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CMS QRDA Submission Errors Eligible Hospitals / Critical Access Hospitals


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Presenter Biography

Rick Geimer

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- Co-chair, HL7 Structured Document Working Group
- HL7 CDA R2 Certified Specialist
- Co-editor of Consolidated CDA and other specifications



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Agenda

- Common CMS QRDA Submission Errors
- Pre-Submission QRDA Debugging Approaches

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Common CMS QRDA Submission Errors

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Errors Discussed in this Presentation

This presentation addresses errors in the following categories:

- QRDA Document Format
- CCN Validation
- Admission and Discharge Time
- Patient Ethnic Group Code
- Patient ID
- Legal Authenticator
- Section Text

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QRDA Document Format Error

- Error Message
 - The document does not conform to QRDA document formats accepted by CMS.
- Error Meaning
 - The submitted document is either not an XML file, or is an XML file but does not conform to the QRDA XML Schema provided by HL7.

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Admission and Discharge Time Errors

- Error Messages
 - This patient SHALL contain discharge time reported in the Encounter Performed section, precise to the seconds (CONF-HR:10129-1).*
 - This patient SHALL contain admission time reported in the Encounter Performed section, precise to the seconds (CONF-HR:10129-2).
- Error Meaning
 - For admission and discharge, times must be present and in the form YYYYMMDDhhmmss+ZZZZ, where +ZZZZ is the UTC offset and can be either positive or negative (i.e. can be +0500, -0700, etc.). The UTC offset should be provided for any timestamps that are more precise than the day (i.e., precise to the hour or second)
 - The admission time must be earlier than the discharge time.

* QRDA Implementation Guide conformance messages with HR included (e.g., CONF-HR:10129-1), indicate that the associated base HL7 QRDA IG constraints (CONF:10129) have been modified in accordance with CMS system requirements for HQR-HITECH.



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Admission and Discharge Time Examples

The example to the right shows two invalid encounter times.

- Admission time is missing the value attribute entirely.
- Discharge time is present, but is precise only to the day.

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- Encounter activities template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
  <!-- Encounter performed template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.23"/>
  ...
  <!-- Length of Stay -->
  <effectiveTime>
    <!-- Attribute: admission datetime -->
    <low/>
    <!-- Attribute: discharge datetime -->
    <high value="20140227"/>
  </effectiveTime>
</encounter>
```



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Admission and Discharge Time Partial Correction

The example to the right is still incorrect.

- Admission and discharge now both have valid value attributes, but admission is after the discharge time.

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- Encounter activities template -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49"/>
  <!-- Encounter performed template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.23"/>
  ...
  <!-- Length of Stay -->
  <effectiveTime>
    <!-- Attribute: admission datetime -->
    <low value="20140228090000+0500"/>
    <!-- Attribute: discharge datetime -->
    <high value="20140227103000+0500"/>
  </effectiveTime>
</encounter>
```



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Ethnic Group Code Correction

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

- The ethnicGroupCode element is fully specified.
- The ethnicGroupCode element is present but properly nulled.

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

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

Patient ID Errors

Error Message

- This patientRole SHALL contain exactly one [1..1] id (CONF-HR:16857-1).

Error Meaning

- The patient ID was not specified at all, or was not specified in the correct location. Also, the patient ID should contain a Medicare HIC number indicator if Medicare is the payer.

Patient ID Examples

The example to the right shows two patient ID errors.

- The id element is missing entirely under patientRole.
- The id element is present in a valid QRDA location, but the CMS guide requires the Health Insurance Claim (HIC) number or patient ID to be under patientRole, not patient.

```
<recordTarget>
<patientRole>
<addr use="HP">...</addr>
...
<patient>
<id extension="12345"
root="2.16.840.1.113883.4.572"/>
<name use="L">...</name>
...
</patient>
</patientRole>
</recordTarget>
```

Note: HL7 V3 standards like QRDA use a common hierarchy of Participation/ Role/Entity to represent persons, locations, etc. in the quality report. In the example above, <recordTarget> is a participation, <patientRole> is a role, and <patient> is an entity. The HIC number is not a personal ID like a driver's license, but rather one that applies to that person's role as a patient.

Patient ID Correction

The example to the right shows a corrected patient ID.

- The id element is present and in the correct location for a MEDICARE HIC number indicator.

```
<recordTarget>
  <patientRole>
    <id extension="12345"
      root="2.16.840.1.113883.4.572"/>
    <addr use="HP">...</addr>
    ...
  <patient>
    <name use="L">...</name>
    ...
  </patient>
  ...
</patientRole>
</recordTarget>
```



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Patient ID Correction for non HIC Patient ID

The example to the right shows a proper correction when the patient ID is not a HIC number.

