Quality on FHIR
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September 2023

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http://www.hl7.org/documentcenter/public/membership/HL7_Governance_and_Operations_Manual.pdf

MultiCare Connected Care™

Partnership of Hospital Systems and Medical Practices both employed and independent with a physician-led board

- 380K+ Lives under risk
- Headquarters: Tacoma, WA
- Number of practitioners: 5,200+
- 32 EHR platforms used across ACO

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Where we started:

- 30 quality measures reported via Web Interface through QPP.
- Sample of ACO patients

How it is going:

- 2 clinical quality measures
- 2 claims measures
- And the CAHPS for MIPS survey
- Reporting via eCQM or MIPS CQM, Medicare CQMs (proposed for PY 2024)

Proposed Reporting Methodologies

	MIPS CQM	eCQMs	Medicare CQMs
Data Accepted	Flat files, registry, EHR, manual abstraction	QRDA files produce directly from Qualified CEHRT EHRs	Flat files, registry, EHR, manual abstraction
Data Completeness Requirements	75%	Assumes 100%	75%
Scope of Reporting	All patients, All payers	All patients, All payers	Only Attributed Beneficiaries
Benchmarks	Higher than eCQMs	Benchmarks lower than MIPS CQMs	High compared to eCQMs

Business Case: Quality on FHIR

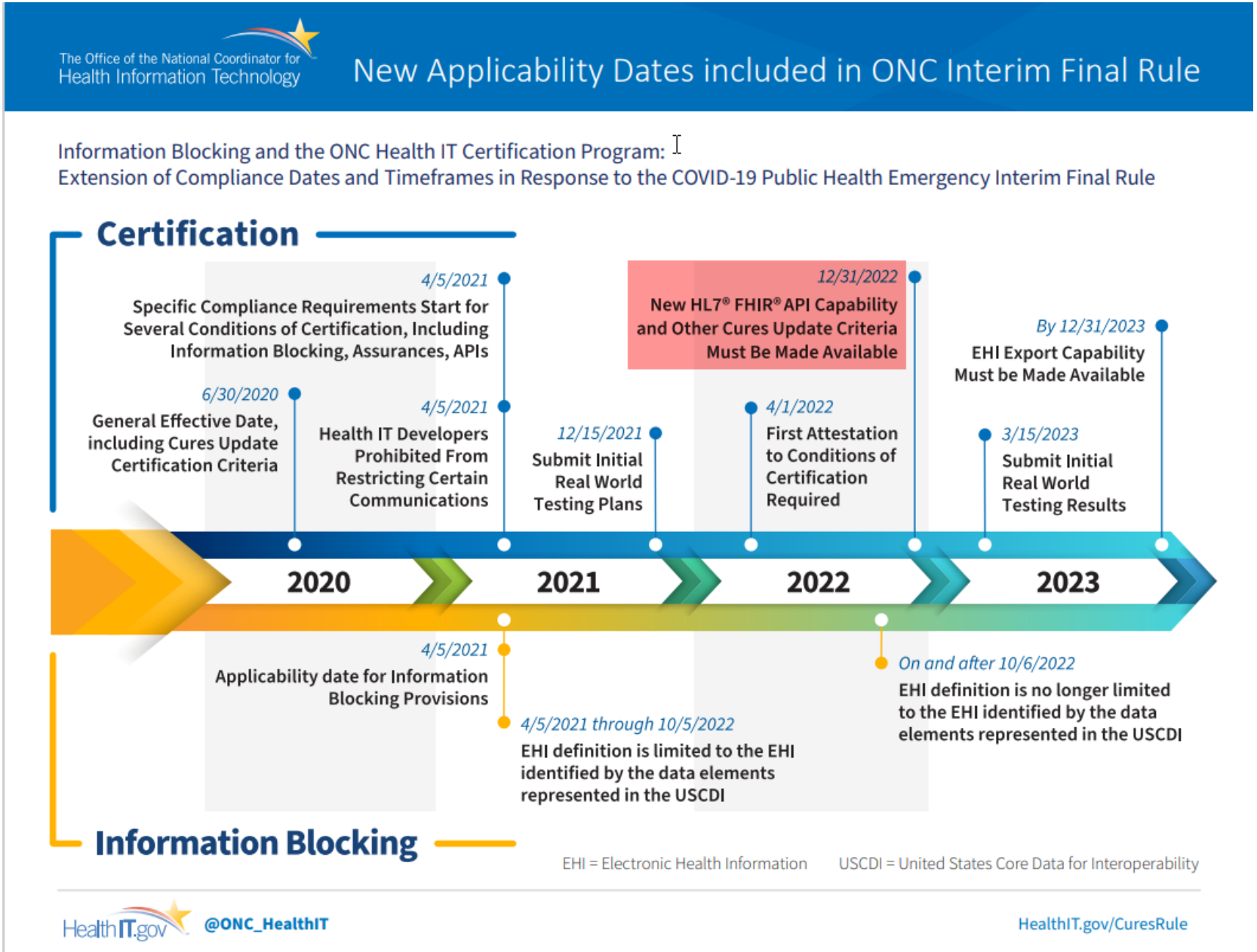
Accountable Care Organizations are required to report eCQM measures by performance year 2025 (Q1 2026):

- #1 Diabetes: Hemoglobin A1c (HbA1c) Poor Control
- #134 Preventive Care and Screening: Screening for Depression and Follow-up Plan
- #236 Controlling High Blood Pressure

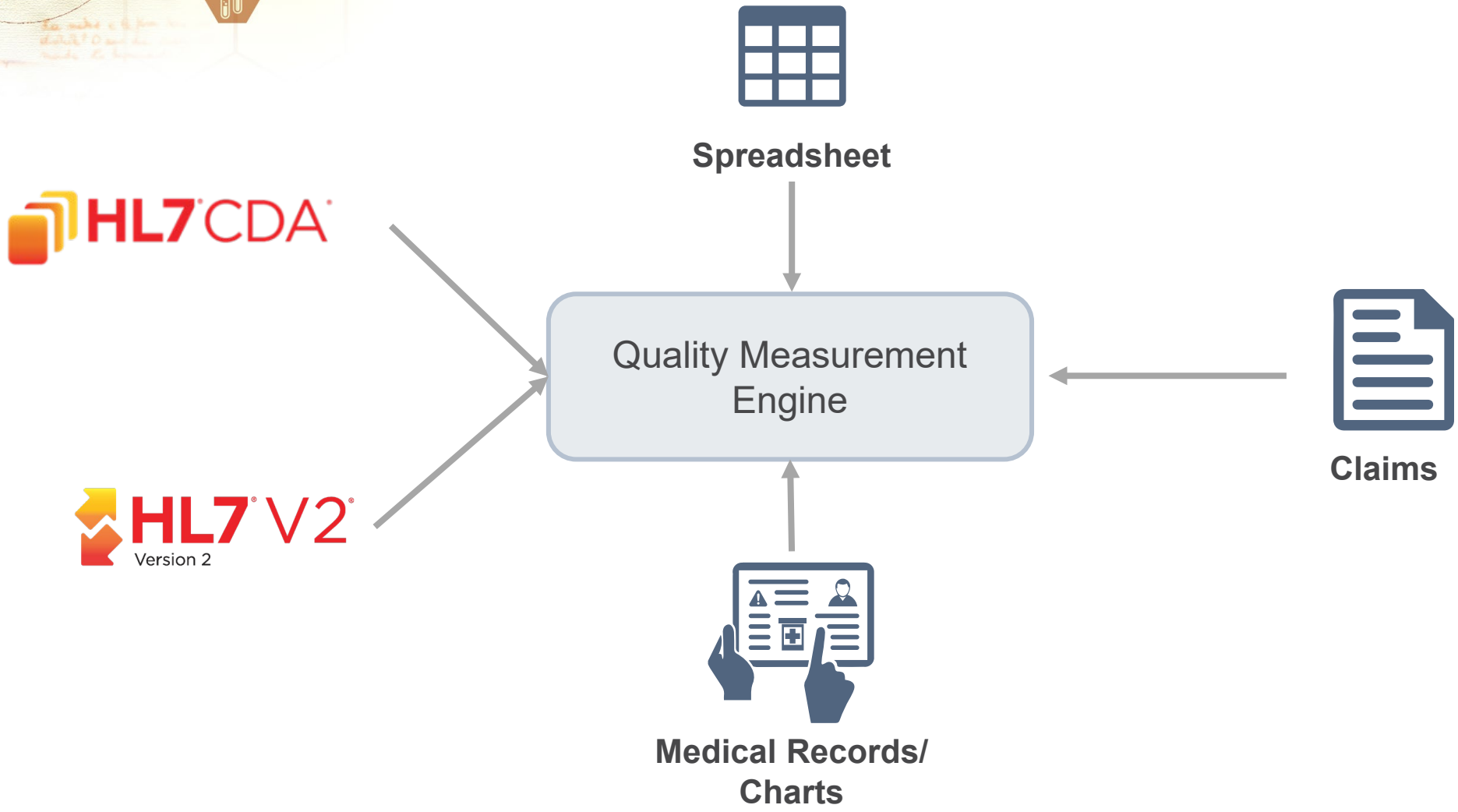
ACOs are made up of both single EMR and multiple EMR models. MultiCare Connected Care has 11 EMRs within their Medicare Shared Savings Program.

