

The structure (syntax) for how the data is displayed and shared electronically from system to system.

UDS Modernization: UDS+

Moving towards EHR Data Reuse and Reducing Burden

- To build a learning health system, data capture should be focused on that which adds value to the delivery of care and the achievement of wellness
- All other activities should flow from the reuse of this data
- HRSA is moving towards evaluation of CHCs via data reuse
- This data reuse relies on shared health IT (HIT) standards and their implementation across the industry
    - Fast Healthcare Interoperability Resources (FHIR) Bulk FHIR standard

UDS Modernization: UDS+

Moving towards EHR Data Reuse and Reducing Burden

The ultimate payoff of UDS+ should be:

- Automation of reporting to HRSA and elimination of manual reporting activities
- Ability to identify and dashboard UDS patients and measures within the EHR, Data HIT product and/or Data Warehouse
- Improved validity and completeness of UDS metrics
- Side benefit of Bulk FHIR infrastructure for other reporting and interoperability use cases

Procedure for ex. Patient

- Date: 2023

```
"performedDateTime" : "2023",
```

- Status: completed

```
"status" : "completed"
```

- Body Site: Colon

```
{
  "system" : "http://snomed.info/sct",
  "code" : "110796003",
  "display" : "Colon and colon"
}
```

- Code: 235150006/ Total colonoscopy

```
{
  "system" : "http://snomed.info/sct",
  "code" : "235150006",
  "display" : "Total colonoscopy"
}
```

```
"code": "2079-2",
"display": "Native Hawaiian",
"system": "urn:oid:2.16.840.1.113883.6.238"

{
"code": "2186-5",
"display": "Not Hispanic or Latino",
"system": "urn:oid:2.16.840.1.113883.6.238"
}
```

TABLE 3B: DEMOGRAPHIC CHARACTERISTICS

Calendar Year: January 1, 2023, through December 31, 2023

	Patients by Race and Hispanic. Latino/a, or Spanish Ethnicity									
Line	Patients by Race	Yes, Mexican, Mexican American, Chicano/a (a1)	Yes, Puerto Rican (a2)	Yes, Cuban (a3)	Yes, Another Hispanic, Latino/a, or Spanish Origin (a4)	Yes, Hispanic, Latino/a, Spanish Origin, Combined (a5)	Total Hispanic, Latino/a, or Spanish Origin (a) (Sum Columns a1 + a2 + a3 + a4 + a5)	Not Hispanic, Latino/a, or Spanish Origin (b)	Unreported / Chose Not to Disclose Ethnicity (c)	Total (d) (Sum Columns a+b+c)
1a	Asian Indian									
1b	Chinese									
1c	Filipino									
1d	Japanese									
1e	Korean									
1f	Vietnamese									
1g	Other Asian									
1	Total Asian (Sum Lines 1a+1b+1c+1d+1e+1f+1g)									
2a	Native Hawaiian									
2b	Other Pacific Islander									
2c	Guamanian or Chamorro									
2d	Samoan									
2	Total Native Hawaiian/Other Pacific Islander (Sum Lines 2a+2b+2c+2d)									
3	Black/African American									
4	American Indian/Alaska Native									
5	White									
6	More than one race									
7	Unreported/Chose not to disclose race									
8	**Total Patients** (Sum of Lines 1 + 2 + 3 to 7)									

Tables 3B and 7 both report patients by race and Hispanic, Latino/a, or Spanish ethnicity.

```
"url": "http://hl7.org/fhir/
"valueCode": "doubling-up"
```

TABLE 4: SELECTED PATIENT CHARACTERISTICS (CONTINUED)

