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CMS 2015 QRDA Submissions for Eligible Hospitals / Critical Access Hospitals

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Presenter Biography

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- HL7 CDA R2 Certified Specialist
- Co-editor of Consolidated CDA and other specifications



Agenda

- Submitting 2014 CMS Quality Measures using QRDA Category I for the 2015 reporting year
- Submitting Electronic Clinical Quality Measure (eCQM) Hospital Test Files
- Common CMS QRDA Submission Errors
- Pre-Submission QRDA Debugging Approaches

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Submitting 2015 Quality Measures using QRDA Category I

2015 Submission Changes Overview

- The Hospital eCQM Receiving System implementation in production, previously based on hospital quality reporting (HQR) Release 6.0 requirements, has been retrofitted with some of the upcoming HQR 7.0 QRDA validation logic.
- QRDA files previously considered valid will no longer pass validation without some modifications.
- The Hospital eCQM Receiving system is currently in a hybrid status. The system is ready and available to receive test files. However, the measure engine will not calculate the data and will not produce a measure result until the next release is deployed mid-to-end of April 2015.

2015 Submission Changes Timeline

Date	CMS Release	Status
Jan 1, 2015	HQR 6.0 with Production Update to add some HQR 7.0 validations	<ul style="list-style-type: none"> • 2014 eCQMs accepted and validated, Measure results not calculated • QRDA Category 1 must validate to HL7 Schematron - (R2) and • Combined CMS Supplemental IG Validation (pub 07/24/2014)
Apr 30, 2015	HQR 7.0 Phase 2	<ul style="list-style-type: none"> • QRDA Category 1 must validate to HL7 Schematron - (R2) + Errata (pub October 2014) • 2014 eCQMs validated, Measure results calculated • For the first time, 2014 eCQM calculated results become available to submitters
June 30, 2015	HQR 8.0	<ul style="list-style-type: none"> • At least one Encounter Discharge must be within the Reporting Period • The Reporting Parameter Effective Date Range must align with one of the Program's CY Discharge Quarters • Any other changes will be communicated in upcoming webinars prior to system deployment

Categories of Changes

The changes for 2015 fall into two categories:

- CMS updates for HITECH Release 7.0.
 - Updates are from the 2015 CMS Implementation Guide for QRDA, listed below:
 - http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/QRDA_EP_HQR_Guide_2015.pdf
- QRDA base specification errata.
 - Additional changes were made to the CMS validation logic to incorporate errata to the QRDA standard itself.
 - <http://www.hl7.org/dstucomments/showdetail.cfm?dstuid=80>



CMS Updates for HITECH 7.0

Clinical Document Template ID

2015 QRDA submissions require a new template ID.

This ID is in addition to those required by the QRDA base specification.

The templated/@root attribute of the new ID must be “2.16.840.1.113883.10.20.24.1.3”.

Error Message if omitted:

- ERROR: SHALL contain exactly one [1..1] templated (CONF:CMS_0001) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.24.1.3" (CONF:CMS_0002).

```
<ClinicalDocument ...>
  <realmCode code="US"/>
  <typedId root="2.16.840.1.113883.1.3"
    extension="POCD_HD000040"/>
  <templated
    root="2.16.840.1.113883.10.20.22.1.1"/>
  <templated
    root="2.16.840.1.113883.10.20.24.1.1"/>
  <templated
    root="2.16.840.1.113883.10.20.24.1.2"/>
  <templated
    root="2.16.840.1.113883.10.20.24.1.3"/>
  ...
</ClinicalDocument>
```

Language Code

The language code changed from “en-US” (US English) to simply “en” (English).

Old

~~<languageCode code="en-US"/>~~

Ensure that languageCode/@code equals “en”.

New

<languageCode code="en"/>

Error Message if omitted or incorrect:

- ERROR: This languageCode SHALL contain exactly one [1..1] @code="en" English (CodeSystem: Language 2.16.840.1.113883.6.121) (CONF:CMS_0010).

Patient Identifier Number

An additional patient identifier is required under recordTarget/patientRole.

The generic terms Patient Identifier Number and EHR Patient ID are used in the CMS QRDA Implementation Guide instead of medical record number or MRN.

Error Message if omitted:

- ERROR: This patientRole SHALL contain exactly one [1..1] id such that it SHALL contain exactly one [1..1] Patient Identifier Number (CONF:CMS_0007)

```
<recordTarget>
  <patientRole>
    <!-- This is the patient's Medical HIC number -->
    <id extension="111223333A"
      root="2.16.840.1.113883.4.572"/>
    <!-- This is the patient identifier number -->
    <id extension="EXAMPLE-ID" root="EXAMPLE-OID"/>
    ...
  </patientRole>
</recordTarget>
```

Note: You must replace EXAMPLE-ID and EXAMPLE-OID above with values appropriate for your system. The extension contains the patient ID in your system, and the root attribute contains the Object Identifier (OID) for that set of IDs.

OIDs can be obtained and searched from the HL7 OID registry:
<http://www.hl7.org/oid/>

HL7 also has an OID Guidance Implementation Guide to address questions about OIDs:
http://www.hl7.org/implement/standards/product_brief.cfm?product_id=210

CMS Program Name

2015 QRDA Submissions require an informationRecipient element with the appropriate program identified.

Error Message if omitted:

- ERROR: SHALL contain exactly one [1..1] informationRecipient (CONF:CMS_0023).

Note: you must replace the contents of the id/@extension attribute above with the appropriate code for your program. Legal values are shown in the table to the right.

```
<informationRecipient>  
  <intendedRecipient>  
    <id root="2.16.840.1.113883.3.249.7"  
      extension="HQR_IQR"/>  
  </intendedRecipient>  
</informationRecipient>
```



Program	Code
PQRS Meaningful Use Individual	PQRS_MU_INDIVIDUAL
PQRS Meaningful Use Group	PQRS_MU_GROUP
Pioneer ACO	PIONEER_ACO
Hospital Quality Reporting for the EHR Incentive Program	HQR_EHR
Hospital Quality Reporting for the Inpatient Quality Reporting Program	HQR_IQR
Hospital Quality Reporting for the EHR Incentive Program and the IQR Program	HQR_EHR_IQR

QRDA Base Specification Errata

Measure Version Specific Identifier

The version specific identifier of an eMeasure must be present in externalDocument/id.