This is **ALL** patient requirement. Reporting on anyone who qualifies for the denominator. Previous methodologies include reporting a sample of 250 patients for 11 measures.

FHIR API's by 12/31/2022 for CHPL Certification



Why Do We Need a Change?



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Fast Healthcare Interoperability Resources (FHIR)

Web based Standards

- APIs are used in many industries
- Technology know by engineering resources
- Mobile friendly
- Common security model, OAuth 2.0/Open ID Connect

More Granular Data

More ability to require specific code sets

More Flexibility – can create “profiles” to require certain data and even add needed data

Represent all of healthcare - clinical data exchange, workflow, administrative and quality

Fast Healthcare Interoperability Resources

FHIR

Level 1 Basic framework on which the specification is built

Foundation	Base Documentation, XML, JSON, Data Types, Extensions

Level 2 Supporting implementation and binding to external specifications

Implementer Support	Security & Privacy	Conformance	Terminology	Exchange
Downloads, Version Mgmt, Use Cases, Testing	Security, Consent, Provenance, AuditEvent	StructureDefinition, CapabilityStatement, ImplementationGuide, Profiling	CodeSystem, ValueSet, ConceptMap, Terminology Svc	REST API + Search Documents Messaging Services Databases

Level 3 Linking to real world concepts in the healthcare system

Administration	Patient, Practitioner, CareTeam, Device, Organization, Location, Healthcare Service

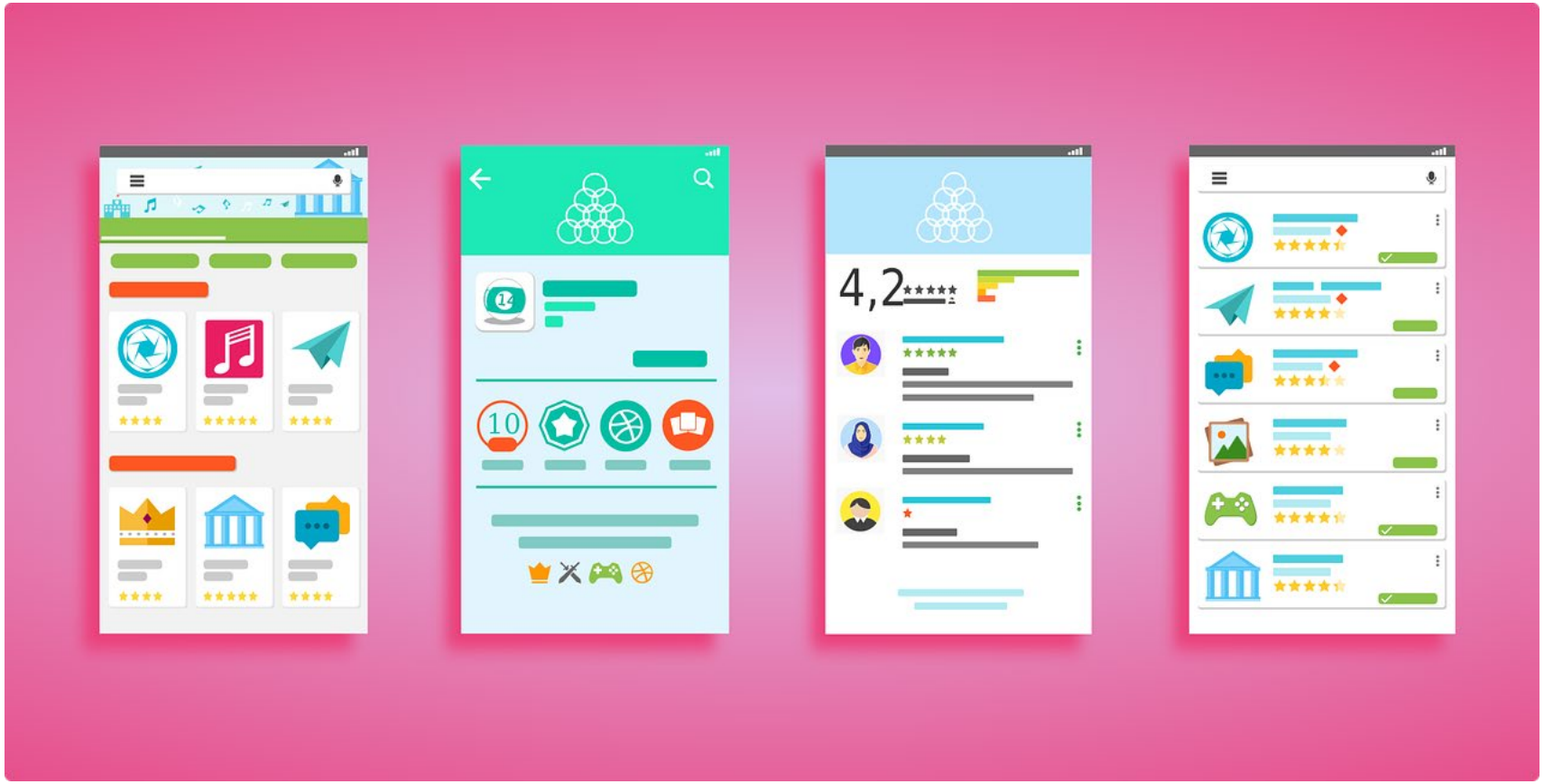
Level 4 Record-keeping and Data Exchange for the healthcare process

