Quality Data Model (QDM) User Group Meeting | Minutes

Meeting date | *06/16/2021 2:30 PM ET* | Meeting location|Webinar https://global.gotomeeting.com/join/980942653

Time	Item	Presenter	Discussion/Options/Decisions
5 Minutes	Announcements	Jen Seeman (ESAC)	• A Cooking with CQL, QDM and FHIR session is scheduled for June 24, 2021 • Cypress Tech Talk - June 29, 2021 • Driving Quality in the US: How CMS Evaluates its Measure Portfolio - July 15, 2021 • CMS-HL7 FHIR Connectathon - July 20-22, 2021 • Next QDM User Group Meeting - August 18, 2021
30 Minutes	QDM-264 Provider Specialty	Floyd Eisenberg (ESAC)	**Overview:** NCQA forwarded a request from an implementer of CMS 131. The implementer wants to explore adding a provider specialty to provider characteristic. The implementer proposes that, for CMS 131, the denominator visits should only be with providers of a certain specialty. We are unable to specify specialty. We should ask QDM to add specialty to Provider Characteristic. CMS131v9 Diabetes: Eye Exam ● CMS131v9.html ESAC response: QDM 5.4 included “Provider, Characteristic” as a QDM datatype with attributes: ● *author dateTime* ● *code* ● *id* To indicate the performer of an activity (e.g., encounter) the *code* attribute could have addressed ophthalmology but linking the “Provider, Characteristic” with the individual who is the *participant* in the “Encounter, Performed” was not possible directly with the CQL expression. Basically, use of any given “Provider, Characteristic” is not feasible as QDM is modeled. QDM 5.5 retired “Provider, Characteristic” for this reason and added new QDM Entities as a new aspect of QDM (i.e., not QDM categories, datatypes, or *attributes*). Based on this change, a measure developer can indicate a specific Entity or something about a specific Entity that *performs* any given task or procedure. Each Entity has respective *attributes* ■ Patient (*identifier, id)*

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			▪ Care Partner *(identifier, id, relationship)* ▪ Practitioner *(identifier, id, role, specialty, qualification)* ▪ Organization *(identifier, id, organizationType)* ▪ Location *(identifier, id, locationType) --- added in QDM 5.6* This new structure allows the performer of any activity (e.g., "Encounter, Performed" *participant*; "Procedure, Performed" *performer*) to be represented by a QDM Entity with specific attributes of that Entity. The QDM Entity modeling parallels FHIR Resources for the same concepts: Patient, RelatedPerson, Practitioner, Organization, Location QDM 5.6 Section 2.6 describes the Entities and lists the performer attributes for each of the existing QDM datatypes. An example for the use case noted above is provided in QDM 5.6 section 2.6.2, referencing a Practitioner entity as a *participant* in an "Encounter, Performed" and, further indicating the Practitioner *specialty* is "ophthalmology": In this example, the eCQM uses the QDM entity Practitioner and its *specialty* attribute to define a qualifying encounter as one performed by an ophthalmologist: define "Qualifying Encounters (2)": ["Encounter, Performed": "Office Visit"] Encounter **where exists** (Encounter.participant Participant **where** Participant **is** "Practitioner" **and** Participant.specialty **in** "Ophthalmology") The QDM Entity, Practitioner, is modeled in a similar way as the Practitioner resource in FHIR. FHIR differentiates Practitioner (specific characteristics of a practitioner, e.g., physician, training, accreditation) from ProviderRole (i.e., the functions a given practitioner may serve in healthcare delivery). FHIR defines *specialty* as an element of PractitionerRole. However, QDM combines the *specialty* concept as an attribute of the Practitioner Entity. In the example shown above, the "Encounter, Performed" *participant* is specified as a Practitioner with a *specialty* in "Ophthalmology." In this context, the terminology for the specialty, ophthalmology for QDM is the SNOMED with the Occupation hierarchy (as noted in the CMS Measures Management Blueprint). Rob McClure noted that US-Core uses the