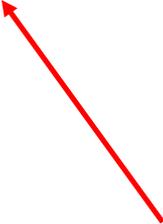
The correct identifier for the measure must be in the extension attribute.

The root attribute is fixed to 2.16.840.1.113883.4.738.

Error Message if omitted:

- ERROR: This externalDocument SHALL contain exactly one [1..1] id (CONF:12811) such that it SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.738" (CONF:12812). SHALL contain exactly one [1..1] @extension (CONF:12813).

```
<externalDocument classCode="DOC"
  moodCode="EVN">
  <id root="2.16.840.1.113883.4.738"
    extension="EXAMPLE-ID"/>
  ...
</externalDocument>
```



Note: you must replace EXAMPLE-ID above with the correct version specific id for the measure on which you are reporting. Those IDs can be found in the measures themselves, which can be downloaded from the eCQM Library:

http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/eCQM_Library.html

Reporting Parameters Act ID

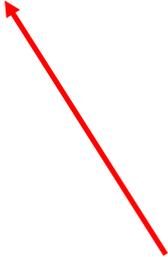
The Reporting Parameters Act template now requires one or more IDs.

The ID may be a GUID/UUID, or an appropriate nullFlavor can be used (NI is recommend).

Error Message if omitted:

- ERROR: SHALL contain at least one [1..*] id (CONF:26549).

```
<act classCode="ACT" moodCode="EVN">
  <templateId
    root="2.16.840.1.113883.10.20.17.3.8"/>
  <!-- Example using a UUID -->
  <id root="f3f35288-643b-41d3-b4d9-
f5e557c12278"/>
  <!-- Example using a nullFlavor -->
  <id nullFlavor="NI"/>
  ...
</act>
```



Note: If you use a UUID, you must generate a unique one for each QRDA file.

Payer Effective Time

The Patient Characteristic Payer template now requires an effectiveTime element.

The low element must be present, and the high element should be present if appropriate (e.g. the coverage has expired or will expire on a known date).

Error Message if omitted:

- ERROR: SHALL contain exactly one [1..1] effectiveTime (CONF:26933).
- ERROR: This effectiveTime SHALL contain exactly one [1..1] low (CONF:26934).

```
<observation classCode="OBS"
moodCode="EVN">
  <templateId
root="2.16.840.1.113883.10.20.2
4.3.55"/>
  ...
  <effectiveTime>
    <low value="20110303"/>
    <high value="20160303"/>
  </effectiveTime>
  ...
</observation>
```

Reason Observation ID

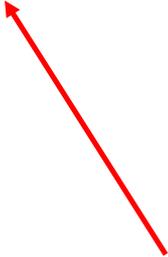
The Reason template now requires an ID.

The ID may be a GUID/UUID, or an appropriate nullFlavor can be used (NI is recommend).

Error Message if omitted:

- ERROR: SHALL contain at least one [1..*] id (CONF:26998).

```
<observation classCode="OBS" moodCode="EVN">
  <templateId
    root="2.16.840.1.113883.10.20.24.3.88"/>
  <!-- Example using a UUID -->
  <id root="f3f35288-643b-41d3-b4d9-
f5e557c12278"/>
  <!-- Example using a nullFlavor -->
  <id nullFlavor="NI"/>
  ...
</observation>
```



Note: If you use a UUID, you must generate a unique one for each QRDA file.

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Submitting Electronic Clinical Quality Measure (eCQM) Hospital Test Files

Hospital eCQM Receiving System Readiness

- Test QRDA Category I Release 2 files can be submitted and validated against 2015 CMS QRDA constraints
- Submitting test files allows users to validate file structure against the CMS Hospital eCQM Receiving System (HERS)
- Reports are available to identify errors in files and allow for corrections prior to submission of production data
- System expected to be available with full functionality by end of April 2015
 - Allow for submission of test and production files
 - Complete file validation and measure calculation
- Additional education and training will be provided in the coming months

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Common CMS QRDA Submission Errors

Errors Discussed in this Presentation

This presentation addresses errors in the following categories:

- CCN Validation
- Service Event and Performer
- Terminology

CCN Validation Errors

- Error Messages
 - CCN (NULL) cannot be validated.
 - ERROR: This representedCustodianOrganization SHALL contain exactly one [1..1] id (CONF:CMS_0016) such that it SHALL contain exactly one [1..1] @root='2.16.840.1.113883.4.336' CMS Certification Number (CONF:26960).SHALL contain exactly one [1..1] @extension (CONF:26959).
 - ... etc.
- Error Meaning
 - The document must contain a valid CMS Certification Number (CCN) as an ID in the representedCustodianOrganization element of the QRDA header.

CCN Error Examples

The examples to the right show several invalid CCNs:

- CCN is missing entirely.
- The id has the CCN root, but is missing the extension with the organization's actual CCN.
- An invalid CCN e.g., "ABC123" was sent instead of the organization's actual CCN.

```
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      ...
    </representedCustodianOrganization>
  </assignedCustodian>
</ custodian>
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      <!--Submitters' CCN -->
      <id root="2.16.840.1.113883.4.336"/>
      ...
    </representedCustodianOrganization>
  </assignedCustodian>
</ custodian>
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      <!--Submitters' CCN -->
      <id root="2.16.840.1.113883.4.336" extension="ABC123"/>
      ...
    </representedCustodianOrganization>
  </assignedCustodian>
</ custodian>
```

CCN Error Correction

The examples to the right show corrected CCNs:

- The id has the CCN root and the extension with the organization's CCN.
- **Note:** “*YOUR-CCN*” is a placeholder that needs to be replaced with your actual CCN. If you send the literal string “YOUR-CCN,” it will fail.
- **Note:** The @extension attribute is the correct place for the CCN (and also TIN or NPI in their respective elements) even though this is not clearly explicit in the QRDA base IG.

```
<custodian>
  <assignedCustodian>
    <representedCustodianOrganization>
      <!--Submitters' CCN -->
      <id root="2.16.840.1.113883.4.336" extension="YOUR-CCN"/>
      ...
    </representedCustodianOrganization>
  </assignedCustodian>
</custodian>
```

Note: The dummy CCN (shown below) can be used only by vendors and only for Test Data submissions.

```
<id root="2.16.840.1.113883.4.336"
extension="800890"/>
```

Service Event Errors

- Error Messages
 - ERROR: SHALL contain exactly one [1..1] documentationOf (CONF:CMS_0017) such that it SHALL contain exactly one [1..1] serviceEvent (CONF:16580).
 - ERROR: This serviceEvent SHALL contain exactly one [1..1] @classCode="PCPR" Care Provision (CONF:16581).
 - ERROR: This serviceEvent SHALL contain at least one [1..*] performer (CONF:16583).
 - ...etc.
- Error Meaning
 - QRDA documents must record the service event (the main act being documented). In this case, it is the provision of care over a period of time. The care providers (aka performers) are recorded within the service event.

