Clinical Quality Language for Clinicians and Quality Professionals: What it Means for You
Webinar Presentation 2/28/2018
Qs&As

Question	Answer
Q1. How do I get the slides for this presentation?	**A.** The PowerPoint slides and recording for this presentation and all other CQL sessions are posted on the eCQI Resource Center eCQI Educational Resources CQL. Please check back frequently for this and other news and event information related to electronic clinical quality improvement.
Q2. Will eCQMs still be published for 2019, or will everything be CQL? **Related question:** *How does the CQL interact with eCQMs? Do they replace it, or do they work together?*	**A.** The CQL-based specifications are still eCQMs that use Health Quality Measure Format (HQMF) and define data elements using the Quality Data Model (QDM) version 5.3. The CQL is the expression language used to communicate measure logic, which replaces the previous measure logic using QDM.
Q3. Will an in-person workshop be hosted or scheduled at any point this year? Previous webinars have been a bit challenging to follow for beginners.	**A.** There are currently no in-person workshops scheduled for this year. However, for questions specific to writing measures in CQL, monthly Cooking with CQL webinar series are available as a resource. Presentations have been provided in conferences such as the CMS Quality Conference and there is a scheduled interoperability course that will include a CQL session in February 2019. More details can be found on the eCQI Educational Resources CQL page.
Q4. How does CQL link with standard data set or dictionary, such as ICD, CPT, SNOMED, RxNorm, etc.? Will a standard database be introduced? Will this replace SNOMED codes?	**A.** The CQL provides an expression language and still refers to the value sets using SNOMED, ICD 10, RxNorm etc. CQL only defines the notion of a value set and code system so that it can be referenced from within the logic. CQL refers to value sets using their names and identifiers (OIDs). All value sets can be found by searching with the value set name or OID in the National Library of Medicine's Value Set Authority Center (VSAC). CQL doesn't change the terminology approach. As with the previous QDM logic, the measures still provide a reference to the value set names and identifiers.
Q5. Does this change to the eCQM specifications apply only to practices who are submitting their data directly to CMS or to providers whose EHR submits data on their behalf?	**A.** This change applies to all eCQMs that CMS publishes during their annual update. It is not based on who submits or how the submission is done, but the way logic is used to define eCQMs. It will impact all eCQMs published for CMS programs beginning with the calendar year 2019 reporting/performance period.
Q6. If you use the Quality Reporting Program eCQMs for MU attestation, will it be used for both programs?	**A.** Yes, that is correct. The actual eCQM logic is what is changing not how the data are being reported to CMS.
Q7. Do you have a tentative date for the release of specs?	**A.** There is no exact date yet, but anticipated timeframe is May 2018 for the annual update release. All draft specifications for all the eCQMs will be published for public comment from 2/28/2018 to 3/30/2018 through the JIRA Issues Tracker for eCQMs. Post-review comments can be submitted through the CQM JIRA Issues Tracker.

Question	Answer
Q8. Is using CQL mandatory? Or can SQL still be used?	**A.** CQL is the mechanism we are using to communicate the description of eCQMs. In previous measure years we used QDM logic expression. How the calculations are performed is a function of your environment. That is not changing, you can still use whatever mechanism makes the most sense for your environment. We have presentations related to this question that describe various approaches to consuming the measure logic being communicated in the eCQMs in your environment. For systems with warehouses already in SQL-based systems, the translation machinery can be updated to use CQL. That the specification uses CQL does not mandate that the target systems use CQL directly any more than the previous measures required the QDM logic.
Q9. Will CQL-based format be used for all quality measures going forward or only those with a CMS# and therefore not apply to claims/registry-based specs?	**A.** Yes, that is correct; this is only for eCQMs, which are those that have a CMS eCQM ID.
Q10. Are the released 2019 eCQMs from CQL being reported in 2020 or are these reported in 2019? **Related question:** *To clarify - the released 2019 eCQMs will be reported in 2020?*	**A.** This is for the annual update being published this spring 2018 for use in the calendar year 2019 reporting/performance period.
Q11. Will GPRO measures be transitioned to CQL?	**A.** All eCQMs used in CMS quality reporting programs will be transitioned to use the CQL logic, beginning with the annual update published May 2018 for use in the calendar year 2019 reporting/performance period.
Q12. In reviewing the EH draft eCQMs, the human readable format is very complex with definitions that are imbedded in other definitions and then another layer. It would be hard to explain why the data doesn't meet the CQL language or criteria.	**A.** Some of the measures have definitions that are re-used in multiple places and the CQL language does allow you to take advantage of the ability to reuse such definitions. That means that sometimes when you see an expression, it will reference a definition rather than repeating the full expression of that definition. To see exactly what that means you must go to the definition reference. However, once a reader understands the meaning of the definition, there is no need to re-read the full expression of that definition, so the readability improves. Definitions are similar to the QDM variables used in previous eCQMs. There are cases in which the measure logic becomes involved that can require a reader to look at previous definitions in order to find the mathematical expression. For testing specific cases, the Bonnie tool can be used to identify which parts of the measure logic resulted in inclusion/exclusion of each criteria.
Q13. What are CMS's expectations for updating eCQMs that were developed on QDM to CQL?	**A.** From a CMS program perspective, the programs do require the use of the most recently published eCQMs for that reporting or performance period. As part of our program requirements, CMS expectations would be that the annual update to be published in spring 2018, and any applicable addenda, will be used for the 2019 calendar year reporting and performance period. These eCQMs are all updated to use QDM version 5.3 data model and CQL expression language.

