CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Electronic Health Record (EHR) Summit

CMS 2015 QRDA Submissions for Eligible Hospitals/Critical Access Hospitals

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Agenda

- Submission statistics for Hospital Electronic Clinical Quality Measure (eCQM) Data
- Submitting 2014 Centers for Medicare & Medicaid Services (CMS) Quality Measures using Quality Reporting Document Architecture (QRDA) Category I for the 2015 reporting year
- Submitting eCQM Hospital Test Files
- Common CMS QRDA Submission Errors
- Appendix
  - Pre-Submission QRDA Debugging Approaches
  - Test Submissions Utilizing the CMS Receiving System and Reports
  - Known Issues with Error Messages
  - Eligible Hospital eCQM Version Specific ID's

STATISTICS FOR HOSPITAL eCQM DATA SUBMISSIONS

Hospital eCQM Data Submission Statistics

Submission Year	Total Files	Files that Passed Validation	Successful Submitters
2014	237,097	54,795	14
2015	82,481	4,495	17

SUBMITTING 2015 QUALITY MEASURES USING QRDA CATEGORY I

2015 Submission Changes Overview

- The Hospital eCQM Receiving System implementation has gone through several iterations in 2015, starting with HQR 6.0, updated to 7.0, and now using 8.0.66.

- QRDA files considered valid under previous versions will no longer pass validation without some modifications.

2015 Submission Changes Timeline

Date	CMS Release	Status
Jan 1, 2015	HQR 6.0 with Production Update to add some HQR 7.0 validations	• 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	• QRDA Category 1 must validate to HL7 Schematron - (R2) + Errata (pub October 2014) • 2014 eCQM calculated results become available to submitters
June 19, 2015	HQR 8.0	• The Reporting Parameter Effective Date Range must align with one of the Program's CY Discharge Quarters. • At least one Encounter Discharge must be within the Discharge Reporting Period. • Patient Characteristic Payer must be present. • Will recognize duplicate files and use the most recent when two accepted Production files match on all of the following: CMS Program Name, CCN, Patient ID, and QRDA Reporting Parameter Section date range

Categories of Changes

The changes for 2015 fall into three categories:

1. CMS updates for Health Information Technology for Economic and Clinical Health (HITECH) Release 7.0
   - Updates are from the 2015 CMS Implementation Guide for QRDA.
   - Updates are listed at https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/QRDA_EP_HQR_Guide_2015.pdf.
2. CMS updates for HITECH Release 8.0
   - Updates are from the Addendum to 2015 CMS QRDA Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting (HQR).
   - Updates are listed at https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/QRDA_2015_CMS_IG_Addendum.pdf
3. QRDA base specification errata
   - Additional changes were made to the CMS validation logic to incorporate errata to the QRDA standard itself.
   - Changes are listed at 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 templateId/@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] templateId (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"/>
  <typeId root="2.16.840.1.113883.1.3"
  extension="POCD_HD000040"/>
  <templateId
  root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId
  root="2.16.840.1.113883.10.20.24.1.1"/>
  <templateId
  root="2.16.840.1.113883.10.20.24.1.2"/>
  <templateId
  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).
- Ensure that languageCode/@code equals “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).

Old

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

New

<languageCode code="en"/>

Patient Identifier Number

- An additional patient identifier is required under recordTarget/patientRole.
- The generic terms Patient Identifier Number (PIN) and Electronic Health Record (EHR) Patient ID are used in the CMS QRDA Implementation Guide instead of medical record number (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

CMS UPDATES FOR HITECH 8.0

Reporting Parameter Date and CY Discharge Quarters

- The Reporting Parameter Effective Date Range must align with one of the program's calendar year (CY) discharge quarters.
- The discharge quarters can be found in section 2.4.1 of the Addendum to 2015 CMS QRDA Implementation Guide for Eligible Professional Programs and Hospital Quality Reporting (HQR).

https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/QRDA_2015_CMS_IG_Addendum.pdf

```
<act classCode="ACT" moodCode="EVN">     <!-- Reporting Parameters Act -->
  <templateId root="2.16.840.1.113883.10.20.17.3.8"/>
  <code code="252116004" codeSystem="2.16.840.1.113883.6.96"
displayName="Observation Parameters"/>
  <effectiveTime>
   <low value="20150101"/>
   <high value="20151231"/>
  </effectiveTime>
 </act>
```

```
<act classCode="ACT" moodCode="EVN">     <!-- Reporting Parameters Act -->
  <templateId root="2.16.840.1.113883.10.20.17.3.8"/>
  <code code="252116004" codeSystem="2.16.840.1.113883.6.96"
displayName="Observation Parameters"/>
  <effectiveTime>
   <low value="20150101"/>
   <high value="20150331"/>
  </effectiveTime>
 </act>
```

Discharge Reporting Period	Submission Deadline
January 1 – March 31, 2015 (Q1)	November 30, 2015
April 1 – June 30, 2015 (Q2)	November 30, 2015
July 1 – September 30, 2015 (Q3)	November 30, 2015
October 1 – December 31, 2015 (Q4)	N/A

Encounter Discharge within Reporting Period

At least one Encounter Discharge must be within the Discharge Reporting Period.

Discharge Reporting Period	Submission Deadline
January 1 – March 31, 2015 (Q1)	November 30, 2015
April 1 – June 30, 2015 (Q2)	November 30, 2015
July 1 – September 30, 2015 (Q3)	November 30, 2015
October 1 – December 31, 2015 (Q4)	N/A

```
<encounter classCode="ENC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
  <templateId root="2.16.840.1.113883.10.20.24.3.23"/>
  <effectiveTime>
    <!-- Attribute: admission datetime -->
    <low value="20141225090000+0500"/>
    <!-- Attribute: discharge datetime -->
    <high value="20141227103000+0500"/>
  </effectiveTime>
</encounter>
```

```
<encounter classCode="ENC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
  <templateId root="2.16.840.1.113883.10.20.24.3.23"/>
  <effectiveTime>
    <!-- Attribute: admission datetime -->
    <low value="20141225090000+0500"/>
    <!-- Attribute: discharge datetime -->
    <high value="20150101103000+0500"/>
  </effectiveTime>
</encounter>
```

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.

