MADiE User Group

July User Group

Hosted by ICF/SemanticBits

July 17th, 2025

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. Help Desk Ticket Submission Information
3. User Experience/Design Discussions
4. Community Questions & Discussions
5. 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 2.2.7

MADiE: Current State

MADiE – 2.2.7 7/15/2025

- Users can now add or edit test cases on versioned measures they own or have shared access to. (MADIE-1737)
- Users can now collapse the left navigation panel in the Test Cases tab to maximize workspace.
- **QI-Core Measures:** MADiE has been updated to use FQM-Execution Engine 1.8.1. Release notes can be found here. (MADIE-2210, MADIE-2254
- MADiE has been updated to use LiquidBase Templates 0.4.8 based on QMIG profiles. More information can be found here.

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

Help Desk Ticket Submission Process (1 of 3)

The **MADiE Ticket Submission Guidance** document on the **Training and Resources** tab on the public website provides guidance to measure developers needing assistance with measures or test cases. **This document should be reviewed prior to creating a ticket to verify if the ticket should be submitted to the MADiEIT or to the CQLIT.**

This document includes the following:

- Steps to take prior to submitting a Help Desk ticket
- When to submit a ticket to MADIE Issue Tracker (MADIEIT) and when to submit a ticket to CQL Issue Tracker (CQLIT)
- A list of artifacts to include if a ticket is being created with either CQLIT or MADIEIT for assistance with measure CQL or test case JSON

Reference the MADiE Help Desk Process Diagram

Help Desk Ticket Submission Process (2 of 3)

Steps to take prior to submitting a ticket:

1. **Search for an Issue:** Have a question or experiencing an issue? Search by keyword or project, see if others have submitted the same question or reported the same issue, and review the responses.
2. **If a ticket needs to be submitted, identify the appropriate Issue Tracker – CQLIT or MADiEIT**
   - Submitting tickets to the incorrect IT will increase the response time as two teams will need to review the ticket. This will delay possible resolution for the submitter.
3. **Identify the Ticket Type to be used**
   - Choices are – Bug/Issue, Delete Library, Enhancement Request, MADiE Access Question, Question, User Group Question/Topic, or User Research Feedback
   - The responses that are auto-generated when a ticket is created is determined by the ticket type and include additional information that may be needed for the ticket to be processed.
   - For example, the auto-response, required information, and format for that information for an Enhancement Request ticket is driven by the “Are you part of a CMS Contract” field. CMS Contractors must attach a completed Enhancement Request Form while other submitters are directed to answer several questions in the description or as a comment.

Help Desk Ticket Submission Process (3 of 3)

Steps to take prior to submitting a ticket (continued):

4. **Include all required information based on the type of ticket you are creating**
   - Populate all applicable available fields when creating the ticket. These fields can be updated after the ticket is created by selecting “Edit” is additional information needs to be added.
   - The required fields are specific to the Issue Tracker the ticket is submitted to. For example, the measure name and URL is required for the MADIEIT but is not available for the CQLIT. When tickets are moved only the data in fields available by the IT the ticket is moved to will be retained, and different data may be needed that wasn’t originally entered.
5. **Attach required artifacts and supporting documentation**
   - Tickets created with required information and supporting documentation missing will be sent back to the submitter with a comment listing the missing information and supporting documentation. Populating all applicable fields while creating the ticket will assist the MADiE team when processing this ticket.
   - **IMPORTANT NOTE:** Until all required information and supporting documentation are included, the ticket cannot be processed. Including this information at the time of ticket creation will expedite the time from ticket creation to when the team may begin processing the ticket. **Specifically: Attach the measure package and test case export, include measure, library and/or test case URLs, and include the Enhancement Request Form when applicable for the ticket you are submitting.**

Tickets to be Submitted to the CQLIT

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 following types of tickets should be submitted to the CQL Issue Tracker:

- User is experiencing a CQL error in the MADiE CQL Editor that is not resolved after reviewing resources (see list in the Ticket Submission Guidance document) and consulting with SMEs
- User is unable to resolve JSON test case error message(s) after reviewing resources (see list in the Ticket Submission Guidance document) and consulting with SMEs
- MADiE test case results are not as expected, and the following has been confirmed:
  - JSON does not contain validation errors
  - Valid CQL
  - Appropriate utilization of QI-Core Profiles:
    - hl7.org/fhir/us/qicore/STU4.1.1/profiles.html
    - hl7.org/fhir/us/qicore/STU6/profiles.html

Tickets to be Submitted to the MADiEIT

The following types of tickets should be submitted to the MADiE Issue Tracker:

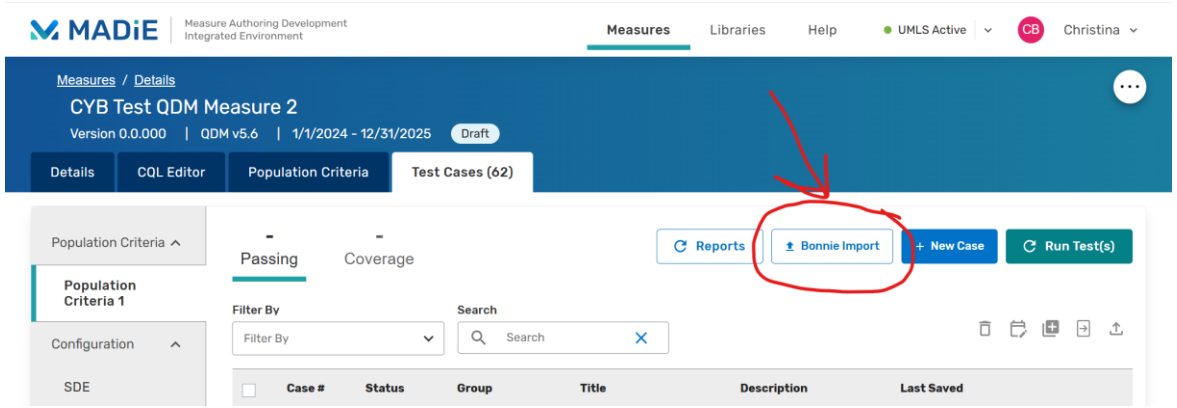
- Enhancement requests
- Issues accessing the applications after verifying network or internet connection
- Tool performance issues in which do not subside after verifying network or internet connection
- Error message received which instructs the user to contact the Help Desk
- Clarification needed for functionality after review of resources
- MADiE CQL error that was not resolved after review of available resources, consulting with SMEs and/or CQL Issue Tracker
- MADiE test case error that was not resolved after review of available resources, consulting with SMEs and/or CQL Issue Tracker
- MADiE measure export inquiries
- Issues with the measure HTML file (referred to as the 'Human Readable'), in the measure package export
- MADiE test case export (QRDA or Excel) inquiries
- Library deletion requests