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			National Uniform Claims Committee (NUCC) Health Care Provider taxonomy provider taxonomy (available in VSAC as 2.16.840.1.114222.4.11.1066). That taxonomy comes from the UB-04 claim form and is managed by the American Hospital Association. To change from the current SNOMED Occupation hierarchy is something that might wait for the FHIR transition. However, a decision to change from SNOMED to the Healthcare Provider Taxonomy requires a review and recommendation from the Vocabulary Task Force and Governance Group to change the CMS Measures Management Blueprint. Note that no measures have yet included the QDM Entities to address use cases similar to the one presented. The decision to do so is in the purview of the measure developer to meet measure intent. Potential issues: ● As with CMS 131, the measure developer must determine which provider is responsible for assuring an eye examination occurs for patients with diabetes (regardless of which provider actually performs the examination) - this decision is outside the scope of QDM. ● Some implementers have voiced concerns that clinical systems may not have the ability to differentiate practitioners by specialty; therefore, specifying a specialty requires eCQM testing to assure the desired information can be retrieved from a significant number of implementations. **Discussion:** ESAC asked for feedback about using QDM Entities, specifically, asking about practitioner specialty. Claudia Hall (Mathematica) noted that measure developers put forth potential inclusion of specialty requirements in a measure, and received feedback from implementers that it was not feasible because specialty may be kept in credentialing systems, and especially in academic medical centers since specialty can change frequently and may not be up to date. Howard Bregman (Epic) suggested the use of specialty is not the best method to determine the participant in an encounter or procedure because the EHR would need to be able to determine the specialty. Many eye services are only provided by ophthalmology specialists, so it may be better to look for the services provided. It is more feasible to find the CPT code of the procedure performed, recognizing the billing code may not be available if performed outside of the organization. Another complicating factor is that providers often times have more than one specialty. ESAC asked: What if you choose to go outside of the organization and they send information back to the primary care. Would this information include the billing code? Howard Bregman

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			(Epic) suggested it varies, but you have a better chance of this being available than the provider's specialty. Lisa Anderson (TJC) noted the measure uses SNOMED codes for the procedure and asked if using these is feasible. Howard suggested it is more likely the CPT code will be available; the SNOMED code would likely not flow discretely. **Resolution/Next Steps:** Identifying the provider specialty presents challenges and using the billing code specific to the specialty may be more feasible. ESAC will request the Vocabulary Task Force and Governance Group review a potential change to the CMS Measures Management Blueprint to change from SNOMED to the Healthcare Provider Taxonomy. The issue is significant for QDM and FHIR-based measures; it is not specific to QDM.
40 Minutes	QDM-263 Adverse Reaction and Allergy/Intolerance modeling	Floyd Eisenberg (ESAC)	**Overview:** Lisa Andersen (NCQA) brought a question to the QDM User Group. NCQA's immunization measures allow adverse reactions to count in the numerator using the QDM "Diagnosis" datatype (i.e., "Diagnosis": "Anaphylaxis due to Diphtheria, Tetanus or Pertussis vaccine"). The measure developers want to use the "Adverse Event" or "Allergy/Intolerance" datatypes because they align better with how the data is captured. The measure developers are seeking insight on how to model the concept using these datatypes. ESAC reviewed the current modeling as presented by NCQA: ["Diagnosis": "Anaphylaxis Due to Diphtheria, Tetanus or Pertussis Vaccine"] AnaphylaxisTdap where AnaphylaxisTd.prevalencePeriod starts on or before end of "Measurement Period" Value set defined using SNOMED codes for diagnosis of anaphylaxis to the vaccine The CMS Measures Blueprint provides guidance for determining the code system for Adverse Effect/Allergy/Intolerance datatypes:

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APPENDIX. QDM CATEGORIES WITH ONC HEALTH INFORMATION TECHNOLOGY STANDARDS COMMITTEE (HITSC) RECOMMENDED VOCABULARIES[4]