- For example, the version specific ID for the 2014 eCQM update for the 2015 Reporting Year for CMS 55 (ED-1) is 40280381-43db-d64c-0144-64cb12982d97

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

Also see the complete list in the Appendix slides.

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="2.16.840.1.113883.10.20.24
.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.

SUBMITTING 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.
- Reports are available to identify errors in files and allow for corrections prior to submission of production data.
- Access HQR system through the *QualityNet Secure Portal.*
  - Allows for submission of test and production files
  - Provides complete file validation and measure calculation
- Additional education and training will be provided in the coming months.

COMMON CMS QRDA SUBMISSION ERRORS

Errors Discussed in this Presentation

This presentation addresses errors in the following categories:

- QRDA Document Format
- CMS Certification Number (CCN) Validation
- Service Event and Performer
- Terminology

QRDA Document Format Error

Error Messages

- The document does not conform to QRDA document formats accepted by CMS.
- Data submitted is not a well-formed QRDA XML

Error Meaning

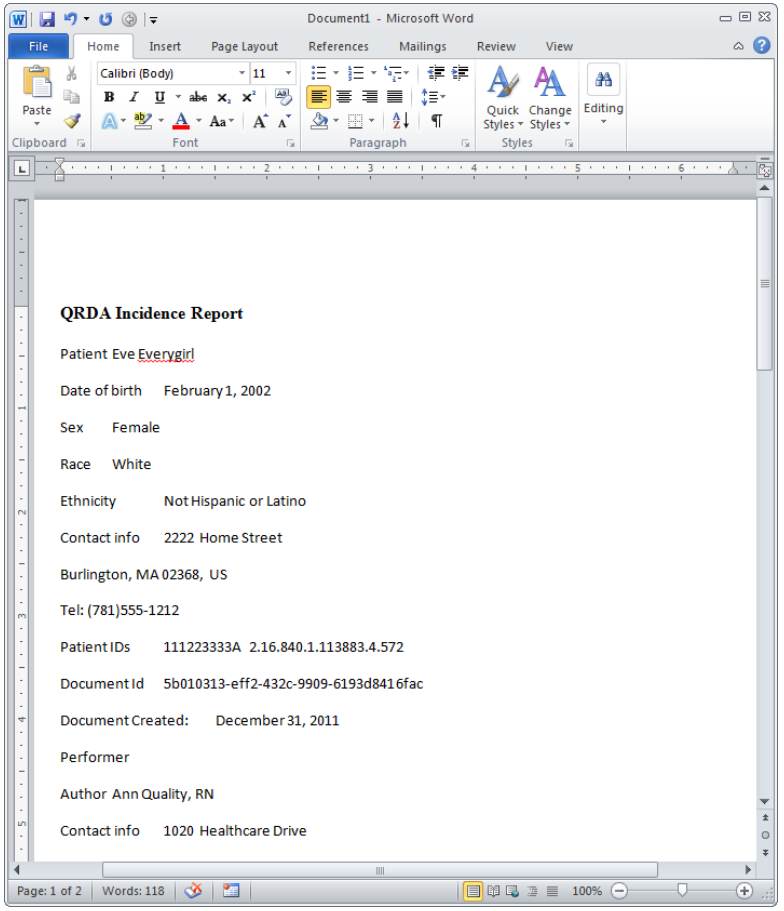
- The submitted document is either not a well-formed XML file, or is an XML file but does not conform to the QRDA XML Schema provided by HL7.

QRDA Document Format Examples

- It is not legal to submit an MS Word document, HMTL, PDF, or XML file that does not comply with the CDA_SDTC.xsd schema.

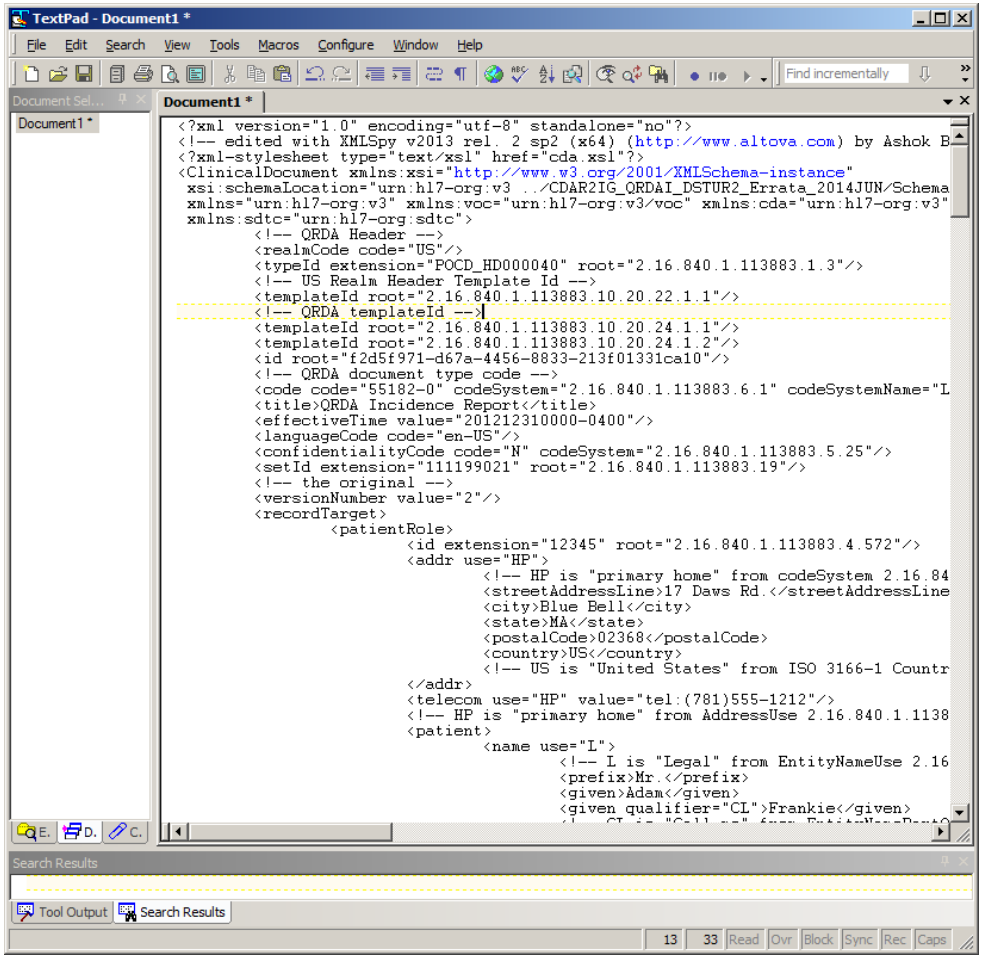
- Also, XML files must be well-formed:

https://en.wikipedia.org/wiki/Well-formed_document



QRDA Document Format Correction

- Submit a well-formed and schema-valid QRDA XML file.
- The last portion of this presentation describes how to validate against the QRDA schemas before submission.