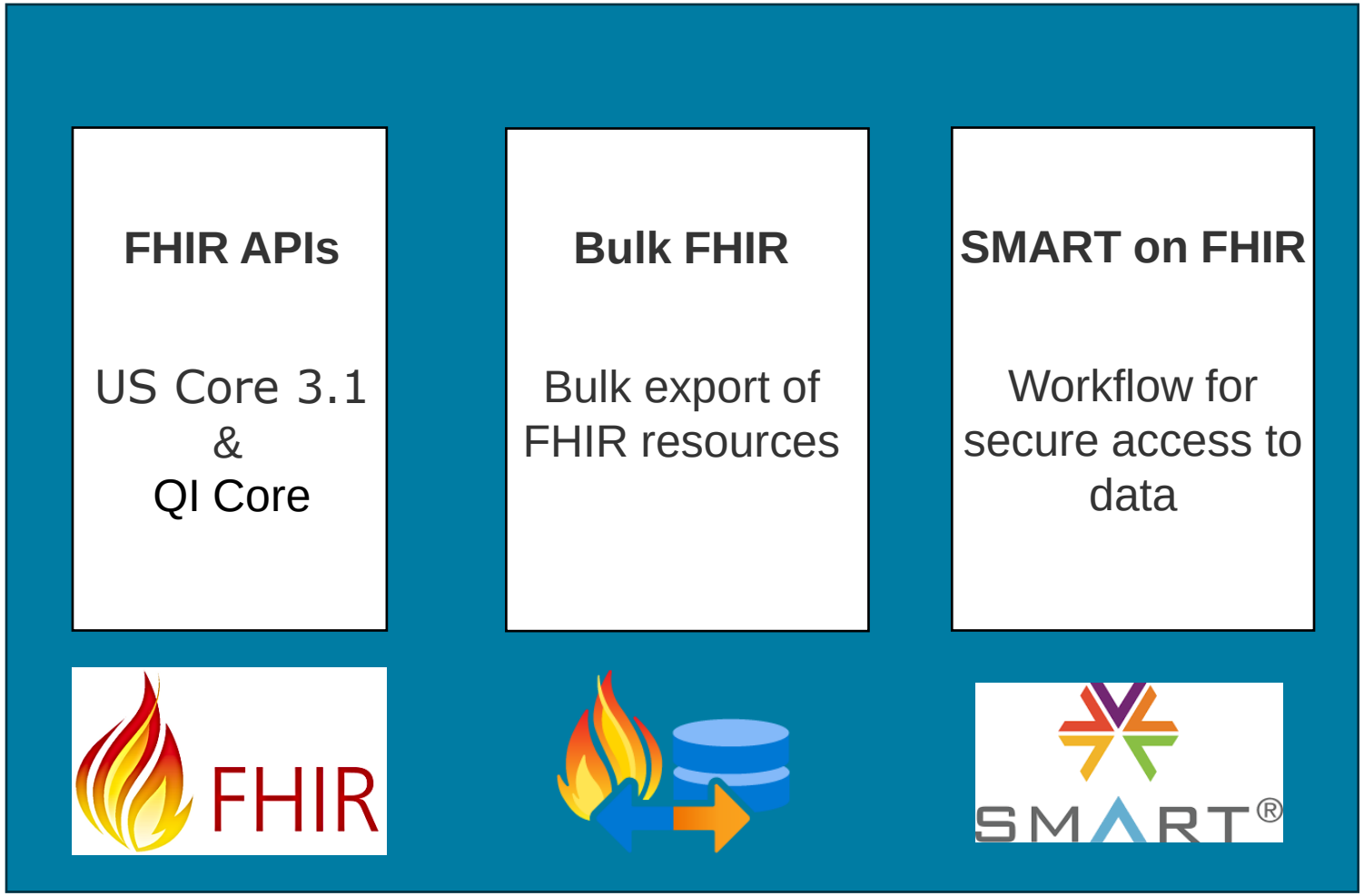
Calendar Year: January 1, 2023, through December 31, 2023

Line	Special Populations	Number of Patients (a)
14	Migratory (330g awardees only)	
15	Seasonal (330g awardees only)	
16	**Total Agricultural Workers or Their Family Members** (All health centers report this line)	
17	Homeless Shelter (330h awardees only)	
18	Transitional (330h awardees only)	
19	Doubling Up (330h awardees only)	
20	Street (330h awardees only)	
21a	Permanent Supportive Housing (330h awardees only)	
21	Other (330h awardees only)	
22	Unknown (330h awardees only)	
23	**Total Homeless** (All health centers report this line)	
24	**Total School-Based Service Site Patients** (All health centers report this line)	
25	**Total Veterans** (All health centers report this line)	
26	**Total Patients Served at a Health Center Located In or Immediately Accessible to a Public Housing Site** (All health centers report this line)	

The number of patients by insurance source reported on the Patients by ZIP Code Table must be consistent with the number of patients by insurance category reported on Table

Technology Required for of UDS+

- UDS+ requires FHIR support as specified by the ONC 21st Century Cures Act
- HRSA extended the FHIR resources, defined in **UDS+ Implementation Guide**