Help Desk Requests Including HARP IDs

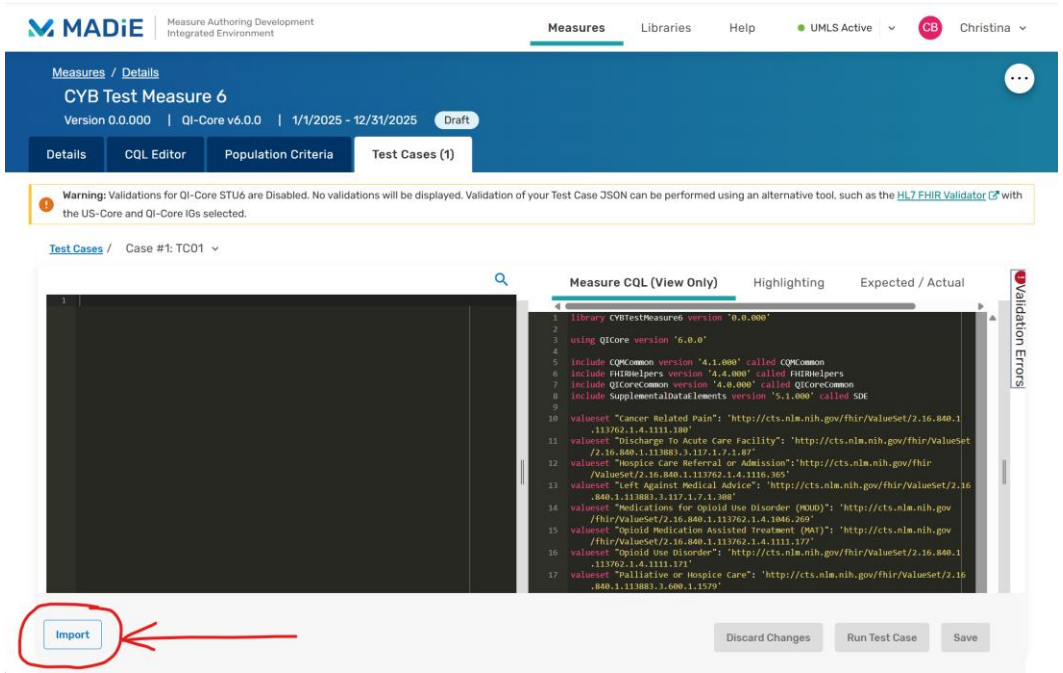
- The following requests must be submitted via email at semanticbits-madie-help@icf.com as they contain HARP IDs
  - Measure or library ownership transfer requests
  - CMS ID deletion requests
  - Revert measure version requests
  - or other inquiries with a HARP ID
- Do not submit these requests until you have confirmed that all users involved in the request have active MADiE accounts
- MADiE allows users two options for adding or removing share access for libraries and measures
  - **Preferred Method:** Users can share or unshare one or more libraries or measures via the MADiE UI
  - If users require assistance, users can submit a request to share or unshare one or more libraries or measures via email at semanticbits-madie-help@icf.com

User Group Discussion - Polls

1. QDM Test Case Import from Bonnie



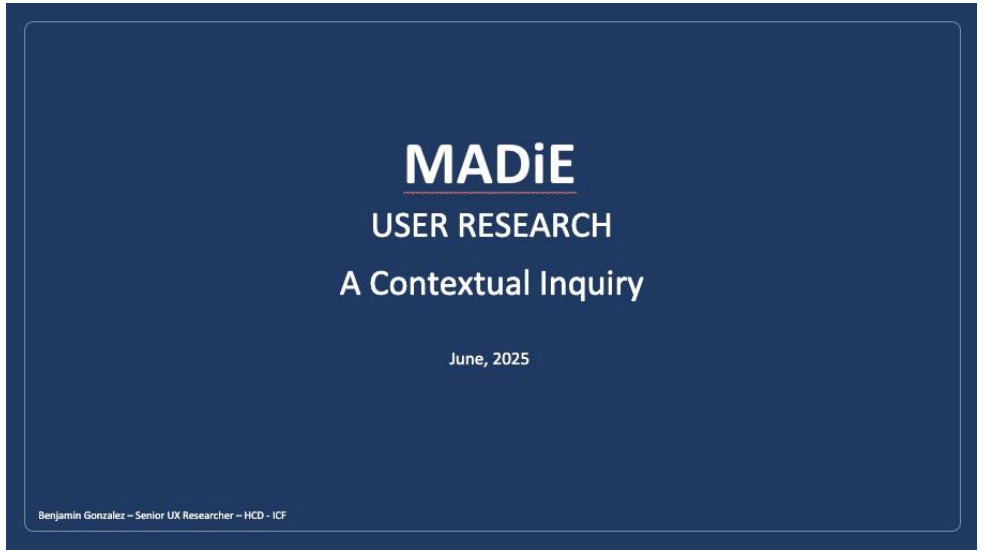
2. QI-Core Import Individual Test Case



UXR – Contextual Inquiry of MADiE

The MADiE team conducted interviews with 9 volunteers to see how they used MADiE

- **Contextual Inquiry –** A research methodology where users are observed and interviewed as they go about their tasks and workflows.
- **9 volunteers (Thank you!) -** Were interviewed and explained their process regarding building, testing and versioning measures with MADiE.
- A presentation was created to discuss the workflows used, pain points and recommendations.



MADiE

USER RESEARCH

A Contextual Inquiry

June, 2025

Benjamin Gonzalez – Senior UX Researcher – HCD - ICF

AGENDA

1. Today's Goal
2. Methodology
3. Participants Overview
4. Research Overview
5. Collaboration in Measure Development
6. Details Tab
7. Population Criteria
8. CQL Editor
9. Test Cases
10. Versioning
11. Pain Points and Recommendations
12. MADiE Kudos
13. Thank You

7.

TODAY'S GOAL

Review user research conducted to understand how MADiE participants interacted with the application gaining insight into their processes and understanding their pain points.

2.

METHODOLOGY – Contextual Inquiry

We conducted interviews using a methodology involving contextual inquiry — a method where users are observed and interviewed in their natural environment to understand how they perform tasks. This presentation is based on insights gathered through that approach.