CCN Validation Errors

Error Messages

- ERROR: 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 Tax Identification Number (TIN) or National Provider Identifier (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.
- <idroot="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 (a.k.a., 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 Provider Claims Processing Requirements (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

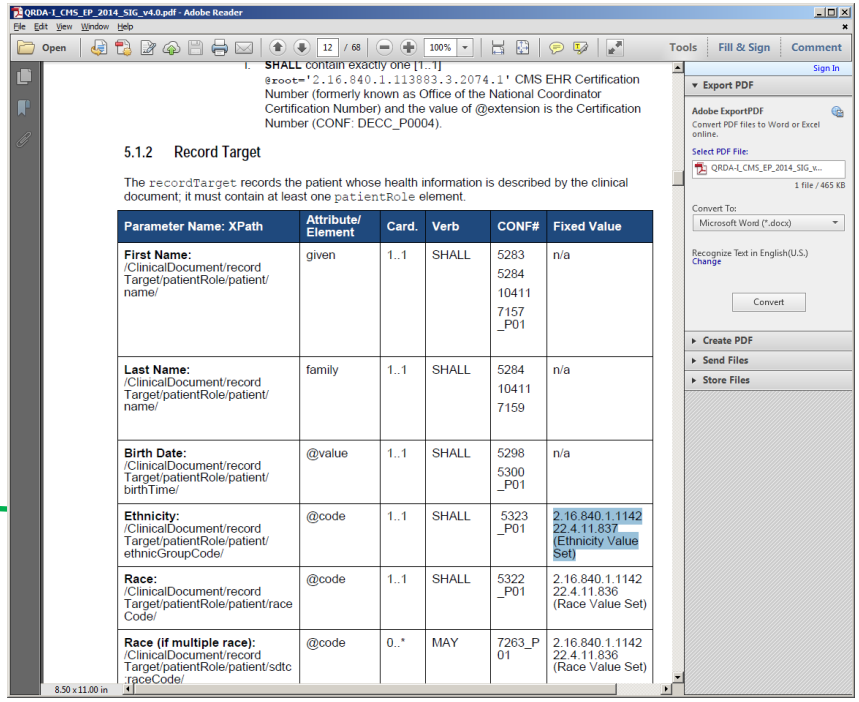
- ERROR: Where the clinical statement codes SHALL contain the @sdtc:valueSet extension to reference the value set from which the supplied code was drawn for templateId/@root='...' (CONF:...).
- ERROR: This patient SHALL contain exactly one [1..1] ethnicGroupCode, which SHALL be selected from ValueSet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

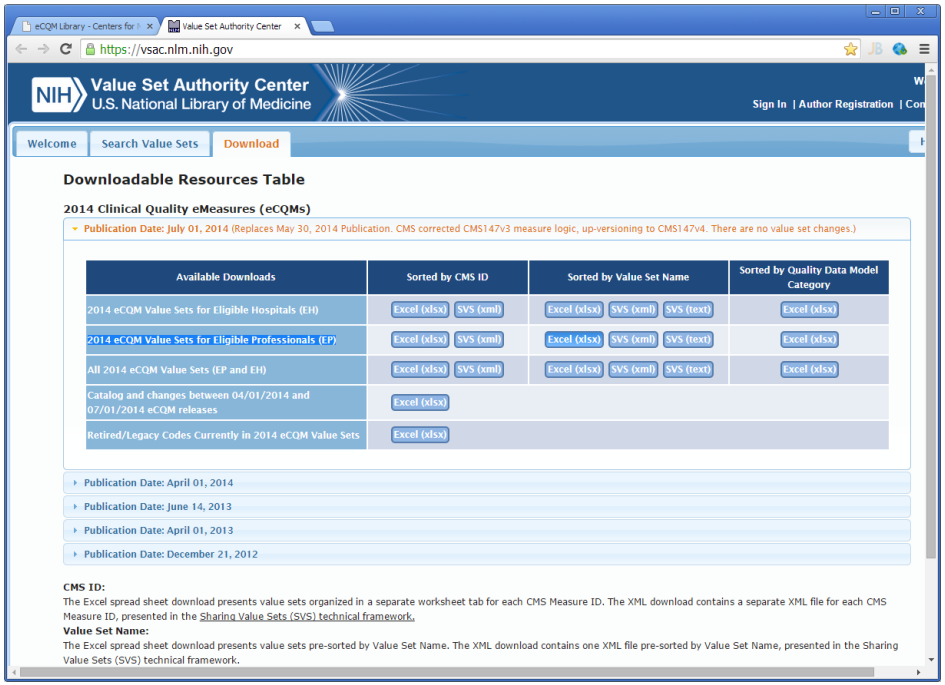
- Find the table or conformance statement in the CMS QRDA specifications appropriate for the information you are trying to send.
- Typically, a value set Object Identifier (OID) is present.
- The OID for the Ethnicity value set is 2.16.840.1.114222.4.11.837.