FHIR Support for UDS

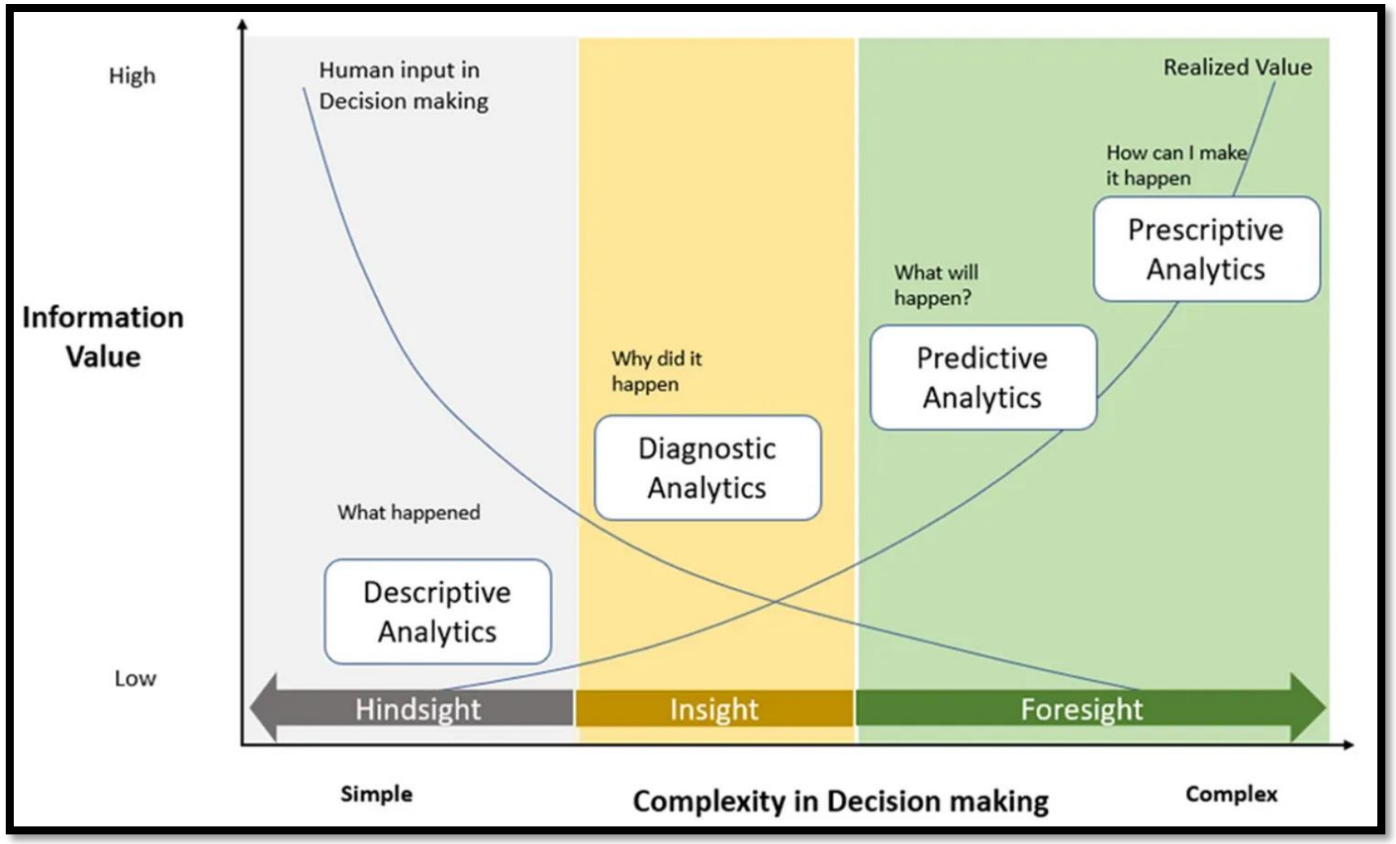
- Based on the **United States Core Data for Interoperability** (USCDI)
- Changes required for de-identification of patients
  - Remove ***patient name, birth date and contact information***
  - Removal all personal identifiers like ***MRNs and SS#***
  - Address is limited to state and zip code
- Some additional information was added (Extensions)
  - Age at end of reporting period
  - Gender Identity, Race and Language
  - Veteran, Agriculture Worker and Housing Status
- A new unique patient identifier for each patient for each submission

Key Points for Organizational Advancement in Data Science

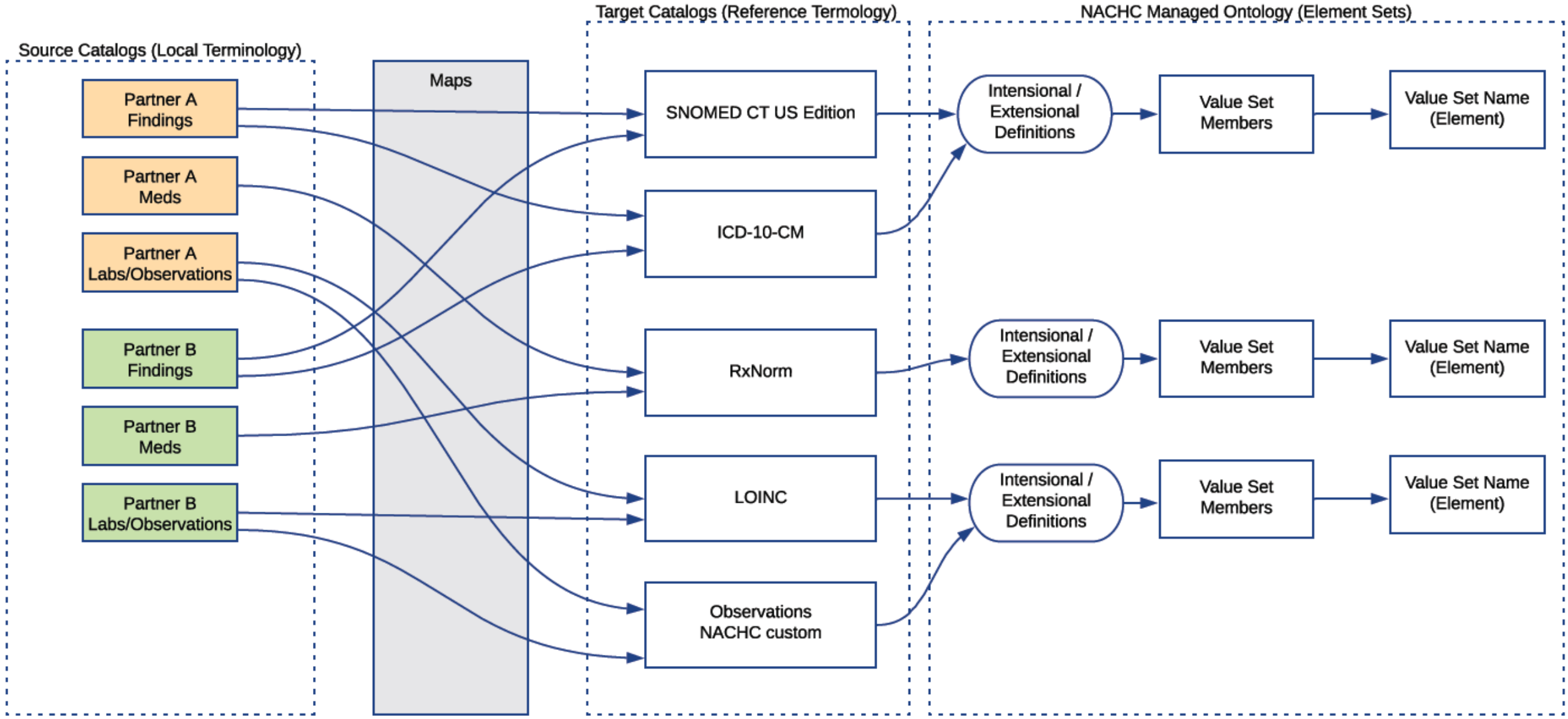
Gartner's Analytics Maturity Model

Critical Growth Elements:

1. **Skilled Data Science Personnel**: Vital for effective data-driven decision-making.
2. **Tools and Platforms**: Robust infrastructure for advanced analytics.
3. **Data Standardization**: Ensuring consistency and reliability in data handling.
4. **Data Governance**: Establishing protocols for data quality, security, and compliance.



NACHC - Terminology Normalization and Value Set Data Model



What now?

A Call to Action!

Leverage existing policy levers available that promote standards-based data capture, care plan capture and exchange

Don't reinvent the wheel: review, test and provide input on available standards

- Participate in national discussions and testing opportunities through ONC, HL7, etc.

Talk to your member associations, networks and other health centers on Informatics staffing and needs!

NATIONAL ASSOCIATION OF Community Health Centers®

Clinical Terminology and Data Standards Fundamental to Data Quality and Integrity in Community Health Centers and Networks

Let's Chat!

Raymonde Uy, MD, MBA, ACHIP

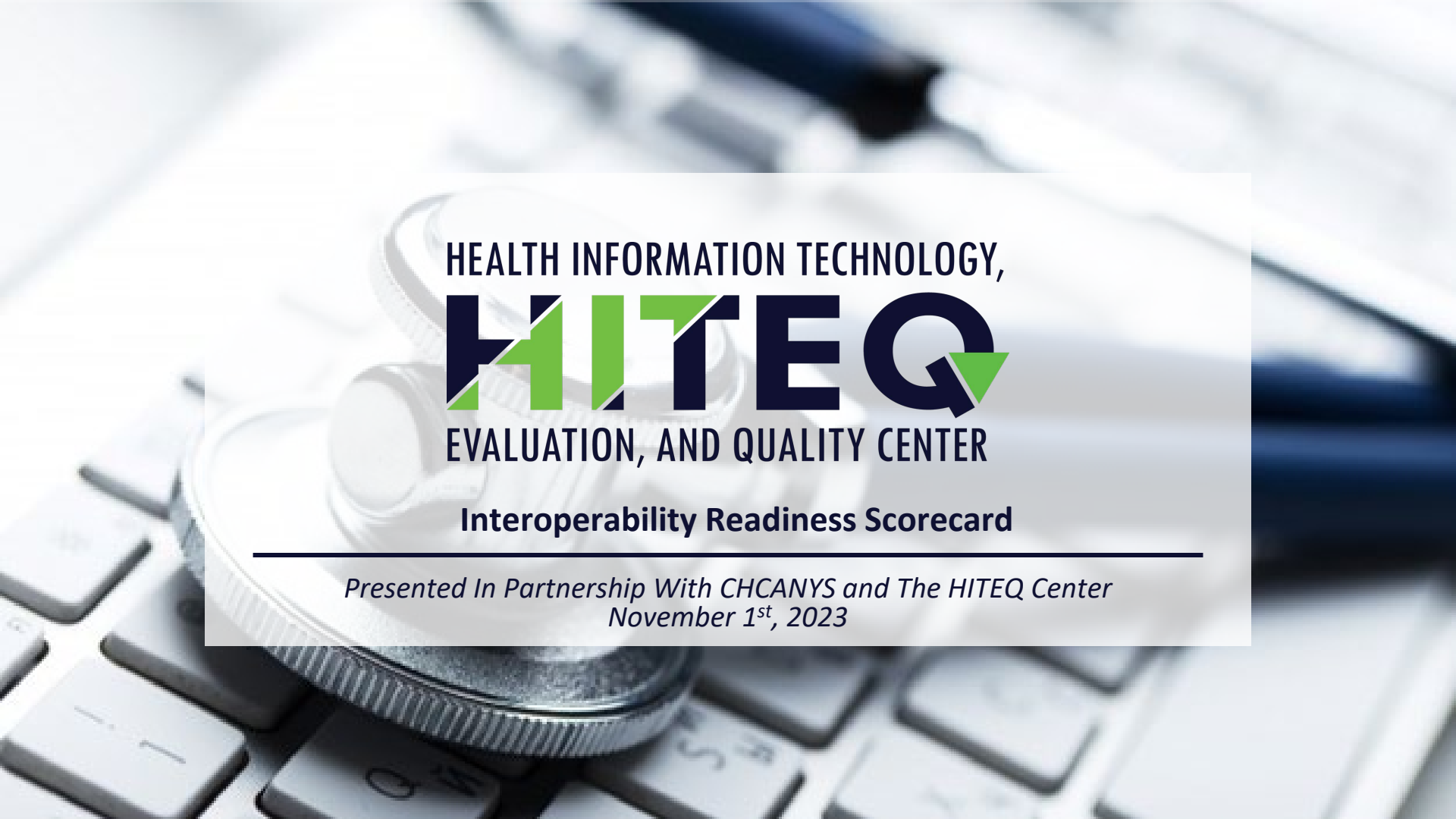
Physician Informaticist, NACHC

Interoperability Readiness Scorecard

Nathan Botts, Ph.D., MSIS

Senior Study Director/Healthcare Delivery Research & Evaluation

Westat



HEALTH INFORMATION TECHNOLOGY,

HITEQ

EVALUATION, AND QUALITY CENTER

Interoperability Readiness Scorecard

Presented In Partnership With CHCANYS and The HITEQ Center
November 1st, 2023

Introduction to HITEQ

The HITEQ Center is a HRSA-funded National Training and Technical Assistance Partner (NTTAPs) that collaborates with HRSA partners including Health Center Controlled Networks, Primary Care Associations and other NTTAPs to engage health centers in the optimization of health IT to address key health center needs through:

- A **national website** with health center-focused resources, toolkits, training, and a calendar or related events.
- **Learning collaboratives**, **remote trainings**, and **on-demand technical assistance** on key content areas.

www.HITEQcenter.org | hiteqinfo@jsi.com | **@HITEQcenter**

HITEQ Topic Areas

Access to comprehensive care using health IT and telehealth

Privacy and security

Advancing interoperability

Electronic patient engagement

Readiness for value based care