Service Event Error Examples

The example to the right shows an invalid serviceEvent:

- The serviceEvent is missing the classCode attribute.
- The performer has the wrong value in the typeCode attribute.
- The performer is missing an assignedEntity element containing a representedOrganization.

```
<documentationOf typeCode="DOC">  
  <serviceEvent>  
    <effectiveTime>  
      <low value="20100601"/>  
      <high value="20100915"/>  
    </effectiveTime>  
    <performer typeCode="PERFORMER">  
      <time>  
        <low value="20020716"/>  
        <high value="20070915"/>  
      </time>  
      ...  
    </performer>  
  </serviceEvent>  
</documentationOf>
```

Service Event Error Partial Correction

The example to the right shows an invalid serviceEvent:

- The classCode attribute is now present and set to PCPR (care provision)
- The performer has the correct typeCode.
- The assignedEntity element is present.
- The assignedEntity is missing the provider's NPI.
- The representedOrganization is missing the Tax ID Number.

```
<documentationOf typeCode="DOC">
  <serviceEvent classCode="PCPR">
    <effectiveTime>
      <low value="20100601"/>
      <high value="20100915"/>
    </effectiveTime>
    <performer typeCode="PRF">
      <time>
        <low value="20020716"/>
        <high value="20070915"/>
      </time>
      <assignedEntity>
        ...
        <code code="207QA0505X" displayName="Adult Medicine"
          codeSystem="2.16.840.1.113883.6.101" codeSystemName="Healthcare
          Provider Taxonomy"/>
        <representedOrganization>
          ...
          <id root="2.16.840.1.113883.4.336" extension="54321"/>
        </representedOrganization>
      </assignedEntity>
    </performer>
  </serviceEvent>
</documentationOf>
```

Service Event Error Correction

The example to the right shows a corrected service event:

- The assignedEntity contains the provider's NPI.
- The representedOrganization contains the Tax ID Number.

```
<documentationOf typeCode="DOC">
  <serviceEvent classCode="PCPR">
    <effectiveTime>
      <low value="20100601"/>
      <high value="20100915"/>
    </effectiveTime>
    <performer typeCode="PRF">
      <time>
        <low value="20020716"/>
        <high value="20070915"/>
      </time>
      <assignedEntity>
        <id root="2.16.840.1.113883.4.6" extension="111111111"/>
        <code code="207QA0505X" displayName="Adult Medicine"
          codeSystem="2.16.840.1.113883.6.101" codeSystemName="Healthcare
          Provider Taxonomy"/>
        <representedOrganization>
          <id root="2.16.840.1.113883.4.2" extension="1234567"/>
          <id root="2.16.840.1.113883.4.336" extension="54321"/>
        </representedOrganization>
        </assignedEntity>
      </performer>
    </serviceEvent>
  </documentationOf>
```

Service Event Workaround (no NPI or TIN)

For hospitals that do not have a NPI or TIN, the id elements are still required, but replace the extension attribute with a nullFlavor attribute set to NA instead.

- The provider's NPI is null.
- The Tax ID Number is null.

```
<documentationOf typeCode="DOC">
  <serviceEvent classCode="PCPR">
    <effectiveTime>
      <low value="20100601"/>
      <high value="20100915"/>
    </effectiveTime>
    <performer typeCode="PRF">
      <time>
        <low value="20020716"/>
        <high value="20070915"/>
      </time>
      <assignedEntity>
        <id root="2.16.840.1.113883.4.6" nullFlavor="NA"/>
        <code code="207QA0505X" displayName="Adult Medicine"
          codeSystem="2.16.840.1.113883.6.101" codeSystemName="Healthcare
          Provider Taxonomy"/>
        <representedOrganization>
          <id root="2.16.840.1.113883.4.2" nullFlavor="NA"/>
          <id root="2.16.840.1.113883.4.336" extension="54321"/>
        </representedOrganization>
        </assignedEntity>
      </performer>
    </serviceEvent>
  </documentationOf>
```

Terminology Errors

- Error Messages

- ERROR: Where the clinical statement codes SHALL contain the @sdtc:valueSet extension to reference the value set from which the supplied code was drawn for templateId/@root='...' (CONF:...).
- ERROR: This patient SHALL contain exactly one [1..1] ethnicGroupCode, which SHALL be selected from ValueSet Ethnicity Value 2.16.840.1.114222.4.11.837 DYNAMIC (CONF:CMS_0015).

- Error Meaning

- Various sections of a QRDA have specific requirements for which terminologies and value sets are used, and where the codes must go in the document.
- QRDA documents must also include an sdtc:valueSet extension element in certain sections.

Looking up Value Sets OIDs in the Specifications

Find the table or conformance statement in the CMS QRDA specifications appropriate for the information you are trying to send.

Typically there is a value set OID present.

The OID for the Ethnicity value set is: 2.16.840.1.114222.4.11.837

SHALL contain exactly one [1..1]
@root="2.16.840.1.113883.3.2074.1" CMS EHR Certification Number (formerly known as Office of the National Coordinator Certification Number) and the value of @extension is the Certification Number (CONF: DECC_P0004).

5.1.2 Record Target

The recordTarget records the patient whose health information is described by the clinical document; it must contain at least one patientRole element.