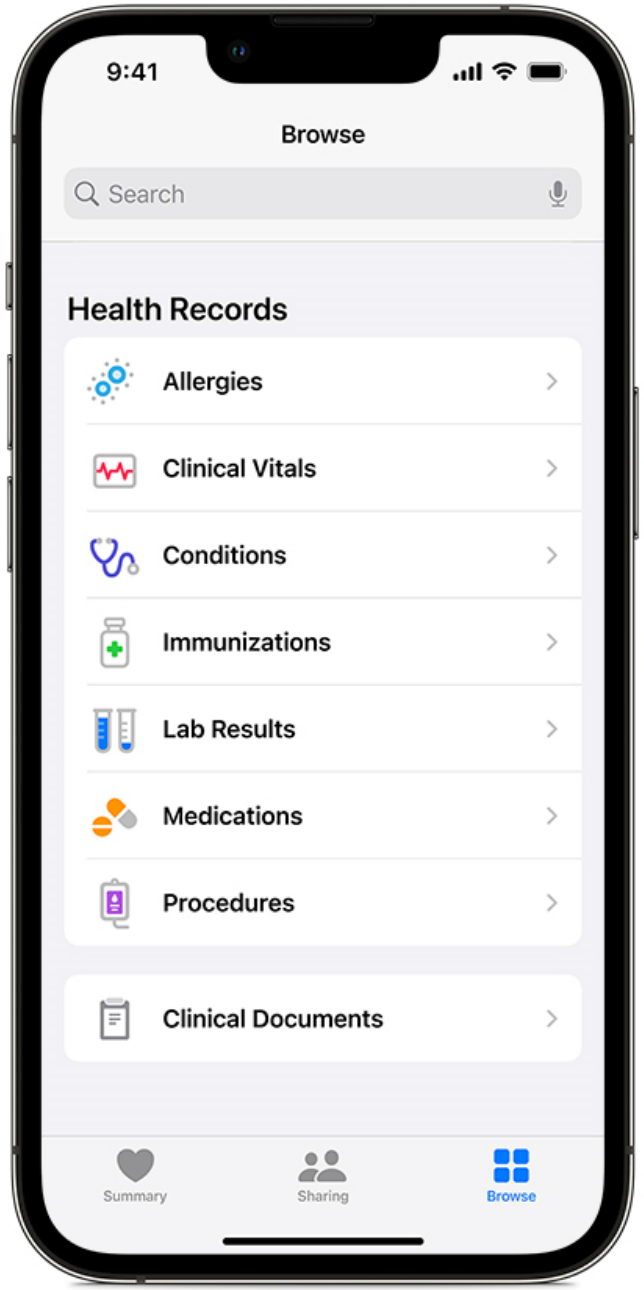
Clinical	Diagnostics	Medications	Workflow	Financial
Allergy, Problem, Procedure, CarePlan/Goal, ServiceRequest, Family History, RiskAssessment, etc.	Observation, Report, Specimen, ImagingStudy, Genomics, Specimen, ImagingStudy, etc.	Medication, Request, Dispense, Administration, Statement, Immunization, etc.	Introduction + Task, Appointment, Schedule, Referral, PlanDefinition, etc	Claim, Account, Invoice, ChargeItem, Coverage + Eligibility Request & Response, ExplanationOfBenefit, etc.

Level 5 Providing the ability to reason about the healthcare process

Clinical Reasoning	Library, PlanDefinition & GuidanceResponse, Measure/MeasureReport, etc.