Question	Answer
Q14. Can you post a link to the validation tool mentioned previously?	A. The CMS QRDA Pre-Submission Validation Tools Guide can be found on the Resource Center eCQM Tools and Key Resources page. The Pre-Submission Validation Application (PSVA) tool assists hospitals and their vendors to identify and correct errors within their Quality Reporting Document Architecture (QRDA) Category I files prior to test and production data submission to the CMS eCQM data receiving system.
Q15. Is CQL going to be used for quality and Advancing Care Information (ACI) measures?	A. CQL logic will be used for only eCQMs, which are a part of quality reporting and not ACI.
Q16. Is CQL a CMS proprietary language? or industry standard? I see it works with java, SQL.	A. CQL is an HL7 standard specification that has been developed over the past several years in cooperation with various stakeholders. There are authors and vendors from both the quality measurement and the decision support communities. The specification is freely available from HL7.
Q17. Where can I find more information on the temporal operators used by CQL?	A. The eCQI Resource Center has presentations that discuss temporal operators. In particular, the CQL basics presentation on the eCQI Resource Center eCQI Educational Resources CQL page, has a good overview of the CQL specification itself and under the topic "CQL Language Tour" there is an accessible introduction to all the temporal operators that are available. The Clinical Quality Language Specification, available from HL7, also has a complete description of all the operations and functions available in CQL. For the temporal operators specifically, section 2.5.5 of the Clinical Quality Language Specification provides a discussion of the available operators and sections 9.8 and 9.9 of the reference define detailed semantics.
Q18. Will there be any resource released that will give a high-level summary of any changes anticipated to specific measures?	A. Yes, measure specific guidance will be published with the annual update. Technical release notes, also known as the TRNs, are part of the annual update. As an additional resource, a new eCQM Reading Guide will be available. This guide will provide information on how to read an eCQM that incorporates CQL logic.
Q19. To clarify, CQL logic will start for 2019. 2018 eCQM data will continue with the QDM logic?	A. Yes, that is correct. The eCQMs for the calendar year 2018 reporting/performance period have been published and will continue with the QDM logic. Beginning with the calendar year 2019 reporting/performance period, eCQMs will use CQL logic.
Q20. Does CQL pertain to family practice physicians using electronic medical records or is this standard for specific therapeutic areas?	A. This pertains to all CMS eCQMs and the programs using eCQMs. This is not based on any specific practice type and it applies to anyone that will be reporting eCQMs to CMS.
Q21. Are we required to meet the benchmarks for eCQM's in order to meet the measure?	A. This presentation is focusing on CQL. Please send any program related questions to the appropriate program help desk.
Q22. Does this relate directly to the version of eCQMs version 4, 5, or 6 or only to the timeframe associated with the reporting?	A. It affects only the eCQM versions to be published in May 2018 for the calendar year 2019 reporting/performance period, but not earlier versions of the same measures.