During the interview participants shared via Zoom, how they interacted with MADiE using their systems (Laptops, Desktops), to demonstrate their interactions. Each interview had a duration of about 60 minutes.

3.

PARTICIPANT OVERVIEW

We interviewed 9 participants recruited through the MADiE user group and in meetings with MADiE participants. Most users were experienced in the creation of CQL's, testing measures and creating versions of their measures. All were experienced in the use of FHIR, QDM and QI Core (4.1.1 and 6.0.0)

4.

Research Overview

Organizing The Presentation

- Only having 60 minutes presented some constraints to how we wanted to cover the participants use of MADiE.
- We decided to focus on some of the central interactions and workflows regarding the use of the application.
- These interactions involved:
  - How did participants collaborate on measure creation?
  - How did participants obtain the data for the Details metadata section?
  - How was the CQL Editor Tab used?
    - Was there any use of an outside applications?
    - Why?
  - How is the Population Criteria Tab used in Measure Creation?
  - How are Test Cases implemented?
  - Review the creation of Versions for participants measures.
  - What collaboration is involved in creating measures?
  - Recommendations

5.

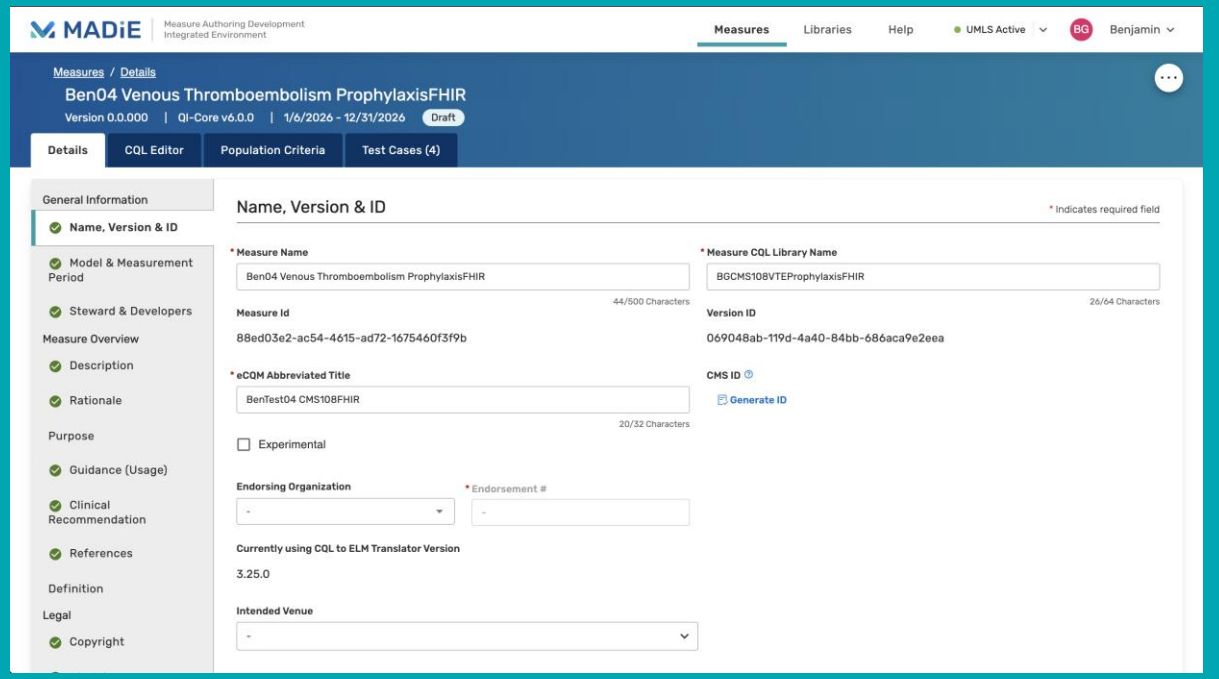
Collaboration in Measure Development

Collaboration in Measure Development

- Measure development is a collaborative effort
  - Developers – specialist in coding for CQL, JSON, FHIR
    - There is some collaboration between developers
    - Collaboration within specific CQL or measure development is difficult due to traceability
      - Changes are made to a code, and the developer would have to spend time tracing the changes and why they occurred.
    - Most collaboration regarding a measures code (CQL, JSON, FHIR), regarded trouble shooting regarding failures in logic or development.
      - These would be well documented since usually it involved exporting or copying the code to an external application for review.
      - Some participants monitor changes via JIRA.
  - Clinicians and other specialist inform the metadata and population of a measure
    - Details Tab
    - Population Criteria Tab
    - This information is usually provided via a word doc or excel sheet.

6.

Details Tab



Details Tab – Participant Comments

"I really think this is like, a very organized approach. On MADiE's side, I do like the measure name, measure, CQL library name, the ECQM related title…"

"We have like our agreed upon language for what we're going to put into each of those boxes… I know that I can copy paste whatever we have in this template into here."

"yeah, somebody else on my team does the Details tab. I do. I usually end up doing the selection of like the populations just because that does have to do with like the definitions that I create."

"We build the value sets… describe the measure populations, what the exclusions are, what the numerator is, what the timing elements are… all just freehand put on a Word document… we kind of use that as a roadmap for when we go into MADiE."

"I just take this Word document and cut and paste it in here. Everything in the document applies to every field in the details page—copyright, references, clinical recommendation, guidance…"

"One super cool thing would be if there was some way to import this from the Word document or PDF."

