



The Future of Standards for Clinical Quality Measurement & Reporting

Kanwarpreet Sethi

Co-Chair, HL7 Clinical Quality Information Workgroup

Director, Lantana Consulting Group

HIMSS '19, February 13, 2019

Agenda

- Background
- Current Standards
- Evolution of Standards
- Future Standards
- How to Get Involved

**INTEROPERABILITY
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Kanwarpreet (KP) Sethi

- Director of Information Analysis and Technology
- Lantana Consulting Group

Improving Healthcare by Transforming Health Information Interoperability and Data Predictability

Involved in HL7 for over 10+ years

Co-chairs of FHIR-I, Structured Documents, Clinical Quality Information

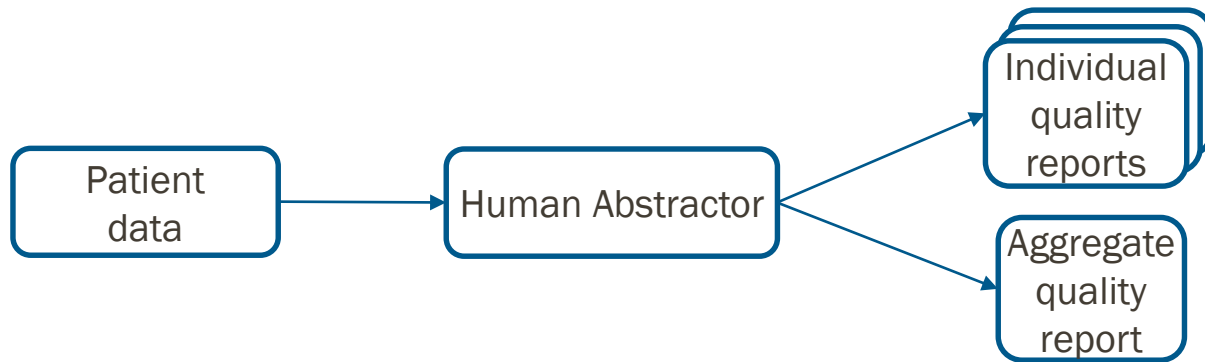
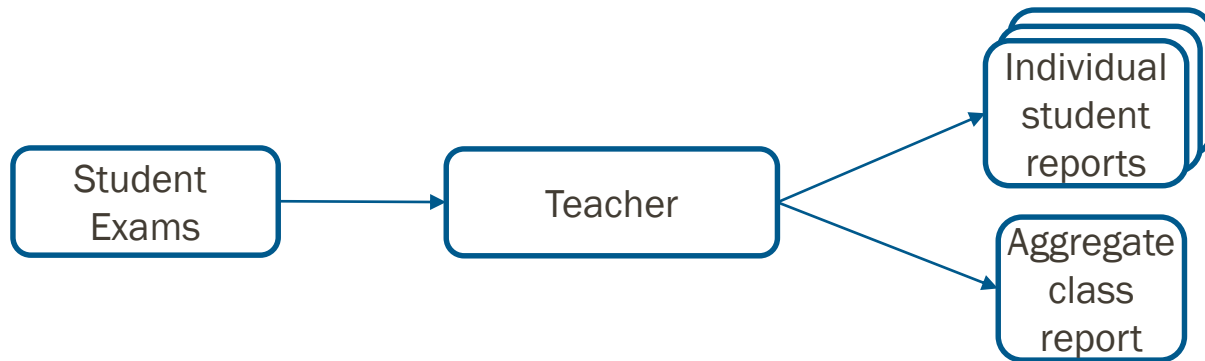
- Co-chair of CQI workgroup for 3 years
- Quality and Public Health reporting expert

