



# Bonnie, MAT and MADiE User Group



## *January User Group*

*Hosted by:*

*ICF*

*January 19, 2023*

# Disclaimer

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

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

# Agenda and Objectives

## Agenda

1. MAT Updates
2. Bonnie Updates
3. MADiE Updates
4. Community Questions & Discussion
5. Review of Resources

## Objectives

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

# Measure Authoring Tool

---

**MAT 6.10 QDM & FHIR**

# Measure Authoring Tool: Current State

## MAT 6.10

- MAT 6.10
- Maintenance release on 11/16/22 included:
  - Ability for measure owners to transfer FHIR measures from MAT to MADiE.
  - While a measure does not need to be versioned to transfer, clicking the transfer button will initiate the measure to be packaged and then transferred.
  - Once a measure is transferred, it cannot be transferred again.
  - The CMS ID can only be created in the MAT. If a CMS ID is needed, it will need to be assigned in the MAT before being transferred to MADiE.
  - Once measures are moved from MAT to MADiE, there is no longer an association between the applications. Changes in MAT will not be reflected in MADiE and vice versa.
- Release Notes are available on the MAT web site under Training and Resources - contains additional information about what information will be transferred based upon measure type.
- QDM measures continue to use version 1.5.3 of the CQL-ELM translator.
- FHIR measures continue to use version 1.5.4 of the CQL-ELM translator.

# Measure Authoring Tool

## Maintenance:

- Maintenance is usually zero down time.
- Any known downtime for maintenance will be communicated to all users via email.

## Known Issues:

1. For FHIR measures, when the same CQL definition is used in Supplemental Data Elements (SDE) and as a Risk Adjustment Variable (RAV), the measure is not able to be packaged. Users will receive an error for 'duplicate id value'. The workaround is to create different definition(s) when they are needed in both SDE and RAV. ([BonnieMAT-1212](#))
2. For FHIR measures, if the CQL Editor is used to enter value sets, the value sets are validated each time the CQL is saved. If the value set name and OID are not a match to the VSAC a CQL error will display and users may update the value set directly in the editor. When using the CQL Editor the 'Update from VSAC' button should not be used as this will display an 'Unable to Process' error message. This message does not prevent users from completing or saving work. They should continue to save their CQL to validate value sets in VSAC. ([BonnieMAT-1235](#)).

# Bonnie

---

**Bonnie 4.3.1 QDM (Prior)**

**Bonnie 5.1.2 QDM**

**Bonnie 6.2.5 FHIR**

# Bonnie Prior: Current State

## Bonnie 4.3.1 Prior

- Supports QDM 5.5
- Requested patient conversion defaults implemented
- Users use HARP IDs for authentication
- Group Account functionality is available
- Users will receive a warning after 10 minute of inactivity and logged out after 15 minutes
- Bonnie 4.3.1 Prior maintenance release on 7/19/22
  - Privacy Policy button linking to the [CMS Privacy Policy](#) added on the landing page



# Bonnie QDM: Current State

## Bonnie 5.1.2 QDM

- Bonnie 5.1.2 QDM maintenance release on 7/19/22
  - Privacy Policy button linking to the [CMS Privacy Policy](#) added on the landing page
- Supports QDM 5.6
- Supports QDM/CQL and CQL 1.5
- Patient conversion functionality will remain disabled

# Bonnie FHIR: Current State

## Bonnie 6.2.5 FHIR

- Bonnie 6.2.5 FHIR released on 12/13/22
  - JSON export files for test cases exported following the release include the following updates:
    - The MeasureReport resource has been removed from JSON export files
    - The QI-Core Patient Profile URL has been added to all patients
    - The Medical Record Identifier has been added to all patients
  - Please note - test cases will still need to be updated to reflect QI-Core

## Bonnie FHIR File Size

- A configuration change was made to increase the file size for measure uploads into Bonnie FHIR. Please contact the help desk if you receive an error when uploading a measure.

## Bonnie FHIR Attributes

- Attributes supported by Bonnie FHIR are linked on the Bonnie and MAT issue tracker on the summary page
- Updates have been made to reflect the current state of attribute support, naming conventions and to add clarifying footnotes
- <https://oncprojecttracking.healthit.gov/support/projects/BONNIEMAT/summary>

