

CMS Presents Authoring eCQMs Using the FHIR Standard HL7 FHIR® 201 Questions & Answers

Centers for Medicare & Medicaid Services (CMS) Webinar Q&As
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Q: It looks like Quality Improvement Core (QI-Core) profiles that overlap with US Core profiles (i.e., MedicationRequest) have differences in what elements must be supported. How are those deviations decided upon?

A: Such decisions are usually based upon requirements from the perspective of quality improvement. For example, the US Core MedicationRequest resource indicates that dosage information should be provided, but US Core does not go any further than that. It does not provide any detail about how one would provide that dosage information. Clinical Quality Language (CQL) can reference the calculation of Cumulative Medication Duration from onset to completion of the medication supplied. However, this requires presentation of the medication data in a consistent pattern. So, the QI-Core profile provides information to implementers about the way that the measure expects the data to be provided. Discussion between HL7 workgroups, like the Clinical Quality Information and Pharmacy Work Groups, supports specification of QI-Core. In addition, Health Level Seven International® (HL7®) Fast Healthcare Interoperability Resources® (FHIR®) Connectathon testing and discussion helps ensure that vendor implementation results in correct application of QI-Core profiles.

Q: Will Quality Improvement Core (QI-Core) completely replace Quality Data Model (QDM) as a human readable format or is this in addition to QDM?

A: QI-Core replaces QDM as the model for measures developed in Fast Healthcare Interoperability Resources® (FHIR®). From the standards-stack perspective, it is a total replacement. At this point, the focus is on the evolution of the QI-Core standard, but there is no timeline specified for the replacement of QDM. The QI-Core implementation guide contains mappings from QDM to QI-Core to support evolution of measure specifications and implementations to FHIR-based quality reporting.

Q: What's the difference between:
[“Observation”: result in “value set”] vs. [“Observation”: “value set”]?

A: Clinical Quality Language (CQL) allows data models to specify the default element to be used for terminology filtering of results in a retrieve. If the retrieve does not specify a terminology filtering path, then the default as specified by the model is used.

Using CMS 124v9, Cervical Cancer Screening as an example:

```
["Observation": "Pap Test"] CervicalCytology  
  where CervicalCytology.relevantDatetime 3 years or less on or before  
  end of "Measurement Period"  
  and CervicalCytology.result is not null
```

This example definition does not contain a specified code path, indicating it relies upon the QI-Core/USCore default for Observation, which specifies that the code element is the default terminology filtering element. For lab tests, these would usually be Logical Observation Identifiers Names and Codes (LOINC) codes.

To search for a laboratory tests with a result code for a particular test, one could specify the 'result' data element as the code path instead of allowing the default primary terminology path.

Q: Will attribution and reporting levels be expressed in Clinical Quality Language (CQL)?

A: The topic of patient attribution within reports is evolving and under discussion in the Fast Healthcare Interoperability Resources® (FHIR®) space, especially within the Data Exchange for Quality Measures (DEQM) and the Gaps in Care support workgroups. This is because there are program variations on how attribution works, so the measure developers have decided to avoid attribution in measure specifications. Specifying attribution is possible in FHIR but, for the same reasons, the measure specifications are typically silent about what the attribution model looks like. This allows use of multiple attribution models to inform the measure from a patient clinically or from an administrative perspective. Then the attribution models can be defined by the programs recommending use of the measures. There is ongoing discussion within the Da Vinci Project regarding use of the Da Vinci Attribution Implementation Guide and the Gaps in Care Project to explain how a payer or a provider organization can effectively apply the care management recommendations resulting for gaps in care reporting, and route gap information to the appropriate providers. To summarize, at this time, FHIR-based eCQMs will not specify the attribution model, but there is a lot of potential for computable representation of various attribution models in the FHIR.

Q: Can you talk about ensuring alignment with Library DataRequirements with Clinical Quality Language (CQL)?

A: The [breast cancer screening example](#) used for this response is found on the Health Level Seven International® (HL7®) website.

Looking at the library for breast cancer screening, EXM125, you see the dependencies, the parameters, initial population, and data requirements. Things that are referenced in shared libraries, for example, are not specified within the library resource. When you look at the data requirements and content from the perspective of a particular library, you see only the things

talked about in that library. Note the measure that uses that library and you see all the effective data requirements computed by looking at the expressions used by this measure. So, it is not the sum total of all the data requirements for any library used, but only the elements that are actually referenced by the expressions from this measure. You do not see the data requirements for the expressions in a shared library that this measure uses unless it actually calls those expressions.

In addition, from an alignment perspective, we are using the same structures to represent the data requirements in the measure resource as we do in the library resource. The data requirements operation is how that information is calculated. Using the EXM125-FHIR.xml version of the measure resource as illustration, it indicates the initial population references the "Initial Population" expression in this library. By parsing the CQL through the "Denominator" and "Numerator" (plus any exclusions and exceptions), only the set of requirements referenced by those expressions is gathered. The result is an effective data requirement computed from what is actually referenced in the measure.

Q: If an organization with Fast Healthcare Interoperability Resources® (FHIR®) data uses US-Core rather than Quality Improvement Core (QI-Core), how can they most effectively compute electronic clinical quality measures (eCQMs) against their data?

A: There may be a gap if you run a measure against a reporting system that only supports US Core. The elements referenced by the measure specified in QI-Core may not be present in the data returned from that system. If the QI-Core profile referenced in the measure requires constraints in addition to the US Core constraints on a data element, the receiver of submitted data would not be able to validate the content.