General Clinical Concept	QDM Datatypes	QDM Attribute	Clinical Vocabulary Standards	Transition Vocabulary
Adverse Effect/Allergy/Intolerance	"Adverse Event"	*Code* (the causative agent of the adverse event)	Medication: RxNorm ingredient type or "term type" (TTY) SNOMED CT Substance for drug class only Other causative agents: SNOMED CT (product, substance if not a product)	N/A
Adverse Effect/Allergy/Intolerance	"Adverse Event"	*Type* (the reaction)	SNOMED CT (disorders, findings)	N/A
Adverse Effect/Allergy/Intolerance	"Allergy/Intolerance"	*Code* (the causative agent of the allergy/ intolerance)	Medication: RxNorm ingredient type (TTY) SNOMED CT Substance for **drug class only** Other causative agents: SNOMED CT (substance)	N/A
Adverse Effect/Allergy/Intolerance	"Intervention, Adverse Event" "Intervention, Intolerance"	*Type* (the reaction)	SNOMED CT (disorders, findings)	N/A

Rob McClure (MD Partners) suggested that, for vaccines, the expectation is that the causative agent is a CVX code. ESAC/Rob McClure agreed to follow-up with the Vocabulary WG regarding the addition of CVX to the Blueprint.

ESAC also presents the current QDM-QI-Core Mapping for Adverse Event

QDM Context	QI-Core R4	Comments
Adverse Event	AdverseEvent	
n/a	AdverseEvent.actuality	actual / potential
Attributes		
code	AdverseEvent.event	Type of the event in relation to the subject; reference SNOMED-CT event hierarchy to represent the event in an eCQM. (example: vaccine reaction)

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type	AdverseEvent.category	The overall type of event, intended for search and filtering purposes. The codes SHALL be taken from AdverseEventCategory; other codes may be used where these codes are not suitable Overall categorization of the event, e.g. product-related or situational.
n/a	AdverseEvent.suspectEntity.instance	The actual instance of what caused the adverse event. May be a substance, medication, medication administration, medication statement or a device. Reference (Immunization, Procedure, Substance, Medication, MedicationAdministration, Device)
n/a	AdverseEvent.resultingCondition	Effect on the subject due to this event. Includes information about the reaction that occurred as a result of exposure to a substance (for example, a drug or a chemical). Reference (Condition)
severity	AdverseEvent.severity	Describes the severity of the adverse event, in relation to the subject. **Binding:** The codes SHALL be taken from adverse-event-severity (mild, moderate, severe)

Discussion:

Rob McClure (MD Partners) suggested it is important to understand this can be represented by adverse event findings that pack everything together (similar to the "Diagnosis: Anaphylaxis to DTP vaccine"), but other systems may record pieces of an adverse event, in particular they may separate out substance/product and the reaction.

ESAC noted the measure developers are currently using diagnosis with a specific SNOMED concept (anaphylaxis due to this vaccine) which is not decomposed. If desired, one could also include a severity as an attribute of "Diagnosis" in QDM and in FHIR using condition; however, in the example provided, the condition, anaphylaxis, is severe by definition. One could also decompose it the details as "Adverse Event" or "Allergy/Intolerance", but the challenge in QDM is that there is only 1 *code* attribute; thus, should the *code* represent the causative agent or the event itself. QDM does not include an "Adverse Event" attribute for "*causative agent*"; noting that FHIR does include elements for *event, suspectEntity,* and

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			resultingCondition. 1. Overall, how would we model this? a. code = event (SNOMED) b. severity = mild, moderate, severe (SNOMED) (if needed) c. **CONSIDER for QDM UG** - use CQL to reference QDM Diagnosis initiating after vaccine administration 2. Should the value set represent the causative agent (i.e., the vaccine) or the manifestation diagnosis (i.e., anaphylaxis)? a. One measure developer experience: the causative agent was not retrievable, now changed to the event. (reflected in QDM to QI-Core mapping, event = vaccine reaction b. QDM does not have an attribute for suspectEntity.instance; requires QI-Core/FHIR c. QDM does not have an attribute for resultingCondition; requires QI-Core/FHIR or use QDM Condition 3. Which code system(s) are appropriate? (CVX or SNOMED?) a. Event – SNOMED b. suspectEntity.instance – immunization (CVX) c. resultingCondition - SNOMED 4. How do we specify severity and type of reaction or allergy? a. *severity* – mild, moderate, severe ESAC also presented the current QDM to QI-Core Mapping for Allergy/Intolerance

