Cooking with CQL Q&As

Session 64 - Thursday, May 26, 2022

Functions in CQL

**Q:** When using Global Common Functions in Fast Healthcare Interoperability Resources® (FHIR®) 4.0, would an execution error result in ATOM if an electronic clinical quality measure (eCQM) was run against the [eCQM-content-r4-2022 repository](https://github.com/cqframework/ecqm-content-r4-2022)?

**A:** An error should not result from running an eCQM against the folder. However, using concurrent Global libraries for FHIR R4 and QI-Core could cause confusion at implementation.

Functions in CQL

**Q:** When writing a measure using Quality Improvement (QI)-Core, can the electronic clinical quality measure reference the Global Common Function library in Fast Healthcare Interoperability Resources® (FHIR®) 4.0?

**A:** The Clinical Quality Language (CQL)-to-Expression Logical Model translator can load multiple libraries and the engine should use the same provider because the QI-Core will map to the same model when executing. While testing the process, the test cases defined in the [electronic clinical quality measure (eCQM)-content-r4-2021 repository](https://github.com/cqframework/ecqm-content-r4-2021) were brought over to the 2022 published [eCQM-content-r4-2022 repository](https://github.com/cqframework/ecqm-content-r4-2022), although dates may need to be updated. However, please note that an eCQM, such as ColorectalCancerScreeningsFHIR.cql, from 2021 would require edits to match the included libraries' names, version numbers, value sets, and pertinent CQL code alignment in addition to date alignment of test cases.

Functions in CQL

**Q:** How is a measure run using Quality Improvement (QI)-Core?

**A:** There is a QI-Core repository in QI-Core version 4.1.1 that references the Fast Healthcare Interoperability Resources® (FHIR®) 4.0 Global Common Function library. In the example, the electronic clinical quality measure (eCQM) accesses patient ethnicity directly because the QI-Core model exposes ethnicity as an element of patient. The authoring of the eCQM would look different, but the engine would look the same in the Expression Logical Model translator

|  |  |
| --- | --- |
| library SupplementalDataElementsQICore4 version '2.0.0' | |
|  |  | |
|  | /\* | |
|  | @update: @@BTR 2020-03-31 -> | |
|  | Incremented version to 2.0.0 | |
|  | Updated FHIR version to 4.0.1 | |
|  | @@ | |
|  | \*/ | |
|  |  | |
|  | using QICore version '4.1.1' | |
|  |  | |
|  | include FHIRHelpers version '4.0.1' | |
|  |  | |
|  | valueset "ONC Administrative Sex": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1' | |
|  | valueset "Race": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.114222.4.11.836' | |
|  | valueset "Ethnicity": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.114222.4.11.837' | |
|  | valueset "Payer": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.114222.4.11.3591' | |
|  |  | |
|  | context Patient | |
|  |  | |
|  | define "SDE Ethnicity": | |
|  | Patient.ethnicity.detailed | |
|  |  | |
|  | define "SDE Payer": | |
|  | [Coverage: type in "Payer"] Payer | |
|  | return { | |
|  | code: Payer.type, | |
|  | period: Payer.period | |
|  | } | |
|  |  | |
|  | define "SDE Race": | |
|  | Patient.race.detailed | |
|  |  | |
|  | define "SDE Sex": | |
|  | case | |
|  | when Patient.gender = 'male' then Code { code: 'M', system: 'http://hl7.org/fhir/v3/AdministrativeGender', display: 'Male' } | |
|  | when Patient.gender = 'female' then Code { code: 'F', system: 'http://hl7.org/fhir/v3/AdministrativeGender', display: 'Female' } | |
|  | else null | |
|  | end | |

Functions in CQL

**Q:** When using Global Common Functions in Fast Healthcare Interoperability Resources® (FHIR®) 4.0, where are the 2022 electronic clinical quality measures (eCQMs) located?

**A:** The eCQMs are still in the process of being updated from the FHIR r4 2021 content. Only the shared libraries currently exist in the [eCQM-content-r4-2022 repository](https://github.com/cqframework/ecqm-content-r4-2022) to support measure developers. To support additional testing, many of the 2022 Annual Update measures are being converted to FHIR-based eCQMs and made available for connectathon usage in the [eCQM-content-r4-2022 repository](https://github.com/cqframework/ecqm-content-r4-2022).