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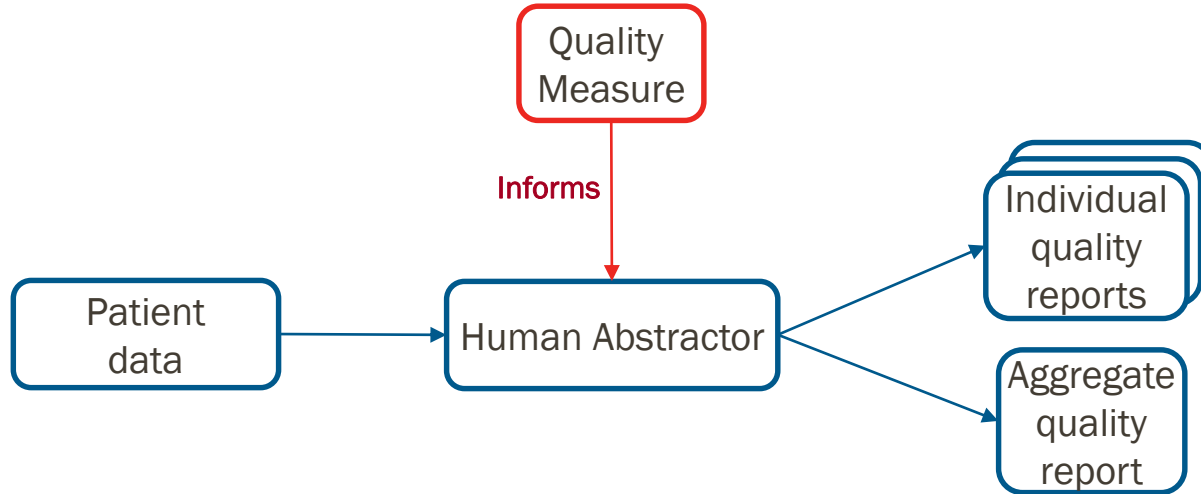
What is Quality Measurement?



Quality Improvement Ecosystem



What is a Quality Measure?



Evolution to Electronic Quality Measurement



- Paper-based Manual Process
- Human Abstractor
- Confirms intent of the Measure
- Chart by Chart, Patient by Patient

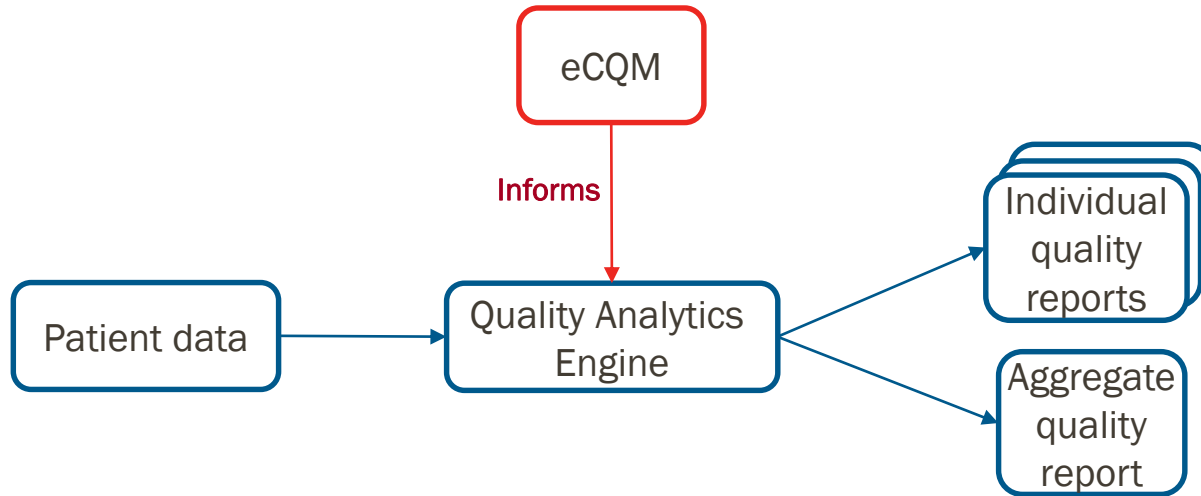
- Electronic Health Records
- Structured data capture
- Ubiquitous
- Codified data elements

- Electronic Quality Measurement
- Fully automated
- Measure logic is “retooled”
- Consistent and Less resource intensive

What is an eCQM?