Downloading Value Sets from VSAC

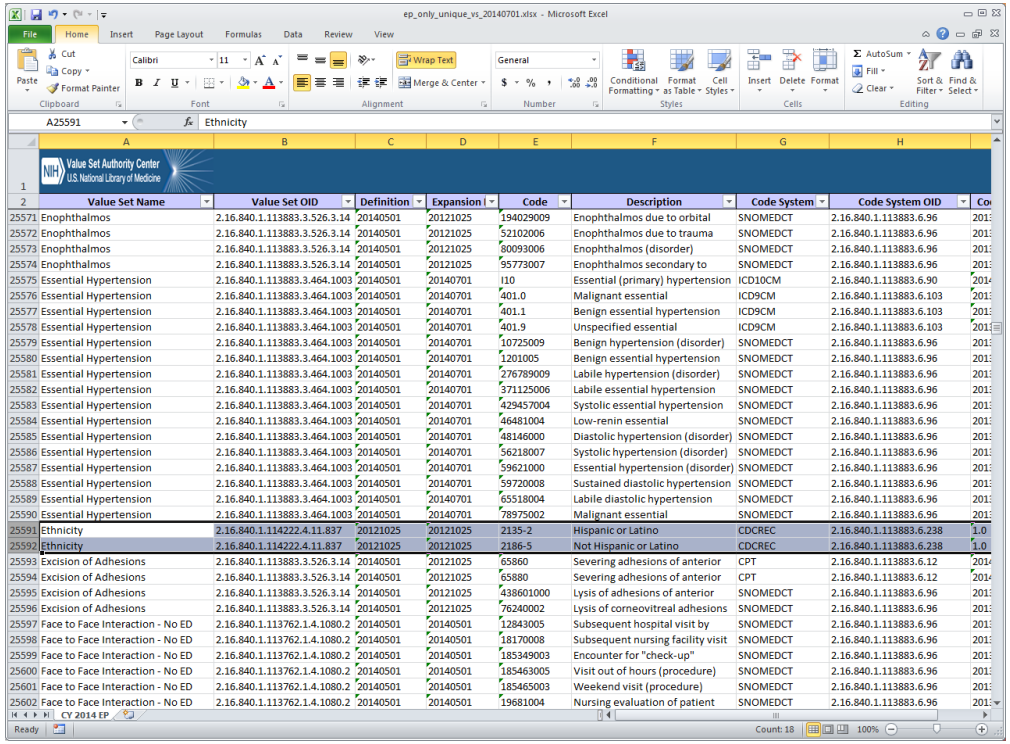
VSAC = Value Set Authority Center

- https://vsac.nlm.nih.gov/
- You will need to register and be approved for a Unified Medical Language System® (UMLS) account before you can download files.
- When 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.



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
25571	Enophthalmos	2.16.840.1.113883.3.526.3.14	20140501	20121025	194029009	Enophthalmos due to orbital	SNOMEDCT	2.16.840.1.113883.6.96
25572	Enophthalmos	2.16.840.1.113883.3.526.3.14	20140501	20121025	52102006	Enophthalmos due to trauma	SNOMEDCT	2.16.840.1.113883.6.96
25573	Enophthalmos	2.16.840.1.113883.3.526.3.14	20140501	20121025	80093006	Enophthalmos (disorder)	SNOMEDCT	2.16.840.1.113883.6.96
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
25575	Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	I10	Essential (primary) hypertension	ICD10CM	2.16.840.1.113883.6.90
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
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
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
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
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
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
25582	Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	371125006	Labile essential hypertension	SNOMEDCT	2.16.840.1.113883.6.96
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
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
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
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
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
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
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
25590	Essential Hypertension	2.16.840.1.113883.3.464.1003	20140501	20140701	78975002	Malignant essential	SNOMEDCT	2.16.840.1.113883.6.96
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
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
25593	Excision of Adhesions	2.16.840.1.113883.3.526.3.14	20140501	20121025	65860	Severing adhesions of anterior	CPT	2.16.840.1.113883.6.12
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
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
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
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
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
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
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
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
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

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 &amp;amp; Ethnicity -
CDC" displayName="White"/>
<guardian>...</guardian>
 ...
</patient>

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

Terminology Error Partial Correction

The example to the right shows two invalid 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.

