



MAT v4.3.0
Implementing the QDM Version 4.2.0
September 15, 2015

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Presentation Objectives



During the 60 minute Webinar:

- Present MAT Updates
- View a live demonstration of the MAT version 4.3.0
- Outline steps for creating a successful measure package following the release
- Summarize MAT updates
- Participate in a Question & Answer session



***MAT v4.3.0 Release Date
October 6, 2015***

***MAT v4.3.0 implementing
the QDM Version 4.2***

SECURITY

Security Enhancements



Welcome to the Measure Authoring Tool

Please sign in

**! Invalid username and/or password.
MAT accounts are locked after
three invalid login attempts.**

User ID
| abcdefg1234

Password
| ●●●●●●

Sign In

Forgot your [User ID](#) or [Password](#)?

Updated Message

A screenshot of the Measure Authoring Tool (MAT) login interface. The page has a white background with a blue header bar containing the text "Please sign in". Below the header, there is a red-bordered box with a white background containing an error message: "Invalid username and/or password. MAT accounts are locked after three invalid login attempts." Below this message are two input fields: "User ID" with the text "abcdefg1234" and "Password" with six black dots. A yellow "Sign In" button is positioned below the password field. At the bottom, there is a link that says "Forgot your User ID or Password?". A blue callout box with a white background and a blue border points to the error message, containing the text "Updated Message".

- * When creating a new password, MAT users may not use the last six passwords.

***MAT v4.3.0 implementing
the QDM Version 4.2***

MEASURE LIBRARY

Share and Clone Icons



All Measures							
Measure Name	Version	Finalized	Enabled Share Icon	Share	Clone	Export	(Clear)
MAT Training Cohort Measure	Draft v0.0.000						
MAT Training Continuous Variable Measure	Draft v0.0.000						
MAT Training Proportion Measure	Draft v0.0.000						
MAT Training Ratio Measure	Draft v0.0.001						<input type="checkbox"/>
MAT Training Ratio Measure	Draft v0.0.000						

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Export Icon – Mat | QDM



MAT version 3
(QDM older than version 4)

MAT version 4
(QDM version 4-4.1.2)

MAT version 4.3
(QDM version 4.2)

Export Icon by MAT Package Date



MAT v3

**Packaged before
July 25, 2014**

MAT v4

**Packaged between
July 25, 2014 and
October 6, 2015**

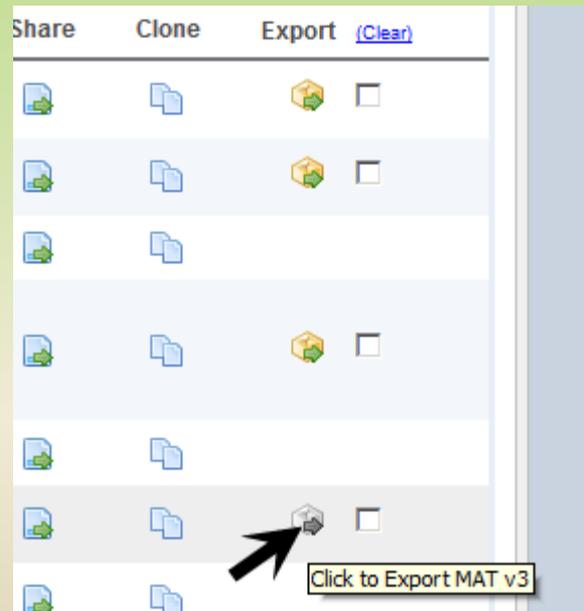
MAT v4.3

**Packaged after
October 6, 2015
release**

Export Icon – MAT v3



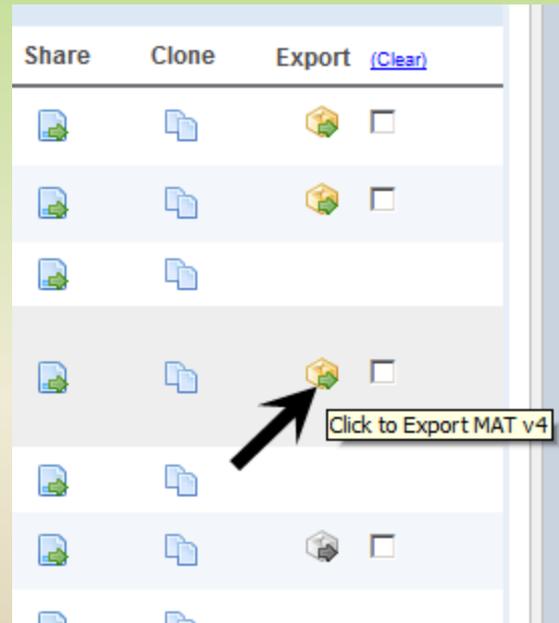
MAT version 3 (MAT v3, Prior to QDM version 4)



