



# QRDA Category I: Release 2 Ballot Development

HL7 Structured Documents Sub Workgroup  
for Developing the QRDA I Ballot for May 2012

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Participant Code: 310940

Thursday, February 23rd – March 29th  
4:30ET–5:30ET



QRDA Category I Ballot Development Spring Ballot



# Meeting Information

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## When:

- Every Thursday, February 23rd – March 29th
- 4:30ET–5:30ET

## Conference line:

- Telecom: +1 770-657-9270, Participant Code: 310940

# Meeting Information: Web Meeting

## QRDA Ballot Development Meeting

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This Webinar is held on the following dates:

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Mar 8, 2012 4:30 PM - 5:30 PM EST

Mar 15, 2012 4:30 PM - 5:30 PM EST

Mar 22, 2012 4:30 PM - 5:30 PM EST

Mar 29, 2012 4:30 PM - 5:30 PM EST

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### System Requirements

PC-based attendees

Required: Windows® 7, Vista, XP or 2003 Server

Macintosh®-based attendees

Required: Mac OS® X 10.5 or newer

# Meeting Information: Note and Notices

Notes and Notices and changes will be sent through Structured Document Work Group Listserv

- HL7 Membership not required
- Listserv sign-up:  
<http://www.hl7.org/myhl7/managelistservs.cfm?ref=common>
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Structured Documents:

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Structured Documents

Primary List for Structured Documents

# Meeting Information: QRDA Wiki

Meeting Notes and developing IG drafts will also be posted on the QRDA Wiki:

[http://wiki.hl7.org/index.php?title=Quality\\_Reporting\\_Document\\_Architecture](http://wiki.hl7.org/index.php?title=Quality_Reporting_Document_Architecture)

Or from HL7 homepage: [www.HL7.org](http://www.HL7.org)



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- **HL7 Wiki**
- Job postings

Infrastructure Topic Groups > Structured Documents

UV Realm CDA Impl. Guides > Quality Reporting Document Architecture

# Welcome

## PURPOSE

- QRDA Header Design
  - Consolidated US Realm Header
  - Participant Scenarios
- QDM Approach to QRDA
  - Continued Design Considerations
- Next Steps

TIME	AGENDA
5 min	Meeting Information/Agenda
5 min	
15 min	
15 min	
25 min	
5 min	

# High-level Timelines

Task	Timeframe
<b>QRDA and QDM-based QRDA</b>	
Content development	<b>January 3 – March 30, 2012</b>
Ballot period	<b>April 9 – May 7, 2012</b>
Ballot reconciliation	<b>May 8 – June 22, 2012</b>
Finalize and publish	<b>June 22 - July 13, 2012</b>

# QRDA Category I Design Considerations





# Proposed Changes to QRDA Cat I DSTU

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2 Parts to the Implementation Guide:

## 1) Framework for QRDA Cat I:

- Updates
- Define underspecified concepts
- Simplify Sections
- Simplify and Clarify Method of referencing eMeasures

## 2) QDM approach to QRDA

- Describe methodology for dynamic population of QRDA I
- Define QRDA patterns for every QDM HQMF pattern

# Proposed Changes to QRDA Cat I DSTU Framework

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Determine if Consolidated US Realm header can be re-used

- **Participants:** Revisit header participant scenarios (e.g. use of Informant and Custodian)

Simplify the sections (No nesting)

- **Measure Section:** List of eMeasures being reporting on
- **Reporting Parameters:** Period for which data are being reported
- **Patient Data:** Data elements

Reference the eMeasure(s)' version specific identifier

# Recommended Header Design

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- Reuse Consolidated US Realm Header
- All “SHALLs” are OK and do not appear to cause any implementation difficulties. (Note: describe how we can null)

# Header Constraints from Consolidated US Realm

- **SHALL** contain exactly one [1..1] **realmCode/@code="US"**
- **SHALL** contain exactly one [1..1] **typeId**
- **SHALL** contain exactly one [1..1] **templateId** such that it **SHALL** contain exactly one [1..1] **root="2.16.840.1.113883.10.20.22.1.1"**
- **SHALL** contain exactly one [1..1] **id**
- **SHALL** contain exactly one [1..1] **code**
- **SHALL** contain exactly one [1..1] **title**
- **SHALL** contain exactly one [1..1] **effectiveTime**
- **SHALL** contain exactly one [1..1] **confidentialityCode**
- **SHALL** contain exactly one [1..1] **languageCode**