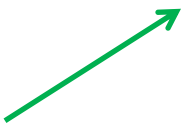
- The ethnicGroupCode element is fully specified with a valid code and code system.

```
<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.

- All implementers should perform the following two primary validation steps 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 (https://www.qualitynet.org).

Note: View Appendix slides for information on validating using HL7 tools.

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
- Results in 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:

- Pilot Application is currently available for download in the Secure File Transfer (SFT) section of qualitynet.org.
- Full release of the application is scheduled for January 2016.

Getting PSVA:

- Implementers with a *QualityNet* login can download PSVA from the SFT section of qualitynet.org.
- Users must have the EHR Data Upload role assigned to *QualityNet* Account for the Pilot Application.

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

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 (Office of the National Coordinator) Project Tracking Web site (http://oncprojectracking.org/) is a resource to submit questions for the following:

- Issues identified with eCQM logic
- Reviewing Frequently Asked Questions (FAQs)
- Obtaining clarification on specifications
- Asking questions regarding CQM certification
- Submitting questions and/or comments about the Combined QRDA Implementation Guide for 2015
- Questions regarding the EHR Incentive Program

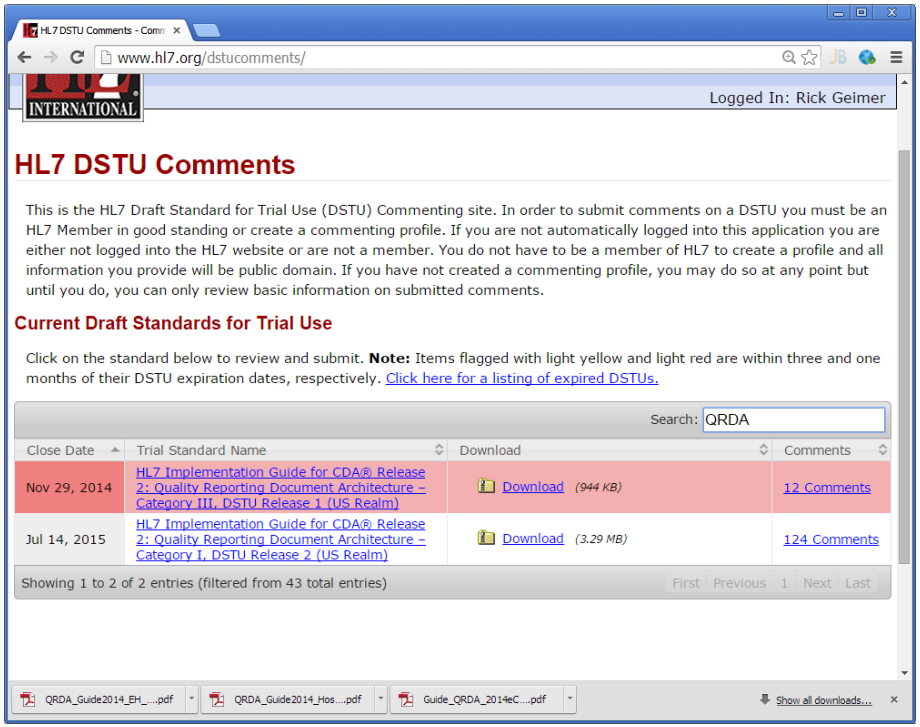
APPENDIX

APPENDIX A:
HL7 QRDA PACKAGE

Downloading the HL7 QRDA Package

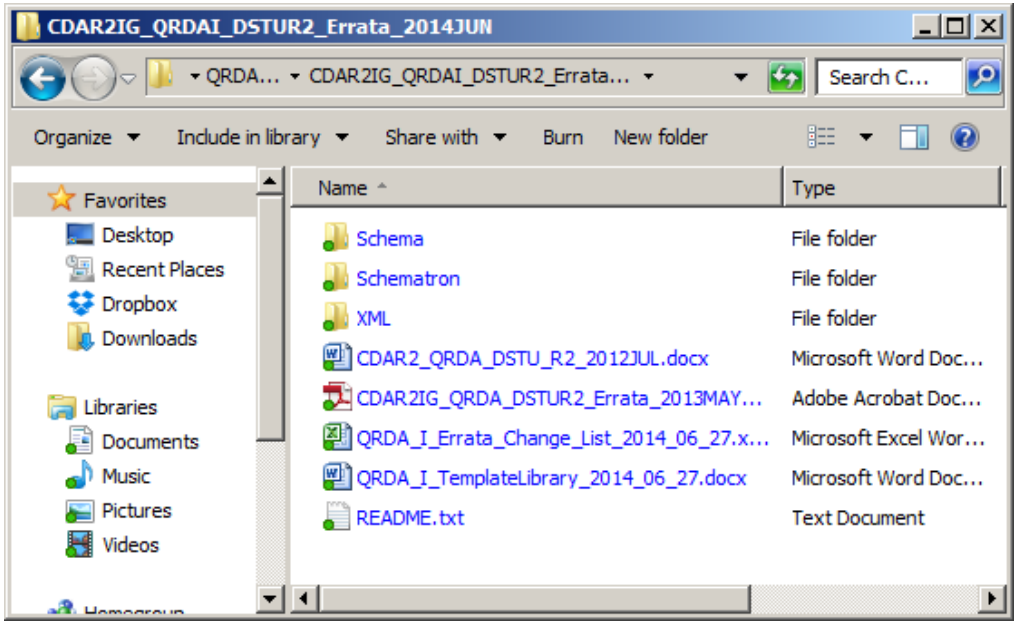
http://www.hl7.org/dstucomments/

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



Navigating the HL7 QRDA Package

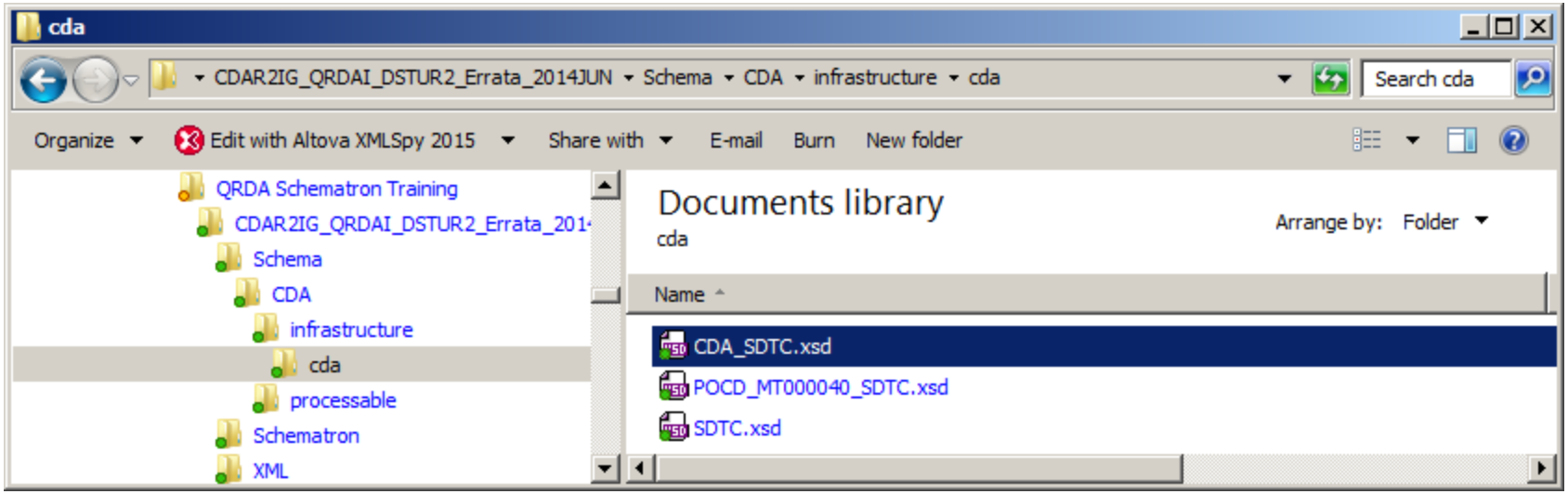
- The ZIP file from HL7 contains several files and folders.
- The Schema folder contains the QRDA XML Schema.