Attributes	QI-Core R4	Comments
Code	AllergyIntolerance.code	Code for an allergy or intolerance statement (either a positive or a negated/excluded statement). This may be a code for a substance or pharmaceutical product that is considered to be responsible for the adverse reaction risk (e.g., "Latex"), an allergy or intolerance condition (e.g., "Latex allergy"), or a negated/excluded code for a specific substance or class (e.g., "No latex allergy") or a general or categorical negated statement (e.g., "No known allergy", "No known drug allergies"). **Binding:** US Core Common substances for allergy and intolerance documentation including refutations(preferred): A substance or other type of agent (e.g.

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					sunshine) that may be associated with an intolerance reaction event or a propensity to such an event.
			Type	AllergyIntolerance.reaction	Details about each adverse reaction event linked to exposure to the identified substance. (Backbone element)
			n/a	AllergyIntolerance.reaction.substance	Identification of the specific substance (or pharmaceutical product) considered to be responsible for the Adverse Reaction event.
			n/a	AllergyIntolerance.reaction.manifestation	Clinical symptoms and/or signs that are observed or associated with the adverse reaction event.
			Severity	AllergyIntolerance.reaction.severity	Clinical assessment of the severity of the reaction event as a whole, potentiallyconsidering multiple different manifestations. **Binding:** The codes SHALL be taken from reaction-event-severity (mild, moderate, severe)
			n/a	AllergyIntolerance.criticality	Estimate of the potential clinical harm, or seriousness, of the reaction to the identified substance. **Binding:** SHALL be taken from AllergyIntoleranceCriticality (low, high, unable-to-assess)

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			1. Overall, how would we model this? a. code = responsible agent (RxNorm – consider if ingredient) – reactionSubstance in FHIR b. Severity = mild, moderate, severe (SNOMED) – reactionSeverity in FHIR c. CONSIDER for QDM UG - use CQL to reference QDM Diagnosis initiating after vaccine administration – reactionManifestation in FHIR 2. Should the value set represent the causative agent (i.e., the vaccine) or the manifestation diagnosis (i.e., anaphylaxis)? a. The causative agent for Allergy/Intolerance. Consistent with code in FHIR; b. QDM does not have an attribute for reactionManifestation, use QDM diagnosis for the condition (anaphylaxis) 3. Which code system(s) are appropriate? (CVX or SNOMED?) a. code – CVX b. resultingCondition - SNOMED 4. How do we specify severity and type of reaction or allergy? a. *severity* – mild, moderate, severe **Discussion:** Howard Bregman (Epic) suggested problem list or allergy list are the most effective ways to capture a disqualifying allergy. The adverse event modeling will add little value. Our allergy section captures allergies and contraindications (to substances only, not procedures). Regarding severity on the diagnosis, the diagnosis has a *severity* attribute which can be applied. Fern noted if diagnosis of anaphylaxis to the vaccine, severity level may not be necessary. Howard noted Epic has severity in its allergy records and anaphylaxis would automatically be marked as severe. **Resolution/Next Steps:** The measure developers will consider adding allergy intolerance to the current model. ESAC/Rob McClure to follow-up with Vocabulary WG regarding the addition of CVX to the CMS blueprint.