Export Icon – MAT v4



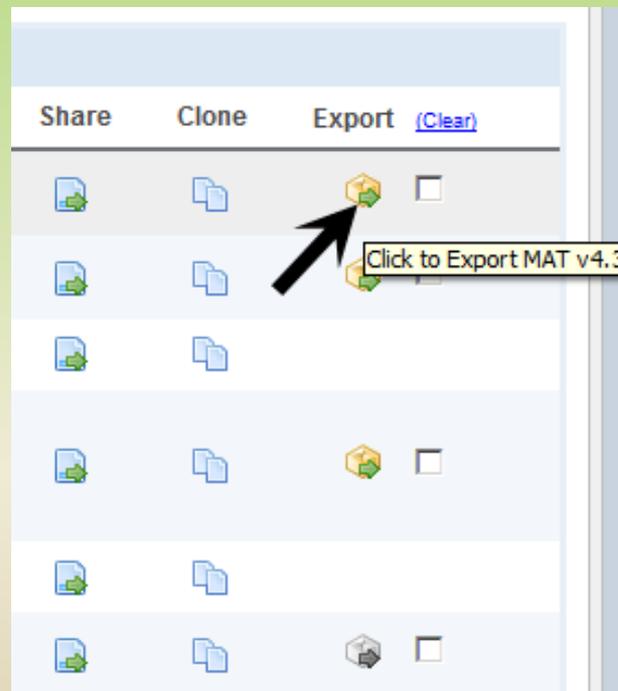
MAT version 4 (MAT v4, QDM version 4-4.1.2)



Export Icon – MAT v4.3



MAT version 4.3 (v4.3, QDM version 4.2)



MAT V4.3.0 IMPLEMENTING THE QDM VERSION 4.2 - PACKAGING

*****Measures successfully packaged after October 6, 2015 will reflect the MOST RECENT Quality Data Model publication (QDM version 4.2 released on August 31, 2015)*****

MAT v4.3.0 Implementing the QDM Version 4.2

QDM ELEMENTS

QDM Elements Page – Updates Diagnosis datatype



Diagnosis datatype

MAT version 4.2

MAT version 4.3

Measure Details | QDM Elements | Clause Workspace | Population Workspace | Measure Pa

Search

Enter OID

Use a def

Name	Datatype
Webinar Example	--Select--
Expansion Identifier	--Select--

- Care Goal
- Communication: From Patient to Provider
- Communication: From Provider to Patient
- Communication: From Provider to Provider
- Device, Adverse Event
- Device, Allergy
- Device, Applied
- Device, Intolerance
- Device, Order
- Device, Recommended
- Diagnosis, Active**
- Diagnosis, Family History
- Diagnosis, Inactive
- Diagnosis, Resolved
- Diagnostic Study, Adverse Event
- Diagnostic Study, Intolerance
- Diagnostic Study, Order
- Diagnostic Study, Performed
- Diagnostic Study, Recommended



Measure Details | QDM Elements | Clause Workspace | Population Workspace | Measure Pa

Search

Use a def

Name	Datatype
Webinar Example	--Select--
Expansion Identifier	--Select--

Diagnosis

Family History

Applied QDM Elements

Name
Occurrence A of Emergency Department Visit

QDM Elements Page – Updates Symptom datatype



Symptom datatype

MAT version 4.2

MAT version 4.3

Search

Enter OID

Name: Webinar Example

Expansion Identifier:

Datatype: Substance, Allergy

- Procedure, Intolerance
- Procedure, Order
- Procedure, Performed
- Procedure, Recommended
- Provider Care Experience
- Provider Characteristic
- Risk Category Assessment
- Substance, Administered
- Substance, Adverse Event
- Substance, Allergy
- Substance, Intolerance
- Substance, Order
- Substance, Recommended
- Symptom, Active
- Symptom, Assessed
- Symptom, Inactive
- Symptom, Resolved

Applied QDM Elements

Name	OID
Abnormal Presentation	2.16.840.1.113883.3.688.9.1



Search

Enter OID

Name: Webinar Example

Expansion Identifier:

Datatype: --Select--

- Physical Exam, Performed
- Physical Exam, Recommended
- Procedure, Adverse Event
- Procedure, Intolerance
- Procedure, Order
- Procedure, Performed
- Procedure, Recommended
- Provider Care Experience
- Provider Characteristic
- Risk Category Assessment
- Substance, Administered
- Substance, Adverse Event
- Substance, Allergy
- Substance, Intolerance
- Substance, Order
- Substance, Recommended
- Symptom

Applied QDM Elements

Name	OID
All Cancer (G)	2.16.840.1.113883.3.688.9.1
Annual Wellness Visit (G)	2.16.840.1.113883.3.688.9.1
Any infection (G)	2.16.840.1.113883.3.688.9.1

QDM Elements Page – Updates Immunization datatypes



Immunization datatypes

The screenshot shows the 'QDM Elements' tab in a software interface. A search bar is at the top with a 'Retrieve OID' button. Below it, there are fields for 'Name' (containing 'Webinar Example') and 'Expansion Identifier'. A dropdown menu for 'Datatype' is open, showing a list of options. The options are: '--Select--', 'Functional Status, Performed', 'Functional Status, Recommended', 'Immunization, Administered', 'Immunization, Allergy', 'Immunization, Intolerance', 'Immunization, Order', 'Intervention, Adverse Event', 'Intervention, Intolerance', 'Intervention, Order', 'Intervention, Performed', 'Intervention, Recommended', 'Laboratory Test, Adverse Event', 'Laboratory Test, Intolerance', and 'Laboratory Test, Order'. The 'Immunization, Administered', 'Immunization, Allergy', and 'Immunization, Intolerance' options are circled in blue. At the bottom, there is a section for 'Applied QDM Elements' with a table header 'Name'.

Name

QDM Elements Page – Updates

Validation of Applied QDM Elements



Validation of the Applied QDM Elements list updated

Applied QDM Elements					
Name	OID	Datatype	Expansion Identifier	Version	Modify
Annual Wellness Visit	✓ 2.16.840.1.113883.3.526.3.1240	✓ Encounter, Performed		20150430	<input type="checkbox"/>
Any infection	3.666.5.696	⚠️ Diagnosis, Resolved	MU2 Update 2015-05-01		<input type="checkbox"/>
Clinical Trial Pa	.526.3.1125	✓ Patient Characteristic Clinical Trial Participant	MU2 Update 2015-05-01		<input type="checkbox"/>
Occurrence A of General or Neuraxial Anesthesia	✓ 2.16.840.1.113883.3.117.1.7.1.254	✓ Procedure, Performed	MU2 Update 2015-05-01		<input type="checkbox"/>
Office Visit	✓ 2.16.840.1.113883.3.464.1003.101.12.1001	✓ Encounter, Performed	MU2 Update 2015-05-01		<input type="checkbox"/>

Validation of QDM elements using deprecated datatype fail.

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Update From VSAC

QDM Elements Page – Updates Value Set



Value set identified as Grouping or Extensional

Applied QDM Elements					
Name	OID	Datatype	Expansion Identifier	Version	Modify
All Cancer (G)	2.16.840.1.113883.3.526.3.1240	Encounter, Performed		Most Recent	<input type="checkbox"/>
Annual Wellness Visit (G)	2.16.840.1.113883.3.526.3.1240	Encounter, Performed		20150430	<input type="checkbox"/>
Any infection (G)	2.16.840.1.113883.3.666.5.696	Diagnosis	MU2 Update 2015-05-01		<input type="checkbox"/>
Clinical Trial Participant (G)	2.16.840.1.113883.3.526.3.1125	Patient Characteristic Clinical Trial Participant	MU2 Update 2015-05-01		<input type="checkbox"/>
Occurrence A of General or Neuraxial Anesthesia (G)	2.16.840.1.113883.3.117.1.7.1.254	Procedure, Performed	MU2 Update 2015-05-01		<input type="checkbox"/>
Hemoglobin blood serum plasma (G)	2.16.840.1.113762.1.4.1104.4	Laboratory Test, Performed		Most Recent	<input type="checkbox"/>
Office Visit (G)	2.16.840.1.113883.3.464.1003.101.12.1001	Encounter, Performed	MU2 Update 2015-05-01		<input type="checkbox"/>
Tachycardia (E)	2.16.840.1.113883.3.526.3.1240	Encounter, Performed		Most Recent	<input type="checkbox"/>