# Header Constraints from Consolidated US Realm

- **SHALL** contain at least one [1..\*] **recordTarget**
  - Such recordTargets **SHALL** contain exactly one [1..1] **patientRole**
    - This patientRole **SHALL** contain at least one [1..\*] **id**
    - This patientRole **SHALL** contain at least one [1..\*] **addr**
    - This patientRole **SHALL** contain at least one [1..\*] **telecom**
    - This patientRole **SHALL** contain exactly one [1..1] **patient**
      - This patient **SHALL** contain exactly one [1..1] **name**
      - This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode**
      - This patient **SHALL** contain exactly one [1..1] **birthTime**
- **addr** and **telecom** are new **SHALLs** for QRDA, however, if this data is not present in the sending system it could be acceptable to use **nullFlavor** as follows:
  - `<addr nullFlavor="NI" />`
  - `<telecom nullFlavor="NI" />`

# Header Constraints from Consolidated US Realm

- **SHALL** contain at least one [1..\*] **author**
  - Such authors **SHALL** contain exactly one [1..1] **time**
  - Such authors **SHALL** contain exactly one [1..1] **assignedAuthor**
    - This assignedAuthor **SHALL** contain at least one [1..\*] **id**
    - This assignedAuthor **SHALL** contain at least one [1..\*] **addr**
    - This assignedAuthor **SHALL** contain at least one [1..\*] **telecom**
    - This assignedAuthor **SHALL** contain exactly one [1..1] assignedPerson or assignedAuthoringDevice

# Header Constraints from Consolidated US Realm

- **SHALL** contain exactly one [1..1] **custodian**
  - This custodian **SHALL** contain exactly one [1..1] **assignedCustodian**
    - This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization**
      - This representedCustodianOrganization **SHALL** contain at least one [1..\*] **id**
      - This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name**
      - This representedCustodianOrganization **SHALL** contain at least one [1..\*] **addr**
      - This representedCustodianOrganization **SHALL** contain exactly one [1..1] **telecom**

# Header Design (Current QRDA Specific Constraints)

- **SHALL** contain exactly one [1..1] **templateId** such that it **SHALL** contain exactly one [1..1] **root**="2.16.840.1.113883.10.20.12"
- **SHALL** contain exactly one [1..1] **recordTarget** (constrained from 1..\* to 1..1)
- **SHALL** contain exactly one [1..1] **informant** (constrained from 0..\* to 1..1)
  - This informant **SHALL** contain exactly one [1..1] **assignedEntity**
    - This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization**



# QRDA R1 Header Participant definitions:

**Author:** The author may be a device, a person (e.g., a quality manager), or an organization (e.g., a processing entity).

**Informant:** A QRDA Category I report must have a stated source so that any data within the report can be validated. The source of the report is the reporting facility, represented using the CCD "Source of Information" construct, via the informant participant.

**Custodian:** The custodian of the QRDA Category I report can be the sending or receiving party or an intermediary such as a processing entity.

**legalAuthenticator:** A legal authenticator is a verifier who officially authenticates the accuracy of the document. An example would be a quality nurse manager who compiles a quality report and is responsible for verifying and sending the quality reports. A legalAuthenticator is recommended in a QRDA Category I report, but workflow may be such that in some institutions legal authenticator may not be identified.

# Participant Scenarios

Scenario	Author	Custodian	Informant	Legal Authenticator
QRDA is wholly constructed automatically by device	Device	Organization that owns and Reports the data (e.g. hospital)	NA	A designated person in the organization (may be assigned to the report automatically)
QRDA is partially constructed automatically by device, partially constructed by quality manager	Device; Quality Manager	Organization that owns and Reports the data (e.g. hospital)	NA	A designated person in the organization (such as the Quality Manager)
QRDA is constructed manually (e.g. by an organization that doesn't have an EHR)	Quality Manager	Organization that owns and Reports the data (e.g. hospital)	NA	A designated person in the organization (such as the Quality Manger)

# QRDA R2 Header Participant discussion:

**Author:** Considering that instances of a QRDA are likely to be dynamically constructed, the author will likely be a device. However the author may also be a person (e.g., a quality manager), or an organization (e.g., a processing entity). There are no further constraints on author over the US realm header.