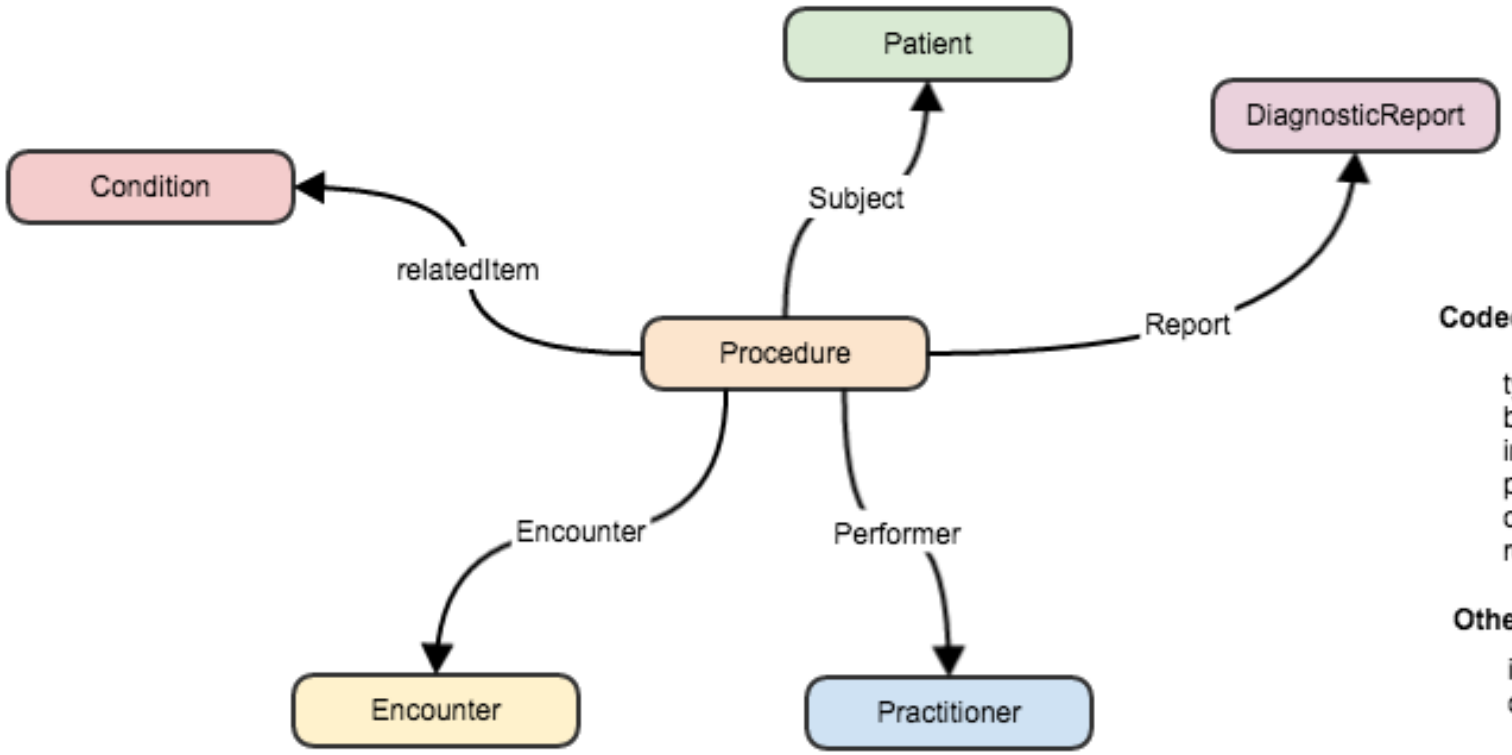
Widely Used Technology





Healthcare - Health Records - Apple

FHIR Resources



Coded properties

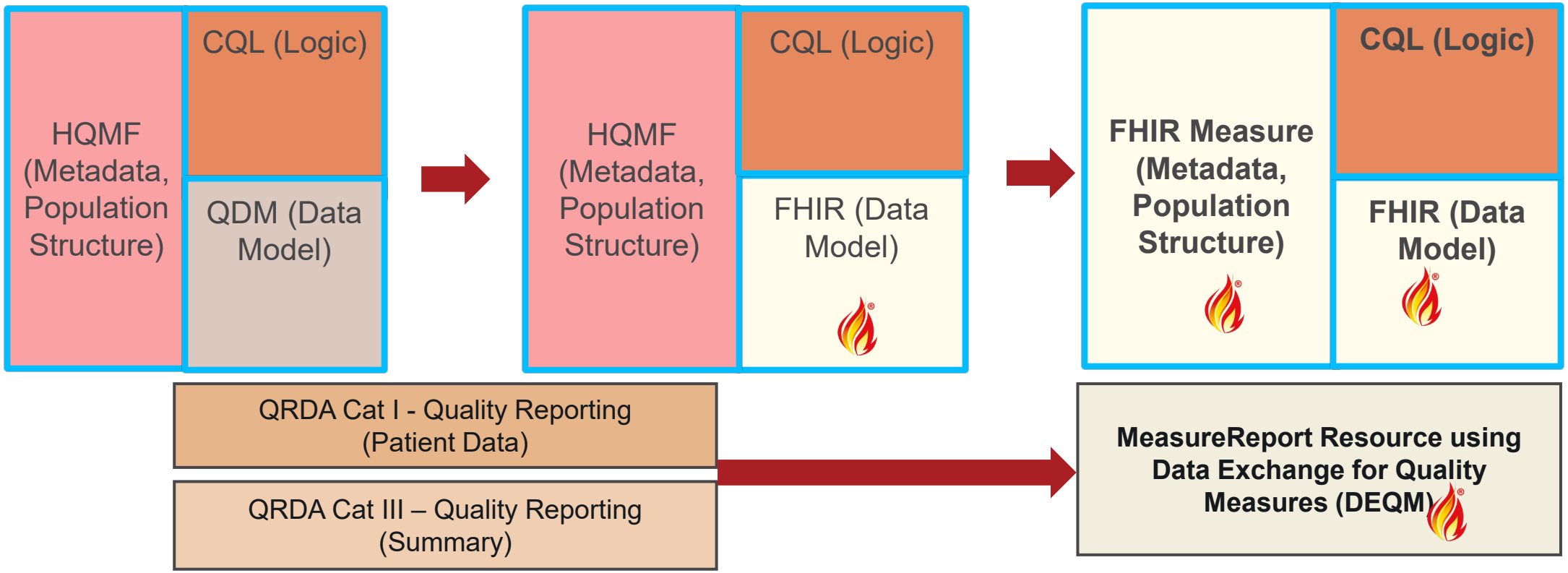
type
bodySite
indication
performer.role
complication
relatedItem.type

Other properties

identifier (Identifier)
outcome (String)

Clinical resources in FHIR | Hay on FHIR (fhirblog.com)

FHIR'ing up Quality



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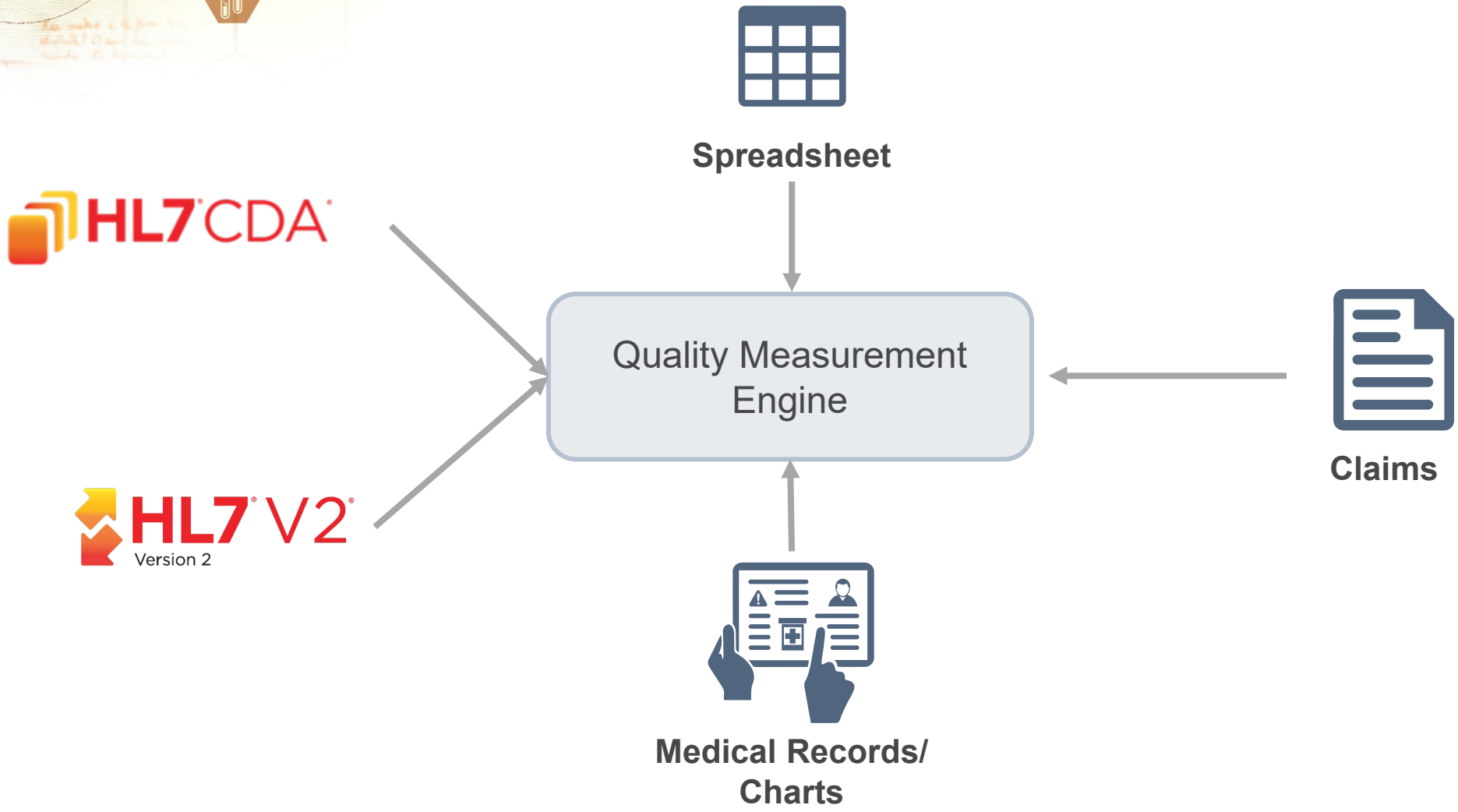