- The id element is present and in the correct location for a non-HIC patient ID.
- The root attribute must contain the associated OID, and the extension must contain the patient ID.

```
<recordTarget>
  <patientRole>
    <id extension="022354"
      root="2.16.840.1.113883.123.123.1"/>
    <addr use="HP">...</addr>
    ...
  <patient>
    <name use="L">...</name>
    ...
  </patient>
  ...
</patientRole>
</recordTarget>
```

Note: The root attribute OID is required in QRDA. You can look up the OIDs for many common ID types, such as SSN or state driver's license numbers, at the HL7 OID registry: <http://www.hl7.org/oid>.



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Legal Authenticator Errors

Error Message

- SHALL contain exactly one [1..1] legalAuthenticator (CONF:13817).

Error Meaning

- QRDA documents are clinical documents and need to be signed just like any other legal document.
- Even when such documents are automatically created by a system, they still need someone in a position of authority to attest to their content. (This can often be an officer at the organization.)



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Legal Authenticator Examples

The example to the right shows an invalid QRDA header.

- The legalAuthenticator element is missing entirely.

```
<custodian>
...
</custodian>
<participant typeCode="DEV">
...
</participant>
```

Legal Authenticator Partial Correction

The example to the right shows a partially corrected QRDA header.

- The legalAuthenticator element is present, but incomplete.

```
<custodian>
...
</custodian>
<legalAuthenticator>
</legalAuthenticator>
<participant typeCode="DEV">
...
</participant>
```

Legal Authenticator Correction

The example to the right shows a corrected QRDA header.

- A complete legalAuthenticator element is present.

```
<custodian>...</custodian>
<legalAuthenticator>
<time value="20141231T00:04:00"/>
<signatureCode code="S"/>
<assignedEntity>
<id extension="KPO0017" root="2.16.840.1.113883.19"/>
<addr>
<streetAddressLine>21 North Ave.</streetAddressLine>
<city>Burlington</city>
<state>MA</state>
<postalCode>02368</postalCode>
<country>US</country>
</addr>
<telecom use="WP" value="tel:(555)555-1003"/>
<assignedPerson>
<name>
<given>Henry</given>
<family>Seven</family>
</name>
</assignedPerson>
</assignedEntity>
</legalAuthenticator>
<participant typeCode="DEV">...</participant>
```

Section Text (Narrative) Errors

Error Message

- SHALL contain exactly one [1..1] text (CONF: 3867).

Error Meaning

- QRDA documents must contain a human readable narrative block in each section that conforms to the rules of the QRDA specification.

Section Text Examples

The example to the right shows three invalid sections.

- Section is missing the text element entirely.
- Section has an empty text element.
- Section has a text element with invalid markup (raw HTML is not allowed).



```
<section>
...
<title>Patient Data</title>
<entry>
...
</entry>
</section>
<section>
...
<title>Patient Data</title>
<text></text>
<entry>
...
</entry>
</section>
<section>
...
<title>Patient Data</title>
<text><p>Here is some patient data</p></text>
<entry>
...
</entry>
</section>
```

Section Text Correction

The example to the right shows a corrected section.

- Section has a text element with valid markup as allowed by the QRDA XML Schema.

```
<section>
...
<title>Patient Data</title>
<text><paragraph>Here is some patient
data</paragraph></text>
<entry>
...
</entry>
</section>
```

QRDA Debugging Approaches

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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; and
- Validate against the QRDA Schematron File from HL7.

Additionally, QRDA files may be submitted as Test Submissions using the operational CMS Hospitals-Inpatient system for eCQM Reporting (<https://www.qualitynet.org>).







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Downloading the HL7 QRDA Package

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

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



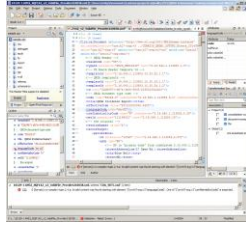
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Validating Against the QRDA XML Schema

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

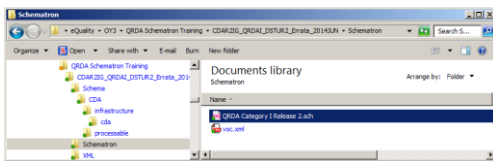
Correct any errors it reports and validate again.

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 CDA_SDTC.xsd 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>
```

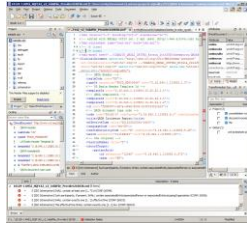
Validating Against the QRDA XML Schema

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.



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Validating Test Submissions Using CMS Operational System

- Submitters can upload test QRDA files at any time using the CMS Hospitals - Inpatient system for eCQM Reporting 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.
- 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; and
 - **EHR Hospital Reporting - eCQM Submission and Performance Feedback Report:** reports eCQM measure outcome messages for Accepted files.



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Questions?

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Resources

General questions about submitting test and production files:
QualityNet HelpDesk - Qnetsupport@hcais.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.



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