**Informant:** The Informant participant will be available from the US Realm Header – but not called out or further constrained in QRDA

**Custodian:** The custodian will be fixed to identify the reporting organization.

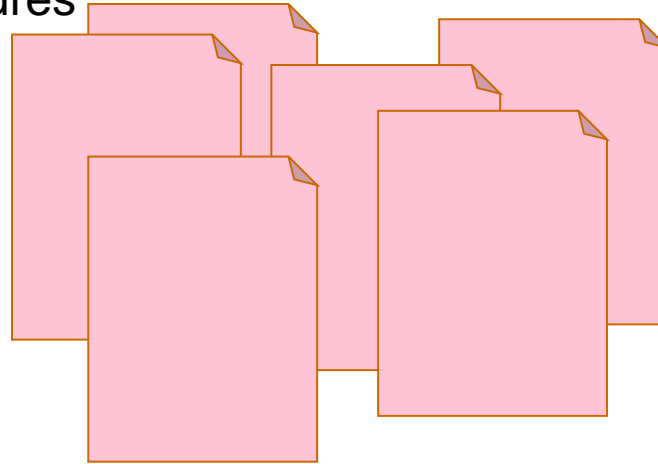
**legalAuthenticator:** A legalAuthenticator person will be required.

# QRDA vs. eMeasure

## HQMF Standard



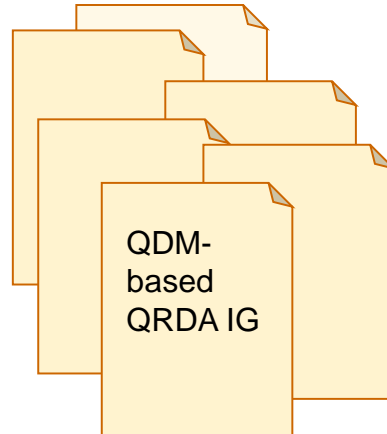
## eMeasures



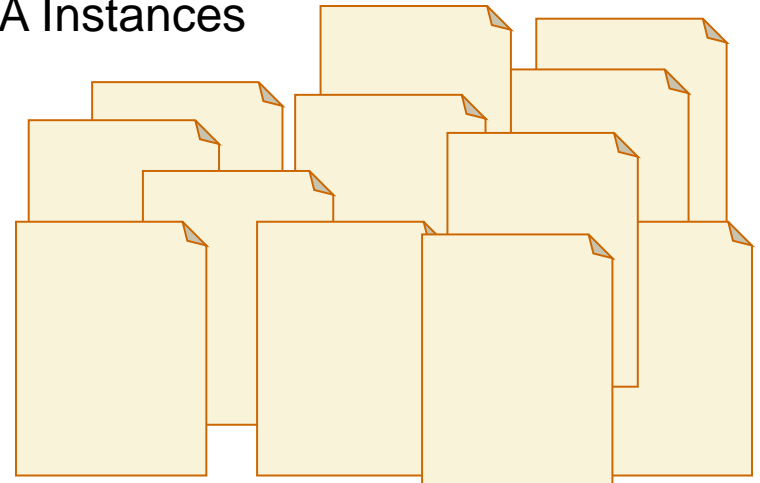
## QRDA Standard



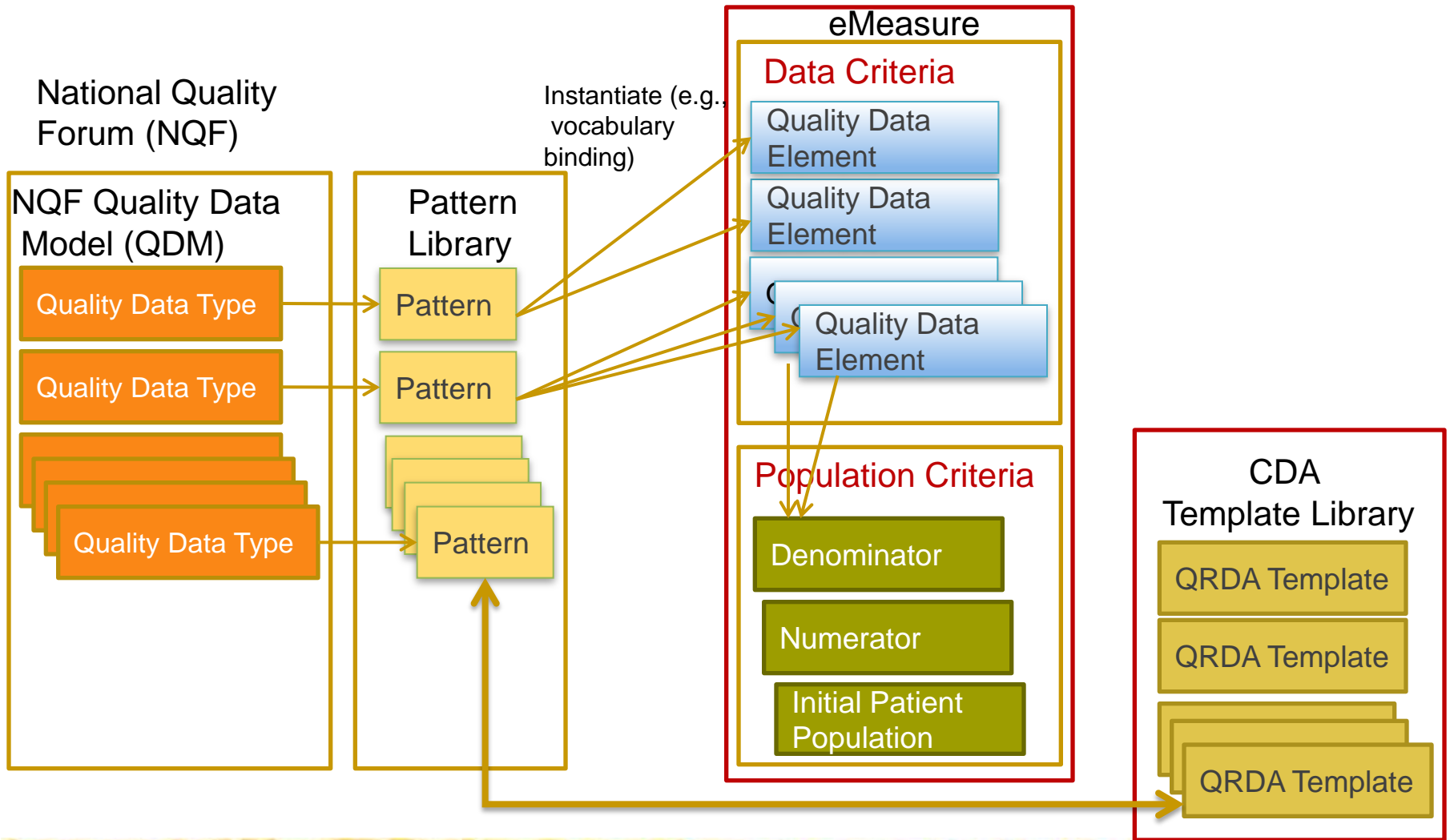