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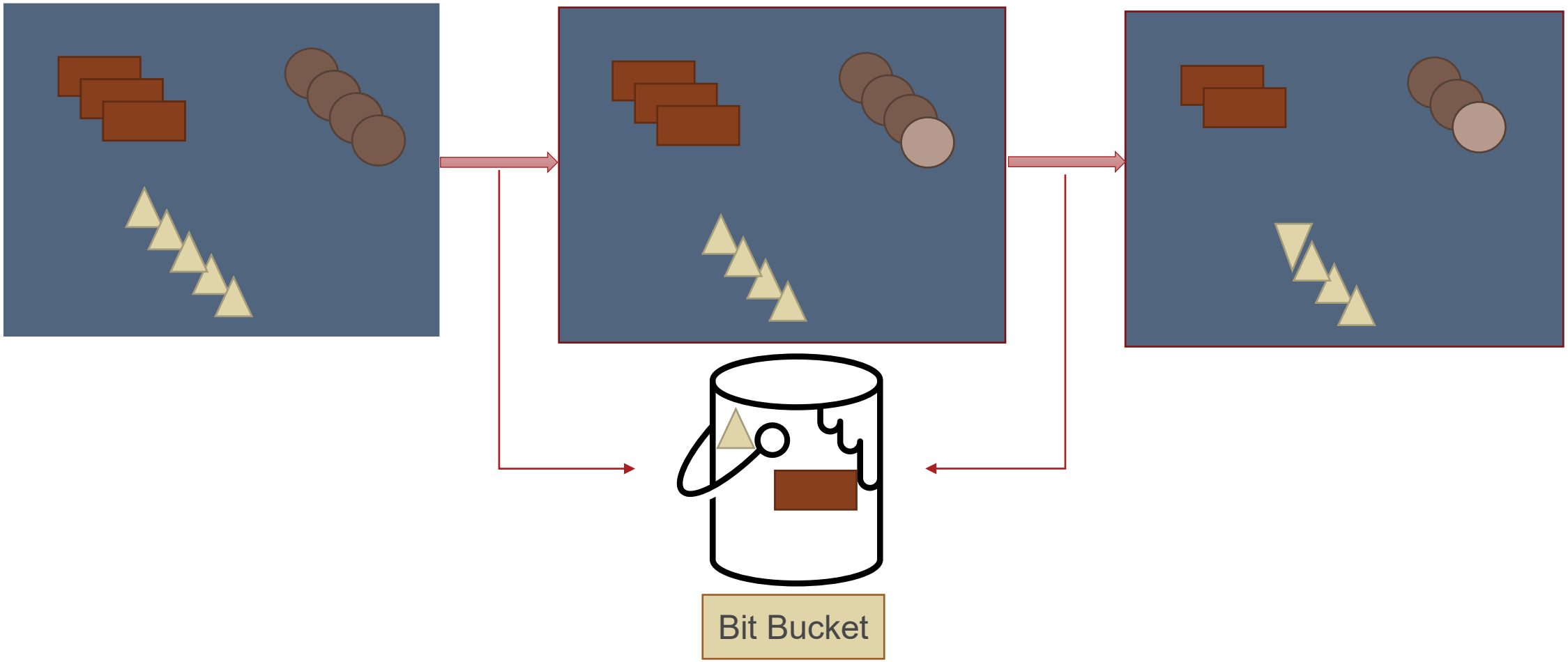
Lost in Translation



The Government is here to help…

2 USCDI v1

The Office of the National Coordinator for Health Information Technology

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

Assessment and Plan of Treatment

Care Team Members

For more info:
HealthIT.gov/USCDI

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

Goals

Health Concerns

Immunizations

Laboratory
- Tests
- Values/Results

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 *NEW
- Previous Address *NEW
- Phone Number *NEW
- Phone Number Type *NEW
- Email Address *NEW

Problems

Procedures

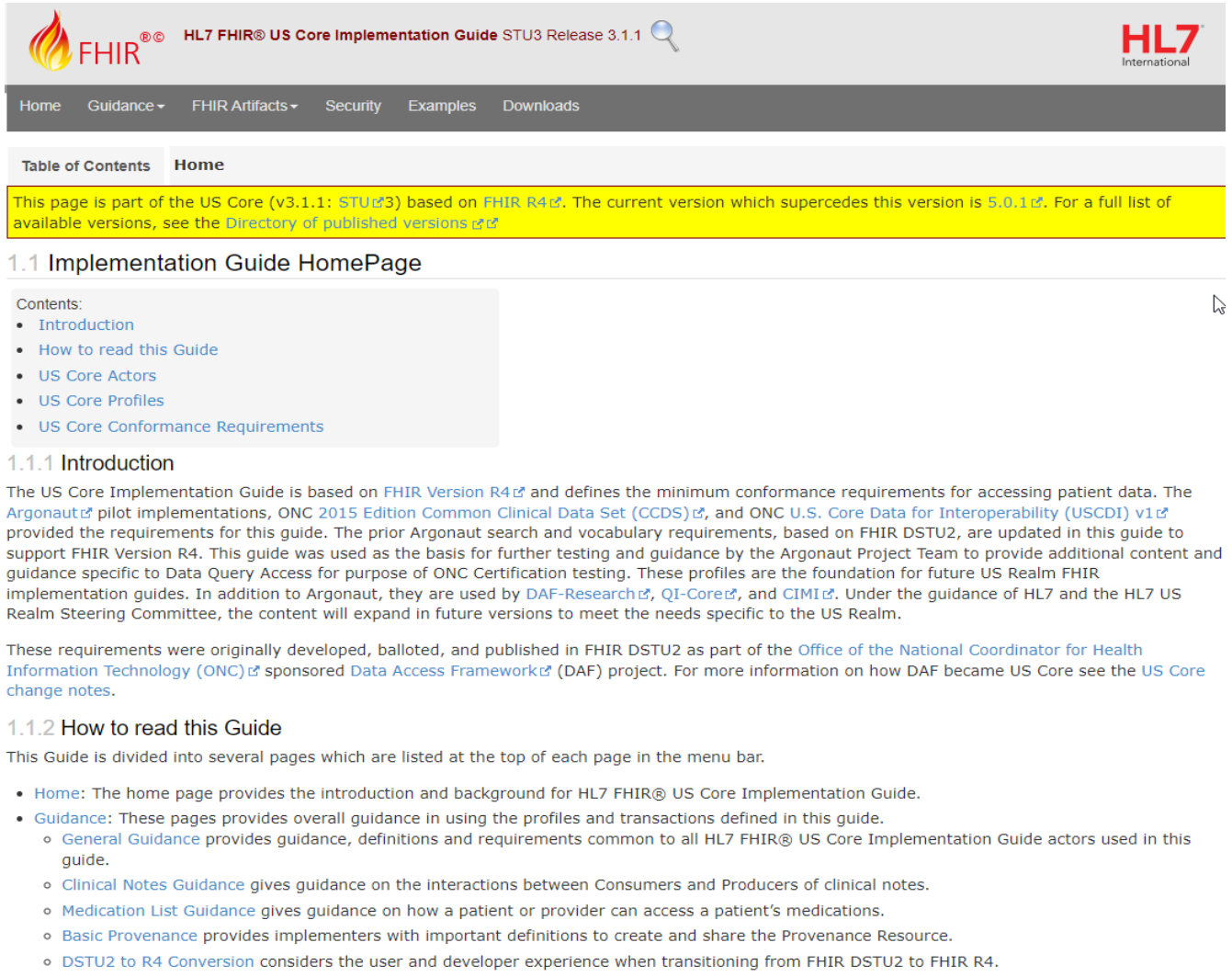
Provenance *NEW
- Author Time Stamp
- Author Organization

Smoking Status

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 old) *NEW
- Weight-for-length Percentile (Birth - 36 months) *NEW
- Occipital-frontal Head Circumference Percentile (Birth - 36 months) *NEW

US Core Implementation Guide



HL7 FHIR® US Core Implementation Guide STU3 Release 3.1.1

Home | Guidance | FHIR Artifacts | Security | Examples | Downloads

Table of Contents | Home

This page is part of the US Core (v3.1.1: STU3) based on FHIR R4. The current version which supercedes this version is 5.0.1. For a full list of available versions, see the Directory of published versions

1.1 Implementation Guide HomePage

Contents:

- Introduction
- How to read this Guide
- US Core Actors
- US Core Profiles
- US Core Conformance Requirements

1.1.1 Introduction

The US Core Implementation Guide is based on FHIR Version R4 and defines the minimum conformance requirements for accessing patient data. The Argonaut pilot implementations, ONC 2015 Edition Common Clinical Data Set (CCDS), and ONC U.S. Core Data for Interoperability (USCDI) v1 provided the requirements for this guide. The prior Argonaut search and vocabulary requirements, based on FHIR DSTU2, are updated in this guide to support FHIR Version R4. This guide was used as the basis for further testing and guidance by the Argonaut Project Team to provide additional content and guidance specific to Data Query Access for purpose of ONC Certification testing. These profiles are the foundation for future US Realm FHIR implementation guides. In addition to Argonaut, they are used by DAF-Research, QI-Core, and CIMI. Under the guidance of HL7 and the HL7 US Realm Steering Committee, the content will expand in future versions to meet the needs specific to the US Realm.

