Quality Data Model (QDM) User Group Meeting |AGENDA/MEETING MINUTES

Meeting date | *7/15/2015 2:30 PM EDT* | Meeting location | Webinar video link: *https://www4.gotomeeting.com/register/303510935*

Attendees: Lisa Anderson, Teresa Ansell, Bala Balasubramanyam, Cynthia Barton, Dori Bilik, Alicia Blakey, Brian Blaufeux, Rebecca Blozinski, Kimberly Bodine, Jennifer Bonner, Howard Bregman, Sasha Brellenthin, Susan Campbell, Jennifer Cherney, Anne Coultas, Michelle Dardis, Rush Daugette, Rita English, Angela Flanagan, Mandi Foertsch, Pam Foyster, Jay Frails, Kim Frazier, Sharon Hibay, Michelle Hinterberg, Yanyan Hu, Jamie Jouza, Kelly Keefe, Joseph Kunisch, Tammy LaFavcr, Shannon Landon, Kathy Lesh, Christie Merritt, Thinzar Min, Rute Martins, Rob McClure, Lu Meyer, Victoria Miller, Christopher Moesel, Karen Nelson, David Nilasena, Lauren Niles, Ifeoma Nwankwo, Vaspaan Patel, Stan Rankins, Juliet Rubini, Tom Scholfield, Julia Skapik, Jessica Smail, Pam Smith, Kimberly Smuk, AMA-PCPI, Carolin Spice, Sarah Tonn, Dennis Tonneslan, Jenna Williams-Bader

Time	Item	Discussion/Options/Decisions
2:30 PM	QDM-119: *Enhance support for principal procedure*	MITRE briefly reviewed the approach and subsequent discussion from the last QDM User Group meeting. MITRE then presented three possible options for dealing with the concept of principal procedure. Option 1: Using an HL7 Act Relationship. During the previous UG meeting, a participant had suggested using relationships to model principal procedures (e.g., "Procedure, Performed: ABC *is principal procedure for* Encounter, Performed: XYZ"). MITRE indicated that they had looked further into this, and determined that the closest relationship type seemed to be RSON (e.g., "Encounter, Performed: XYZ *has reason* Procedure, Performed: ABC"). MITRE's main concern with Option 1, however, was that it would be obsolete once CQL was introduced as the new logical language. CQL does not contain logical constructs to express non-temporal relationships (it expects clinical relationships to be expressed in the data model itself). Since CQL is expected to replace QDM logic in the future, option #1 would no longer be valid and the QDM UG would need to find another solution at that point. Option 2: Allow attribute values to be data types (or references to data types). Currently, the QDM data model is "flat"—all attribute values must be simple values (e.g., value sets / codes, numbers, etc). If this limitation were lifted, the "Encounter, Performed" data type could have a "principal procedure" attribute that referred to a full "Procedure, Performed" data type value (or a specific

Time	Item	Discussion/Options/Decisions
		occurrence of one). MITRE's main concern with Option 2 was the impact of such a change to tools and applications. Changing from a simple flat model to a complex model with nested types is a very significant change and would impact the QDM human-readable syntax, the Measure Authoring Tool (MAT), Bonnie, Cypress, and others. In a time when there is already many changes occurring, this may be a difficult additional change to absorb. Option 3: Leave the current representation as-is, until the next generation data model (QUICK). MITRE suggested that the current representation is not as problematic as the principal diagnosis representation had been. In the case of procedures, using timing to tie a procedure to an encounter is reasonable, in that the procedure (especially a principal procedure) generally *is* during an encounter. For this reason, keeping the representation as-is may be the most acceptable approach at this point. Several QDM UG participants indicated that the RSON relationship (option 1) would not accurately describe the relationship between principle procedures and encounters. Sometimes a principle procedure is not the reason for the encounter. MITRE indicated that there might not be a code to accurately capture the relationship. At best, we might have to use a very general code like "REFR" (refers to). Several QDM UG participants also indicated that they liked the solution proposed in option 2. They felt that it expressed the relationship well and provided additional flexibility. One participant agreed that it was a good solution, but echoed concerns regarding the impact on tools and applications. This participant also indicated that option #2 would still need to use HL7 Act Relationship Types in the underlying HQMF and QRDA implementations. Several QDM UG participants indicated that option 3 seemed to be working right now. Implementing other solutions at this point might not offer that much "bang for the buck." Participants also noted, however, that if we are waiting for QUICK,

