

MADiE User Group

July User Group

Hosted by ICF/SemanticBits

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MADiE is owned and operated under contract with CMS

Contracting Officer Representative (COR): Emmanuel Kalluri

Disclaimer

This meeting is being recorded to ensure notes and action items are captured accurately.

Attendees who have objections to the meeting being recorded are asked to let the facilitator know at this time

Agenda and Objectives

Agenda

1. MADiE Updates
2. Community Questions & Discussions
3. Review of Resources

Objectives

- Inform MADiE users of current and planned activities
- Create a forum to gather community feedback on future enhancements
- Foster collaboration through open community discussion

60 Day Account Deactivation

Keeping your MADiE Account Active:

- In accordance with CMS and HHS security requirements, MADiE has implemented an account deactivation policy for all users who have not logged in within the previous 60 days or more.
- Users will receive warning messages after 30 days of inactivity.
- After 60 days of inactivity, accounts will be deactivated.
- To access a deactivated MADiE account again, users will need to request the MADiE role in HARP.
 - **Do NOT respond to the deactivation email.**

*Keep your MADiE account active to continue to receive important email communications!

MADiE

MADiE 2.0.0

MADiE: Current State (1 of 3)

MADiE – 2.0.0 7/10/2024

- When a CMS Web Application Firewall (WAF) error blocks an action from being performed, a popup message will now display. This message will notify the user they have encountered a CMS WAF issue and instruct the user to create a [MADiE IT](#) ticket and, if available, will display the support ID to include in the ticket.
- MADiE has been updated to support updates being made to the CQL to ELM translator version for QDM or for QI-Core separately.
- MADiE now displays the version of the CQL to ELM translator that is used in the measure.
 - Measures in Draft status – the "Currently using CQL to ELM Translator Version" field was added to display the current translator version
 - Measures in Versioned status – the "Versioned with CQL to ELM Translator Version" field was added to display the version of the translator that was used when versioning the measure
- **QDM Measures:** The Manifest selected for value set expansion will be used for testing. Value set versions specified in the measure CQL cannot be used and the value set version will be removed from the CQL the next time the user saves the measure from any tab. After saving, a message will display notifying the user of this update to the measure CQL.
- **QDM Measures:** The list of values in the Terminology section of the human readable export for QDM measures is now correctly sorted ([BONNIEMAT-1868](#)) [BONNIEMAT-1946](#))
- **QI-Core Measures:** The stratification drop down has been updated to include *only* the populations selected in the population criteria.

MADiE: Current State (2 of 3)

MADiE – 2.0.0 7/10/2024

- **QDM Measures:** Users may experience unexpected behavior with the test case “Delete All” button.
 - The “Delete All” button will remain enabled after users delete all test cases.
 - The “Delete All” button will remain disabled after importing test cases.
- **QDM Measures:** After importing test cases, an error will display on the test case list page: “An error occurred, please try again. If the error persists, please contact the help desk.”
- **QDM Measures:** Initially after users change the selected Manifest for test case execution, the test case results may display incorrect information.
- **QDM Measures:** When users edit a test case, select “Run Test” and then select “Discard Changes” the Expected/Actual tab may display incorrect results as the results will revert to the last saved expected and actual values. The results displayed on the test case list page are not impacted.
- **QDM Measures:** When updating Stratification definitions (the narrative) after transferring a measure from MAT to MADiE, users may receive the following error message. "QDM group stratifications cannot be associated." ([BONNIEMAT-1894](#), [BONNIEMAT-1933](#))
- **Work around:** Delete the Stratification groups and rebuild in MADiE.

MADiE: Current State (3 of 3)