***MAT v4.3.0 Implementing
the QDM Version 4.2***

CLAUSE WORKSPACE

Clause Workspace – Updates Diagnosis Attributes



Diagnosis attributes

The screenshot displays the 'Clause Workspace' interface. At the top, there are tabs for 'Measure Details', 'QDM Elements', 'Clause Workspace' (which is active), 'Population Workspace', and 'Measure'. Below the tabs, there is a tree view on the left with expandable nodes: 'Clause', 'Webinar Example 1', and 'During'. Under 'During', the item 'Any infection : Diagnosis' is selected and highlighted in blue. Below this, the text 'Measurement Period : Timing Element' is visible. At the bottom left, there is a checkbox for 'QDM Variable' and three buttons: 'Save', 'Validate', and 'Clear'. A blue callout bubble points to a dropdown menu in the 'Edit Attribute' dialog box, which lists the following attributes: 'abatement datetime', 'anatomical location site', 'onset datetime', 'severity', 'Health Record Field', 'Source', and 'Recorder'. A blue box highlights this list of attributes.

Clause Workspace – Updates Family History Attributes



Family History attributes

The screenshot displays the 'Clause Workspace' tab in a software application. The interface includes a tree view on the left with the following structure:

- Clause
 - Webinar Example 3
 - Starts Before Start Of
 - All Cancer : Family History (highlighted)
 - Measurement Period : Timing Element

At the bottom of the interface, there are buttons for 'Save', 'Validate', and 'Clear', and a checkbox for 'QDM Variable'.

An 'Edit Attribute' dialog box is open, showing a list of available attributes for the selected 'Family History' datatype. A blue callout bubble points to this dialog with the text: 'Available attributes for datatype 'Family History''. The list of attributes in the dialog is:

- onset age
- recorded datetime
- relationship
- Health Record Field
- Source
- Recorder

Clause Workspace – Updates Symptom attributes



Symptom attributes

The screenshot displays the 'Clause Workspace' tab in a software application. The interface includes a breadcrumb trail at the top: 'Measure Details' > 'QDM Elements' > 'Clause Workspace' > 'Population Workspace' > 'Measure Pack'. On the left, a tree view shows a hierarchy: 'Clause' > 'Webinar Example 3' > 'Starts Before Start Of' > 'Tachycardia : Symptom'. The 'Tachycardia : Symptom' item is selected and highlighted in blue. Below it, the text 'Measurement Period : Timing Element' is visible. At the bottom left, there is a checkbox for 'QDM Variable' and three buttons: 'Save', 'Validate', and 'Clear'. A blue callout bubble with a white background and a blue border points to a dropdown menu in the 'Edit Attribute' dialog box. The callout contains the text 'Available attributes for datatype 'Symptom''. The dropdown menu is open, showing a list of attributes: 'abatement datetime', 'onset datetime', 'severity', 'Health Record Field', 'Source', and 'Recorder'. The 'abatement datetime' option is highlighted with a blue background. A blue circle highlights the list of attributes in the dropdown menu.

Available attributes for datatype 'Symptom'

Edit Attribute

Attribute

- abatement datetime
- onset datetime
- severity
- Health Record Field
- Source
- Recorder

Save Validate Clear

<< Go to QDM Elements

Clause Workspace – Updates Encounter, Performed Attributes



Encounter, Performed attributes

The screenshot shows the HCIS Clause Workspace interface. On the left, a tree view shows the hierarchy: Clause > Webinar Example 2 > During > Annual Wellness Visit : Encounter, Performed. Below this, there is a section for "Measurement Period : Timing Element" with a "QDM Variable" checkbox and "Save", "Validate", and "Clear" buttons. A blue callout bubble points to the "Edit Attribute" dialog box, which is open over the "Attribute" dropdown menu. The dropdown menu lists various attributes, with "diagnosis" and "principal diagnosis" circled in blue. The "Edit Attribute" dialog box has a title bar and a close button.

Attributes added for datatype
Encounter, Performed

Attribute

- admission datetime
- diagnosis
- discharge datetime
- discharge status
- facility location
- facility location arrival datetime
- facility location departure datetime
- length of stay
- negation rationale
- principal diagnosis
- reason
- Health Record Field
- Source
- Recorder

Save Validate Clear

< Go to QDM Elements

CMS.gov A federal government 7500 Security Boulevard Medicare & Medicaid

Clause Workspace – Updates Laboratory Test, Performed attributes



Laboratory Test, Performed attributes

The screenshot displays the 'Clause Workspace' interface. At the top, there are tabs for 'Measure Details', 'QDM Elements', 'Clause Workspace' (which is active), 'Population Workspace', and 'Measure Pa'. Below the tabs, there are expandable sections: 'Clause', 'Webinar Example 4', and 'During'. A specific element is highlighted: 'Hemoglobin blood serum plasma : Laboratory Test, Performed'. Below this, it says 'Measurement Period : Timing Element'. There is a checkbox for 'QDM Variable' and three buttons: 'Save', 'Validate', and 'Clear'. At the bottom left, there is a link '<< Go to QDM Elements'. At the bottom right, there is a footer with 'CMS.gov', 'A federal government', '7500 Security Boulevard, Baltimore, MD 21244', and 'Medicare & Me'.