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15 Minutes	General Discussion	Floyd Eisenberg (ESAC)	Yanyan Hu (TJC) asked if the "Encounter, Performed" *class* attribute will be required for the next AU cycle for all measures. QDM 5.6 added "Encounter, Performed" *class* attribute to enable identification of telehealth visits. An implementer suggested it would be much easier if "Encounter, Performed" always included the respective *class* attribute. That request caused more careful evaluation of the existing ValueSet: ActEncounterCode required by QI-Core and US Core. The value set includes ambulatory, outpatient, inpatient acute and non-acute, and virtual. The definitions of acute versus non acute in inpatient are potentially ambiguous and the value set lacks a concept of long-term care. Additionally, description of "VR" (virtual) includes the following: "A patient encounter where the patient and the practitioner(s) are not in the same physical location. Examples include telephone conference, email exchange, robotic surgery, and televideo conference." Whether "Encounter, Performed" *class* should be required has not been decided because the Encounter.class value set is not appropriate for all uses. It was noted that measure developers will begin creating measures for the next AU cycle in September, so the decision will need to be timely. Yanyan Hu asked if the Encounter.class value set is updated, will the codes be available in VSAC for use in the next AU cycle? Rob McClure explained that updates to HL7 content occur through UTG process. The time for this process can vary. Once published, VSAC will update from there. This process takes 20 days-one month. The US-Core wording is "Shall; other codes may be used where these codes are not suitable for classification of the encounter", which sounds like an extensible binding. This implies the code system/value set can be updated at any time after receiving approval from the Patient Administration Workgroup that manage the Encounter resource, and the US Core project team that manages US Core-specific constraints. **Resolution/Next Steps:** This issue requires further discussion with stakeholders. To support the needs of measure developers, and to be consistent with what vendors have, stakeholders will present the issue to the Patient Administration WG and US Core project team to discuss updating the value set.
5 Minutes	Next Meeting	Traci Psihas (ESAC)	**Agenda items for next QDM user group meeting** – Contact us at qdm@esacinc.com – Or start a discussion: qdm-user-group-list@esacinc.com **Next user group meeting**

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			– August 18, 2021 from 2:30 to 4:30 PM ET – The July 21 meeting is cancelled as it coincides with the CMS FHIR Connectathon.

Invitees/Attendees:

Attended	*Name*	*Organization*
N/A	Abrar Salam	The Joint Commission
N/A	Alex Borenstein	Greenway Health
N/A	Alex Lui	Epic
N/A	Alyson Narveson	Nebraska Health Network
X	Amanda Grant	Unknown
N/A	Andy Kubilius	The Joint Commission
X	Angela Flanagan	Lantana
X	Ann-Marie Dunn	Cerner
N/A	Ann Philips	NCQA
N/A	Anna Bentler	The Joint Commission
X	Anne Coultas	All Scripts
N/A	Anne Smith	NCQA
N/A	Amira Elhagmusa	Battelle
N/A	Balu Balasubramanyam	MITRE
N/A	Ben Hamlin	NCQA
N/A	Benjamin Bussey	Unknown
N/A	Beth Bostrom	AMA
N/A	Brian Blaufeux	Northern Westchester Hospital
N/A	Bidget Blake	MITRE
N/A	Brooke Villarreal	Unknown
N/A	Bryn Rhodes	ESAC
N/A	Carolyn Anderson	Primary care practice
N/A	Chana West	CDQ Solutions
N/A	Chris Moesel	MITRE
N/A	Cindy Lamb	Telligen
X	Claudia Hall	Mathematica
N/A	Corrie Dowell	BSW Health
N/A	Dalana Ostile	Providence Health Systems
N/A	Dawn Lane	Covenant Health
X	Dave Mishler	Care Evolution
N/A	David Clayman	Allscripts
N/A	Debbie Hall	University of Maryland
N/A	Debbie McKay	Unknown
N/A	Deidre Sacra	McKesson
N/A	Doug Goldstein	Epic
X	Dorothy Lee	Unknown
X	Evelyn Cody	Mathematica
X	Fern McCree	NCQA
X	Floyd Eisenberg	ESAC
N/A	Gary Rezik	QIP
N/A	Ganesh Shanmugam	Glenwood Systems
N/A	Gayathri Jayawardena	ESAC