MADiE – 1.4.2 6/20/2024

- MADiE has been updated to allow users to select a column header that then will be used to sort test cases. In addition to the default sort by the creation date (newest to oldest), the test cases may now be sorted by Status, Group, Title and Description.
- **QDM Measures:** The export file Human Readable now displays the full name of the months for the measurement period. ([BONNIEMAT-1863](#))
- **QDM Measures:** MADiE now supports the ability for users to specify a Manifest to use with their measure's test case execution. ([BONNIEMAT-1376](#)) The Test Cases tab, Configuration section, has been updated to add an “Expansion” tab. The Expansion tab allows users to select the value set expansion to be used during execution using the following options:
 - **Latest** - this option uses the latest version of each value set available in VASC
Note: This option includes value sets in a draft status and with inactive codes.
 - **Manifest** - this option allows a user to select a specific manifest available in VSAC
Note:
 - VSAC Draft Manifests include value sets in a draft status
 - VSAC Active Release Manifests do not support draft value sets
- **QI-Core Measures:** MADiE has been updated to store the test case Group, and Title and Description as part of the test case export so that it can be used on re-import to populate the group, and title and description fields instead of using the family and given fields from the JSON. ([BONNIEMAT-1844](#))
- **QI-Core Measures:** The following updates have been made to measure exports:
 - Resource IDs will use MADiE-generated UUIDs ([BONNIEMAT-1879](#))
 - References in the MeasureReport will use relative URLs instead of full URLs ([BONNIEMAT-1878](#))
- **QI-Core Measures:** Transaction type The test case exports will use PUT request instead of POST ([BONNIEMAT-1877](#))
- **QI-Core Measures:** MADiE has been updated to use LiquidBase Templates 0.4.3 based on QMIG profiles. More information can be found [here](#).

MADiE – Known Issues (1 of 4)

The Known Issues List will be posted and maintained on the [MADiE tab](#) of the public web site and the Summary page of the MADiE ONC Jira Issue Tracker here: <https://oncprojecttracking.healthit.gov/support/projects/BONNIEMAT/summary>

CQL-ELM Translator Known Issues as of 7/18/24:

There is an issue in how reasonCode is getting mapped to ELM for the CommunicationNotDone datatype in QI-Core 4.1.1. Refer to the following GitHub ticket for more information on this issue: https://github.com/cqframework/clinical_quality_language/issues/1153 [BONNIEMAT-1420](#)

MADiE Known Issues as of 7/18/24:

- CQL Validation issues occur when a definition name is resolvable to a quoted identifier, but the definition name is not in quotations. Users may not receive CQL validation errors, however the Population Criteria section won't render, and a blank screen will display
 - **Work around:** Quotes should be added to all define statement names, even when resolvable to a quoted identifier.
- When users search for measure names and include special characters in the search criteria, the user may receive a 403 error, or the search results will not be returned.
 - **Work around:** Only include alpha numeric characters when searching for a measure.

MADiE – Known Issues (2 of 4)

MADiE Known Issues as of 7/18/24:

- Users will automatically be logged out of MADiE after 30 minutes of inactivity. If the user has more than one active session of MADiE in any combination (in different tabs in the same browser or in different browsers) and one of the sessions reaches 30 minutes of inactivity the session will expire, and the user will be logged out of all sessions. If the user is logged out prior to saving changes, any unsaved changes will not be retained when the user logs into MADiE again.
 - **Work around:** Users can keep all sessions active by clicking on the screen for each session periodically. Clicking on each active session prior to reaching 30 minutes of inactivity will prevent the sessions from expiring and prevent the user from being logged out of all sessions. [BONNIEMAT-1554](#) [BONNIEMAT-1623](#)
- **QDM Measures:** Status' date timing included in QDM test case JSON is not being saved after translation completes.
- **QI-Core Measures:** There is an issue in how some QI-Core profiles are being mapped to their related FHIR resource types for data requirements, resulting in missing data requirements in the measure export. [BONNIEMAT-1720](#)

MADiE – Known Issues (3 of 4)

MADiE Known Issues as of 7/18/24:

- Measures transferred from MAT to MADiE need to be reviewed in MADiE and the CQL updated (can just add a space to the CQL) after the transfer and prior to working with the measure (including working with test cases or exporting the measure). Until this step is complete you may see a CQL error notification on the Test Cases screen and/or during Measure Export.
- **QDM Measures:** When editing a MADiE test case that was imported from Bonnie QDM, if the test case description exceeds the allowable 250 characters, the 'Save' button is disabled and updates cannot be made to the test case.
 - **Work around:** Edit the MADiE test case description to less than 250 characters. [BONNIEMAT-1825](#)
- **QDM Measures:** The QRDA export for test cases does not unzip in Windows systems using the native Windows unzip program.
 - **Workaround:** Download and use 7-zip utility to unzip the files. [BONNIEMAT-1917](#)

MADiE – Known Issues (4 of 4)

MADiE Known Issues as of 7/18/24:

- Users may experience toggling back and forth between their current tab and a new tab or flickering and, in some cases, discontinuation of their MADiE session.
 - **Work around:** Refresh the page or log out of all MADiE instances and begin a new MADiE session. [BONNIEMAT-1922](#)
- **QDM Measures:** In some cases, large value sets are not being fully retrieved. As a result, test cases may fail unexpectedly as some codes may not be pulled in.
 - **Work around:** Replace the code with one of the first 1000 codes listed in the value set. [BONNIEMAT-1950](#)
- **QDM Measures:** Edge cases may fail unexpectedly due to the measurement period end date being specific to our precision.
 - **Work around:** Set edge case time to 10:59:59 PM until solution is implemented. [BONNIEMAT-1953](#)

MADiE Resources

MADiE

The [MADiE tab](#) on the public web site provides:

- Login button to MADiE
- User Access Guide – how to get your MADiE account
- User Guide – provides details regarding tool functionality
- MADiE In Depth Training Videos
- JSON Test Case Guide – steps for using the JSON test case editor
- Known Issues – updated regularly
- Release Notes – posted with each MADiE release
- MADiE Measure and Library Sharing Request Form v2.0 – to request measures (and the measure's test cases) or libraries to be shared – submitted by the owner via email
- MADiE Measure or Library Ownership Transfer Request Form v1.0 – to request transferring ownership of measures (and the measure's test cases) or libraries - form should be submitted by the owner via email
- MADiE Independent Testing Supplemental Guide_v1.0

MADiE Resources (continued)

MADiE QI-Core Profile Examples

- The MADiE team has created a measure in MADiE with an included test case JSON bundle which contains entries for many QI-Core (v4.1.1) profiles.
- The purpose of this test case JSON bundle is to provide users the framework for commonly used QI-Core v4.1.1 profiles that can be leveraged with their own test case development.
- The measure (**QI-Corev4.1.1 Test Case Template**) is a blank measure (no CQL and no Population Criteria) with one test case (**QI-Corev4.1.1 Example Bundle version 2**).
- The QI-Core profiles examples in the JSON bundle are for guidance and are not intended to fulfill any measure or testing requirement. Updates to reflect the specific details of your test case will be necessary.
- Measure developers may copy any of the profiles from the QI-Corev4.1.1 Example Bundle version 2 test case directly to your test case(s) or use a source code editor (e.g., Notepad++ and Visual Studio Code) and make any updates needed to meet your testing needs.
- The MADiE Test Case JSON Guide, available on the [MADiE tab](#) of the public website, has been updated with detailed information regarding the **QI-Corev4.1.1 Example Bundle version** test case in MADiE and provides additional guidance for using this resource to aid MADiE users in updating or creating test cases in MADiE.

CMS Web Application Firewall Errors

CMS Web Application Firewall (WAF) Issues

- CMS WAF errors are received when an attempted action (i.e. saving or exporting) is rejected by the CMS security policy, blocking further action by the user
- This can happen when working in a measure or test case that previously did not receive a CMS WAF error, or when making a change to the measure or test case

When an action is blocked, please include the following information in your ONC JIRA ticket.

- Measure Name/ID
- Test case Name (if applicable)
- Action that resulted in unexpected error messages or an inability to save changes (include specific verbiage/CQL/JSON that was unable to save)
- Providing the error message assists the team in confirming the cause of the issue
- When error messages include a 'Support ID' include that ID number in your ticket so that can be provided to CMS to unblock the attempted action

Examples of CMS WAF error messages:

- The Measure Authoring Tool was unable to process the request. Please try again. If the problem persists, please contact the Help Desk.
- System error. Unable to process information
- 403 Forbidden The requested URL was rejected by CMS security policy. If you believe this is in error, please contact the HIDS Security Operations Center QNET_soc@cms.hhs.gov and reference your Support ID: 2586968644408754759

Versioning Measures in MADiE

Versioning for QDM measures has been temporarily disabled.

QI-Core Measures: When versioning MADiE measures, please double check you have selected the appropriate version (Major, Minor or Patch). A pop up will appear where a user can select Major, Minor, or Patch version. The pop up will also display the current version number, the future version number after versioning is complete, and a text area for the user to confirm the new version number. Users will need to type in the version number, and it will need to match what the tool will be updating the version number to in order to proceed.

The screenshot shows a 'Create Version' dialog box. At the top, it says 'Create Version' with a red asterisk and 'Indicates required field'. Below this, there are four fields: 'Version Type' (a dropdown menu showing 'PATCH'), 'Current Version #' (a text field with '0.0.000'), 'New Version #' (a text field with '0.0.001'), and 'Confirm New Version #' (a text field with 'Confirm New Version Number'). Red asterisks are placed next to 'Version Type', 'Current Version #', and 'Confirm New Version #'. A close button (X) is in the top right corner.