# Bonnie

## Known Issues:

1. The QRDA export is not correctly reflecting relevant date time. There is no workaround. We don't have plans to address this in Bonnie at this time.
2. For Bonnie FHIR, measures that include stratification are not displaying properly for users to test. There is no workaround at this time. We don't have plans to address this in Bonnie at this time.
3. For Bonnie QDM, if the result of any CQL aggregate functions, such as Count, Min, Max, Average, etc, is 0, then Bonnie currently displays 'No Result Calculated'. The Execution Engine is producing the correct results. This is a display issue only. We don't have a planned release to address this in Bonnie at this time. ([BONNIEMAT-1096](#))
4. For Bonnie QDM, when measure observations are used in ratio measures, the measure observation logic is being executed against test cases, even if that test case did not first meet the numerator or denominator criteria. When measure logic cannot be modified, there is no workaround. This will affect the pass rate of the measure. There are not plans to address this in a future release. ([BONNIEMAT-1106](#))
5. For Bonnie QDM, the CQM Model used in Bonnie does not currently support the 'is' operator when it is referencing any 'entity', which can include practitioner, patient, organization care partner or location. Logic may be able to be altered as a workaround. ([BONNIEMAT-1158](#))
6. For Bonnie Prior, test cases that include certain QDM attributes are preventing test case conversion from QDM to FHIR. The QDM attributes are PatientEntity, CarePartner, Practitioner and Organization. A workaround of removing these QDM attributes will allow the conversion to process. ([BONNIEMAT-1177](#))
7. Bonnie currently uses version 4.0.2 of the Execution Engine. In this version, there are issues with appropriate handling of timezone offsets. This has been corrected in current versions of the Execution Engine and we are working with CMS and stakeholders to understand the priority of updating Bonnie QDM. ([BONNIEMAT-1252](#)) and ([BONNIEMAT-1259](#))

# 60 Day Account Deactivation

## **Keeping your MADiE, MAT and Bonnie Accounts Active:**

- In accordance with CMS and HHS security requirements, these tools have implemented an account deactivation policy for all users who have not logged in within the previous 60 days or more.
  - Activity in at least one of the three Bonnie environments (every 60 days) is needed to keep accounts active.
- Users will receive warning messages after 30 days of inactivity.
- After 60 days of inactivity, accounts will be deactivated.
- To access deactivated MAT accounts again, users will need to request reactivation of their account by contacting the Help Desk.
- To access deactivated Bonnie accounts again, users will need to request reactivation of their account by contacting the Help Desk.
- To access a deactivated MADiE account again, users will need to request the MADiE role in HARP.

# Bonnie and MAT: Future State

## **Bonnie and MAT Support:**

- Bonnie and MAT will continue to be available following the release of MADiE.
- While it is the intention to sunset these tools in the future, no date has been set at this time.

## **All future MAT and Bonnie enhancements or updates will be evaluated for:**

- Priority – Is it needed to support CMS contracted measure development work? Does it correct an issue?
- Level of Effort – Does this impact the delivery of future releases of MADiE?
- Benefit – Can users complete their work with or without the enhancement?
- Future MAT or Bonnie releases will be communicated to users during User Group, community and stakeholder meetings and via email communication.

\*Keep your Bonnie, MAT and MADiE accounts active to continue to receive these important email communications!

# MADiE

---

**MVP 1.0.3**

# MADiE Release Timelines



## **MADiE 1.0.3 - January 2023 Release - 1/11/23**

- Code coverage highlighting for multiple measure groups
- Support for Ratio measures with two Initial Populations
- Measure Observation parameter validation
- Support for Experimental value in Measures
- FQM Execution Engine updates (v 1.0.2)
- CQL Execution Engine updates (v 3.0.0 - beta.2)
- Translator updates (v2.4.0)

## **MADiE 1.0.4 - January 2023 Release - 1/25/23**

## **MADiE 1.0.5 - February 2023 Release – 2/8/23**

## **MADiE 1.1.0 - February 2023 Release – 2/22/23**

- Upload of individual Bonnie FHIR test cases
- Default values for subset of required elements

### **Updated MADiE Release Schedule:**

- MADiE releases will occur approximately every two weeks.
- Goal: Provide users with frequent delivery of high-quality features and correction of defects.
- Users will be notified via email and Release Notes will be made available on the [MADiE MVP tab](#) of the MAT public web site.

# MADiE Release Timelines (continued)

## **MADiE - March 2023 Releases**

- Export support
  - JSON
  - XML
  - Human Readable
  - Zip file
- Measure Versioning
- Supplemental Data Element (SDE) Support
- Risk Adjustment Variable (RAV) Support
- Bug fixes

## **MADiE - July 2023 Release**

- Support for STU5
- QDM Measure, library and test case support
- Test Case Export



# MADiE MVP Known Issues

## Known Issues as of 1/17/23:

- Known Issues List will be posted and maintained on the [MADiE MVP tab](#) of the MAT public web site and the Summary page of the Bonnie MAT MADiE ONC Jira Issue Tracker here: <https://oncprojecttracking.healthit.gov/support/projects/BONNIEMAT/summary>
- 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.
- Users may receive VSAC timeout errors, even when active in UMLS.
  - Work around: As this issue is intermittent, if a user receives an error indicating a 401 or VSAC timeout error when saving, users should follow these steps if this occurs. Copy the updates you were saving, navigate away from the tab, navigate back to the tab to paste the updates, and save again.

# MADiE MVP Known Issues (continued)

## Execution Known Issues

Note, for these issues the MADiE Team is working hand in hand with the FQM-Execution Team to address these updates. We are targeting updates in a January Release.

- Ratio Measures with single Initial Population and Measure Observations will not calculate properly.
- Test cases that do not specify race or ethnicity may receive an error when executed as the current version of the FQM-Execution Engine cannot union null with another value.

Additional information regarding this issue can be found [here](#).