- eCQM = **E**lectronic **C**linical **Q**uality **M**easure
- Quality Measure written in an electronic format for execution by a computer
- Designed to be fully automated for measurement and calculation of results
- Can originate from a “paper” measure or created from scratch

Electronic Quality Measurement

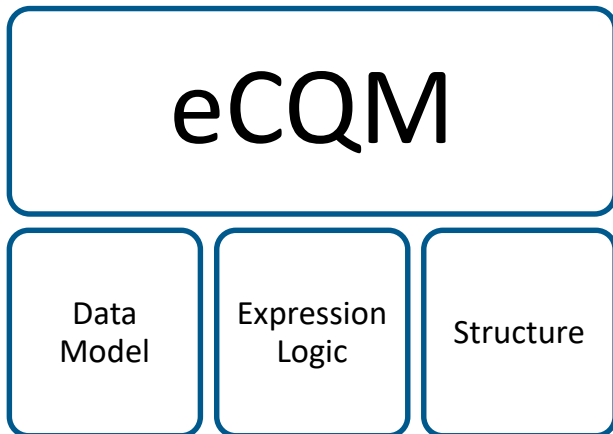


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Parts of an eCQM

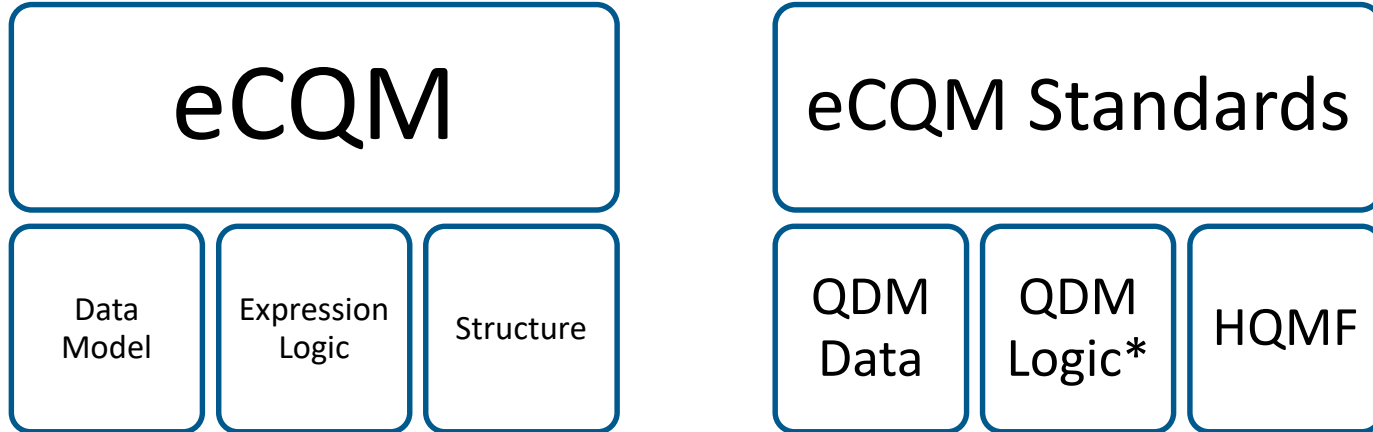


Data Model: What data to look for in the Patient's medical record

Expression Logic: How to calculate the result, evaluate the "right" care was provided

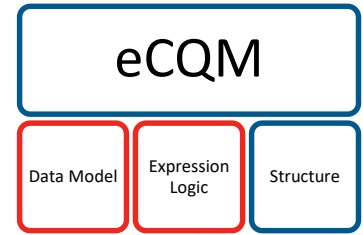
Structure: Metadata, Numerator, Denominator, Exclusions, Exceptions

Recent/Current Standards for eCQMs



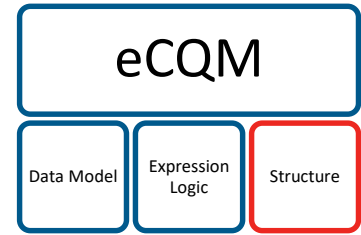
* QDM Logic replaced by Clinical Quality Language in 2019

Quality Data Model (QDM)