Details Tab - Purpose

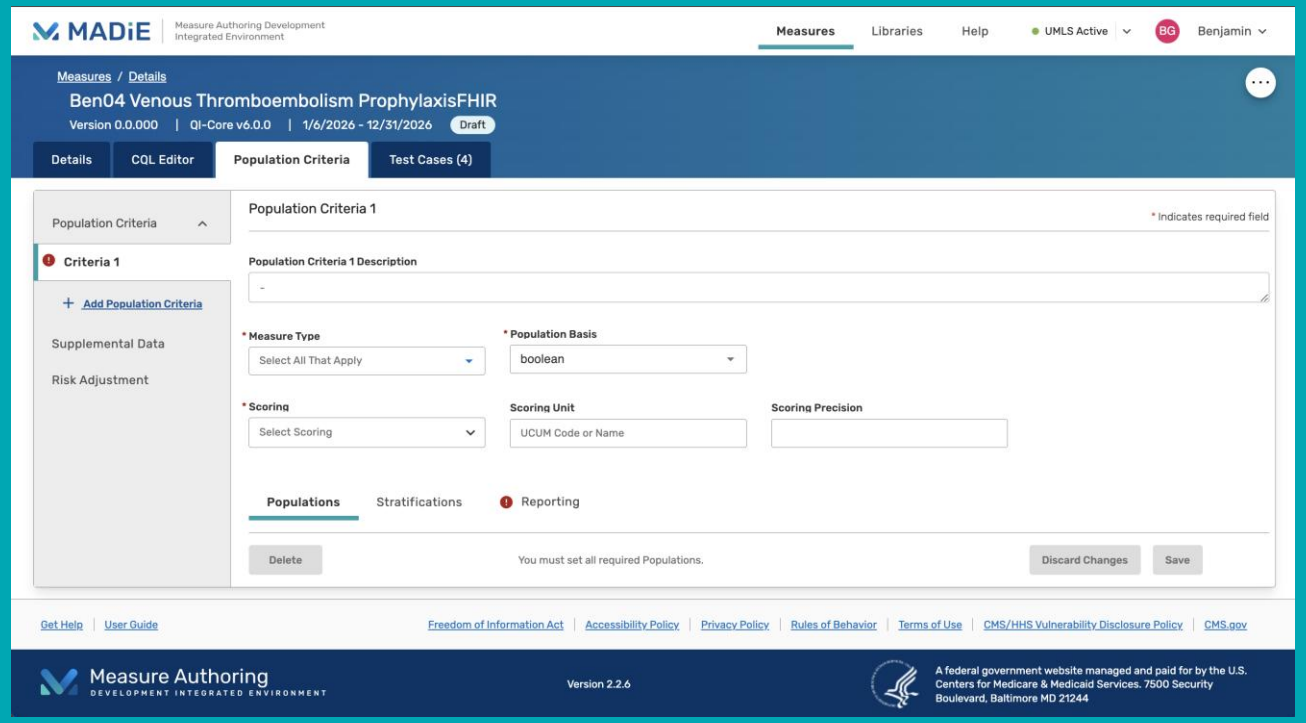
- The Details Tab is a collaborative, multi-role workspace.
- It provides general information about the measure.
  - Ex - Measure name, CQL Library name, eCQM Abreviated Title, CMS ID, Endorsing Organization & Number.
- It provides an overview of what the measure is about.
  - Ex - Description, Rationale, Purpose, Clinical Recommendation, References.
- It also provides legal references such as the copyright and any disclaimers.
- Content ownership can be distributed across team members, each responsible for specific sections.
  - Coordination is essential to ensure completeness and accuracy.
  - Some participants are provided with a document detailing this information for input into MADiE.
- Updating the Details Tab is part of maintaining the annual update (AU), for measures.
  - Prior versions are used as a base.
  - There may be QDM updates or clinical changes.

Details Tab - Use by Participants

- Participants like the way the Details Tab is organized, matching their mental models on how the data is organized.
  - It captures all necessary information like stewards, developers and descriptions
  - Users can re-use standardized language and templates, making it easier to work together and update
- Since the Details must be changed periodically, due to annual updates (AU), or in creating versions, some participants would like an automated import feature.
- Content is provided to developers through Word documents before being entered into MADiE.
  - For some participants this was a tedious process that is often repeated.

7.

Population Criteria



Population Criteria – Participant Comments

"I work with a steward to understand the intent. I'm the one in MADiE… making that intent in the logic, testing the intent, updating the criteria."

"Because we collaborate on MADiE too. So, they can add stuff here too. So, they have access to your measure, and they can change."

"We have like our agreed upon language for what we're going to put into each of those boxes... I know that I can copy paste whatever we have in this template into here."

"Usually, they either email me or it's on a spreadsheet."

"I don't know how they come up with the criteria for initial population, but this is what they came up with, and this is the CQL for that criteria."

"This is our 12th iteration... we just have like in a Word document... our agreed upon language for what we're going to put into each of those boxes."

Population Criteria - Purpose

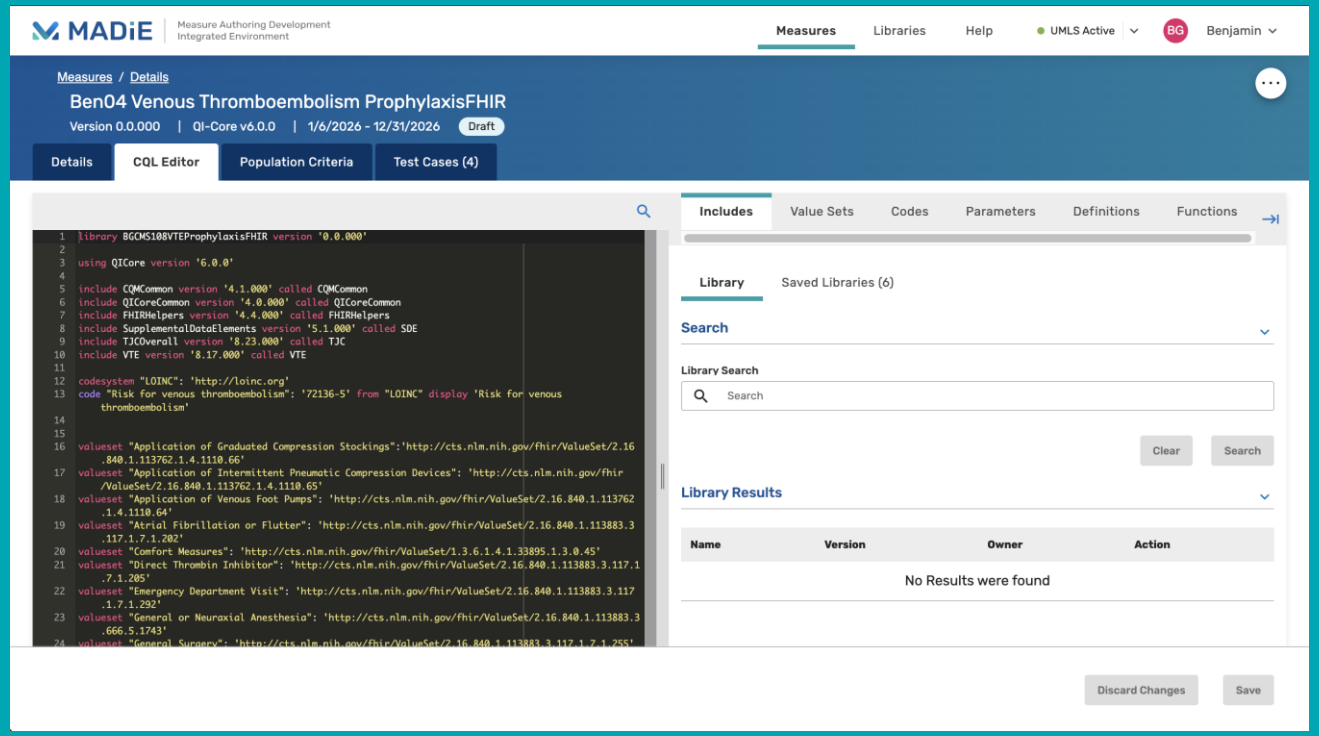
- As the Details Tab, the Population Criteria Tab can be a collaborative, multi-role workspace for defining and managing the population logic within a measure.
- Participants establish the Denominator and Numerator as key components for the population criteria of a clinical quality measure.
    - Denominator – Defines the total group of patients who meet certain conditions making them eligible for the measure.
    - Numerator – Defines the subset of the denominator who meet a desired outcome or action. It’s the group that achieved the goal.
    - Together the numerator and denominator help calculate the performance rate for the quality measures.
- Content ownership can be distributed across team members.
    - Coordination is essential to ensure completeness and accuracy.
- Updating Population Criteria is part of maintaining the measure logic regarding the participants targeted in the measure.
    - New versions can require a change in the population logic
    - Testing new adaptations to the measure.
        - This can involve experimenting with different logic implementations regarding the measure's population and its stratification.