## QRDA IGs



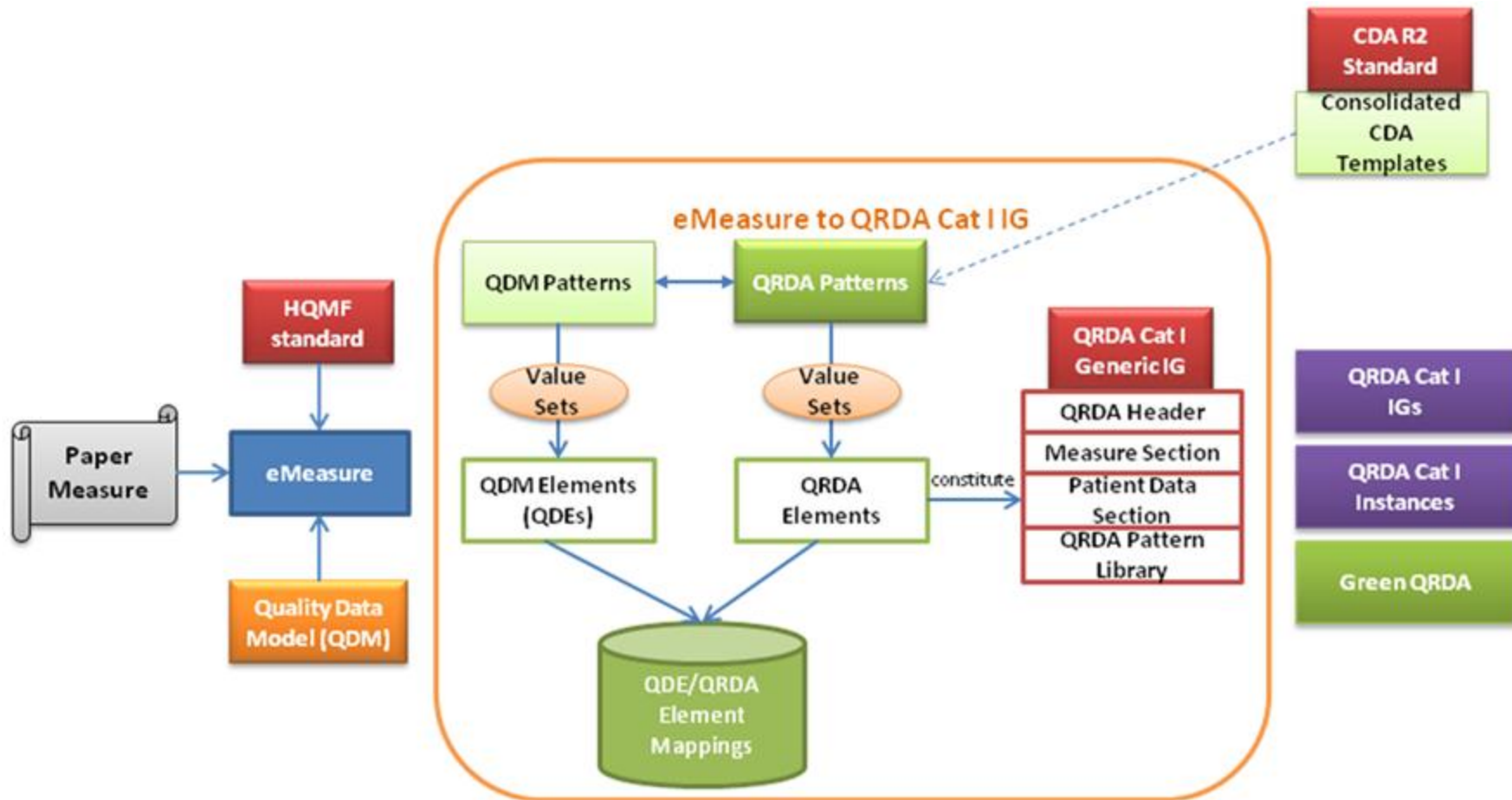
## QRDA Instances



# Coupling Between eMeasure and QRDA



# Coupling Between eMeasure and QRDA



# Proposed Changes: QDM Approach to QRDA

## How many QRDA IGs?

- Single QRDA IG, where sender dynamically populates, based on the specific measures being reported against.
- This requires that data elements include date/time stamps.

### QRDA Category I Report

<b>Patient</b>	Neda Nuclear		
<b>Date of birth</b>	February 1, 1980	<b>Sex</b>	Female
<b>Race</b>	White	<b>Ethnicity</b>	Not Hispanic or Latino
<b>Contact info</b>	address not available Telecom information not available	<b>Patient IDs</b>	987654321 2.16.840.1.113883.19.5
<b>Document Id</b>	f2d5f971-d67a-4456-8833-213f01331ca0		
<b>Document Created:</b>	January 10, 2012		
<b>Author</b>	Quality Manager, RN, Good Health Hospital		
<b>Informant</b>	Good Health Hospital		
<b>Legal authenticator</b>	Quality Manager, RN of Good Health Hospital signed at January 10, 2012		
<b>Document maintained by</b>	Good Health Hospital		