- The Schematron folder contains the QRDA Schematron file and related vocabulary.



Navigating to the QRDA XML Schema

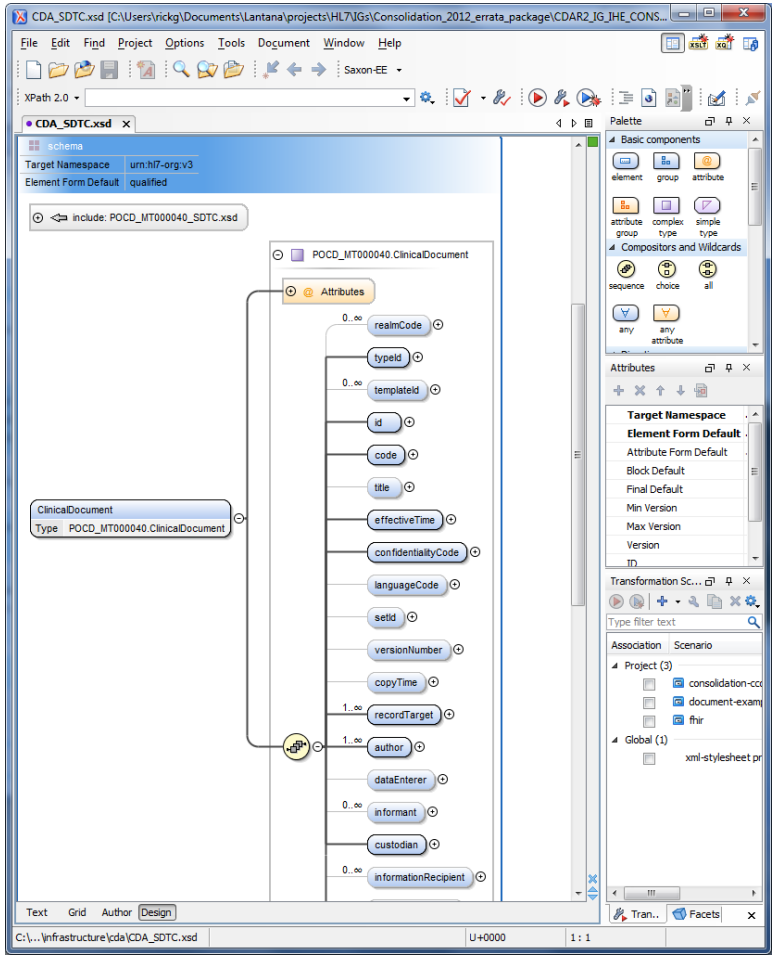
The main XML Schema file is called CDA_SDTC.xsd.

- 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, because it shows which elements and attributes the schema allows, and the order in which the elements must appear.



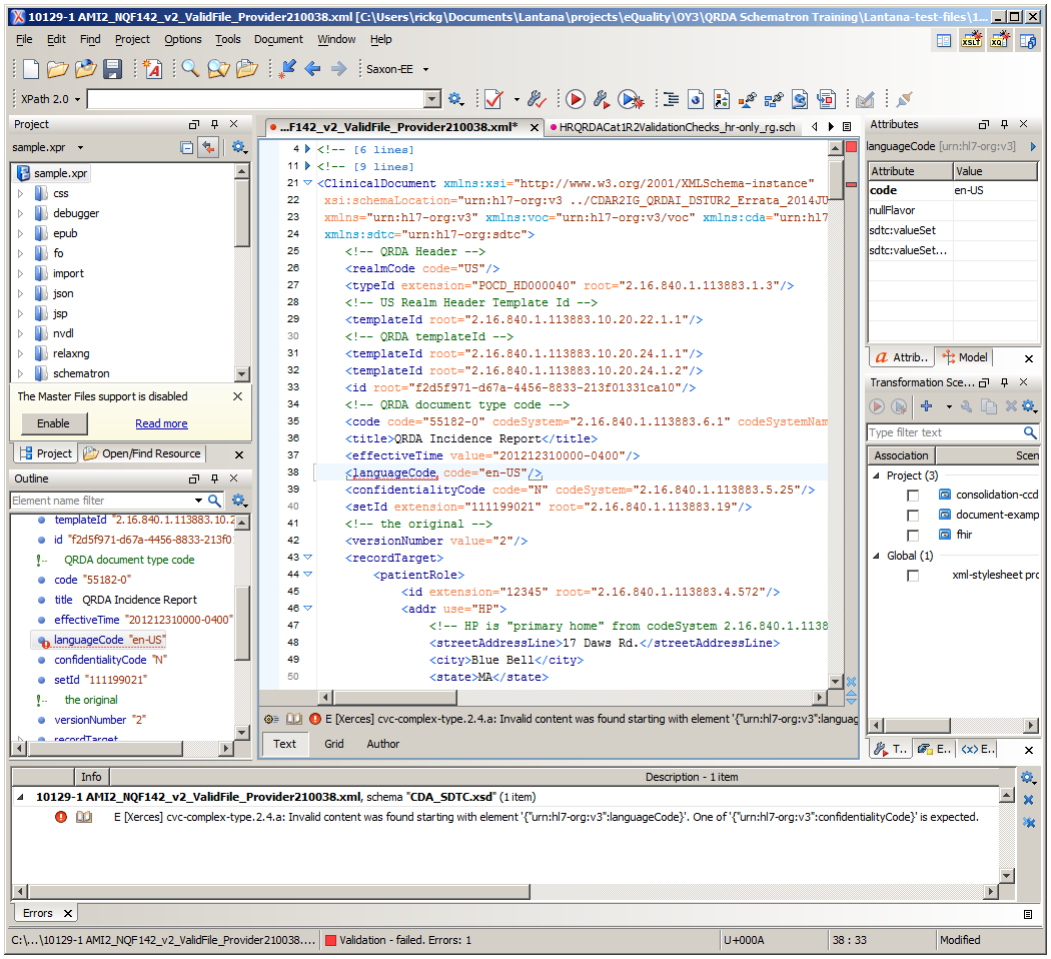
Associating a QRDA file with the Schema

- 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

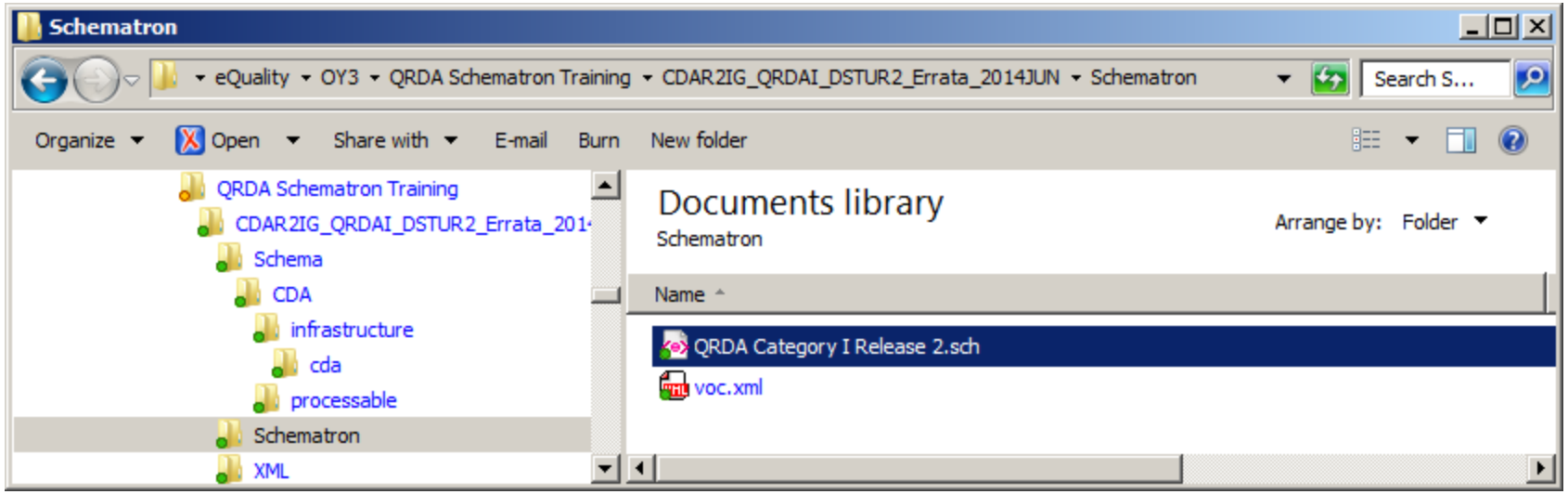
- Open the QRDA file in an XML editor that supports XML Schema and validate the QRDA.
- Correct any errors it reports, and validate again.
- The example to the right shows validation in Oxygen XML Editor.



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.



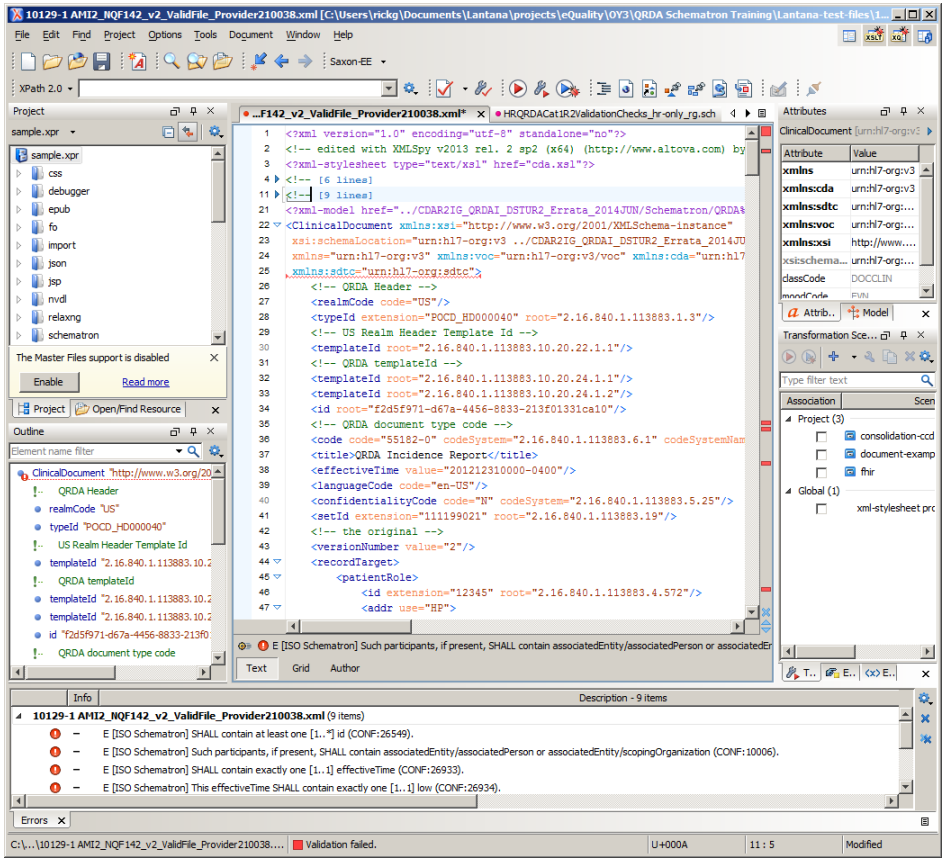
Associating a QRDA File with the Schematron

- 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:sdtc="urn:hl7-org:sdtc" >
…
</ClinicalDocument>
```