An 'Edit Attribute' dialog box is open, showing a list of attributes. The 'reference range high' and 'reference range low' attributes are circled in blue. A blue callout bubble points to these two attributes with the text: 'Attributes added for datatype *Laboratory Test, Performed*'.

Attributes listed in the dialog box:

- method
- negation rationale
- reason
- reference range high
- reference range low
- result
- start datetime
- status
- stop datetime
- Health Record Field
- Source
- Recorder

Removed Attributes

- Patient preference and provider preference are removed for all datatypes
- Negation rationale removed from inappropriate datatypes

Clause Workspace – Updates

MAT v4.3 | QDM v4.2



****MAT version 4.3 contains all allowable datatypes and attributes based on the recently published QDM version 4.2****

The most recent QDM publication is posted to <https://ecqi.healthit.gov/qdm>

Clause Workspace – Updates Validations Added



Validations added to...

- Identify retired datatypes
- Identify deprecated attributes
- Guide clause logic creation and prevent incorrect clause logic

Clause Workspace – Updates Validation Fails – Invalid Datatype



Validation fails if...

- an invalid datatype is used in clause logic

The screenshot shows the 'Clause Workspace' tab in a software application. The interface includes a breadcrumb trail at the top: 'Measure Details' > 'QDM Elements' > 'Clause Workspace' > 'Population Workspace' > 'Measure P'. Below this, there are expand/collapse icons (+/-) and a 'Clause' section header. Under the 'Clause' section, there is a list of clause elements. One element, '<= 4 days Starts Before Start Of', is expanded to show its logic: 'VTE Suspected : Diagnosis, Active' followed by 'Occurrence A of EncounterInpatient'. The text 'VTE Suspected : Diagnosis, Active' is highlighted in red. A blue callout box with a pointer to this red text contains the text: 'Invalid datatypes appear in red when validation of clause is performed'. At the bottom of the interface, there is a checkbox for 'QDM Variable' and three buttons: 'Save', 'Validate', and 'Clear'.

Clause Workspace – Updates Validation Fails – Deprecated Attribute



Validation fails if...

- a deprecated attribute is used in clause logic

The screenshot shows the 'Clause Workspace' tab in a software application. The interface includes a navigation bar with tabs for 'Measure Details', 'QDM Elements', 'Clause Workspace', 'Population Workspace', 'Measure Packager', and 'Measure Notes'. A tree view on the left shows a hierarchy: 'Clause' > 'Union for All Datatype QDMs_Negation' > 'Union'. The main area displays a list of QDM elements. Two elements are highlighted in red: 'ADHD Medications : Medication, Adverse Effects (1)' and 'ADHD Medications : Medication, Intolerance (1)'. A yellow tooltip box points to the second red element, containing the text: 'ADHD Medications : Medication, Adverse Effects (2,16,840,1,113883,3,464,1003,196,11,1171 (negation rationale: Test User Defined Attribute 123 : attribute)'. Three blue callout boxes provide additional context: one at the top center states 'QDM elements using removed attributes appear in red when validation of clause is performed'; one at the bottom left states ''Negation rationale' removed for Medication, Adverse Effects datatype'; and one at the bottom right points to the tooltip text.

Clause Workspace – Updates Examples



Measure Details | QDM Elements | **Clause Workspace** | Population Workspace

+ -

[-] Clause

[-] Union for All Datatype QDMs_Negation

[-] Union

ADHD Medications : Medication, Adverse Effects (1)

ADHD Medications : Medication, Intolerance (1)

Acute care hospital Inpatient Encounter : Encounter, Active

Invalid attribute



Measure Details | QDM Elements | Clause Workspace | **Population Workspace**

Populations | Stratification

+ -

[-] Populations

[-] Initial Populations

[-] Initial Population 1

[-] AND

Union for All Datatype QDMs_Negation

[-] Numerators

[-] Numerator 1

AND

[-] Numerator Exclusions

[-] Numerator Exclusions 1

OR

[-] Denominators

[-] Denominator 1

AND

[-] Denominator Exclusions

[-] Denominator Exclusions 1

OR

[-] Denominator Exceptions

[-] Denominator Exceptions 1

OR

Invalid clause due to invalid use of attribute 'Negation rationale'

Measure logic is incorrect. Invalid clause logic. Please validate clause logic on Clause Workspace.