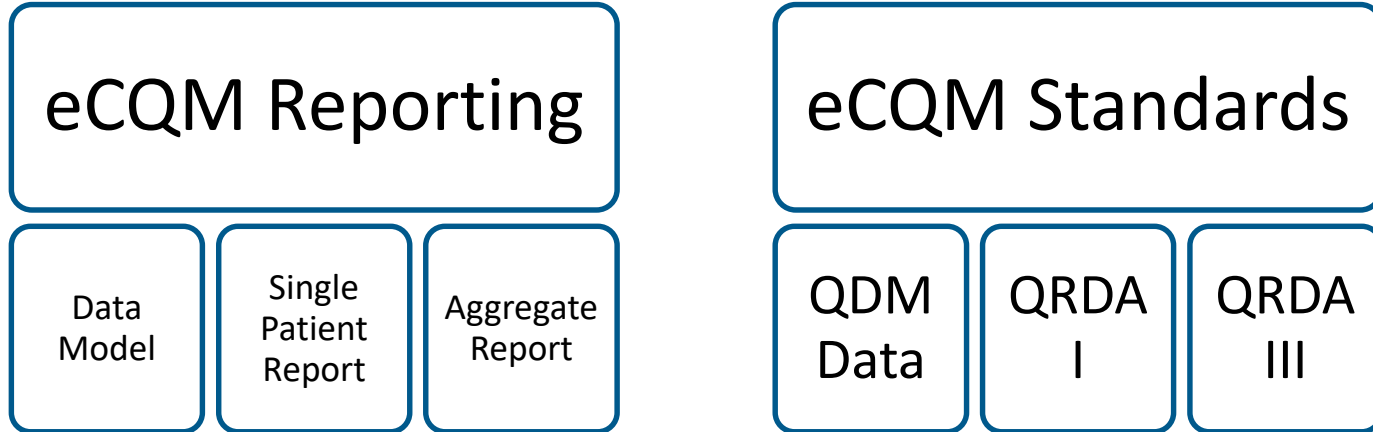
- Quality Data Model
- A model of information used to describe clinical concepts in a standardized format to enable clinical quality measurement
- Describes the data elements expected to exist in Clinical Systems
- Described logic and expressions used in eCQMs (pre 2019, QDM 5.0 and below)
- Not an HL7 standard but has been implemented in HQMF and QRDA

Health Quality Measure Format



- The first international standard to represent eCQMs
- Includes metadata, data elements, and logic
- Provides for quality measure consistency and unambiguous interpretation
- Translates QDM Data and Logic into machine readable data and logic
- Not intended for human readability or consumption

Current Standards for eCQM Reporting



QRDA

- Quality Reporting Document Architecture
- A standard for reporting patient or aggregate quality data for one or more quality measures
- QRDA Category I – Single Patient Report, Release 5.0
- QRDA Category II – Patient List Report*
- QRDA Category III – Aggregate Report, Release 2.1

* QRDA Category I and III are Standards for Trial Use (STU). QRDA Category II is not a STU.

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Quality Improvement Ecosystem