Population Criteria – Use by Participants

- Participants like the way the Population Criteria Tab is organized, matching their mental models on how the data is organized.
  - It captures all necessary information to centralize the population logic configuration for a measure.
    - Content is drafted in Word documents or Excel spreadsheets for distribution to developers.
    - According to multiple criteria's the population is segmented accordingly for measure development.
    - The use of pre-approved templates ensures consistency and the reduction of manual errors.
  - Drop downs, validation indicators (green checks/ red exclamations) help ensure completeness and accuracy.
- Multiple users can access and edit the tab.
  - Changes can be tracked through drafts and versioning.
  - The Population Criteria are directly tied to test case logic for measures, facilitating the testing of measures.

8.

CQL Editor


MADiE
Measure Authoring Development Integrated Environment
Measures
Libraries
Help
UMLS Active
BG
Benjamin
Measures / Details
Ben04 Venous Thromboembolism ProphylaxisFHIR
Version 0.0.000 | QI-Core v6.0.0 | 1/6/2026 - 12/31/2026
Draft
Details
CQL Editor
Population Criteria
Test Cases (4)
Includes
Value Sets
Codes
Parameters
Definitions
Functions
library BGCMS108VTEProphylaxisFHIR version '0.0.000'
using QICore version '6.0.0'
include CQMCommon version '4.1.000' called CQMCommon
include QICoreCommon version '4.0.000' called QICoreCommon
include FHIRHelpers version '4.4.000' called FHIRHelpers
include SupplementalDataElements version '5.1.000' called SDE
include TJCOverall version '8.23.000' called TJC
include VTE version '8.17.000' called VTE
codesystem "LOINC": 'http://loinc.org'
code "Risk for venous thromboembolism": '72136-5' from "LOINC" display 'Risk for venous thromboembolism'
valueset "Application of Graduated Compression Stockings":'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1110.66'
valueset "Application of Intermittent Pneumatic Compression Devices": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1110.65'
valueset "Application of Venous Foot Pumps": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1110.64'
valueset "Atrial Fibrillation or Flutter": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113883.3.117.1.7.1.202'
valueset "Comfort Measures": 'http://cts.nlm.nih.gov/fhir/ValueSet/1.3.6.1.4.1.33895.1.3.0.45'
valueset "Direct Thrombin Inhibitor": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113883.3.117.1.7.1.205'
valueset "Emergency Department Visit": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113883.3.117.1.7.1.292'
valueset "General or Neuraxial Anesthesia": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113883.3.666.5.1743'
Library
Saved Libraries (6)
Search
Library Search
Search
Clear
Search
Library Results
Name
Version
Owner
Action
No Results were found
Discard Changes
Save

CQL Editor – Participant Comments

"I always add all my value sets and my codes using the value sets and codes tabs... I like that it just pulls in directly from UMLS... That's very nice."

"I prefer MADiE because of the instant response on your error... this here kind of, you know, gives me that breakdown on top, which is helpful."

"Now I see that enhancement for the MADiE tool that the search function is in place provides a lot of convenience... very helpful for me for updating the measure."

"Sometimes it's not very... you can't really tell what that error is... I made a change on line 63 and then suddenly X's start at like line 48."

"I've tried to play around with the parameters and definitions and functions, and I cannot use it... I find the definitions and functions tabs to be difficult to use, not intuitive."

"If I just feel like I'm having too many issues or there's a lot going on... it's hard for me to manage with all the errors because of one thing... I take it piece by piece out into VS."

"I develop it in VS Code first... then copy and paste it into MADiE... and then change it on VS Code side with the changes I made in MADiE. So, there's a lot of back and forth."