To better understand what part of the measure version is updated when versioning a measure, see the values below. X is the value that will be incremented. P is the value that remains the same after versioning. 0 is the value that will be cleared out and set to 0 after versioning.

Major X.0.000

Minor P.X.000

Patch P.P.XXX

If you version your measure using the wrong version type (Major, Minor, or Patch), the MADiE Help Desk Team can help; however, you may lose any updates you made after the previous version.

Help Desk Ticket Submission Process

The [MAT Bonnie MADiE TicketSubmissionGuidance](#) document provides guidance to measure developers needing assistance with measures or test cases. This document includes the following:

- Steps to take prior to submitting a Help Desk ticket
 - Review available documentation
 - Consult with SMEs
- **A list of artifacts to include if a ticket is being created with either tracker for assistance with measure CQL or test case JSON**
 - Measure Export, Full measure CQL in a .txt file, test case export (if applicable) full test case JSON in a .txt file
 - **Do not** send screen prints of partial CQL and/or JSON
- The types of tickets to submit to the [CQL Issue Tracker](#)
 - Tickets submitted to the CQL Issue Tracker will be evaluated and the standards team may identify the ticket needs to be moved on to the MADiE Issue Tracker to evaluate MADiE functionality
- The types of tickets to submit to the [MADiE Issue Tracker](#)

Reminder when submitting tickets

MADiE Tickets

- All measure sharing requests, **measure or library ownership transfer requests, measure or library sharing requests**, or other inquiries with a HARP ID must be submitted via email at semanticbits-madie-help@icf.com
- Do not submit these requests until you have confirmed that all users involved in the request have active MADiE accounts
- Indicate the tool version and Measure Model: QDM vs. QI Core
- Attach the measure package and affected CQL and test case export and JSON, if appropriate, as text files and reference them in the ticket by name

Reference the [Bonnie, MAT, MADiE Help Desk Process Diagram](#)

QI-Core CQL Libraries

Global Shared Libraries in MADiE:

Commonly used QI-Core libraries have been entered into MADiE.

FHIR Name in MAT (Prior to Decommissioning)	Version in MAT	QI-Core Name in MADiE	Version in MADiE
MATGlobalCommonFunctionsFHIR4	V 7.0.000	CQMCommon	V 2.2.000
FHIRCommon	V 1.1.000	FHIRCommon	V 4.3.000
FHIRHelpers	V 4.1.000	FHIRHelpers	V 4.4.000
QICoreCommon	V 1.0.000	QICoreCommon	V 2.1.000
CumulativeMedicationDurationFHIR4	V 2.0.000	CumulativeMedicationDuration	V 4.1.000
SupplementalDataElementsFHIR4	V 3.1.000	SupplementalDataElements	V 3.5.000

QDM CQL Libraries

Global Shared Libraries in MADiE:

Commonly used QDM libraries have been entered into MADiE.

QDM Name in MAT (Prior to Decommissioning)	Version in MAT	QDM Name in MADiE	Version in MADiE
MATGlobalCommonFunctionsQDM	V 8.0.000	MATGlobalCommonFunctionsQDM	V 8.0.000
CumulativeMedicationDurationQDM	V 3.0.000	CumulativeMedicationDurationQDM	V 3.0.000

Human Centered Design - HCD

- User Experience Design (UXD)
 - CQL Find/Replace
- User Experience Research (UXR)
 - Recent Research Session - Overview
 - Community Questions

UXD - CQL Find/Replace

The screenshot displays the MADiE (Measure Authoring Development Integrated Environment) interface. The main window is titled "Bone density evaluation for patients with prostate cancer and receiving androgen deprivation therapy". The interface includes a navigation bar with "Measures", "Libraries", "Manifests", and "Help". A user profile for "Jonathan" is visible in the top right corner.