Using health IT and telehealth to improve Clinical quality and Health equity

Using health IT or telehealth to address emerging issues: behavioral health, HIV prevention, and emergency preparedness

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling $693,000 with 0 percentage financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.

Nathan Botts
PhD, MSIS,
Healthcare Interoperability

Senior Study Director, Westat – Healthcare Delivery, Research, and Evaluation

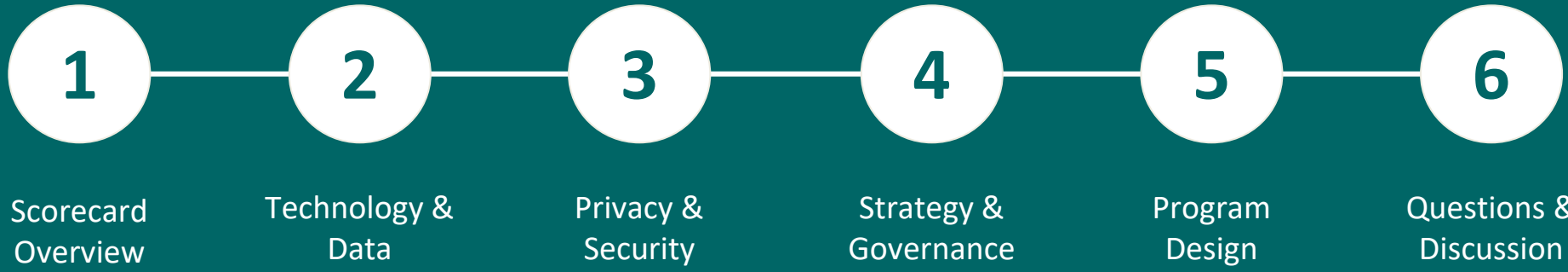
HIE and Interoperability domain SME for the HRSA HITEQ Center

KPI Lead for interoperability analysis across 11 years of performance evaluation for the Veterans Health Information Exchange (VHIE) project

Clinical Implementation lead for the CDC Making EHR Data More Available for Research and Public Health (MedMORPH) project

HL7 Mobile Health Co-Chair

Today’s Agenda



1

Scorecard Overview

Keys to Successful Interoperability Implementation

Process refers to structured processes, policies, and procedures within the health center.

Infrastructure refers to structural capacity and ability within the health center's technology and staffing structure.

Action refers to full implementation to the point of active and ongoing use and engagement.

Interoperability Scoring

Each area key to interoperability are to be self-graded on a scale of 1 through 5, where 1 is poorly or not yet developed and 5 is well developed.

Review the score card. Address questions, such as those about terminology or that need internal background knowledge.

Bring together a multi-disciplinary team, perhaps an existing data governance or improvement team, to discuss and complete the score card.

Take the score card results and use them to inform next steps. Re-evaluate once steps have been completed.

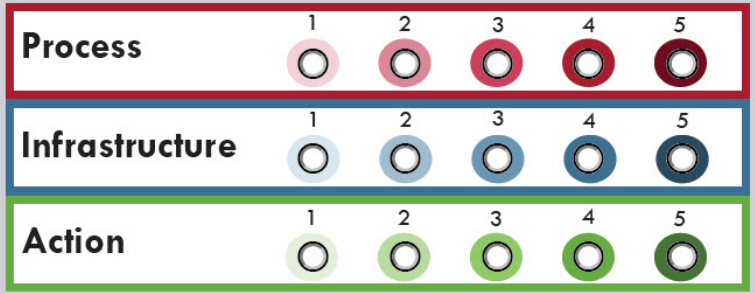
2

Technology and Data

Data Ingestion

Data Ingestion

Data ingestion involves receiving data from various sources, processing it to ensure its quality and accuracy, and then integrating it into the health information technology (health IT) system in a timely manner. This process can involve the use of various technologies such as interfaces, APIs, sFTP, and other tools that assist in extract, transform, and load (ETL) operations.