CDS and eCQM: Two Sides of the Same Coin



Clinical Guideline:
Current Best
Practice

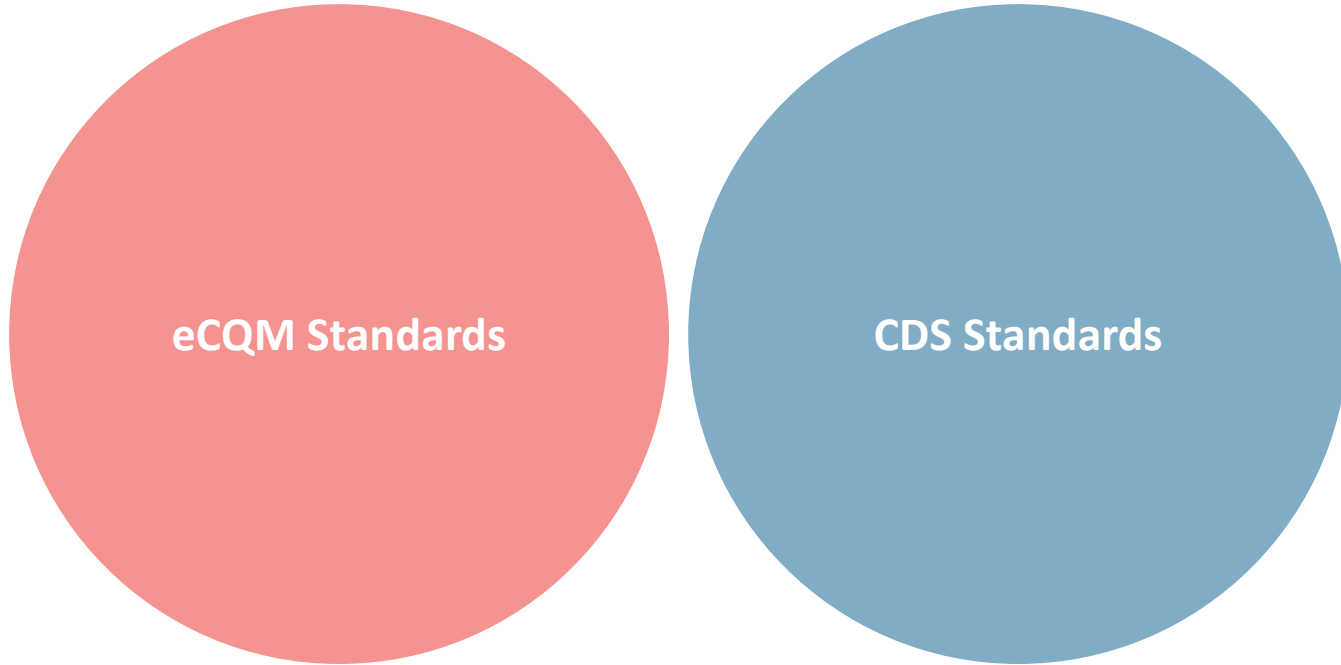


Quality Measure:
Analyzing if Best
Practices were
followed

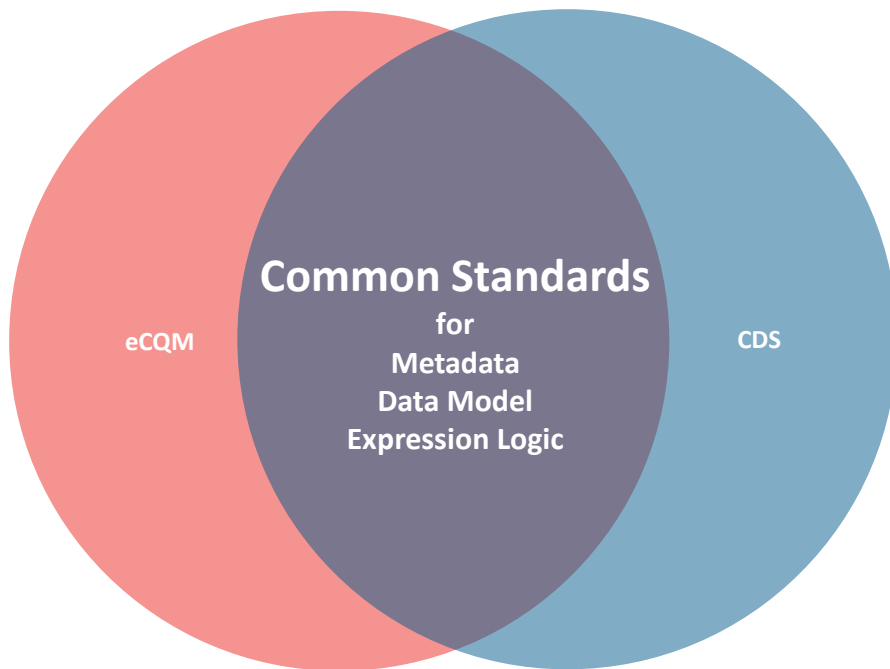


Decision Support:
Guiding the
Clinician toward
Best Practices

Different Standards for eCQM and CDS



End Goal: Harmonized, Shared Standards



- Need to harmonize and move towards FHIR
- Create artifacts, logic pieces that can be shared between eCQMs and CDS
- Reduce the burden on everyone: Implementers, authors, standards developers

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End Goal: Harmonized, Shared Standards

FHIR Clinical Reasoning Module:

Measure, Measure Report *and* Clinical Decision Support Artifact

Standard Description of Title, Author, Purpose

HL7 Common Metadata Standard

Common Method to Describe Health Data

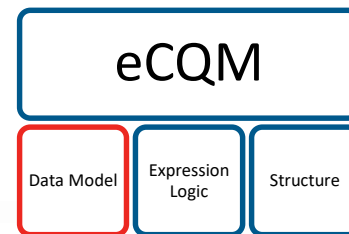
QUICK Data Model

FHIR QI Core Profiles

Common Method to Express Logic

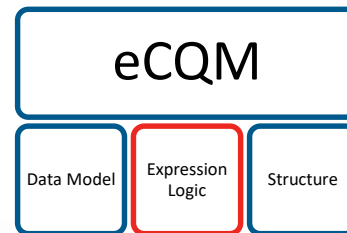
HL7 Clinical Quality Language (CQL)