Parameter Name: XPath	Attribute/Element	Card.	Verb	CONF#	Fixed Value
First Name: /ClinicalDocument/recordTarget/patientRole/patient/name/	given	1..1	SHALL	5283 5284 10411 7157 _P01	n/a
Last Name: /ClinicalDocument/recordTarget/patientRole/patient/name/	family	1..1	SHALL	5284 10411 7159	n/a
Birth Date: /ClinicalDocument/recordTarget/patientRole/patient/birthTime/	@value	1..1	SHALL	5298 5300 _P01	n/a
Ethnicity: /ClinicalDocument/recordTarget/patientRole/patient/ethnicGroupCode/	@code	1..1	SHALL	5323	2.16.840.1.114222.4.11.837 (Ethnicity Value Set)
Race: /ClinicalDocument/recordTarget/patientRole/patient/raceCode/	@code	1..1	SHALL	5322 _P01	2.16.840.1.114222.4.11.836 (Race Value Set)
Race (if multiple race): /ClinicalDocument/recordTarget/patientRole/patient/sdt/raceCode/	@code	0..*	MAY	7263_P01	2.16.840.1.114222.4.11.836 (Race Value Set)

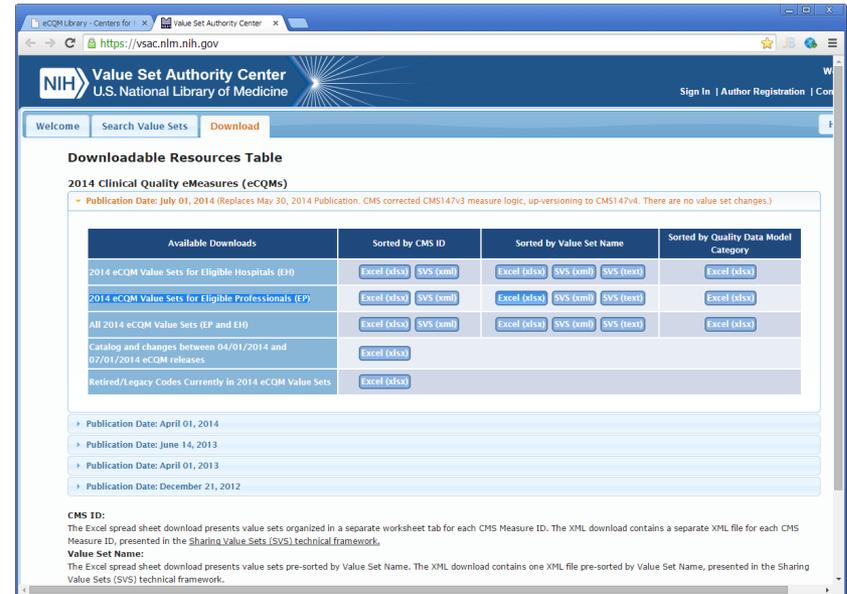
Downloading Value Sets from VSAC

VSAC = Value Set Authority Center

<https://vsac.nlm.nih.gov/>

You will need to register and be approved for a UMLS account before you can download files.

Once you have a login, select an appropriate download, such as “2014 eCQM Value Sets for Eligible Professionals (EP)” Sorted by value set name in Excel format.



The screenshot shows the Value Set Authority Center (VSAC) website interface. The main content area is titled "Downloadable Resources Table" and displays a table of available downloads for 2014 Clinical Quality eMeasures (eCQMs). The table has four columns: "Available Downloads", "Sorted by CMS ID", "Sorted by Value Set Name", and "Sorted by Quality Data Model Category". Each row represents a different value set, and each cell in the "Sorted by" columns contains buttons for downloading in Excel (xlsx) or SVS (xml) format. Below the table, there are sections for "Publication Date" and "CMS ID" with explanatory text.

Available Downloads	Sorted by CMS ID	Sorted by Value Set Name	Sorted by Quality Data Model Category
2014 eCQM Value Sets for Eligible Hospitals (EH)	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)
2014 eCQM Value Sets for Eligible Professionals (EP)	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)
All 2014 eCQM Value Sets (EP and EH)	Excel (xlsx) SVS (xml)	Excel (xlsx) SVS (xml) SVS (text)	Excel (xlsx)
Catalog and changes between 04/01/2014 and 07/01/2014 eCQM releases	Excel (xlsx)		
Retired/Legacy Codes Currently in 2014 eCQM Value Sets	Excel (xlsx)		

Publication Date: April 01, 2014
Publication Date: June 14, 2013
Publication Date: April 01, 2013
Publication Date: December 21, 2012

CMS ID:
The Excel spreadsheet download presents value sets organized in a separate worksheet tab for each CMS Measure ID. The XML download contains a separate XML file for each CMS Measure ID, presented in the Sharing Value Sets (SVS) technical framework.

Value Set Name:
The Excel spreadsheet download presents value sets pre-sorted by Value Set Name. The XML download contains one XML file pre-sorted by Value Set Name, presented in the Sharing Value Sets (SVS) technical framework.

Looking up Value Sets in the VSAC Download

- Search for the value set OID you found in the CMS guide.
- Example: Legal codes ethnicity are
 - 2135-2 (Hispanic or Latino)
 - 2186-5: (Not Hispanic or Latino)
- Be sure to note the code system OID, which is different from the value set OID.