Failed measure package

Unable to create measure package. Please validate your measure logic in both Population Workspace and Clause Workspace.

Create Measure Package

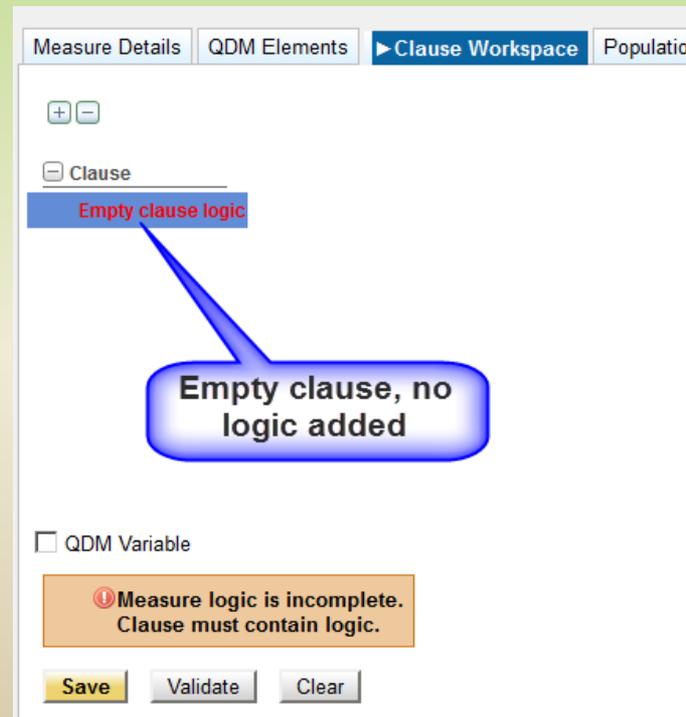
Create Package and Export

Clause Workspace – Updates Validation Fails – No Clause Logic



Validation fails if...

- a clause contains no clause logic



Clause Workspace – Updates Validation Fails – LHS QDM Attribute



Validation fails if...

- the LHS QDM element of a ‘Satisfies All/Any’ clause contains an attribute

The screenshot shows a software interface for defining a clause. It has a tree view on the left with the following structure:

- Clause
 - Attribute
 - Satisfies All
 - All Cancer : Family History (recorded datetime)
 - During
 - All Cancer : Family History
 - Measurement Period : Timing Element
 - All Cancer : Family History (relationship)
 - QDM Variable

A blue callout bubble points to the 'recorded datetime' text in the 'Satisfies All' branch, containing the text: **LHS QDM element fails validation if attribute is applied**.

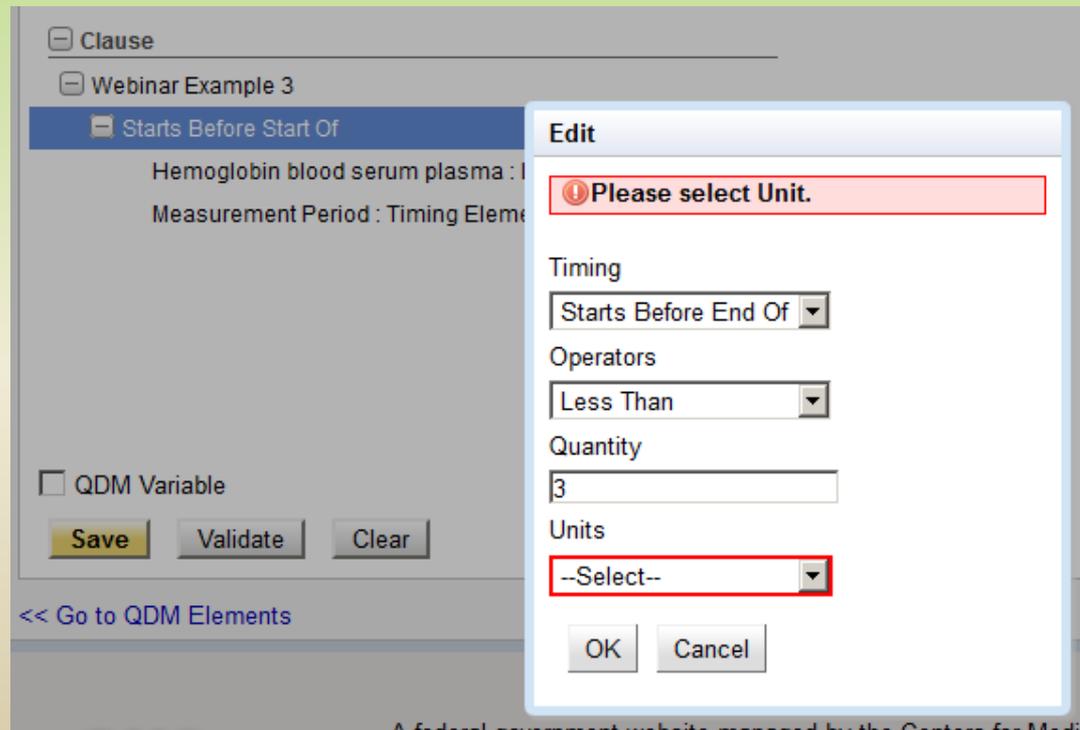
At the bottom, there is an orange warning box with a red exclamation mark icon and the text: **Measure logic is incomplete. Satisfies All and Satisfies Any LHS QDM element may not contain attributes.**