#### Table of Contents

- [Measure Section](#)
- [Reporting Parameters](#)
- [Patient Data](#)

#### Measure Section

NQF eMeasure Number	eMeasure Title	eMeasure Identifier (MAT)
0059	Diabetes: HbA1c Poor Control	0005(example)
0064	Diabetes: LDL Management & Control	0006(example)
0061	Diabetes: Blood Pressure Management	0007(example)

#### Reporting Parameters

- Reporting period: 01 Jan 2011 - 31 Dec 2011

#### Patient Data

Data Element	Value	Date/Time
Diagnosis, Active: diabetes	Diabetes mellitus	12/31/2011
Encounter: Encounter acute inpatient or ED	Inpatient hospital care	05/02/2011 18:10 - 05/21/2011 10:30
Encounter: Encounter non-acute inpatient and outpatient	Office visit	01/03/2011 11:30 - 01/03/2011 13:00
Encounter: Encounter non-acute inpatient and outpatient	Office visit	02/01/2011 9:30 - 02/01/2011 10:10
Laboratory Test, Result: HbA1c test	8%	02/03/2011 8:00
Laboratory Test, Result: LDL test	95 mg/dL	05/03/2011 13:50
Payer Type	Self Pay	01/03/2011

# Issues

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- Send a QRDA for which patient(s)?
- What if no patients meet the criteria?
- How many data to send?
- What if there are no data?
- How many QRDA Implementation Guides should there be?



# Scenarios

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SBP > 170 over the past 18mo

- Send all BPs? Send most recent abnormal? Send just the abnormal? What if none are abnormal?

Active diagnosis of DM

- Send entire problem list? Send only DM if present? What about other problems (e.g. AIDS)?

# Recommendations



“Scoop and Filter” – a QRDA Cat I contains EHR data sufficient to satisfy eMeasure requirements.

Which patients?

- Send a QRDA Category 1 document for only those patients that meet the IPP criteria.
- Filter out patients based on regulatory guidance (e.g. “Submit only for Medicare beneficiaries”)

What if there are no patients?

- No QRDA Cat I is sent. (An aggregate report would indicate zero patients in IPP).

# Recommendations



## How many data?

- “Smoking gun” – send the conclusive evidence.
- Include data criteria, stratification variables, supplemental data elements, measure observations (and stuff that is required in CDA Header)
- For disjunctive criteria, send all data elements that are present in the EHR

## What if there are no data?

- The data element will not be sent:  
**“Absence of evidence is evidence of absence”**

# Referencing an eMeasure from a QRDA

## Framework

- QRDA R1 recommended referencing an Act.code (and assumed that a quality measure would have a code)
- QRDA R2 recommends referencing an Act.id (and assumes that a quality measure will have a globally unique identifier)

## QDM-based QRDA IG

- For convenience, we recommend ALSO referencing those eMeasure identifiers that CMS will be rendering
  - eMeasure Identifier (Measure Authoring Tool)
  - eMeasure Version Number
  - eMeasure Title
  - NQF Number

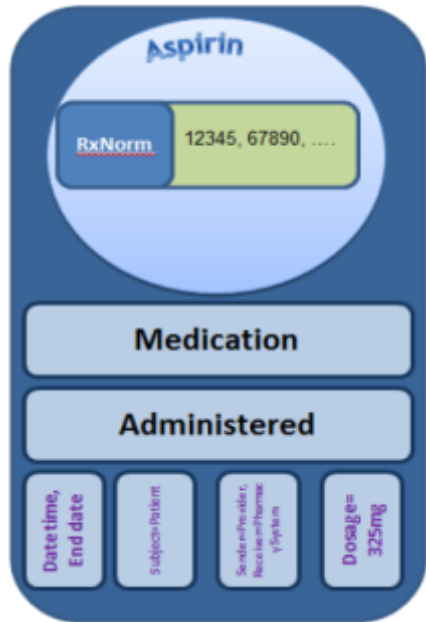
eMeasure Title	Asthma Assessment		
eMeasure Identifier (Measure Authoring Tool)	17	eMeasure Version Number	1
NQF Number	0001	GUID	59B24505-B9D1-48B8-BEB2-AF35219AA689