Value Set Name	Value Set OID	Definition	Expansion	Code	Description	Code System	Code System OID	Co
25571 Enophthalmos	2.16.840.1.113883.3.526.3.14	20140501	20121025	134029000	Enophthalmos due to orbital	SNOMEDCT	2.16.840.1.113883.6.96	2011
25572 Enophthalmos	2.16.840.1.113883.3.526.3.14	20140501	20121025	53102006	Enophthalmos due to trauma	SNOMEDCT	2.16.840.1.113883.6.96	2011
25573 Enophthalmos	2.16.840.1.113883.3.526.3.14	20140501	20121025	90093006	Enophthalmos (disorder)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25574 Enophthalmos	2.16.840.1.113883.3.526.3.14	20140501	20121025	95773007	Enophthalmos secondary to	SNOMEDCT	2.16.840.1.113883.6.96	2011
25575 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	110	Essential (primary) hypertension	ICD10CM	2.16.840.1.113883.6.90	2011
25576 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	401.0	Malignant essential	ICD9CM	2.16.840.1.113883.6.103	2011
25577 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	401.1	Benign essential hypertension	ICD9CM	2.16.840.1.113883.6.103	2011
25578 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	401.9	Unspecified essential	ICD9CM	2.16.840.1.113883.6.103	2011
25579 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	10725009	Benign hypertension (disorder)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25580 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	1201005	Benign essential hypertension	SNOMEDCT	2.16.840.1.113883.6.96	2011
25581 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	276789009	Labile hypertension (disorder)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25582 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	57125006	Labile essential hypertension	SNOMEDCT	2.16.840.1.113883.6.96	2011
25583 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	429457004	Systolic essential hypertension	SNOMEDCT	2.16.840.1.113883.6.96	2011
25584 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	46481004	Low-renin essential	SNOMEDCT	2.16.840.1.113883.6.96	2011
25585 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	48146000	Diastolic hypertension (disorder)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25586 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	56218007	Systolic hypertension (disorder)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25587 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	59621000	Essential hypertension (disorder)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25588 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	59720008	Sustained diastolic hypertension	SNOMEDCT	2.16.840.1.113883.6.96	2011
25589 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	65518004	Labile diastolic hypertension	SNOMEDCT	2.16.840.1.113883.6.96	2011
25590 Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	78975002	Malignant essential	SNOMEDCT	2.16.840.1.113883.6.96	2011
25591 Ethnicity	2.16.840.1.114222.4.11.837	20121025	20121025	2135-2	Hispanic or Latino	CDCREC	2.16.840.1.113883.6.238	1.0
25592 Ethnicity	2.16.840.1.114222.4.11.837	20121025	20121025	2186-5	Not Hispanic or Latino	CDCREC	2.16.840.1.113883.6.238	1.0
25593 Excision of Adhesions	2.16.840.1.113883.3.526.3.14	20140501	20121025	65880	Severing adhesions of anterior	CPT	2.16.840.1.113883.6.12	2011
25594 Excision of Adhesions	2.16.840.1.113883.3.526.3.14	20140501	20121025	65880	Severing adhesions of anterior	CPT	2.16.840.1.113883.6.12	2011
25595 Excision of Adhesions	2.16.840.1.113883.3.526.3.14	20140501	20121025	438601000	Lysis of adhesions of anterior	SNOMEDCT	2.16.840.1.113883.6.96	2011
25596 Excision of Adhesions	2.16.840.1.113883.3.526.3.14	20140501	20121025	76240002	Lysis of corneovitreal adhesions	SNOMEDCT	2.16.840.1.113883.6.96	2011
25597 Face to Face Interaction - No ED	2.16.840.1.113762.1.4.1080.2	20140501	20140501	12843005	Subsequent hospital visit by	SNOMEDCT	2.16.840.1.113883.6.96	2011
25598 Face to Face Interaction - No ED	2.16.840.1.113762.1.4.1080.2	20140501	20140501	18170008	Subsequent nursing facility visit	SNOMEDCT	2.16.840.1.113883.6.96	2011
25599 Face to Face Interaction - No ED	2.16.840.1.113762.1.4.1080.2	20140501	20140501	185349003	Encounter for "check-up"	SNOMEDCT	2.16.840.1.113883.6.96	2011
25600 Face to Face Interaction - No ED	2.16.840.1.113762.1.4.1080.2	20140501	20140501	185463005	Visit out of hours (procedure)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25601 Face to Face Interaction - No ED	2.16.840.1.113762.1.4.1080.2	20140501	20140501	185465003	Weekend visit (procedure)	SNOMEDCT	2.16.840.1.113883.6.96	2011
25602 Face to Face Interaction - No ED	2.16.840.1.113762.1.4.1080.2	20140501	20140501	19681004	Nursing evaluation of patient	SNOMEDCT	2.16.840.1.113883.6.96	2011

Terminology Error Examples

The example to the right shows two invalid ethnic group codes.

- The ethnicGroupCode element is missing entirely.
- The ethnicGroupCode element is present but empty.

```
<patient>
...
<raceCode code="2106-3"
codeSystem="2.16.840.1.113883.6.238"
codeSystemName="Race & Ethnicity - CDC"
displayName="White"/>
<guardian>...</guardian>
...
</patient>
```

```
<patient>
...
<ethnicGroupCode/>
<guardian>...</guardian>
...
</patient>
```

Terminology Error Partial Correction

The example to the right shows two valid ethnic group codes.

- The ethnicGroupCode element is present populated, but uses an invalid code and has the value set OID in the codeSystem attribute.

```
<patient>
...
<ethnicGroupCode code=" Not Hispanic or Latino"
  codeSystem="2.16.840.1.114222.4.11.837" />
...
</patient>
```

Terminology Error Correction

The example to the right shows two valid ethnic group codes.

- The ethnicGroupCode element is fully specified with a valid code and code system.

```
<patient>  
...  
<ethnicGroupCode code="2186-5"  
  codeSystem="2.16.840.1.113883.6.238"  
  displayName="Not Hispanic or Latino"/>  
...  
</patient>
```



Adding the sdtc:valueSet Extension

It is legal to use the sdtc:valueSet on any coded types that are bound to a valueSet. Some sections require that extension to be present.

- The previous example has been updated to show the ethnicity value set OID added via the sdtc:valueSet extension.

```
<patient>
...
<ethnicGroupCode code="2186-5"
  codeSystem="2.16.840.1.113883.6.238"
  displayName="Not Hispanic or Latino"
  sdtc:valueSet="2.16.840.1.114222.4.11.837"/>
...
</patient>
```



Terminology Work Arounds – Null Flavors

- Sometimes implementers need to be able to say “I don’t have any information”.
- This is done using the nullFlavor attribute.
- The default nullFlavor is NI, for “No information”. Others can be found in the QRDA specifications if needed.

```
<patient>  
...  
<ethnicGroupCode nullFlavor="NI"/>  
...  
</patient>
```



QRDA Debugging Approaches

Debugging QRDA Files Before Submission

The best way to prevent submission errors is to validate your QRDA documents before submitting them.

There are two primary validation steps all implementers should perform locally:

- Validate against the QRDA XML Schema from HL7
- Validate against the QRDA Schematron File from HL7