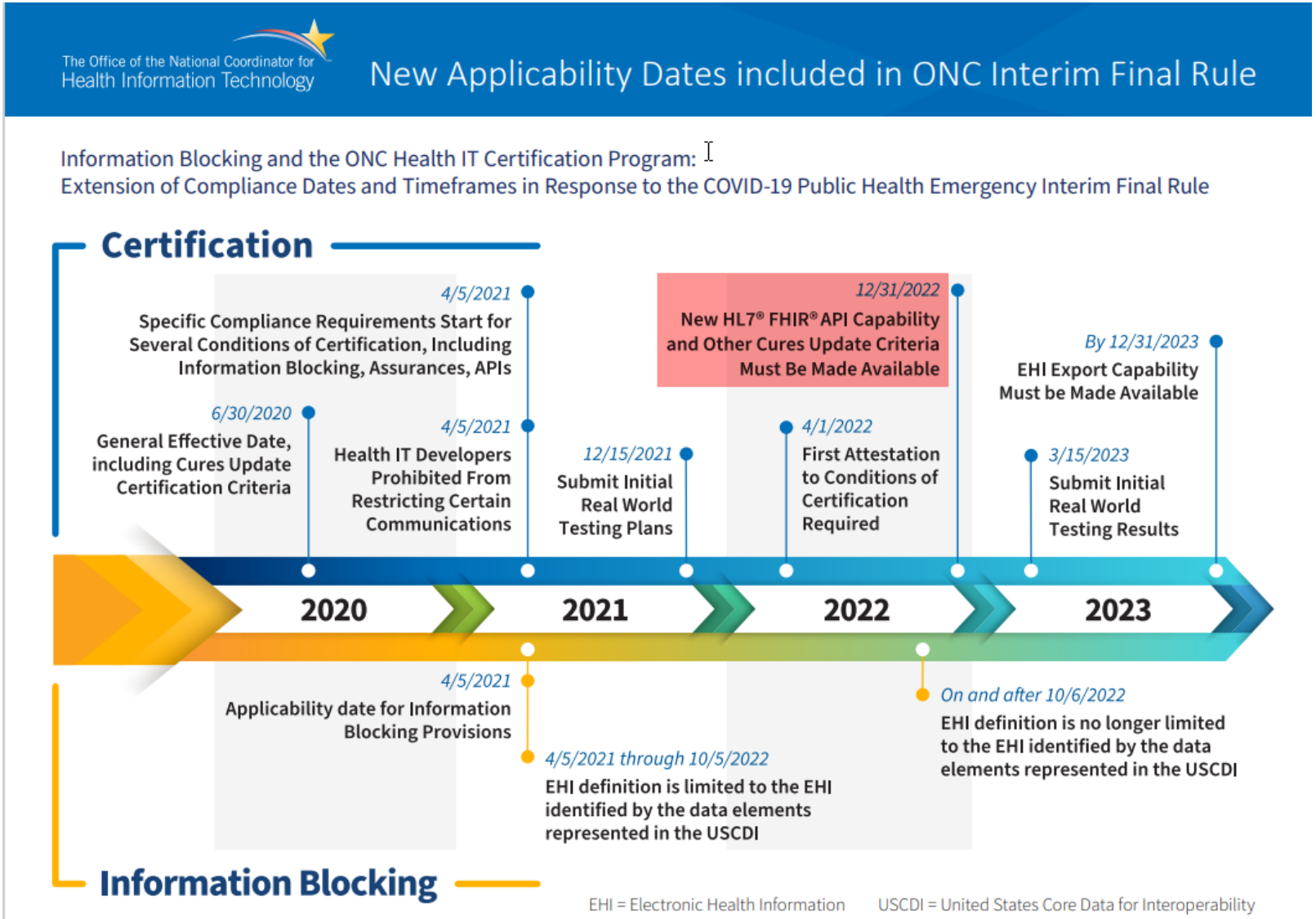
These requirements were originally developed, balloted, and published in FHIR DSTU2 as part of the Office of the National Coordinator for Health Information Technology (ONC) sponsored Data Access Framework (DAF) project. For more information on how DAF became US Core see the US Core change notes.

1.1.2 How to read this Guide

This Guide is divided into several pages which are listed at the top of each page in the menu bar.

- Home: The home page provides the introduction and background for HL7 FHIR® US Core Implementation Guide.
- Guidance: These pages provides overall guidance in using the profiles and transactions defined in this guide.
  - General Guidance provides guidance, definitions and requirements common to all HL7 FHIR® US Core Implementation Guide actors used in this guide.
  - Clinical Notes Guidance gives guidance on the interactions between Consumers and Producers of clinical notes.
  - Medication List Guidance gives guidance on how a patient or provider can access a patient's medications.
  - Basic Provenance provides implementers with important definitions to create and share the Provenance Resource.
  - DSTU2 to R4 Conversion considers the user and developer experience when transitioning from FHIR DSTU2 to FHIR R4.