CQL Editor - Purpose

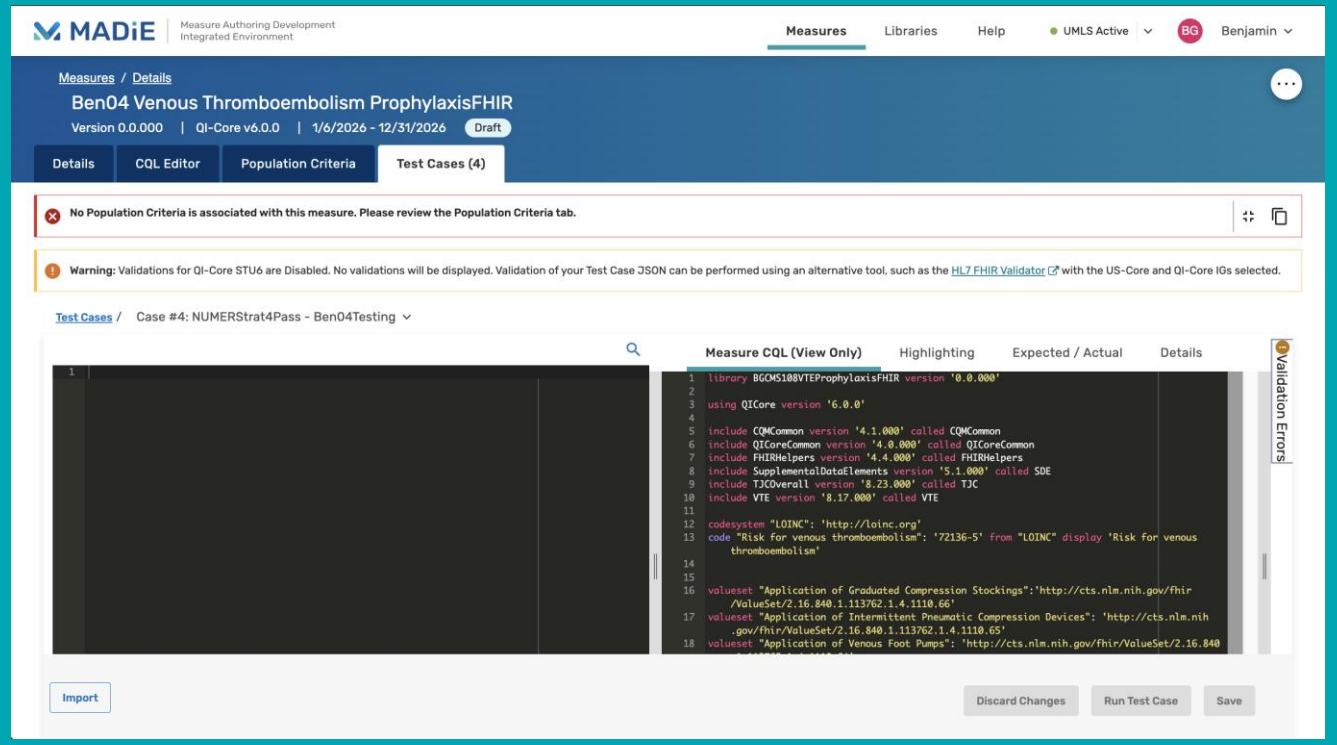
- The CQL Editor is a tool used to write and edit Clinical Quality Language (CQL) logic that defines the criteria for electronic clinical quality measures (eCQMs).
  - This can involve parameters defining the inputs for the measure.
  - Definitions to describe logic for populations, conditions, etc.
  - Functions that are re-usable logic blocks
  - Value sets and Codes
  - CQL Libraries
- Participants can validate syntax and semantics of CQL code with real time feedback.
- Participants import (or more copy paste) code developed externally (VS code)
  - They validate the logic brought in with MADiE

CQL Editor – Use by Participants

- Participants enjoy the feedback provided by the CQL Editor when running their code.
  - Error feedback is instantaneous.
  - Visual indicators (like underlining), help participants of MADiE locate syntax and semantic errors.
  - The visual indicators greatly assist in iterative debugging, displaying errors in the logic developed.
- Participants use Value sets in the UI tool, and the search and replace feature for quick updates.
- Some participants encountered issues with the use of the CQL Editor for Measure creation.
  - There is a preference for using external tools for coding.
    - VS Code.
    - MADiE is then used primarily for validation and publishing.
  - The UI tools are not intuitive and can be confusing for some participants.
    - Some participants find difficulty in understanding the definitions and functions tab.
      - They do not understand its use.
  - Some participants feel the CQL Editor does not have sufficient space to be a functional editing environment.

9.

Test Cases


MADiE
Measure Authoring Development Integrated Environment
Measures
Libraries
Help
UMLS Active
BG
Benjamin
Measures / Details
Ben04 Venous Thromboembolism ProphylaxisFHIR
Version 0.0.000 | QI-Core v6.0.0 | 1/6/2026 - 12/31/2026
Draft
Details
CQL Editor
Population Criteria
Test Cases (4)
No Population Criteria is associated with this measure. Please review the Population Criteria tab.
Warning: Validations for QI-Core STU6 are Disabled. No validations will be displayed. Validation of your Test Case JSON can be performed using an alternative tool, such as the HL7 FHIR Validator with the US-Core and QI-Core IGs selected.
Test Cases / Case #4: NUMERStrat4Pass - Ben04Testing
Measure CQL (View Only)
Highlighting
Expected / Actual
Details
Validation Errors
library BGCMS108VTEProphylaxisFHIR version '0.0.000'
using QICore version '6.0.0'
include CQMCommon version '4.1.000' called CQMCommon
include QICoreCommon version '4.0.000' called QICoreCommon
include FHIRHelpers version '4.4.000' called FHIRHelpers
include SupplementalDataElements version '5.1.000' called SDE
include TJCOverall version '8.23.000' called TJC
include VTE version '8.17.000' called VTE
codesystem "LOINC": 'http://loinc.org'
code "Risk for venous thromboembolism": '72136-5' from "LOINC" display 'Risk for venous thromboembolism'
valueset "Application of Graduated Compression Stockings":'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1110.66'
valueset "Application of Intermittent Pneumatic Compression Devices": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1110.65'
valueset "Application of Venous Foot Pumps": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840
Import
Discard Changes
Run Test Case
Save

Test Cases – Participant Comments

"The highlighting is really helpful for me... what's being highlighted that's not highlighted or shouldn't be highlighted."

"Expected and actual... extremely helpful because that's literally, you know, what am I testing? What is the logic resulting in?"

"But I would say these three tabs are like my main tabs(Test Cases tab - Highlighting, Expected/Actual, Details). The CQL view is a nice to have just because that I don't. If I need to look at the cql like, I don't have to come out of the test case and go to the. Go back to the measure, wait for it to load, and then have it to rerun the test case."

"It takes a lot of time... but I'll say the QDM test cases are way easier than the QI core ones."

"Trying to view in MADiE's a little challenging due to screen real estate."

"It'd be nice if I didn't have to go back and forth between VS Code and MADiE."