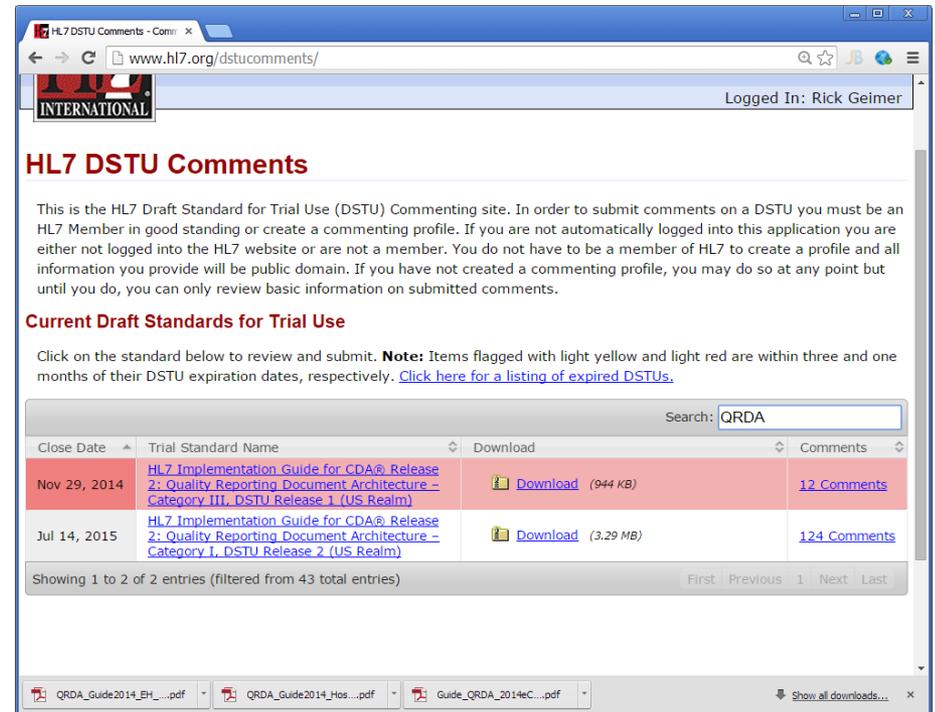
Additionally, QRDA files may be submitted as Test Submissions using the operational CMS Hospital eCQM Reporting System (HERS) (<https://www.qualitynet.org>).

Later this year, CMS will be piloting a Pre-Submission Validation Application (PSVA). A downloadable tool for submitters to validate QRDA files locally prior to submitting them to CMS.

Downloading the HL7 QRDA Package

<http://www.hl7.org/dstucomments/>

- Search for “QRDA.”
- Go to the row for Category 1 (currently the 2nd search result).
- Click the download link.



The screenshot shows a web browser window at www.hl7.org/dstucomments/. The user is logged in as Rick Geimer. The page title is "HL7 DSTU Comments". Below the title is a paragraph explaining the commenting site. A section titled "Current Draft Standards for Trial Use" contains a search bar with "QRDA" entered. Below the search bar is a table with two entries:

Close Date	Trial Standard Name	Download	Comments
Nov 29, 2014	HL7 Implementation Guide for CDA® Release 2: Quality Reporting Document Architecture – Category III, DSTU Release 1 (US Realm)	Download (944 KB)	12 Comments
Jul 14, 2015	HL7 Implementation Guide for CDA® Release 2: Quality Reporting Document Architecture – Category I, DSTU Release 2 (US Realm)	Download (3.29 MB)	124 Comments

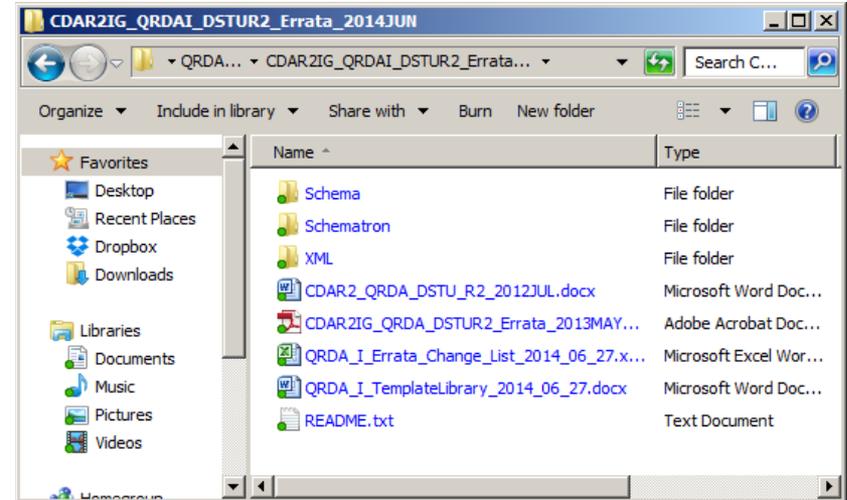
Below the table, it says "Showing 1 to 2 of 2 entries (filtered from 43 total entries)". At the bottom of the browser window, there are three PDF files in the download bar: "QRDA_Guide2014_EH_...", "QRDA_Guide2014_Hos_...", and "Guide_QRDA_2014eC...".

Navigating the HL7 QRDA Package

The ZIP file from HL7 contains several files and folders.

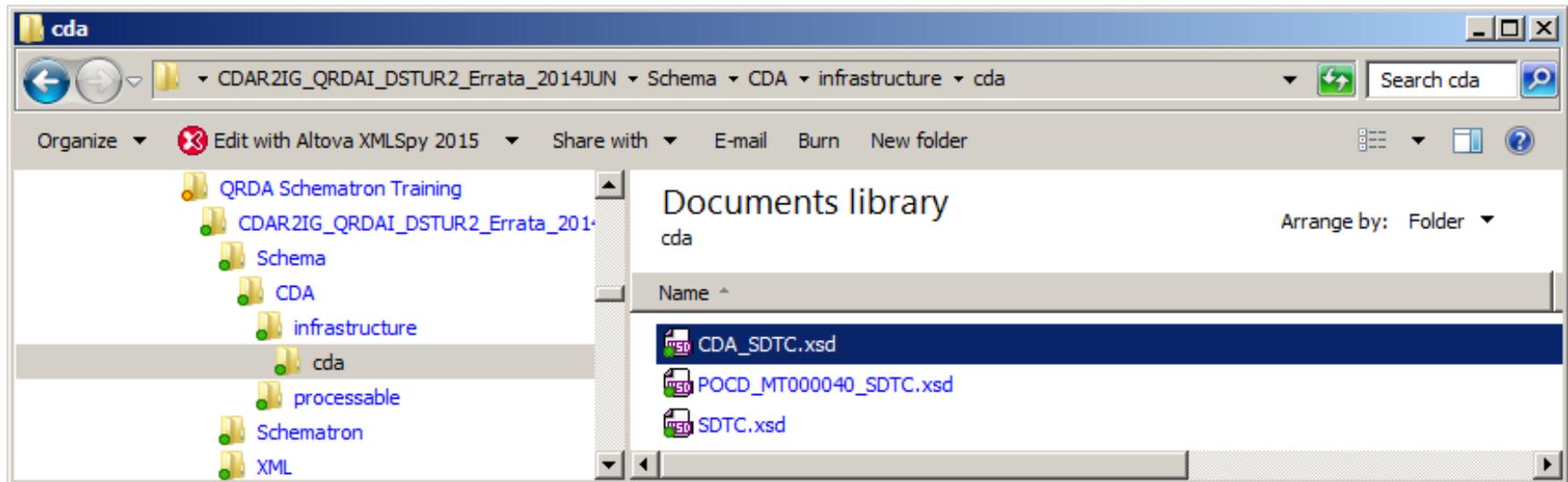
The Schema folder contains the QRDA XML Schema.