NOTES

NEXT STEPS

Data Integration and Interpretation

Data integration is when data from other health care sources can be effectively mapped, accessed, used, and analyzed by your health center, including for care and performance tracking. Think of this as structural interoperability.

Data Integration and Interpretation

	1	2	3	4	5
Process	○	○	○	○	○
Infrastructure	○	○	○	○	○
Action	○	○	○	○	○

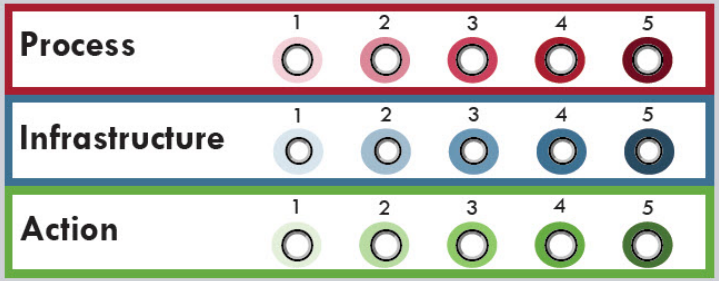
NOTES

NEXT STEPS

Standards-Based Data Sharing

Standards Based Data Sharing

Standards-based data sharing allows for technical and semantic interoperability of the data and procedures for secure exchange of patient health data, regardless of the specific software or hardware systems used. Standardized formats such as HL7® (Health Level Seven) V2 messages and HL7 FHIR® (Fast Healthcare Interoperability Resources) provide a common language for describing patient health information, making it easier for different healthcare systems to communicate with each other. In addition, standardized protocols such as Direct Messaging and SMART on FHIR provide secure methods for transmitting patient health information over the internet.



NOTES

NEXT STEPS

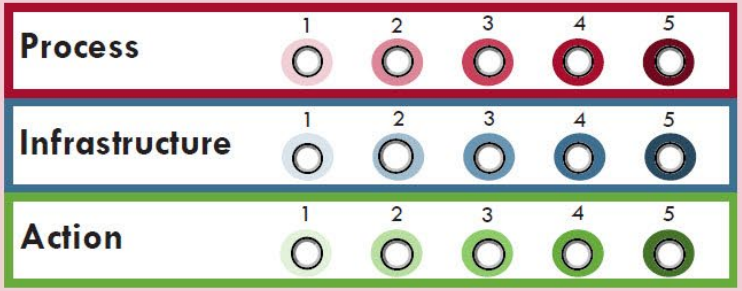
3

Privacy & Security

Security Risk Assessment

Security Risk Assessment

In addition to being required under HIPAA, conducting an Security Risk Assessment (SRA) helps identify vulnerabilities and develop a plan to mitigate the risks of a data breach. health IT is constantly evolving, and new technologies can bring new security risks. An SRA helps organizations identify and mitigate potential risks associated with any new health IT.



NOTES

NEXT STEPS

Implement Safeguards

Implement Safeguards

After completing the security risk assessment (SRA), health centers need to put appropriate **safeguards** in place where gaps were identified in order to mitigate potential risks and harden their systems. These safeguards should include a detailed action plan, technical and administrative safeguards, and monitoring. These should be driven by the results of the SRA.

	1	2	3	4	5
Process	○	○	○	○	○
Infrastructure	○	○	○	○	○
Action	○	○	○	○	○

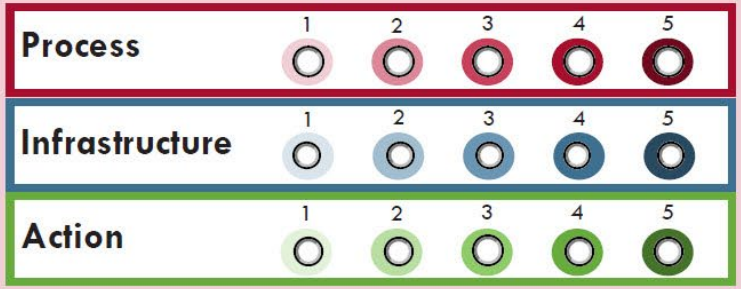
NOTES

NEXT STEPS

Support PHI Portability

Support PHI Portability

The 21st Century Cures Act, including it's Information Blocking Rule, requires that health centers (and all other actors), support access and use of patient **protected health information** while also protecting patient privacy. Health centers need to have policies and functionality in place to support this.



NOTES

NEXT STEPS

4

Strategy & Governance

Data Governance

Data Governance and Strategy

Data governance is the process of managing, organizing, and securing data throughout its lifecycle. In the context of health IT and readiness for interoperability, data governance refers to the policies, procedures, and standards that govern the management and use of patient data within the health center's systems. Shared definitions and processes are imperative to data validity. Altogether, these allow a health center to align metrics and improvements efforts to create a cohesive organizational **data strategy**.