- Work around: Include data for both race and ethnicity in test cases.

# MADiE Resources

## MADiE MVP

- The [MADiE MVP tab](#) on the MAT public web site provides:
  - Login button to MADiE
  - User Access Guide – how to get your MADiE account
  - User Guide – provides details regarding tool functionality
  - 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 Sharing Request Form v1.1 – to request measures and test cases be shared – submitted by the owner

# CQL Libraries

## Global Shared Libraries in MADiE:

Commonly used libraries were entered into MADiE following the MVP release.

FHIR Name in MAT	Version in MAT	QI-Core Name in MADiE	Version in MADiE
MATGlobalCommonFunctionsFHIR4	V 7.0.000	CQMCommon	V 1.0.000
FHIRCommon	V 1.1.000	FHIRCommon	V 4.1.000
FHIRHelpers	V 4.1.000	FHIRHelpers	V 4.1.000
QICoreCommon	V 1.0.000	QICoreCommon	V 1.2.000
CumulativeMedicationDurationFHIR4	V 1.4.000	CumulativeMedicationDuration	V 3.0.000
SupplementalDataElementsFHIR4	V 3.0.000	SupplementalDataElements	V 3.0.000

# CQL Libraries (continued)

## **CQL Libraries owned by MAT users:**

- Standalone CQL libraries will not transfer like measures.
- Library owners will need to create the shell library in MADiE and then copy and paste the contents of the library from MAT into the library in MADiE.
- To ensure your library version number matches what was in MAT and used by your measure, users will need to major/minor version their library until the desired version number is reached.
- Reminder, versioned libraries cannot be deleted so version carefully.

# Organization Contact Information

- In order to provide a compliant FHIR measure bundle, MADiE is required to include contact information for the entity that publishes/stewards each quality measure.
- To support this requirement, the MADiE team will begin collecting URLs (e.g., <http://www.myOrganizationURL.com>) for steward organizations.
- If information is needed from you or for your organization, you will be contacted by the MADiE Support Team.
- If a URL isn't received in the requested timeframe the MADiE team will identify the organization's public site and use that URL.
- Refer to the information for the contact element in the [CQFM Publishable Measure](#) profile in the [FHIR Quality Measure Implementation Guide \(QMIG\) STU 3](#) specification.

# Web Application Firewall Errors

## Web Application Firewall (WAF) Errors in MAT, Bonnie and MADiE

- 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 WAF error, or when making a change to the measure or test case

**When an error message is received, please copy the text of the message or take a screenshot and include that in your ONC JIRA ticket.**

- Providing the error message assists the team in confirming the cause of the issue
- When error messages include a 'Support ID' that will be provided to CMS to unblock the attempted action

### **Examples of 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 [soc@hcgis.org](mailto:soc@hcgis.org) and reference your Support ID: 2586968644408754759

**Note:** Submit an [ONC JIRA ticket](#), do not email the security operations center as indicated in the final error message example

# Community Questions & Discussion

---



# User Group Discussion

- Topic suggestions and questions for the User Group can also be submitted through the Bonnie MAT 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.

# PHI/ PII

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



# Reminder when submitting tickets...

## MAT Tickets

- Indicate the tool type and Measure Model: QDM vs. FHIR
- Attach the measure package if appropriate
- Provide Screenshots of error messages

## Bonnie Tickets

- Be sure to indicate tool type: Prior, QDM, FHIR
- Attach the affected test cases and reference them in the ticket by name if possible
- Attach the measure package used with the test cases
- Provide which account was used to test the measure(s)

## MADiE Tickets

- ONC Jira is now updated to reflect MADiE
- All measure sharing requests or inquiries with a HARP ID must be submitted via email at [semanticbits-madie-help@icf.com](mailto:semanticbits-madie-help@icf.com)

# Resources

---

# Resources for Users

## **Bonnie and MAT Troubleshooting Guides**

- Located on the ONC Jira Bonnie MAT Issue Tracker – Summary page
  - [Bonnie Troubleshooting Guide](#)
  - [MAT Troubleshooting Guide](#)

## **Tool Release Table**

- Located on the MAT public website under Training and Resources/MAT Helpful Links
  - [Bonnie, MAT and MADiE Release Schedule](#)

## **Negation Rationale in Bonnie FHIR**

- Located on the MAT public website under Training and Resources/Bonnie Helpful Links
  - [Bonnie FHIR: How to use Negation Rationale](#)

# Resources

MAT Public Website:

<https://www.emeasuretool.cms.gov/>

MAT 6.10:

<https://www.emeasuretool.cms.gov/MeasureAuthoringTool/Login.html>

Bonnie 4.3.1 QDM (Prior) (QDM version 5.5):

<https://bonnie-prior.healthit.gov/>

Bonnie 5.1.2 QDM (QDM version 5.6):

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

Bonnie 6.2.5 FHIR:

<https://bonnie-fhir.healthit.gov/>

MADiE MVP – 1.0.3

<https://madie.cms.gov>

Bonnie MAT MADiE Issue Tracker:

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

eCQI Resource Center:

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