The Schematron folder contains the QRDA Schematron file and related vocabulary.



Navigating to the QRDA XML Schema

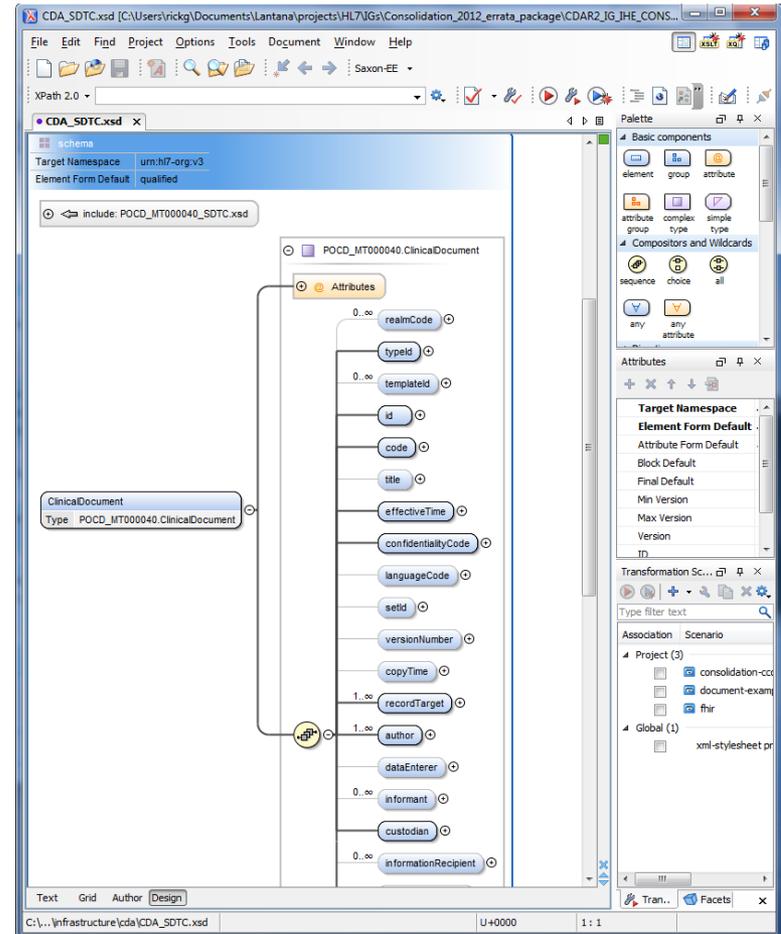
- The main XML Schema file is called CDA_SDTC.xsd.
 - The file is in Schema/CDA/infrastructure/cda.
 - This file is not standalone and is not safe to move by itself, as it references other files in the Schema directory of the QRDA package.
 - If you need to move the schema, move the entire Schema folder.



Viewing the QRDA XML Schema

Most XML Editors allow you to open XML Schema files in a graphical view.

This can be very helpful as it shows which elements and attributes are allowed by the schema, and the order in which the elements must appear.



Associating a QRDA file with the Schema

- To associate a QRDA file with the QRDA XML Schema, add an `xsi:schemaLocation` attribute to the `ClinicalDocument` element at the root of the QRDA file.
- The value of the attribute is the relative or absolute path to the `CDA_SDTC.xsd` file.

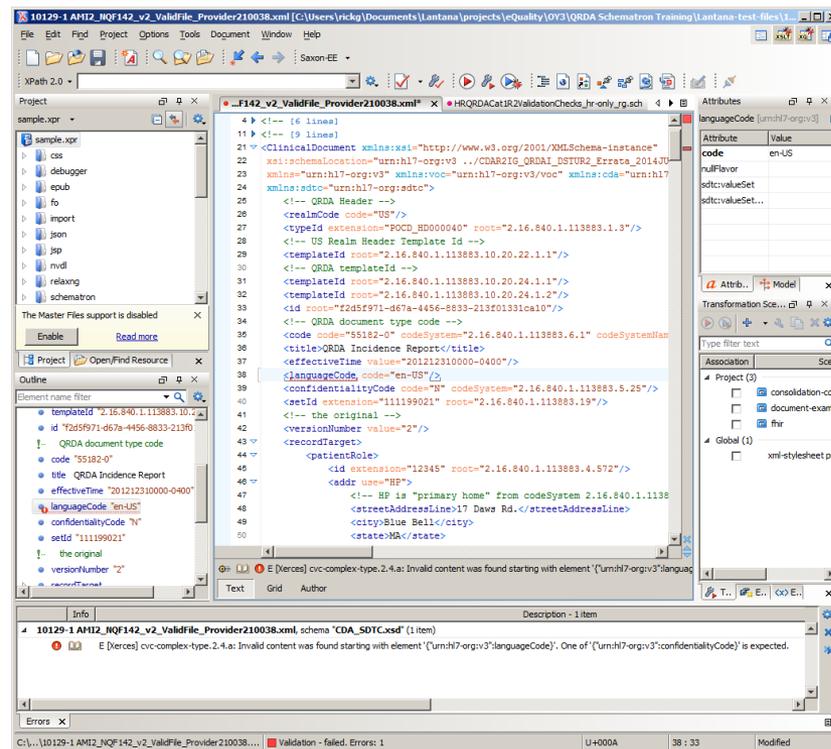
```
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:hl7-org:v3" xmlns:voc="urn:hl7-org:v3/voc" xmlns:cda="urn:hl7-org:v3"
  xmlns:sdtc="urn:hl7-org:sdtc"
  xsi:schemaLocation="urn:hl7-org:v3 Schema/CDA/infrastructure/cda/CDA_SDTC.xsd"
  >
...
</ClinicalDocument>
```

Validating Against the QRDA XML Schema

Open the QRDA file in an XML editor that supports XML Schema and validate the QRDA.