The CQL Editor is active, showing a script with the following content:

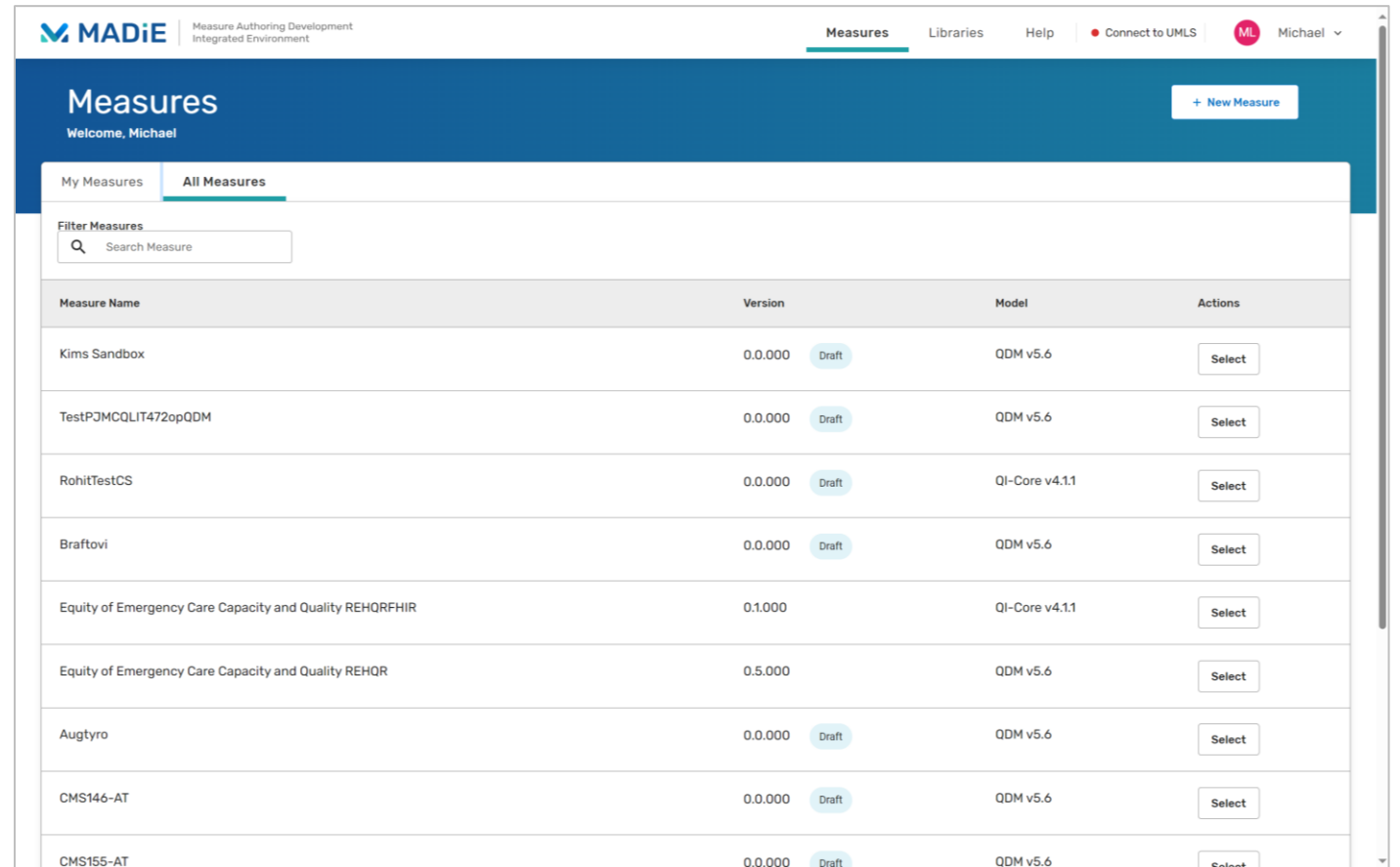
```
1 library BoneDensityProstateCancerAndrogenDeprivationTherapy version 'B.2.000'
2
3 using QDM version '5.6'
4
5 include MAIGlobalCommonFunctionsQDM version 'B.0.000' called Global
6
7 codesystem "SNOMEDCT" urn:oid:2.16.840.1.113883.6.96
8
9 valueset "Androgen deprivation therapy for Urology Care" urn:oid:2.16.840.1.113762.1.4.1151.48
10 valueset "DEXA Dual Energy Xray Absorptiometry, Bone Density for Urology Care"
11 urn:oid:2.16.840.1.113762.1.4.1151.38
12 valueset "Ethnicity" urn:oid:2.16.840.1.114222.4.11.837
13 valueset "Office Visit" urn:oid:2.16.840.1.113883.3.464.1003.10112.1001
14 valueset "ONC Administrative Sex" urn:oid:2.16.840.1.113762.1.4.1
15 valueset "Patient Declined" urn:oid:2.16.840.1.113883.3.526.3.168Z
16 valueset "Payer Type" urn:oid:2.16.840.1.114222.4.11.359F
17 valueset "Prostate Cancer" urn:oid:2.16.840.1.113883.3.526.3.319
18 valueset "Race" urn:oid:2.16.840.1.114222.4.11.835
19
20 code "Injection of leuprolide acetate for twelve month period (regime/therapy)" '4563B1000124102' from
21 "SNOMEDCT" display "Injection of leuprolide acetate for twelve month period (regime/therapy)"
22
23 parameter "Measurement Period" Interval-DateTime
24
25 context Patient
26
27 define "Denominator":
28   "Initial Population"
29
30 define "Denominator Exception":
31   exists ( "No Bone Density Scan Ordered Due to Patient Refusal" )
32   or exists ( "No Bone Density Scan Performed Due to Patient Refusal" )
33
34 define "Numerator":
35   "Has Baseline DEXA Scan Two Years Prior to the Start of or Less than Three Months After the Start of ADT"
```