Common Data Model: QUICK



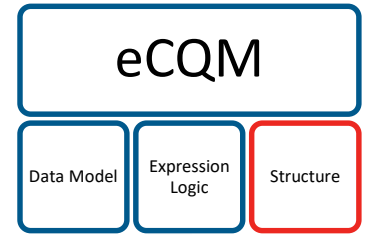
- **Quality Improvement and Clinical Knowledge (QUICK)**
- Logical model developed from harmonization of CDS and eCQM data models
- Provides a standard way to reference information in EHRs
- Derived automatically from FHIR QI Core Profiles
- **FHIR Profiles for Quality:** FHIR Artifacts needed for quality measurement, reporting and clinical decision support
- The QUICK logical model is automatically derived from the QI Core profiles
- Built upon US-Core, the FHIR representation of the “Meaningful Use” data set
- Maps fully to QDM data elements

Common Expression Language: CQL



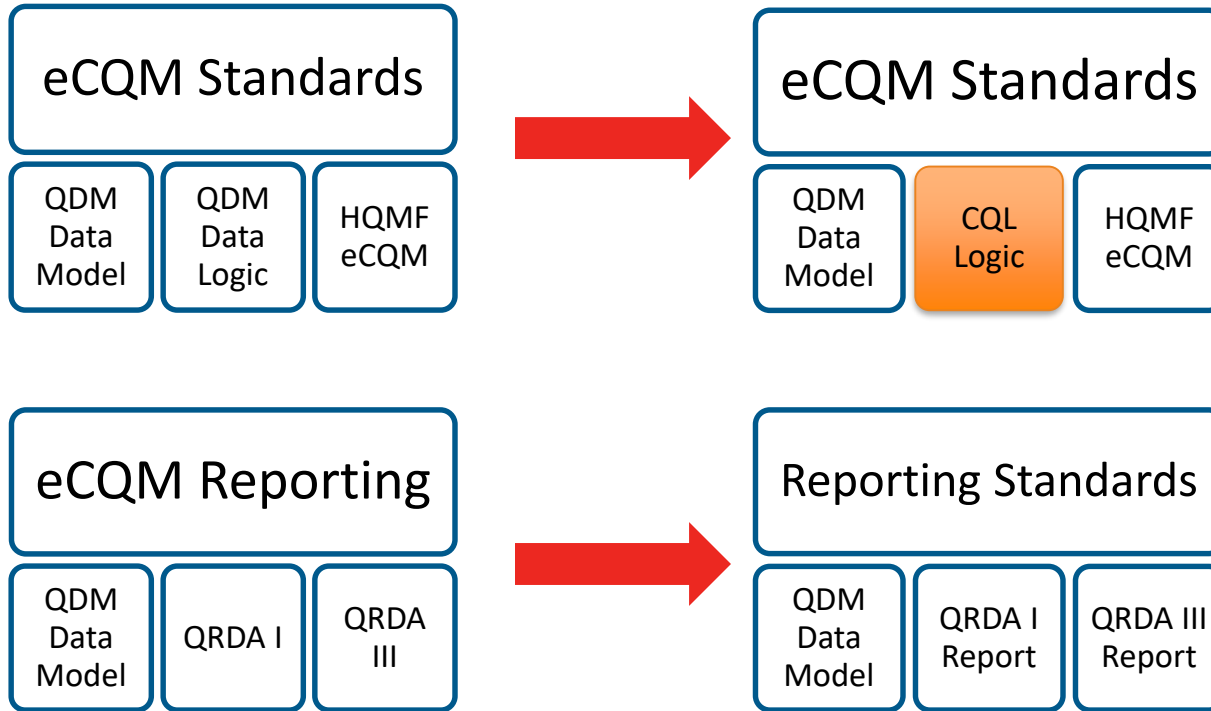
- Clinical Quality Language (CQL)
- Common expression logic for clinical quality and clinical decision support
- Built from requirements for QDM Logic and the CDS expression language
- Easy, human-readable syntax and authoring
- Data Model agnostic – can be used with QDM or QUICK