# QDM Pattern → QRDA Pattern

- QDM
  - Quality Data Type (e.g. Active Diagnosis, 1.2.3.4.5)
  - Quality Data Attributes (e.g. Negation Rationale)
  - Coupled with a value set (e.g. Diabetes ICD9 codes, 4.5.6.7), becomes a Quality Data Element (aka Data Criterion in an eMeasure)
- QRDA
  - Template corresponding to Quality Data Type (e.g. Active Diagnosis, 6.6.6.8)
  - Template corresponding to Quality Data Attributes (e.g. Negation Rationale, 6.6.6.9, Provider Characteristic)
  - Template corresponding to Quality Data Element is a further constraint on the template corresponding to the Quality Data Type, further constrained by value set binding. The template ID for a Quality Data Element: root = QRDA quality data type template ID; extension = value set (e.g. Active Diagnosis: Diabetes; templated root="6.6.6.8; extension="4.5.6.7")
- Mapping table
  - Will show the QRDA templates corresponding to eMeasure quality data elements

QDM component	HQMF ID	QRDA ID
<b>Quality Data Type:</b> Medication Administered	2.16.840.1.113883.3.560.1.14	2.16.840.1.113883.10.20.12.6.42
<b>Quality Data Attribute:</b> Reason	None	2.16.840.1.113883.10.20.12.6.49

# QDM Pattern → QRDA Pattern



Value set →  
QRDA quality data type template extension

Quality Data Type →  
QRDA quality data type template

Quality Data Attributes →  
QRDA quality data attribute templates

QDM component	HQMF ID	QRDA ID
Quality Data Type: Medication Administered	2.16.840.1.11 3883.3.560.1. 14	<b>2.16.840.1.113883</b> <b>.10.20.12.6.42</b>
Quality Data Attribute: Reason	None	2.16.840.1.113883 .10.20.12.6.49
Value Set: Aspirin RxNorm codes	1.2.3.4.5.6.7	<b>1.2.3.4.5.6.7</b>

```
<substanceAdministration classCode="SBADM" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.12.6.42" extension="1.2.3.4.5.6.7"/>
  <id />
  <statusCode code="completed"/>
  <effectiveTime>
    <low />
    <high />
  </effectiveTime>
  <participant typeCode="CSM">
    <participantRole classCode="MANU">
      <playingEntity classCode="MMAT" determinerCode="INSTANCE">
        <code code="..." codeSystem="2.16.840.1.113883.3.560.101.1" />
      </playingEntity>
    </participantRole>
  </participant>
</substanceAdministration>
```

# Dynamic Generation – and Template identification

SHALL contain exactly one [1..1] **templateId** (CONF:11082) such that it

- SHALL contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.65" (CONF:11083).
- SHALL contain exactly one [1..1] **@extension** ([CONF:11084](#)).

In Instance:

```
<templateId root="2.16.840.1.113883.10.20.24.3.63"
extension="{ $QDMElementValueSetOID}" />
```

# QDM Pattern → QRDA Pattern

## • Open Issues

- Simplification: Absent an HQMF processing engine, how will the EHR know what to send?
  - HQMF Pattern to QRDA template will help, but not be sufficient, in that it doesn't include the temporal aspects (e.g. "send most recent result")
  - We are toying with a simplified knowledge base, that includes:
    - Link from HQMF pattern to QRDA template and value set (as shown in prior slides)
    - Temporal aspects
    - IPP data elements are flagged

We anticipate **greenQRDA** at some point



# QRDA Instance Validation

- While QRDA will assert eMeasure(s), that won't necessarily be useful for validation
  - We don't preclude more than the smoking gun.
  - If there is nothing in the EHR, nothing is sent.
- What types of validation could we do?
  - Test that for an asserted eMeasure, the Initial Patient Population criteria are present
  - Test that existing data elements conform to their asserted template IDs
  - Produce a report that shows which data elements for a given eMeasure aren't present.
  - Test that the code is from the asserted valueSet

# Next Steps

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Next Week:

- Post draft of guide
- MeasureSet requirements?



# Thank you!

Contact

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