Validating Against the QRDA Schematron Schema

- Open the QRDA file in an XML editor that supports Schematron, and validate the QRDA.
- If prompted for a phase, choose “errors.”
- Correct any errors it reports, and validate again until error-free.
- The example to the right shows validation in Oxygen XML Editor.



APPENDIX B:
TEST SUBMISSION UTILIZING CMS eCQM RECEIVING SYSTEM AND REPORTS

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 Web site (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

APPENDIX C: KNOWN ISSUES WITH ERROR MESSAGES

Known Issues Using CMS Operational System

- It is possible that the EHR Hospital Reporting - Submission Detail Report could contain very similar feedback messages for just one error, for example:
  - If patient name is missing in the recordTarget section, will see both of these messages on the report:

    ERROR: This patient SHALL contain at least one [1..*] name (CONF:5284).

    ERROR: This patient SHALL contain exactly one [1..1] name (CONF:5284).

  - If the Payer entry is missing in Patient Data section, will see both of these messages on the report:

    ERROR: SHALL contain at least one [1..*] entry (CONF:CMS_0029)

    ERROR: SHALL contain at least one [1..*] entry (CONF:14567).

- It is possible that feedback messages on the EHR Hospital Reporting - Submission Detail Report, may not match what is shown in the CMS IG:
  - If the Patient Characteristic Payer entry is missing, you will see message #1, but message #2 is shown in the 2015 CMS IG:

    ERROR: SHALL contain at least one [1..*] payer (CONF-HR:14430-1)

    ERROR: SHALL contain at least one [1..*] entry (CONF:CMS_0030) such that it

APPENDIX C:
ELIGIBLE HOSPITAL eCQM MEASURE VERSION SPECIFIC IDs

2014 EH eCQM Measure Version Specific IDs

CMS Number	NQF Number	Short Name	eMeasure Title	GUID (setId root)	April 2014	
					eMeasure Version	Version Specific (id root)
9	480	Exclusive Breast Milk	Exclusive Breast Milk Feeding	7d374c6a-3821-4333-a1bc-4531005d77b8	3	40280381-446b-b8c2-0144-95ddf0421ce4
26		HMPC	Home Management Plan of Care (HMPC) Document Given to Patient/Caregiver	e1cb05e0-97d5-40fc-b456-15c5dbf44309	2	40280381-43db-d64c-0144-2d29b1eb14ef
30	639	AMI-10	Statin Prescribed at Discharge	ebfa203e-acc1-4228-906c-855c4bf11310	4	40280381-446b-b8c2-0144-9e27b6eb2897
31	1354	EHDI-1a	Hearing Screening Prior To Hospital Discharge (EHDI-1a)	0924fbae-3fdb-4d0a-aab7-9f354e699fde	3	40280381-43db-d64c-0144-5571970a2685
32	496	ED-3	Median Time from ED Arrival to ED Departure for Discharged ED Patients	3fd13096-2c8f-40b5-9297-b714e8de9133	4	40280381-43db-d64c-0144-6a8b0a3b30c6
53	163	AMI-8a	Primary PCI Received Within 90 Minutes of Hospital Arrival	84b9d0b5-0caf-4e41-b345-3492a23c2e9f	3	40280381-446b-b8c2-0144-9e0b96c12843
55	495	ED-1	Median Time from ED Arrival to ED Departure for Admitted ED Patients	9a033274-3d9b-11e1-8634-00237d5bf174	3	40280381-43db-d64c-0144-64cb12982d97
60	164	AMI-7a	Fibrinolytic Therapy Received Within 30 Minutes of Hospital Arrival	909cf4b4-7a85-4abf-a1c7-cb597ed1c0b6	3	40280381-446b-b8c2-0144-9e043be8281f
71	436	STK-3	Anticoagulation Therapy for Atrial Fibrillation/Flutter	03876d69-085b-415c-ae9d-9924171040c2	4	40280381-446b-b8c2-0144-9e682a3b29ae
72	438	STK-5	Antithrombotic Therapy By End of Hospital Day 2	93f3479f-75d8-4731-9a3f-b7749d8bcd37	3	40280381-446b-b8c2-0144-95dd11681ccc
73	373	VTE-3	Venous Thromboembolism Patients with Anticoagulation Overlap Therapy	6f069bb2-b3c4-4bf4-adc5-f6dd424a10b7	3	40280381-446b-b8c2-0144-9edbdf9f2cc2
91	437	STK-4	Thrombolytic Therapy	2838875a-07b5-4bf0-be04-c3eb99f53975	4	40280381-446b-b8c2-0144-95de69f81cf4
100	142	AMI-2	Aspirin Prescribed at Discharge	bb481284-30dd-4383-928c-82385bbf1b17	3	40280381-446b-b8c2-0144-9dfa522927ed
102	441	STK-10	Assessed for Rehabilitation	7dc26160-e615-4cc2-879c-75985189ec1a	3	40280381-446b-b8c2-0144-95dd84641cd4
104	435	STK-2	Discharged on Antithrombotic Therapy	42bf391f-38a3-4c0f-9ece-dcd47e9609d9	3	40280381-446b-b8c2-0144-9e6e127929e3
105	439	STK-6	Discharged on Statin Medication	1f503318-bb8d-4b91-af63-223ae0a2328e	3	40280381-446b-b8c2-0144-9e73dc162a27
107		STK-8	Stroke Education	217fdf0d-3d64-4720-9116-d5e5afa27f2c	3	40280381-446b-b8c2-0144-95de2f641cec

2014 EH eCQM Measure Version Specific IDs

CMS Number	NQF Number	Short Name	eMeasure Title	GUID (setId root)	April 2014	
					eMeasure Version	Version Specific (id root)
108	371	VTE-1	Venous Thromboembolism Prophylaxis	38b0b5ec-0f63-466f-8fe3-2cd20ddd1622	3	40280381-446b-b8c2-0144-9edba9142cba
109		VTE-4	Venous Thromboembolism Patients Receiving Unfractionated Heparin with Dosages/Platelet Count Monitoring by Protocol or Nomogram	bcce43dd-08e3-46c3-bfdd-0b1b472690f0	3	40280381-43db-d64c-0144-65df36c22e97
110		VTE-5	Venous Thromboembolism Discharge Instructions	7fe69617-fa28-4305-a2b8-ceb6bcd9693d	3	40280381-43db-d64c-0144-6670a0c42f05
111	497	ED-2	Median Admit Decision Time to ED Departure Time for Admitted Patients	979f21bd-3f93-4cdd-8273-b23dfe9c0513	3	40280381-43db-d64c-0144-64e3651a2dcc
113	469	PC-01	Elective Delivery	fd7ca18d-b56d-4bca-af35-71ce36b15246	3	40280381-446b-b8c2-0144-95ddb52a1cdc
114		VTE-6	Incidence of Potentially-Preventable Venous Thromboembolism	32cfc834-843a-4f45-b359-8e158eac4396	3	40280381-43db-d64c-0144-6678b7972f10
171	527	SCIP-INF-1	Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision	d09add1d-30f5-462d-b677-3d17d9ccd664	4	40280381-446b-b8c2-0144-9f324c5b2d25
172	528	SCIP-INF-2	Prophylactic Antibiotic Selection for Surgical Patients	feea3922-f61f-4b05-98f9-b72a11815f12	4	40280381-446b-b8c2-0144-9edb61c22cb1
178	453	SCIP-INF-9	Urinary catheter removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with day of surgery being day zero	d78ce034-8288-4012-a31e-7f485a74f2a9	4	40280381-446b-b8c2-0144-9f5f1ff92d7a
185	716	Health Term Newborn	Healthy Term Newborn	ff796fd9-f99d-41fd-b8c2-57d0a59a5d8d	3	40280381-446b-b8c2-0144-9e536719293d
188	147	PN-6	Initial Antibiotic Selection for Community-Acquired Pneumonia (CAP) in Immunocompetent Patients	8243eae0-bbd7-4107-920b-fc3db04b9584	4	40280381-446b-b8c2-0144-95d106da1cb4
190	372	VTE-2	Intensive Care Unit Venous Thromboembolism Prophylaxis	fa91ba68-1e66-4a23-8eb2-baa8e6df2f2f	3	40280381-446b-b8c2-0144-9edb149b2ca8