FHIR-based Measure & Measure Report

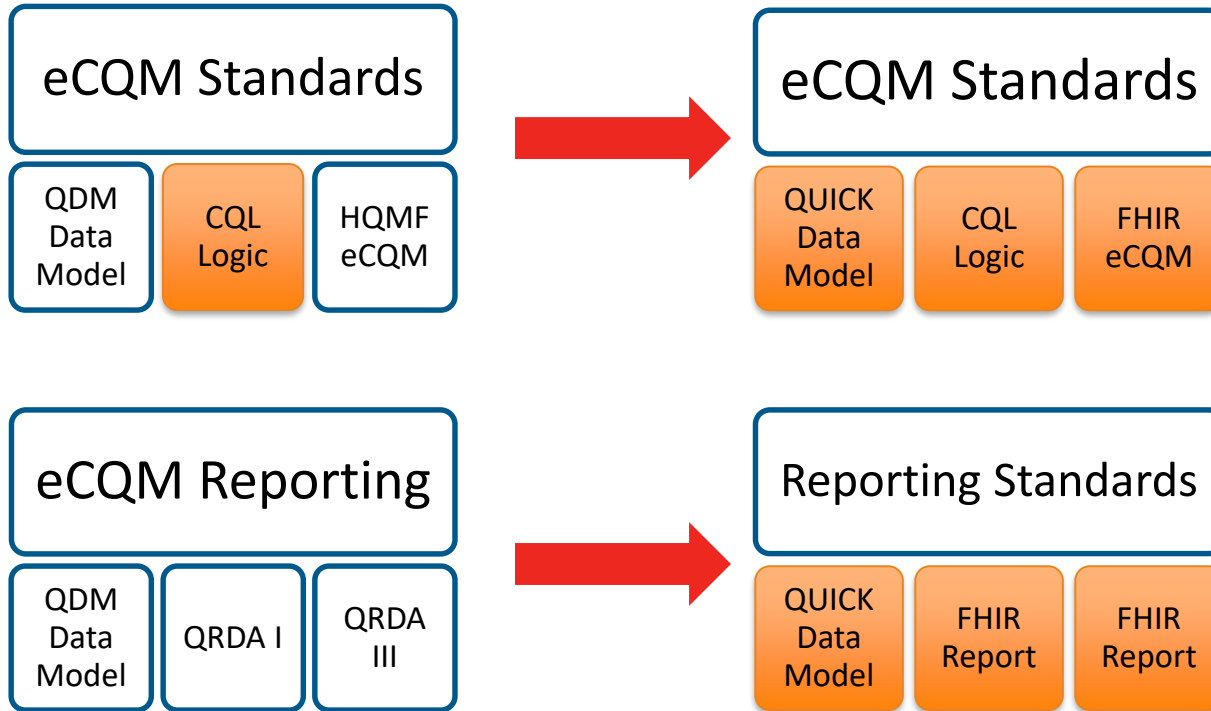


- **FHIR Measure**
 - Represents a clinical quality measure and provides evaluation through FHIR operation
 - Analogous to the **HQMF** standard
- **FHIR Measure Report**
 - Represents the result to a specific measure evaluation request
 - Contains single patient, aggregate, and patient-list reports
 - Analogous to the **QRDA** standards

Phase 1 Standards Change: Started 2017, Applicable 2019+



Phase 2 Standards Change: No Timeline Yet



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HL7 Clinical Quality Information Workgroup

- HL7 has worked on quality measurement and reporting standards for years
- Mostly done within the Structured Documents Workgroup
- Since 2010, significant work being done to enhance the standards for quality measurement and reporting using data from EHRs
- In 2012, HL7 formed the Clinical Quality Information Workgroup
- It's mission:
- Create and maintain information technology standards in support of improving health care quality, and to foster collaboration between quality measurement, outcomes and improvement stakeholders.

Clinical Quality Information Workgroup

- CQI WG Co-chairs

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Juliet Rubini, Mathematica Policy Research julietkrubini@gmail.com

Floyd Eisenberg, iParsimony, LLC feisenberg@iparsimony.com

Patricia Craig, The Joint Commission pcraig@jointcommission.org

Yan Heras, Optimum eHealth yanheras@gmail.com

How to Participate

- CQI Workgroup
- Weekly calls: Fridays, 1:00 – 3:00 pm ET
- F2F Working Group Meetings (3/year)
- Website: <http://www.hl7.org/Special/committees/cqi/index.cfm>
- Confluence page (has agendas, minutes, call information):
<https://confluence.hl7.org/display/CQIWC/Clinical+Quality+Information+WG+%28CQI%29+Home>
- Clinical Quality Framework (home for CQL, QUICK, FHIR Clinical Reasoning):
<https://confluence.hl7.org/display/CQIWC/Clinical+Quality+Framework>