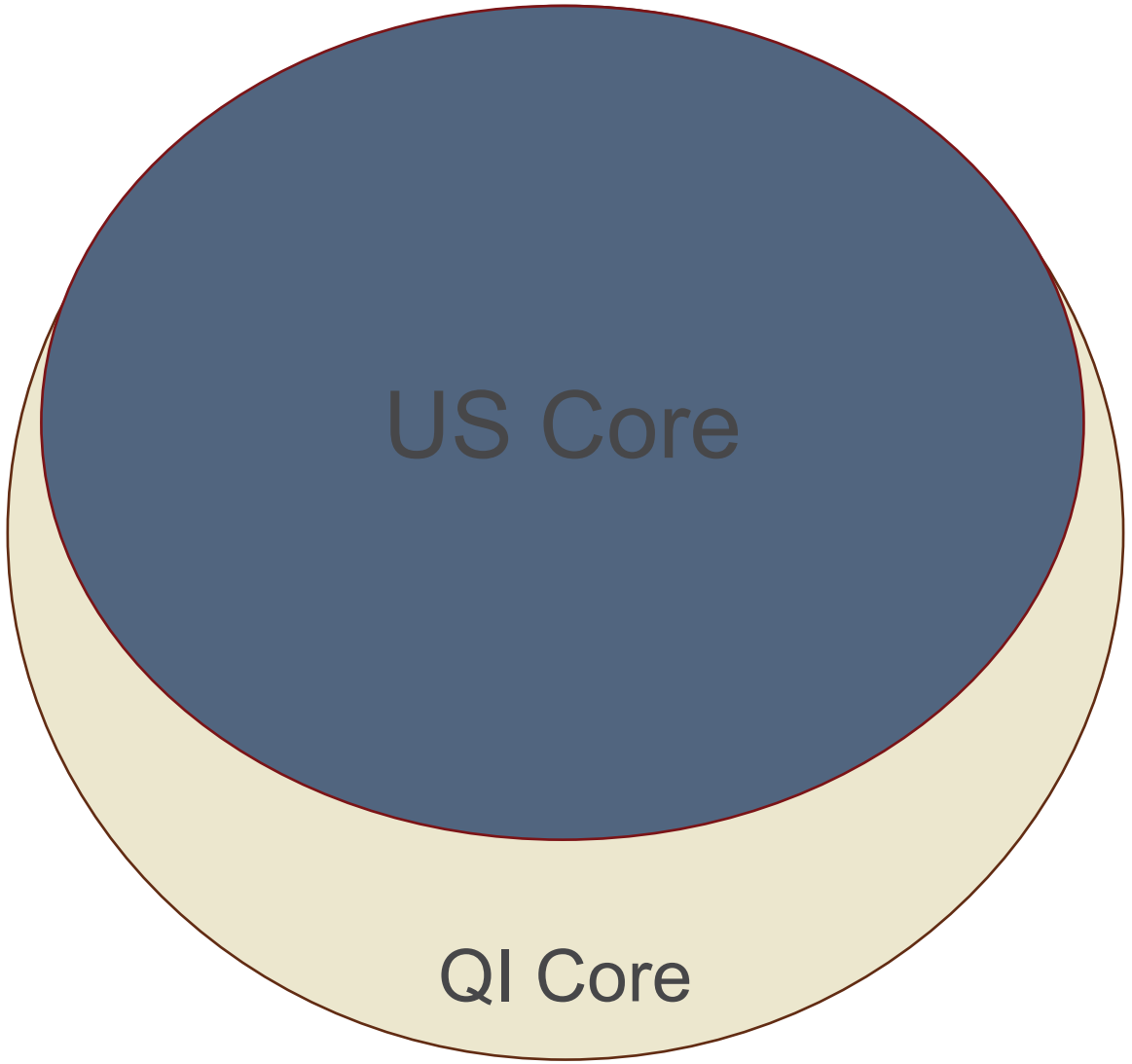
FHIR API's by 12/31/2022 for CHPL Certification



New Applicability Dates included in ONC Interim Final Rule (healthit.gov)

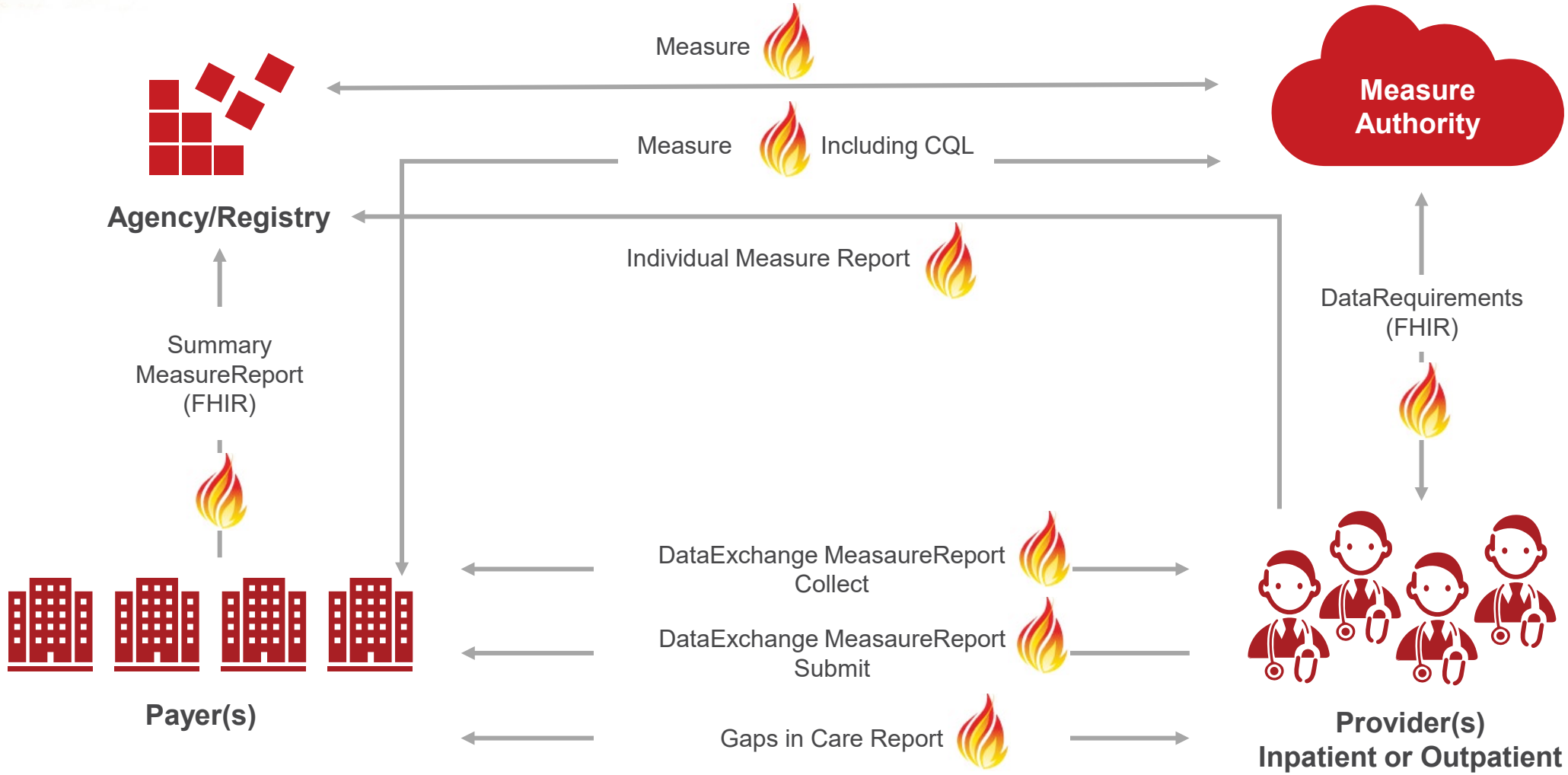
QI Core ≈ 70-75% in US Core

QI Core is FHIR data specifically designed for use with Quality. It is the FHIR representation of the Quality Data Model (QDM)



Quality Ecosystem on FHIR®©

(one possible set of interactions)



