# QUALITY DATA MODEL (QDM) V5.5 HIGH-LEVEL SUMMARY

## November 2019

Shanna Hartman
CMS Division of Electronic and Clinician Quality
CMS/CCSQ/QMVIG

Floyd Eisenberg
ESAC, Inc.
Healthcare IT and Life Sciences Data Management Solutions Contractor

# QDM BACKGROUND

- The Quality Data Model (QDM) is an information model that defines relationships between patients and clinical concepts in a standardized format to enable electronic quality performance measurement.
- QDM describes clinical concepts in a standardized format to enable electronic quality measurement in support of federal programs and initiatives.
- QDM's purpose is to enable the automated retrieval of structured data captured through routine care in electronic health records, personal health records, and other electronic clinical sources.

# QDM V5.5 RELEASE

- Electronic clinical quality measures (eCQMs) produced using the QDM v5.5 publication are anticipated for the 2021 reporting/performance period.
- The QDM has been aligned with the emerging standard Health Level Seven International (HL7) Fast Healthcare Interoperability Resources (FHIR).
- Support for these features and modifications are implemented in the production version of the Measure Authoring Tool (MAT) released in August 2019.

# QDM V5.5 HIGH-LEVEL CHANGES

1. New Timing Options in QDM v5.5
2. QDM Entities
3. QDM v5.5 Change *source* attribute
4. QDM Entity use cases
5. New QDM datatype: Related Person
6. Addition of Present on Admission indicator for Encounter
   - Change to Encounter, Performed *diagnosis* modeling
7. Add *priority* attribute (Encounter, Procedure)

# NEW TIMING OPTIONS

- Prior versions of some QDM datatype timing options limited timing to author dateTime.
- QDM v5.5 changes allows greater flexibility for measure developers to indicate the occurrence time.
- Modified timing options:
  - Add Relevant dateTime and Relevant Period timing to Assessment, Performed and Relevant dateTime to Immunization, Administered
  - Change Communication, Performed timing to directly reference sent dateTime and received dateTime

# MODIFIED TIMING OPTIONS (CONTINUED):

- Add Relevant dateTime to
  - Adverse Event
  - Assessment, Performed
  - Device Applied
  - Diagnostic Study, Performed
  - Immunization, Administered
  - Intervention, Performed
  - Laboratory Test, Performed
  - Medication, Active
  - Medication, Administered
  - Medication, Dispensed
  - Medication, Order
  - Physical Exam, Performed
  - Procedure, Performed
  - Substance, Administered

# MANAGING ACTIVITY PERFORMERS WITH QDM

- Replaced the previous QDM dataflow attribute *source* with a performer attribute for each QDM datatype.
- Added a new QDM item, called *Entities*, including *Patient, Care Partner, Practitioner,* and *Organization* to allow greater expressivity in requesting information about performer-type attributes.

  *Entities* provide a clearer way to describe the *source* of a data element.

# MANAGING ACTIVITY PERFORMERS WITH QDM (CONT'D)

- New attributes to express performers of activities

| New Attribute | QDM Datatypes | |
|---|---|---|
| Requester | •Assessment, Order | •Intervention, Recommended |
| | •Assessment, Recommended | •Laboratory Test, Recommended |
| | •Device, Order | •Laboratory Test, Order |
| | •Device, Recommended | •Physical Exam, Recommended |
| | •Diagnostic Study, Order | •Physical Exam, Order |
| | •Diagnostic Study, Recommended | •Procedure, Order |
| | •Encounter, Order | •Procedure, Recommended |
| | •Encounter, Recommended | •Substance, Order |
| | •Immunization, Order | •Substance, Recommended |
| | •Intervention, Order | |
| Participant | •Encounter, Performed | |
| Performer | •Assessment, Performed | •Laboratory Test, Performed |
| | •Care Goal | •Medication, Administered |
| | •Device, Applied | •Patient Care Experience |
| | •Diagnostic Study, Performed | •Physical Exam, Performed |
| | •Family History | •Procedure, Performed |
| | •Immunization, Administered | •Provider Care Experience |
| | •Intervention, Performed | •Substance, Administered |

Communication, Performed – already includes sender, recipient

Medication, Discharge; Medication, Order; Medication, Dispensed – prescriber

Medication, Dispensed – dispenser

[prescriber and dispenser replace prescriber.id and dispenser.id to take advantage of new QDM Entities]

# QDM ENTITY USE CASES

Added a new QDM item, called *Entities* to allow greater expressivity in requesting information about performer-type attributes:

- *Patient*
- *Care Partner*
- *Practitioner*
- *Organization*

# NEW QDM DATATYPE: RELATED PERSON

- Added QDM datatype Related Person.

| Datatype | Definition | Attributes |
|---|---|---|
| Related Person | A person who has a personal or non-healthcare-specific professional relationship to the patient.<br><br>The "code" attribute references the relationship to the index patient.<br><br>Timing: A Related Person has no associated timing. The Related Person QDM datatype references only an identifier and a relationship. The relationship references the nature of the relationship (e.g., a direct reference code or a value set for "Mother" using the example provided). | • id<br>• code<br>• identifier<br>• linkedPatientId |

# ADDITION OF PRESENT ON ADMISSION INDICATOR FOR ENCOUNTER

- Modified Encounter, Performed *diagnosis* attribute to reference two components: *diagnosis (code)* and a new item, *present on admission indicator.*
- The Diagnosis Present on Admission indicator is assigned to Inpatient Encounter Diagnosis and is used extensively in quality and patient safety measures.

# ADDED *PRIORITY* ATTRIBUTE (ENCOUNTER, PROCEDURE)

- Added *priority* attribute to
  - Encounter, Order
  - Encounter, Performed
  - Procedure, Order
  - Procedure, Performed
- Allows reference to an elective or urgent
  - Encounter or procedure
  - Order for an encounter or procedure

# RESOURCES

- Review the webinar titled "[QDM Version 5.5 Overview](#)" for an in-depth summary of the QDM v5.5.
- Current and past versions of the QDM are located on the [eCQI Resource Center QDM page](#)
- Past versions of production QDM Specifications can be found on the [eCQI Resource Center QDM-Previous Versions tab](#)
- QDM User Group meeting information is on the [eCQI Resource Center QDM-Connect tab](#)
- For questions or comments on the QDM, please contact the [ESAC QDM team](#)
- To submit an issues ticket, please visit the [ONC Project Tracking System (Jira) QDM project](#)