Below the warning box are three buttons: 'Save' (yellow), 'Validate' (grey), and 'Clear' (grey).

Population Workspace Updates



Users are prevented from adding a comparison to a Timing without a unit selected.



***MAT v4.3.0 Implementing the QDM
Version 4.2***

POPULATION WORKSPACE

Population Workspace – Updates Validation Fails - Invalid or no logic



Validation fails when...

- Invalid attribute used in applied clause
- Invalid datatypes used in applied clause
- Applied clause is empty (no logic)

A screenshot of the 'Population Workspace' interface. The top navigation bar includes 'Measure Details', 'QDM Elements', 'Clause Workspace', 'Population Workspace', and 'Measure'. The main area is titled 'Populations' and 'Stratification'. A tree view shows a hierarchy: 'Populations' > 'Initial Populations' > 'Initial Population 1' > 'AND' > 'Union for All Datatype QDMs_Negation'. A blue speech bubble points to the 'AND' node with the text: 'Invalid clause due to invalid use of attribute 'negation rationale''. At the bottom, an orange error box contains the message: 'Measure logic is incorrect. Invalid clause logic. Please validate clause logic on Clause Workspace.'

Population Workspace – Updates Validation Fails - Clause



The screenshot shows the 'Population Workspace' tab in a software application. The interface is organized into a tree view with several categories: Populations, Numerators, Numerator Exclusions, Denominators, and Denominator Exclusions. Under the 'Populations' category, there is a sub-section 'Initial Population 1' which contains an 'AND' operator. This 'AND' operator has three children: 'Sample Clause A_Union', 'Sample Clause B_Satisfies All', and 'Sample Clause C_Timing'. A blue callout box points to the 'AND' operator with the text: 'Terminal logical operator does not have at least one clause as a child'. At the bottom of the interface, an orange error message box states: 'Measure logic is incorrect. Any logical operator under a top-level logical operator must contain at least one logical operator or clause. Any terminal logical operator under a top-level logical operator must contain at least one clause.'

Validation fails when...

- A terminal logical operator (not the top level AND) does not contain at least one clause

***MAT v4.3.0 Implementing the QDM
Version 4.2***

MEASURE PACKAGER

Measure Packager – Updates Validations Fail



Validations during measure packaging attempt fail if...

- Invalid datatypes and attributes are used (QDM version 4.2 changes)
- A clause with no logic is used
- An incomplete measure population where a terminal logical operator (AND, AND NOT, OR, OR NOT) is added without a clause as a child node

⚠ Unable to create measure package. Please validate your measure logic in both Population Workspace and Clause Workspace.

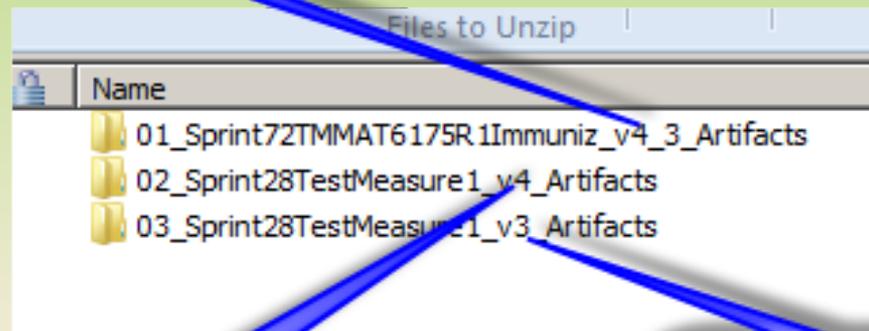
MAT v4.3.0 Implementing the QDM Version 4.2

EXPORT FILES

Export File Updates



Measure packaged
after October 6, 2015



Measure packaged
between July 25, 2014 and
October 6, 2015

Measure packaged
prior to July 25, 2014

Export Files – Updates

New datatypes and attributes



The HTML, SimpleXML, and HQMF files are updated to include the new datatypes and attributes added with the implementation of QDM version 4.2.