Question	Answer
Q23. What is CQL replacing? Is it QRDA? **Related questions:** *- If EHR vendors are providing QRDA I file creation so we as a hospital can report eCQMs for IQR and MU, can we expect them to provide them in the new CQL format?* *- Does CQL still use the QRDA 1 file format? Just to clarify, the e-specification will be on CQL expression, is that correct?* *- Will we still use QRDA I files to upload eCQMs to CMS?*	**A.** CQL is replacing the expression language in the eCQMs. It is different from QRDA which is the format that is used to report eCQM data to CMS.
Q24. Does this apply to eCQMs for hospital/CAH and providers?	**A.** Yes, CQL is the expression logic used in all eCQMs created or updated for release in Spring 2018 and for implementation for the calendar year 2019 reporting/performance period.
Q25. Has any of the logic intent been changed when shifting to CQL? I mean changes in the definition and timing of data for the Initial Patient Population, Denominator, Numerator? **Related questions:** *- Will this change the current algorithm that currently excludes most of our patients because they are made "inpatient" in the EMR before they leave the ED, in order to be able to use appropriate orders, etc.?* *- Will the measures requirements themselves be updated? Can you please again explain why this change is necessary?*	A. Measure developers have paid careful attention to maintaining the intent of eCQMs when using CQL logic in comparison with previous versions. The definition of timing of data may be more explicit since CQL allows clearer specification of timing relationships. Refer to these examples: 1) The CQL-based HQMF IG 2) The CQL Formatting and Usage Wiki: Specifying Population Criteria
Q26. Does CQL support the open-world assumption for data that is missing in the domain model?	**A.** Yes, CQL supports both the open- and closed-world assumptions because this is really an aspect of the model being used and interpretation of the results of any given query.
Q27. How is this different than Arden, and will it integrate with Arden?	**A.** CQL is a pure-functional query language focused on providing a high-level, human-readable syntax for the expression of clinical quality improvement artifacts. Arden is an imperative programming syntax focused on decision support formalisms. The CQL specification includes a mapping to Arden Syntax where there is functional equivalence.
Q28. Will CQL be required for eCQMs submitted to the measure consideration list for this year? **Related question:** *For measure developers, do we have to use CQL format for submission to CMS for this year's Measures Under Consideration List?*	**A.** eCQMs submitted for consideration in the Measures Under Consideration List should use CQL as the expression language and QDM version 5.3 as the data model.

Question	Answer
Q29. Drafts for EH do not include CAC, STK-8, nor STK-2, are those being dropped for 2019 reporting? **Related question:** *I noted that draft measure packages, including the CQL files, are not available for the EH eCQMs 26 (Home Management Plan of Care), 104 (Discharged on Antithrombotic Therapy) and 107 (Stroke Education). Will these be released at a later date?*	**A.** Measure developers posted the draft CQL-measure specifications for the Eligible Hospital eCQMs on February 27 and February 28. All measures were posted by February 28 and available for review through March 20.
Q30. Are there new eCQM hospital/CAH measures proposed for 2019? Going on the JIRA website today it looks like same measures are available.	**A.** CMS will signal any possible changes regarding clinical quality measures in the FY 2019 Inpatient Prospective Payment System (IPPS) Proposed Rule that is slated for publication in the coming weeks. The availability of the IPPS Proposed Rule will be communicated to the public using a variety of methods, which include listservs and updates on the QualityNet.org website.
Q31. Does QNet have the ability to accept files for testing on CQL? When is the timeline?	**A.** QNet does not currently have the ability to accept files to test CQL as they are still preparing the system for the 2018 Reporting period. Anticipated timeline is late spring/ early summer 2019.
Q32. The number of CQL eCQM definitions available in JIRA appear to be fewer than the eCQMs that are part of MIPS. Will definitions for the other measures be made available in the future? If so, what is the estimated timing?	**A.** Measure developers posted the draft CQL-measure specifications for the Eligible Clinician eCQMs on February 27 through March 1. All measures were posted by March 1 and available for review through March 20.
Q33. Could you present a comparison of measure specification for a simple measure? Will these be used in MU and MIPS?	**A.** Please review prior CQL presentation sessions posted on the eCQI Resource Center eCQI Educational Resources CQL.
Q34. I'm browsing the GitHub repository; the top-level README mentions a JS evaluation engine but I'm not seeing it yet. Is it in the repo at this time?	**A.** The JavaScript engine is currently located in a sub-folder here: https://github.com/cqframework/clinical_quality_language/tree/master/Src/coffeescript/cql-execution (Note that the JS engine is being moved to its own repository).
Q35. Is it intended as a reference implementation of a calculation/evaluation engine within the full chain toolkit?	**A.** Yes, the JS engine is intended to be a feature-complete implementation of the CQL specification, and currently supports testing of quality measures done with the Bonnie tool for all CMS program measures as part of the annual update.
Q36. In CQL, is the expression "Less Than or Equal To 1 hour" going to use 60 minutes or is it going to use 119 minutes like it is with QDM?	**A.** Yes, this is one of the design features we focused on with CQL.
Q37. Does CQL address the usage of SECONDS, or is that dropped as they were with QDM?	**A.** CQL supports precision to the millisecond if necessary. CQL authors can specify the desired precision for the comparisons involved in timing phrases, and CQL date/time comparison is defined to respect not only granularity, but available granularity.