Time	Item	Discussion/Options/Decisions
		it may still be a long way off. A fourth option was then suggested: Implement option 2 at the same time as CQL logic is adopted in measures. CQL provides excellent support for complex data models, so this would alleviate many of the concerns regarding complexity of implementation in QDM human-readable and HQMF. The QDM UG agreed to revisit this issue once the timeline for CQL implementation is better known.
3:00 PM	QDM-120: *Intent of Procedure, Performed*	MITRE introduced the topic, noting that a QDM User Group member had submitted the issue. MITRE explained that neither QDM nor any available guidance is clear about what constitutes a "Procedure, Performed"—specifically in regards to the source and quality of the data. Records of procedures that were performed directly by the institution definitely qualify. Records that came from external sources (such as other providers) likely qualify (see QDM-59), but are expected to contain less data than internally sourced records. It's less clear, however, whether patient-reported history of a procedure should qualify. In some measures, especially those that use procedures to exclude patients from a denominator (e.g., CMS 124), patient-reported history is likely acceptable or even desired. In other measures, patient-reported histories may not be acceptable or may not contain enough data. One participant suggested that in some cases, measure developers might be able to control the data they want by using appropriate codes in their value sets. For example, SNOMED-CT has "history of" concepts that could be included or excluded depending on whether or not the developer wishes to consider patient histories. These "history of" concepts may not exist for every procedure (further research is required), but are available for many procedures already (and could be added for others). Another participant noted that one of the flu measures handles this by using the "Communication: Patient to Provider" data type to capture patient-reported immunizations. Later on, however, another participant noted that past attempts to use Communication data types have not always been successful because they

Time	Item	Discussion/Options/Decisions
		require the action to be a part of the code (e.g., a communication that "procedure abc *was performed*", or that "medication xyz was given"—which couldn't be conveyed with just an RxNorm code). That said, several UG members saw the potential for Communication data types to be a part of the solution. A participant confirmed that external data should be counted, but worried that if we said everything counted (including patient-reported data) that this would result in much more data and would significantly change the results of measures, potentially in unintended ways (especially by including more patients in the numerators). The more general issue of data provenance was also discussed. Ideally, all three cases (internally sourced records, externally sourced records, and patient reported data) could be easily distinguished in the standards, but currently this is not always the case. Measure developers indicated it would also be helpful to distinguish different external sources from each other (e.g., other providers, HIEs, state registries, etc.). MITRE noted that this is a difficult issue that has come up before, and even the underlying HL7 standards have not yet determined the best way forward. Until they do, QDM cannot easily support provenance as a general feature. The discussion then returned to the idea of using "history of" concepts in value sets. One participant noted that clinicians might not be recording the "history of" concepts. In many cases, clinicians use the normal procedure concepts when recording a patient-reported history—so relying on "history of" concepts is not foolproof. Clinicians could be *trained* to record histories in a different way, but usually we try to avoid disrupting current workflows. Another participant noted that the effectiveTime of a "history of" concept might differ from the effectiveTime of a normal procedure concept. This is something that needs to be considered. Another participant suggested that QDM doesn't need to change—we just need better guidance. The participant noted that even that could be complicated, in that surgical histories are often exclusionary (e.g., used to exclude patients from the denominator), but interventions are usually designed to put patients in the