Test Cases - Purpose

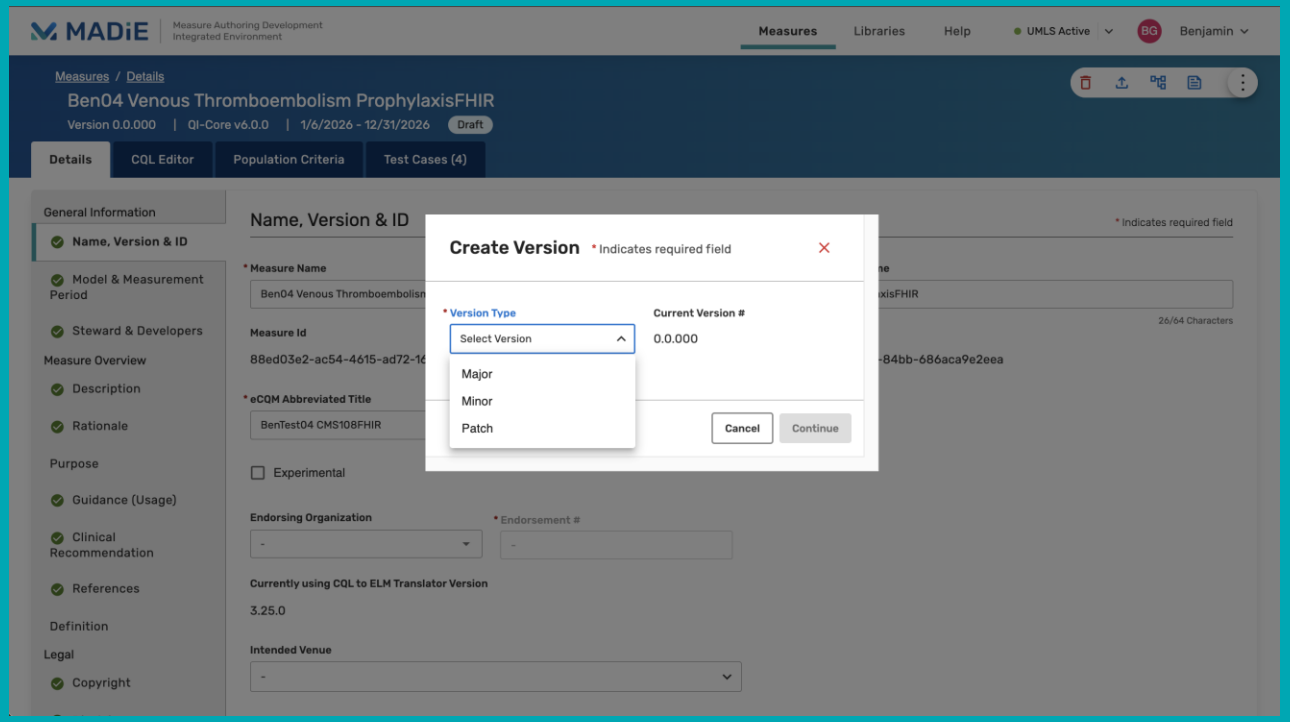
- The Test Cases Tab in MADiE is a critical component for measure development
  - It simulates clinical scenarios by testing how a measures logic will perform with simulated data.
  - Validates and refines logic.
    - By running synthetic patient data against the measures Clinical Quality Language (CQL).
  - Ensures high-quality and accurate eCQMs.
    - Checking if expected outcomes match actual results and identifying errors.
  - Provides visual debugging tools to help users troubleshoot test cases.
    - Logic highlighting and the “Expected/ Actual” tool helps users understand how the logic is triggered.

Test Cases – Use by Participants

- Participants often create test cases from “scratch” or cloned from “seed” cases.
  - Test cases are grouped, titled and described for clarity and organization.
  - Test cases are imported from Bonnie or other tools (VS Code).
  - Participants find some difficulty in creating and managing JSON test cases.
    - “Creating JSON test cases is very arduous because it is all by hand at this point”
- Tools most often used in test cases are:
  - “Expected vs. Actual” to understand discrepancies involving the population criterion.
  - ”Highlight” tool to debug and refine measure logic to see which parts of the logic are triggered.
- Some teams often collaborate by dividing test case creations by population (numerator, denominator).
  - This can cause problems in tracking and maintaining consistency with the test case.
  - Some participants maintain spreadsheets to mitigate these issues.
- Many users prefer using external tools like VS Code due to better visibility and search features.
  - Participants can find it difficult to go back and forth between VS Code and MADiE.

10.

Versioning



Versioning – Participant Comments

"My understanding and use of versioning has evolved over time... I personally am more comfortable with versioning and using the different levels of versioning to kind of save or like document iterations of a measure."

"I've taken the previous year, use the MADiE tool to... make a new measure... and then I start working on applying the changes for that new version."

"Anytime we go through a review cycle or review period, I try to like patch it to the next one... So then I could kind of see like the differences from like 9.0 to 9.1 to 9.2."

"...someone accidentally selected this measure and versioned it without me... they didn't touch the logic... but they versioned without my consent."

"I would like... better traceability for changes... just anything where I know that hey, this measure was saved on this day... who saved it..."

"...every time we would... up version a measure... the ownership and the sharing request would get all messed up..."

Versioning - Purpose

- Versioning in MADiE refers to a process of creating a static snapshot of a measure at a specific point in its lifecycle.
  - Support for annual updates (AU).
  - Tracking over time.
- Types of version creation:
  - Major – For publications or significant changes
    - No further edits unless a new draft is created.
  - Minor – Substantial changes but not ready for publication.
    - Creates a new version that can be shared.
  - Patch- Small fixes, typos, minor logic tweaks.
    - Creates a new version, though the measure is mostly intact.
- If a version is created in error the participant must submit a “Revert Measure Version Request Form”.

Versioning – Use by Participants

- Measures are updated annually
  - Minor versions are used during the AU cycle.
    - These become Major versions at the end of the AU cycle for publication.
- Participants prefer to patch frequently to track changes during development.
  - “It’s a good pinpoint of having measures where we could always fall back on, see the major changes in a measure”.
- Participants have issues when it comes to traceability of changes involving versions of measures.
  - Lack of traceability makes it more difficult to audit or understand who made any changes and when.
    - “…every time we would… up version a measure… the ownership and the sharing request would get all messed up..”
- Some participants delay versioning since they lose the flexibility to continue coding and reverting a measure is a time-consuming process.

11.

Pain Points & Recommendations

Pain Points & Recommendations

- **Issues with collaboration and traceability**
  - Participants have issues tracking changes in collaborative environments.
  - There is a lack of clarity on who made changes and why.
  - **Recommendations:**
    - Provide a way to track changes with user attributions
    - Enable real time collaboration or locking mechanisms to prevent overwrites.

- **Details tab and Population Criteria tab**
  - Copy/ pasting from Word documents or manual entries from spreadsheets is tedious and error prone.
  - Coordinating data can be challenging with multiple users involved.
  - **Recommendations:**
    - Provide a document import feature or template.
    - Collaborative editing tools with the ability to track changes.