Question	Answer
Q38. Can you give an example of how CQL will help prospective evaluation for CDS?	**A.** As with quality measures, CQL provides a flexible and expressive language for representing decision support artifacts. Decision support and quality measurement were both considered as primary requirements drivers for the language and using the same language across the two domains enables artifacts to share logic that would otherwise have to be re-expressed. For example, measures and decision support artifacts can both be developed from the same guideline, and can share common logic between them, facilitating expression and implementation of the artifacts.
Q39. Will this require EHR vendors to release new certified eCQM reports that hospitals will have to implement and build? **Related question:** *If we use a CEHRT that is submitting eCQM data on our behalf, then our CEHRT needs to ensure they make the changes within their EHR, correct?*	**A.** As far as certification, this will not have an impact or require recertification of the eCQMs. However, the Cypress tool that allows for eCQM certification will be updated to allow for certification using the Clinical Quality Language logic.
Q40. How does this impact measures that are currently certified? **Related questions:** *- Will the certification EHR vendors be required to change their calculations to remain certified? - I am an EHR vendor working on our 2015 CEHRT, why do we have to get certified for eCQMs instead of CQLs?*	**A.** All measures certified by the EHR vendors currently are transitioning from the Quality Data Model logic to the Clinical Quality Language logic. This will not require re-certification of eCQMs although EHR vendors are encouraged to test the new eCQMs using the Cypress Validation Utility to ensure that they are calculating properly in their systems.
Q41. Does anything have to change on our XML files or are they just being interpreted differently?	**A.** The current XML files are based on QDM logic expression. CQL represents an evolution of the way logic is represented to provide more flexibility and expressivity. It does require the ability to read the CQL and compute and operate it within your local software. There are presentations available for EHR vendors and other measure calculation systems vendors to help describe that process located on the eCQI Resource Center eCQI Educational Resources CQL page.
Q42. How does the translator for CQL work with languages such as Java, .NET etc.? Will you release an open source code library in Java, .NET for eCQM?	**A.** There are multiple information resources related to this on the eCQI Resource Center such as webinars devoted specifically to that topic. Broadly speaking, the specification provides a high level human readable syntax as well as a machine-readable syntax, the XML. That is analogous to the previous HQMF where you had the human readable and a simple XML representation; that simple XML is what the target systems sometimes consumed. We support that same approach where we have a high level of human readable and lower level machine readable version of the measure specification. Additional open-source tooling has been provided as part of the specifications that can help even further to incorporate that machine-readable specification into your target environment depending on your platform and your data source. Open source tooling exists to facilitate usage in Java, .NET, and Java-Script. There are lots of moving parts to get that to work and we have tried to provide components that will help implementers along each step of that process.

6

Question	Answer
Q43. Are eCQM solution vendors required to parse CQL automatically or will programmers interpret the CQL and writing in another language?	**A.** Just like the previous specifications did, the CQL representation provides a mechanism to communicate the logic. The CQL representation is designed to be more easily consumed automatically, but there is no explicit requirement to use the CQL, just as there was no explicit requirement to consume the previous QDM. We provide a full tool chain to try to help with that process as well. CQL provides formal specifications at multiple levels to enable consumption at whatever point is appropriate for a particular target environment, and we provide, maintain, and support the tools developers need to be able to parse and understand those languages. We also have a translation framework that helps system implementers go from the formal specification logic in the eCQM to the format that's executable in their environment.
Q44. Will EHR vendors be required to update to CQL?	**A.** No, they're not required to update to CQL. However, CMS expects the use of the most current versions. As with prior years, eCQMs published in the spring are intended for reporting/performance period implementation the following year. Thus, the annual update measures to be published in Spring 2018 will include CQL expression language. These measures will be used for the calendar year 2019 reporting/performance period.
Q45. Is today's session just for EHR Vendors who are responsible for supplying hospitals with a method to pull the eCQM data or is this webinar for the folks who are responsible at the hospital for pulling the data using the EHR vendor's software?	**A.** Today's webinar was intended for clinicians and quality staff as an overview of what CQL is, how it works, and what you will need to do moving forward to incorporate the eCQMs. As far as roles, that varies from organization to organization. It could be the vendor or the quality staff using the EHR and reporting the data to CMS.
Q46. If you use an eCQM vendor, will the required changes take place on the vendor side, the hospital side, or both?	**A.** It depends on the vendor and how they are reporting. If the vendor does all the calculation and reporting currently, the changes will likely be isolated to that system.
Q47. Will the change to measures using CQL require a change to the clinical workflow implemented by EHRs?	**A.** Many of the measures are not necessarily changing. Only the way the calculation is expressed is changing. This means there is no change to your normal workflow, but there are changes to the measures based on the annual update.