	1	2	3	4	5
Process	○	○	○	○	○
Infrastructure	○	○	○	○	○
Action	○	○	○	○	○

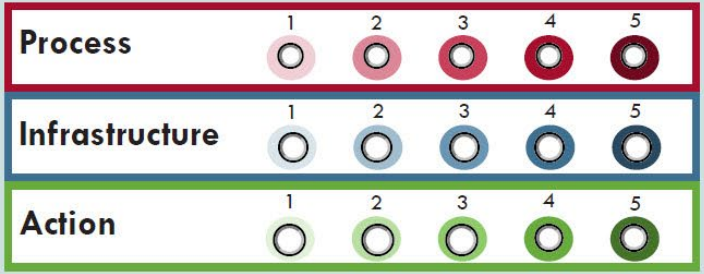
NOTES

NEXT STEPS

Defined Responsibilities

Defined Responsibilities

Specific **responsibilities** are needed to ensure quality, safety, and interoperability of the data. These responsibilities include data governance committees comprised of personnel from different departments charged with developing data standards, establishing data governance policies and procedures, and ensuring compliance with regulations. Data stewards are responsible for managing the organization's data assets and ensuring their quality, accuracy, and security-- meaning everyone is a data steward and must understand the role. Designing and implementing the organization's data architecture including monitoring data integration and related strategies, and ensuring data quality and accuracy, must also be an assigned responsibility.



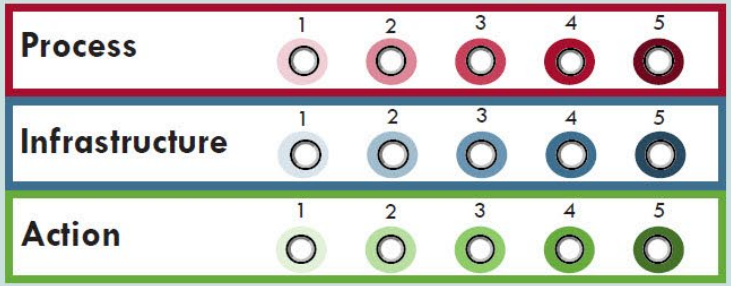
NOTES

NEXT STEPS

Organizational Interoperability Goals

Organizational Interoperability Goals

Establishing **organizational goals for interoperability** takes data exchange beyond external expectations and into the benefits for the health center's own patients and providers. Goals may include care coordination, streamlining care by reducing duplication, improving population health management, and furthering patient safety.



NOTES

NEXT STEPS

5

Program Design

Cross Functional Coordination

Cross Functional Coordination

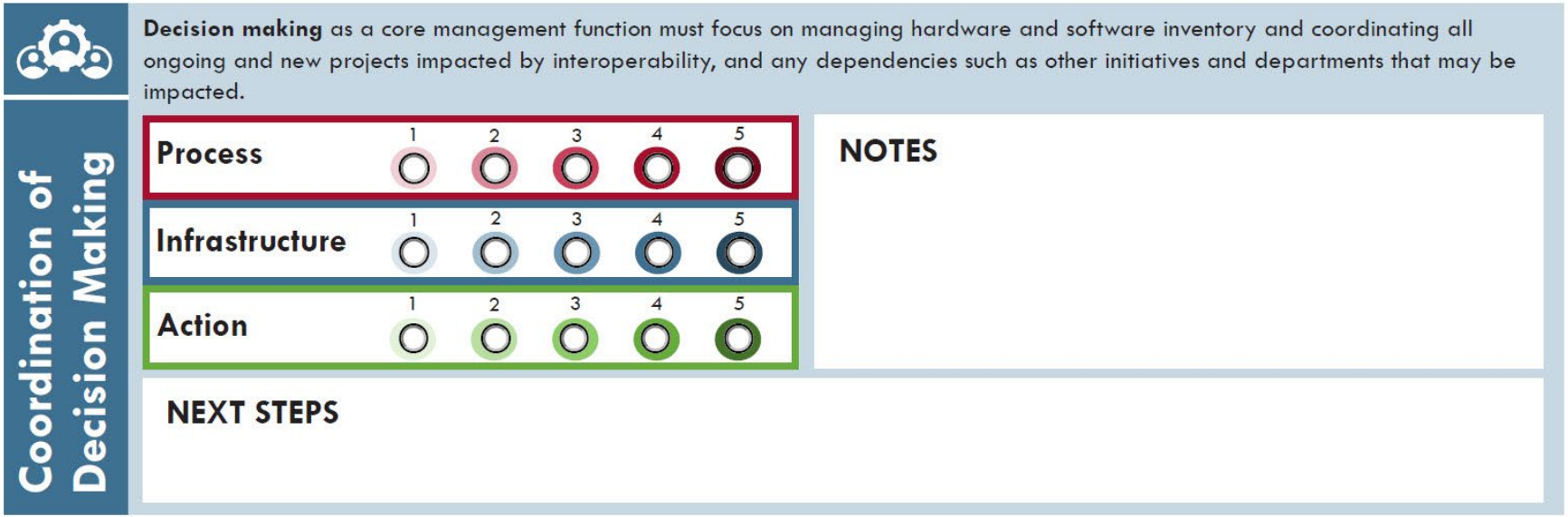
High quality data available to exchange and use is the responsibility of departments including those who are managing the system and data architecture (often IT and system administrators), those leading and training health center personnel (often clinic and transformation managers), and care teams themselves (providers, nurses, and other care staff). **Coordination** across these teams is critical for interoperability to be beneficial to the health center and it's patients.