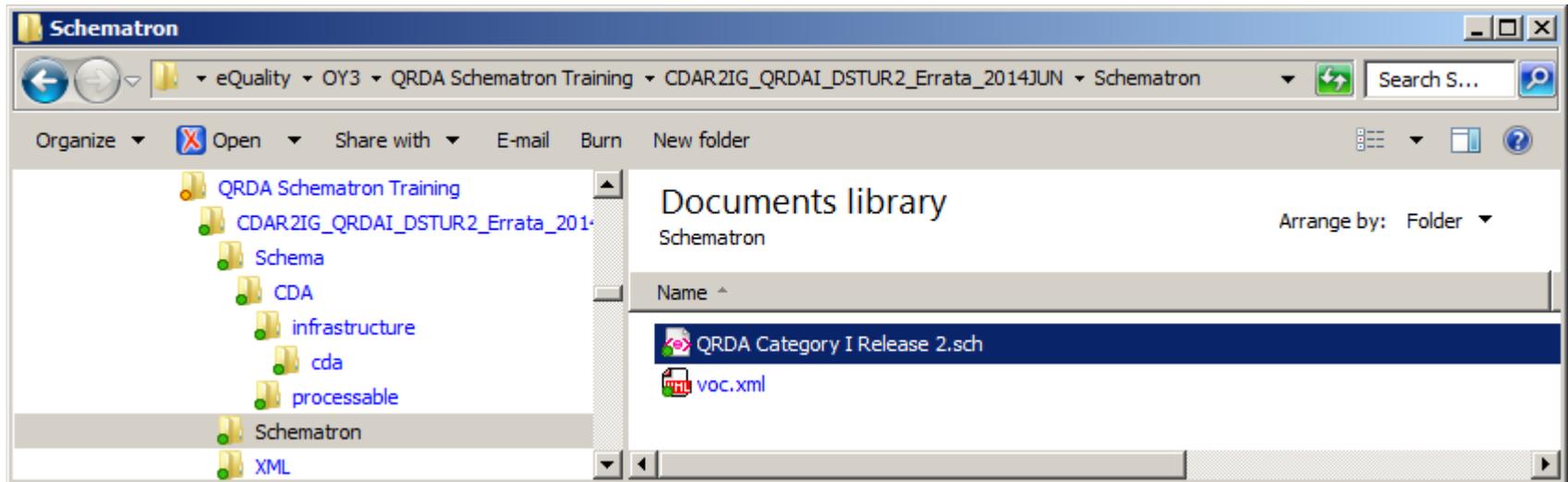
Correct any errors it reports and validate again.

The example to the right shows validation in Oxygen XML Editor.



Navigating to the QRDA Schematron Schema

- The main XML Schema file is called “QRDA Category I Release 2.sch.”
 - This file is not standalone and is not safe to move alone.
 - It references the voc.xml file in the same directory of the QRDA package. The two files must be moved together.



Associating a QRDA File with the Schematron

- To associate a QRDA file with the QRDA XML Schema, add an xml-model processing instruction before the ClinicalDocument element at the root of the QRDA file.
 - See <http://www.w3.org/TR/xml-model/> for information about xml-model.
- The value of the href pseudo-attribute of the processing instruction is the relative or absolute path to the Schematron file.

```
<?xml version="1.0" encoding="utf-8" standalone="no"?>  
<?xml-model href="/Schematron/QRDA%20Category%20I%20Release%202.sch"  
type="application/xml" schematypens=http://purl.oclc.org/dsdl/schematron?>  
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
xmlns="urn:hl7-org:v3" xmlns:voc="urn:hl7-org:v3/voc" xmlns:cda="urn:hl7-org:v3"  
xmlns:sdctc="urn:hl7-org:sdctc" >  
...  
</ClinicalDocument>
```


CMS Validation Resources

- CMS strongly encourages vendors and hospitals to continue working toward successful submission of eCQM data.
- Submit test files through the Hospital eCQM Receiving System (QualityNet Secure Portal)
- Sign-up for the Hospital Reporting EHR listserve and participate in training opportunities

<http://www.qualitynet.org/dcs/ContentServer?pagename=QnetPublic/ListServe/Register>

Validating Test Submissions Using CMS Operational System

- Submitters can upload test QRDA files at any time using the operational CMS Hospital eCQM Reporting System via the secure QualityNet website (<https://www.qualitynet.org>).
 - Test submissions are validated against the same schemas and rules used for Production files; this allows users to find and correct errors prior to submitting files as Production.
 - Test submissions do not count towards Meaningful Use for Electronic Health Record (EHR) or Inpatient Quality Reporting (IQR) Programs.
 - Submitting test files is just as secure as submitting Production files.
 - Test submissions are kept separate from Production submissions for reporting purposes.
 - Test files are flagged as “Test Cases” on the Submission Reports.
 - Two IQR EHR reports display feedback messages associated with each file submitted:
 - **EHR Hospital Reporting - Submission Detail Report:** reports Errors and Warnings from file validation and indicates file status as Accepted or Rejected
 - **EHR Hospital Reporting - eCQM Submission and Performance Feedback Report:** reports eCQM measure outcome messages for Accepted files
-

Pre-Submission Validation Application (PSVA)

PSVA is a client-side application under development that offers vendors, hospitals, and providers a tool for validating QRDA files in their own environment prior to submitting them to CMS.

Benefits include:

- Reduces CMS processing
- Less reprocessing of the same file
- Reduces files stored by CMS
- CMS retains all files submitted
- Reduces error notification response times
- Users get feedback prior to submission to CMS

Timeline:

- June 2015 - Operational Production Pilot with selected HQR HITECH members
- December 2015 - Production release to all HQR HITECH members



Questions?

Resources

General questions about submitting test and production files:

QualityNet HelpDesk - Qnetsupport@hcqis.org

1.866.288.8912 7 a.m.-7 p.m. CT Monday through Friday

The JIRA – ONC Project Tracking website (<http://oncprojecttracking.org/>) is a resource to submit questions for the following:

- issues identified with eCQM logic;
- reviewing FAQs;
- obtaining clarification on specifications;
- asking questions regarding CQM certification;
- submitting questions and/or comments about the Combined QRDA Implementation Guide for 2015; and
- questions regarding the EHR Incentive Program.