Pain Points & Recommendations

- **CQL Editor**
  - There is a preference for external tools (VS Code preferred), due to better usability.
  - Not many participants were aware of the UI tools available for editing measures.
  - **Recommendations:**
    - Improve layout flexibility by allowing full screen mode.
    - Integrate a plugin or sync with the VS Code application.
    - Provide demonstrations and QA sessions on the use of the CQL Editor UI tools.
    - Provide in-app feedback for participants, to call attention to new features and provide feedback.

Pain Points & Recommendations

- **Test Cases Tab**
  - Creating test cases in JSON is arduous.
  - Switching between VS Code and MADiE is inefficient.
  - It is difficult to manage cases working collaboratively.
  - **Recommendations:**
    - Integrate a plugin or sync with the VS Code application.
    - Provide a tool to enable tracking when working on test cases collaboratively.

Pain Points & Recommendations

- **Versioning**
  - Versions can be created without consent.
  - Poor traceability of changes and ownership.
  - Reverting versions is a cumbersome process.
  - **Recommendations:**
    - Add permissions and workflow approvals for versioning measures.
    - Implement logs and timestamps to track participant interactions with versions.

- **General Recommendation**
  - Additional training and onboarding
    - Provide an emphasis on using the CQL Editor and its UI Tools
    - Additional training on Test Cases tab UI tools and versioning.
    - Integrate VS Code with MADiE via a plugin or other syncing mechanism.

12.

MADiE KUDOS

MADiE KUDOS – Participants Comments

“So, then it's like kind of like digging and so But I do make all. I try to make majority. I try to do my changes in here in the CQL Editor because I, I do kind of like the, like instant feedback from the tool.“

“I like to work in here in the CQL Editor because it, you know, I'll get that instant feedback which I do like its like, oh, there's an error. “

“I like MADiE, I think that the test case stuff is fantastic. I really like how that works. I mean that's a huge help to me doing my day to day, the editor stuff.”

“Yeah, it, like, breaks down the CQL into manageable parts. And it's easy to read. And especially test cases. It's easy to run all test cases at once and see them all in one window.”

“The search function… provides a lot of convenience… very helpful for updating the measure.”

“We're really impressed with the whole MADiE team. Just the work that they've done since the inception of MADiE has been unbelievable. I mean, just the rapid, you know, turnaround as far as getting features and enhancements, and it's just. It's been great. And the more that I use MADiE, the more I like it. And, you know, I just want to, you know, just voice my appreciation for that, for the team. I know they work so hard, and they do such a great job, so I want. Hopefully, you can take that away.“

Thank You

User Group Discussion

- Topic suggestions and questions for the User Group can also be submitted through the MADiE Issue Tracker located here:
  https://oncprojectracking.healthit.gov/support/projects/MADIE/summary

- Additional questions or comments can be submitted by using the chat feature or unmuting your own line.

- Our next User Group will be held August 21st at 2 pm ET.

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

MADiE Resources (1 of 4)

The MADiE public website provides a Login button to access MADiE
The Training and Resources tab on the public website provides:

- **User Access Guide** – how to get your MADiE account
- **User Guide** – provides details regarding tool functionality
- **JSON Test Case Guide v2.1** – steps for using the JSON test case editor. This document has been updated to include QI-Core v6.0.0 information.
- **Known Issues** – updated regularly
- **Version Information** – provides information about third party tools used by MADiE and the global shared libraries
- **MADiE Enhancement Request Form for CMS Contractors** – additional details required when submitting an enhancement request
- **MADiE CMS ID Deletion Request Form v1.0** – to request the CMS ID associated with a draft measure with no prior versions be deleted
- **MADiE Add or Remove Measure and Library Sharing Request Form v1.1**
  - Used to request measures (and the measure's test cases) or libraries to be shared, submitted by or on behalf of the owner via email

  OR
  - Used to request measures (and the measure's test cases) or library sharing access be removed – submitted by tor on behalf of the owner or by the user the measure or library is shared with via email
- **MADiE Measure or Library Ownership Transfer Request Form v2.0** – to request transferring ownership of measures (and the measure's test cases) or libraries - form should be submitted by the owner via email
- **MADiE Revert Measure Version Request Form v1.0** – to request a measure version number be reverted to a previous version number if the measure was versioned in error
- **MADiE Independent Testing Supplemental Guide v2.0**
- **Release Notes** – posted with each MADiE release
- **MADiE In Depth Training Videos**
- **External JSON Testing Help Guide** – provides instructions for users to externally test their QI-Core v6.0.0 test case JSON until MADiE can begin performing those validations

MADiE Resources (2 of 4)

MADiE QI-Core Profile Examples – Updated to Include QI-Core v6.0.0

- The MADiE Test Case JSON Guide v2.1, available on the Training and Resources tab on the public website, has been updated to also provide guidance to aid MADiE users in updating or creating QI-Core v6.0.0 test cases in MADiE.
- The MADiE team has created a measure in MADiE (**QI-Corev6.0.0 Test Case Template**) with an included test case JSON bundle (**QI-Corev6Example Bundle**) which contains entries for many QI-Core v6.0.0 profiles.
- To continue to support QI-Core v4.1.1 test case creation, the measure (**QI-Corev4.1.1 Test Case Template)** with one test case (**QI-Corev4.1.1 Example Bundle version 2**) is available in MADiE.
- The purpose of these test case JSON bundles is to provide users the framework for commonly used QI-Core v4.1.1and v6.0.0 profiles that can be leveraged with their own test case development.
- The QI-Core profiles examples in the v4.1.1 and the v6.0.0 JSON bundles 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 either of the test cases to your test case(s) (of the same QI-Core version) or use a source code editor (e.g., Notepad++ and Visual Studio Code) and make any updates needed to meet your testing needs. The test cases may also be exported.

MADiE Resources (3 of 4)

MADiE In Depth Training Videos

- Located on the public website Training and Resources tab
  - Log In and Measures
  - QI-Core Test Cases

MADiE Process Workflows:

- **MADiE Help Desk Process**
- **MADiE Enhancement Request Process**

JIRA Status and Resolution Use Cases

- Located on the MADiE Issue Tracker Summary page

MADiE Resources (4 of 4)

MADiE 2.2.7

https://madie.cms.gov

MADiE Release Schedule

Located on the public website Training and Resources tab

MADiE Issue Tracker:

https://oncprojectracking.healthit.gov/support/projects/MADIE/summary

eCQI Resource Center:

https://ecqi.healthit.gov/