The right-hand panel shows the "Includes" tab selected, with a search bar for "Library" and "Library Search". The "Library Results" section is currently empty. At the bottom right, there are "Discard Changes" and "Save" buttons.

UXR - Recent Research Session

Overview

- 8 participants
- 6 unique roles
- 1hr session
 - Stepping through existing application to identify areas of improvement



The screenshot displays the MADiE Measures application interface. The header includes the MADiE logo, the text "Measure Authoring Development Integrated Environment", and navigation links for "Measures", "Libraries", "Help", "Connect to UMLS", and a user profile for "Michael". The main content area is titled "Measures" and includes a "Welcome, Michael" message and a "+ New Measure" button. Below this, there are tabs for "My Measures" and "All Measures". A search bar labeled "Filter Measures" with a magnifying glass icon and the text "Search Measure" is present. The main table lists various measures with columns for "Measure Name", "Version", "Model", and "Actions".

Measure Name	Version	Model	Actions
Kims Sandbox	0.0.000 Draft	QDM v5.6	Select
TestPJMCLIT472opQDM	0.0.000 Draft	QDM v5.6	Select
RohitTestCS	0.0.000 Draft	QI-Core v4.1.1	Select
Braftovi	0.0.000 Draft	QDM v5.6	Select
Equity of Emergency Care Capacity and Quality REHQRFHIR	0.1.000	QI-Core v4.1.1	Select
Equity of Emergency Care Capacity and Quality REHQ	0.5.000	QDM v5.6	Select
Augtyro	0.0.000 Draft	QDM v5.6	Select
CMS146-AT	0.0.000 Draft	QDM v5.6	Select
CMS155-AT	0.0.000 Draft	QDM v5.6	Select

UXR - Community Question

- Any insights on what would be a typically large search query set that you would use for the value set search endpoint?
- We assume that you wouldn't try to query VSAC for every single active valueset because that would be cumbersome?
- Can you help us understand what would a heavy load query would look like, exclusively querying for **status=active** with no other search parameters.

The screenshot shows a web application interface with a teal header. Below the header are three tabs: "Value Sets" (active), "Codes", and "Definitions". The main content area is titled "Search" and contains the following elements:

- A "Search By Category" dropdown menu with "Status" selected.
- A "Search Status" input field containing the text "ACTIVE".
- A "Clear" button and a "Search" button.
- A teal circular loading spinner.
- A "Filter" section with a right-pointing arrow.
- A "Results" section with a right-pointing arrow.

Community Questions & Discussion

User Group Discussion



- Topic suggestions and questions for the User Group can also be submitted through the MADiE Issue Tracker located here:
<https://oncprojecttracking.healthit.gov/support/projects/BONNIEMAT/summary>
- Additional questions or comments can be submitted by using the chat feature or unmuting your own line.

Resources

PII / PHI

- PHI and PII are prohibited in MADiE.
- Measure testing should only represent synthetic patient test data.
- Report any questions or concerns to the Help Desk.



Resources for Users

MADiE In Depth Training Videos

- Located on the [MADiE tab](#)
 - [Log In and Measures](#)
 - [QI-Core Test Cases](#)

JIRA Status and Resolution Use Cases

- Located on the [MADiE Issue Tracker](#) Summary page

MADiE Release Schedule

- Located on the public website [Training and Resources](#) tab

Resources for Users (continued)

MADiE 2.0.0

<https://madie.cms.gov>

MADiE Issue Tracker:

<https://oncprojecttracking.healthit.gov/support/projects/BONNIEMAT/summary>

eCQI Resource Center:

<https://ecqi.healthit.gov/>