***MAT v4.3.0 Implementing the QDM
Version 4.2***

LIVE DEMONSTRATION

Updating an Existing Clause Using QDM version 4.2.0 – Union



- Union of
 - “Diagnosis, Active: All Cancer”
 - “Diagnosis, Inactive: All Cancer”
 - “Diagnosis, Resolved: All Cancer”
- Starts before end of “Measurement Period”

- “Diagnosis: All Cancer” starts before end of “Measurement Period”

*MAT v4.3.0 Implementing the QDM
Version 4.2*

**HOW TO ENSURE A
SUCCESSFUL MEASURE
PACKAGE!**

Packaging Guidance (Slide 1 of 5)



- Review the QDM version 4.2 publication posted to <https://ecqi.healthit.gov/qdm>

Packaging Guidance (Slide 2 of 5)



- Validate the Applied QDM elements list on the QDM Elements page
- Use the edit tools to modify applied QDM elements and attributes, if applicable
- Add additional QDM elements and attributes, as necessary

Packaging Guidance (Slide 3 of 5)



- Validate impacted clauses in the Clause Workspace
- Use edit functions to update measure logic, if applicable
- Add new clauses, as necessary
- Verify clauses in the Clause Library contain measure logic

Packaging Guidance (Slide 4 of 5)



- Perform a validation in Population Workspace
- Remove invalid clauses, if applicable
- Add newly constructed clauses, as necessary
- Verify that terminal logical operators have at least one clause

Packaging Guidance (Slide 5 of 5)



- Update measure groupings, if necessary
- Repackage updated measure

✔ Measure packaged successfully. Please access the Measure Library to export the measure.

***MAT v4.3.0 Implementing the QDM
Version 4.2***

REVIEW OF UPDATES

- Clone and Share icons appear gray in color when disabled
- Export Icon indicates the MAT version used to generate the measure package
 - ✓ MAT v3
 - ✓ MAT v4
 - ✓ MAT v4.3

- Datatype dropdown box updated based on recently published QDM version 4.2
- Validation of the Applied QDM Elements list updated to capture applied QDM elements and attributes with invalid datatypes
- Value sets applied as a QDM element or attribute identified as extensional or grouping

- Available attributes updated to match QDM version 4.2
- Added validations to identify use of invalid datatypes or attributes
- Clauses containing no logic fail validation
- User prevented from creating invalid measure logic
 - Attribute on LHS QDM element for Satisfies All/Any
 - Quantity and unit required for Timing comparisons

- Clauses using invalid datatypes or attributes identified during validation
- Terminal logical operators require at least one clause

- The measure package fails if the measure logic includes
 - ✓ Any of the removed datatypes or attributes
 - ✓ Clauses without logic
 - ✓ Terminal operators without at least one clause

Export File(s) - Updates



- The HTML, SimpleXML, and HQMF files are updated to reflect the updated QDM version 4.2
- The auto-generated file name for measure packages identifies if the measure package is a MAT version 3, MAT version 4, or MAT version 4.3 measure package

MAT v4.3.0 Implementing the QDM Version 4.2

RESOURCES

Resources

(Slide 1 of 2)



- Measure Authoring Tool Website
(<https://www.emasuretool.cms.gov/>)
- MAT v4.3.0 User Guide and Release Notes
- QDM Issue Tracker
(<https://jira.oncprojectracking.org/browse/QDM>)
- MAT Support/Help Desk
- QDM Version 4.2.0 (<https://ecqi.healthit.gov/>)
- YouTube Recording of *MAT v4.3.0: Implementing the QDM Version 4.2.0*

Resources (Slide 2 of 2)



- HL7 implementation guides

HQMF

http://www.hl7.org/implement/standards/product_brief.cfm?product_id=97

QDM-based HQMF IG

http://www.hl7.org/implement/standards/product_brief.cfm?product_id=346



***MAT v4.3.0 Release Date
October 6, 2015***

MAT Support Contact Information



Measure Authoring Tool Help Desk

Complete the 'Contact Us' form at
<https://www.emasuretool.cms.gov/>

Or call

1-800-673-0655