Attended	*Name*	*Organization*
N/A	L Dejesus	Informedika
X	Lisa Anderson	NCQA
N/A	Lizzie Charboneau	MITRE
N/A	Lynn Perrine	Lantana
N/A	Maggie Lohnes	IMPAQ
N/A	Marc Hadley	MITRE
N/A	Marc Hallez	The Joint Commission
N/A	Marc Overhage	Cerner
N/A	Margaret Dobson	Zepf Center
N/A	Matt Hardman	Unknown
X	Marilyn Parenzan	The Joint Commission
N/A	Martha Radford	NYU
N/A	Melissa Van Fleet	Alliance Health Oklahoma
X	Mia Nievera	The Joint Commission
N/A	Michael Mainridge	Unknown
X	Michael Ryan	NCQA
N/A	Mike Nosal	MITRE
N/A	Michelle Dardis	Mathematica
N/A	Michelle Hinterberg	MediSolv
X	Michelle Lefebvre	IMPAQ
N/A	Mike Shoemaker	Telligen
N/A	Mukesh Allu	Epic
X	Nayaab Baig	NCQA
N/A	Neelam Zafar	The Joint Commission
N/A	Nicole Hunter	Semantic Bits
N/A	Pamela Mahan-Rudolph	Memorial Hermann
X	Paul Denning	MITRE
X	Peter Muir	ESAC
N/A	Piper Ranallo	AAN
N/A	Qainta Harris	Arise Medical Center
N/A	Rachel Buchanan	Oregon Urology
N/A	Rajvi Shah	Unknown
N/A	Rayna Scott	PCPI
N/A	R Swaineng	Swaineng Associates
N/A	Rebeccah Baer	NCQA
X	Rebecca Swain-Eng	Swain Eng Associates
N/A	Rhonda Schwartz	ESAC
X	Rob McClure	MD Partners
N/A	Robin Holder	Unknown
N/A	Rose Almonte	MITRE
N/A	Ruth Gatiba	Battelle
N/A	Ryan Clark	NCQA

Attended	*Name*	*Organization*
N/A	Grace Glennon	Yale CORE
X	Howard Bregman	Epic
N/A	Huy	Unknown
X	Isbelia Briceno	Cerner
N/A	James Bradley	MITRE
X	Jamie Lehner	PCPI
N/A	Jana Malinowski	Cerner
N/A	Janet Wagner	Unknown
X	Jen Seeman	ESAC
N/A	Jennifer Distefano	Unknown
N/A	Jenna Williams-Bader	NCQA
N/A	Jill Shuemaker	VCU Health
N/A	John Carroll	The Joint Commission
N/A	John Lujan	Kaiser Permanente
N/A	Jessica Smails	Caradigm
N/A	Joe Bormel	Cognitive Medicine
N/A	Joseph Kunisch	Memorial Hermann
N/A	Johanna Ward	Mathematica
N/A	Jorge Belmonte	PCPI
N/A	Julie Koscuiszka	Nyack Hospital
N/A	Juliet Rubini	Mathematica
N/A	Justin Schirle	Epic
N/A	Jay Frails	Meditech
X	Katie Magoulick	IMPAQ
N/A	Kathy Carson	SemanticBits
N/A	Kathy Clous	Memorial Care
N/A	Kimberly Smuk	HSAG
N/A	KP Sethi	Lantana
N/A	Latasha Archer	NCQA
N/A	Laura Pearlman	Midwest Center for Women's Healthcare
N/A	Laurie Wissell	Allscripts

Attended	*Name*	*Organization*
N/A	Ryan Guifoyle	Unknown
N/A	Samuel Benton	NCQA
N/A	Sarah Sims	My Patient Insight
N/A	Sethuraman Ramanan	Cognizant
N/A	Shanna Hartman	CMS
X	Sheila Aguilar	TJC
N/A	Shellie T	Unknown
N/A	Stan Rankins	Telligen
N/A	Susan Wisnieski	Meditech
X	Sweta Shah	NCQA
N/A	Syed Zeeshan	eDaptive Systems
N/A	Tammy Kuschel	McKesson
N/A	Tess Rayle	Unknown
N/A	Thoma Hudson	Parkview
N/A	Tom Dunn	Telligen
X	Traci Psihas	ESAC
N/A	Vaspaan Patel	NCQA
N/A	Wendy Wise	Lantana
X	Yan Heras	ESAC
X	Yanyan Hu	The Joint Commission
N/A	Yiscah Bracha	RTI
N/A	Yvette Apura	ASCO
N/A	Zahid Butt	MediSolv
N/A	Zeeshan Pasha	Unknown
N/A	N/A	N/A
N/A	N/A	N/A
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