Time	Item	Discussion/Options/Decisions
		numerator. These are both represented using Procedure, Performed, but are different things serving different purposes. Other participants agreed that the ideal solution is for measure developers to be able to easily constrain types of data sources, but until that solution is feasible, better guidance is needed. This topic will require further discussion to identify and refine such guidance.
3:30 PM	QDM-99: *Diagnosis recorded datetime*	MITRE introduced the topic by providing a review of the currently accepted Diagnosis datetime attributes ("onset datetime" and "abatement datetime"), and reminding the UG that "recorded datetime" had also been previously proposed, but not yet accepted. MITRE then summarized feedback they had received from the EHRA Quality Measurement Work Group. Most vendors from the WG indicated that their systems supported a *created* date and *onset* date for diagnoses. The *created* date is a timestamp that is automatically populated when the clinician enters a diagnosis or problem. The *onset* date is an optional field that the clinician may enter a value for, but often does not. As a result, *onset* is not as reliable as *created*. One vendor indicated that they don't have *onset*, but rather, have a *noted* date, which defaults to today's date but may be edited by the clinician. Vendors then indicated that for quality measures, they use the *created* date (or *noted* date in one case) as the diagnosis start. A QDM UG participant then confirmed that in his experience, getting clinicians to enter an *onset* date is difficult. In many cases, particularly inpatient, using the *created* date as a proxy for *onset* is probably acceptable. Ideally, *onset* would default to the *created* date but could be overwritten. Another UG participant acknowledged that the EHRA feedback was a good summary of the state of things, even if it isn't the ideal situation. Measure developers need to acknowledge that they often will not get onset dates and need to adjust accordingly. Another participant agreed, noting that it is actually the framework (particularly

Time	Item	Discussion/Options/Decisions
		HL7 standards) that forced measure developers to talk about *onset*. In many cases, the *created* (a.k.a. recorded) datetime is likely sufficient for quality measures. Another participant, however, noted that there might be some cases where the timing is important (especially measures that deal with acute conditions requiring measurement in hours). This participant suggested that even recorded datetime might not be entirely reliable, as data is often recorded much later than the event actually occurred. That being said, several participants indicated that the inclusion of "recorded datetime" would be a good improvement and provide developers a datetime that is more reliable than onset. Another participant indicated that she would like to see some examples around this. This discussion will continue in future QDM WG meetings.
4:00 PM	QDM-116: *Encounter end not well defined* QDM-123: *Encounter, Performed datetime attributes*	Due to time constraints, MITRE indicated that they would summarize the issue in order to allow QDM UG participants to start thinking about it, but that there would not be time to discuss. MITRE began by reviewing the four datetimes that are currently supported in Encounter, Performed: admission datetime, discharge datetime, facility location arrival time, and facility location departure time. MITRE also described how QDM's timing operators, "starts…" and "ends…" also introduce implicit start and end datetimes for encounters. MITRE reminded the group that previous discussions had determined that encounter datetimes were not sufficiently defined. The start, and especially end, of encounters were ambiguous. This is not helped by the fact they they likely mean different things for inpatient encounters versus outpatient/ambulatory encounters. MITRE summarized the feedback received from the Clinical Workflow Kaizen Work Group regarding this topic. Members of the Kaizen WG had suggested that it is best to avoid using ambiguous terms like "start" and "end", but rather to speak about specific events. The Kaizen WG had suggested some potential events

Time	Item	Discussion/Options/Decisions
		of interest that might signal the end of an encounter: • When the encounter is closed (note: this may be hours or days later) • When the patient leaves the building / unit / office (note: this may not be feasible to capture) • When the after-visit summary is printed • When the discharge order is signed • When the patient's status is changed to "discharged" MITRE also reported on the comments of a Kaizen WG member who had indicated that the start of an encounter might also contain several events of interest. As an example, an ED encounter might have these events of interest near its start: • When the patient arrives to the ED facility • When the patient has first contact with ED personnel • When the patient is triaged MITRE closed the summary by indicating that the Encounter resource in FHIR did not provide any additional guidance regarding the start or end. It refers to the encounter start and end, but never defines them in any meaningful way. This may be intentional, in that it does state: "There is also substantial variance from organization to organization (and between jurisdictions and countries) on which business events translate to the start of a new Encounter, or what level of aggregation is used for Encounter." This topic will be discussed in a future QDM UG meeting.

Action item	Assignee