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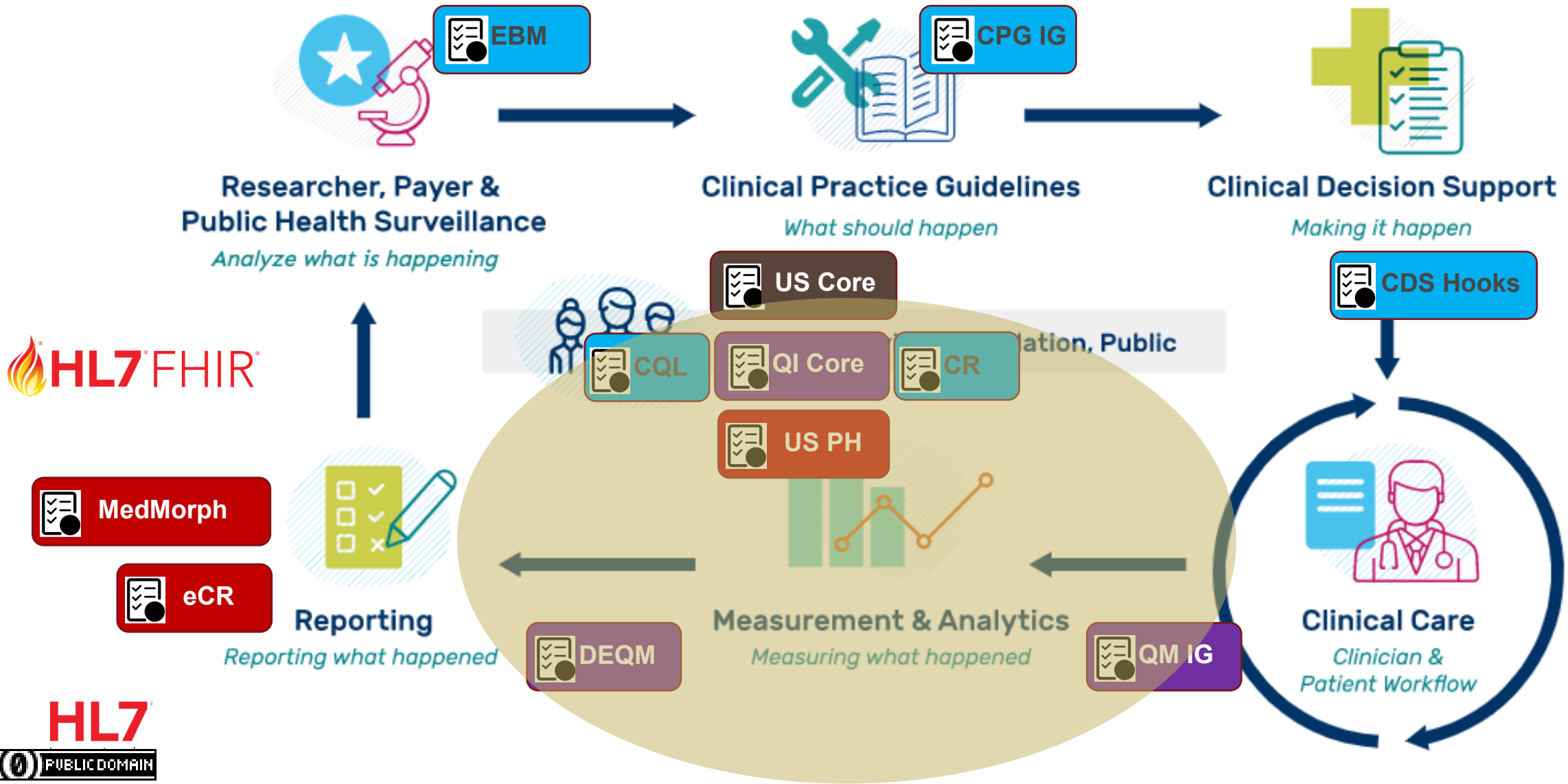
Quality Improvement Ecosystem

LEGEND: Sponsoring HL7 Workgroups
Clinical Decision Support (CDS)
Clinical Quality Information (CQI)
Public Health (PH)
Cross Group Projects (CGP)



HL7
PUBLIC DOMAIN

What Can I Do Now?

1. Ensure you are entering discrete data into the EHR in the right way and in the right place. Don’t forget appropriate coding and dates
2. Use a CHPL certified EHR to create FHIR US Core data including insuring that you participate in their “real world testing”
3. Check to see that your Population Health System is using native FHIR data and not translating it to their own database
4. The measures you use should be written by the measure author in CQL (Clinical Quality Language) with FHIR as the data model

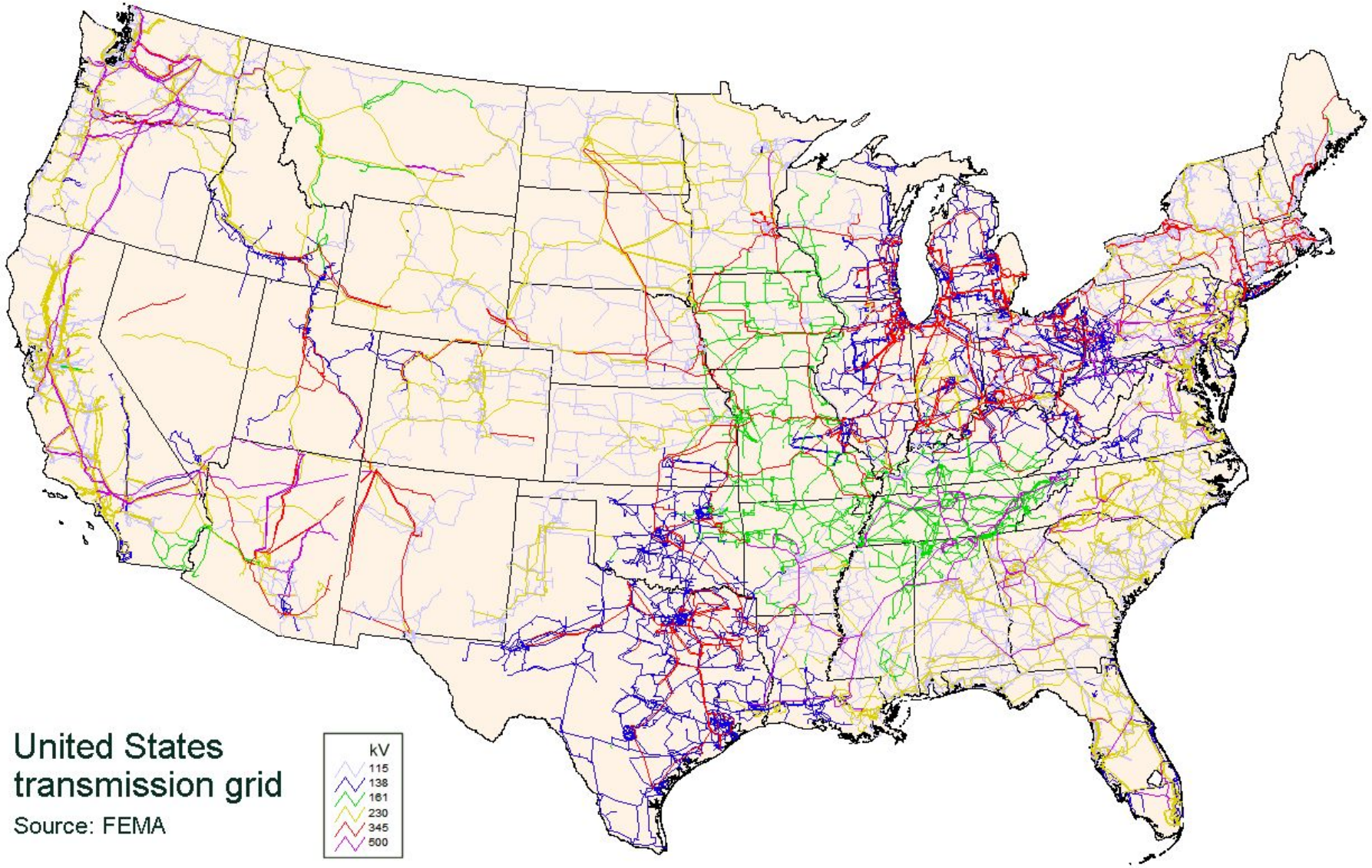
Have a Voice - Join Us in the Work

HL7

- Da Vinci FHIR Accelerator – Data Exchange for Quality Measures
  - Including Gaps in Care Reporting
- CQI Work Group for most IG's related to Quality
- Cross Group Projects Work Group for US Core
- Connectathon Clinical Reasoning Track

eCQI Resource Center

Electrical Grid of the Future



Many to Many Solution

https://www.hl7.org/fhir/resourcelist.html