	1	2	3	4	5
Process	○	○	○	○	○
Infrastructure	○	○	○	○	○
Action	○	○	○	○	○

NOTES

NEXT STEPS

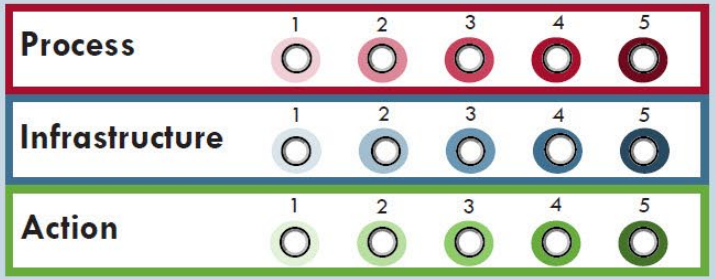
Coordination of Decision Making



Performance Tracking

Performance Tracking

Health centers should **track their performance** across key performance indicators (KPIs) that support their organizational goals using data analytics, benchmarking, and ongoing quality improvement on an ongoing basis. This might include indicators specific to interoperability such as measures of the volume or quality of information exchanged (HIMSS lays out these and other possible measures here) as well as monitoring clinical quality measures for improvement with the addition of external data made available through interoperability.



NOTES

NEXT STEPS

6

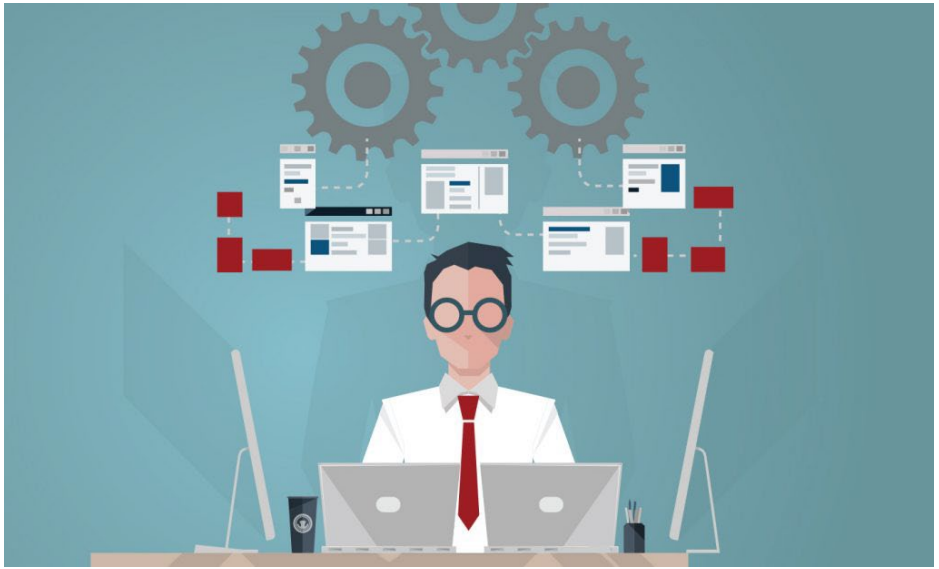
Questions and Discussion

Barriers and Opportunities

What types of interoperability challenges are you encountering?

What tools are you using that you have found success with?

Where do you run into the most barriers? Process, Infrastructure, Action?



How Can We Assist?

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Q
&
A

Continue the Conversation

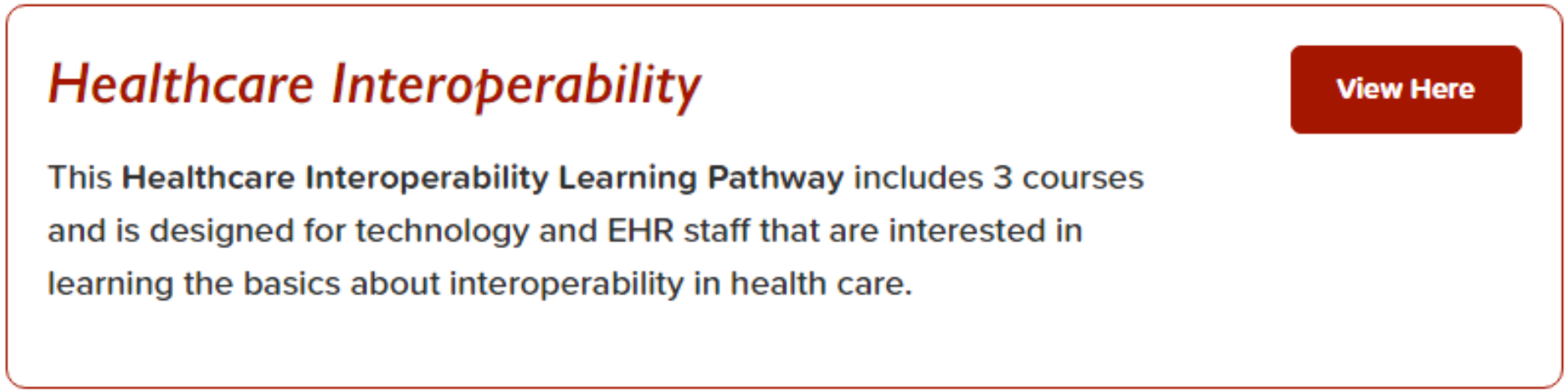
Day 2 of this virtual event is taking place **next Wednesday**, **November 8th from 12:00 – 1:30 pm**

RHIO Conversations taking place on November 15th and 16th. There is a separate registration so don't miss it!

We hope to see you then!

Interoperability 101 Course

- Join the CHCANYS Hub!



Thank you for joining us today. Please share your feedback using the survey link in the chat, the QR code below, or the link in the follow up email!