

Cypress™

Cypress Tech Talk

March 24, 2020



MITRE

The Office of the National Coordinator for
Health Information Technology



Agenda

- Software Updates
 - Cypress 5.3.0 Patch Release
 - Cypress v6 Releases
 - Known Issues Dashboard
- Cypress Versions
- Open Discussion
- Contact Information

Software Updates

Cypress 5.3.0 Release

- **A 5.3.0 patch release for Cypress available March 12, 2020**
- **Cypress Features**
 - Unit of measure checks for EH eCQMs
 - Increased contrast for Expected Results
 - C1 Record Sample tests will remain Incomplete until first QRDA upload
 - CVU+ will evaluate QRDA Cat I files with unknown demographic information
 - All users can download reports in Demo mode
 - Installation script for simplified upgrade
- **Cypress Bugs Addressed**
 - QRDA Cat I R5.1 schematron updated (CYPRESS-1959)
 - CQL Calculation Engine updated to fix CVU+ calculations of Open Boundaries (CYPRESS-1924)
 - Submission errors were not being displayed for C1/C3 tests (CYPRESS-1968)

Software Updates

Unit of measure checks for EH eCQMs

- EH Submission systems perform eCQM calculations using the unit of measures stated in the eCQM specification
- EH Submission system do not perform unit conversion prior to eCQM calculation
- However, Cypress does perform unit conversion prior to eCQM calculation
- Cypress 5.3.0 will return warnings when a reported unit of measure does not match what is stated in the eCQM specification

[QRDA \(0\)](#)[Reporting \(0\)](#)[Submission \(0\)](#)[CMS Warnings \(1\)](#)[Other Warnings \(0\)](#)

Warning message
















[Go To in XML](#)

Unit 'mg/dLs' for QDM::LaboratoryTestPerformed (LDL-c) does not match expected units (mg/dL).
Units must match measure-defined units.





















Software Updates

Increased contrast for Expected Results

■ Before

Patient Name	Template Name	DOB	Gender	IPOP	DENOM	NUMER	DENEX	DENEXCEP
Constance Johnston	Z32 Heart Adult	February 13, 1950	Female					
Rick Gregory	Z12 GP Adult	February 3, 1972	Male					
Laurie Fleming	Z17 GP Adult	March 20, 1969	Female					

■ After

Patient Name	Template Name	DOB	Gender	IPOP	DENOM	NUMER	DENEX	DENEXCEP
Lewis Boyd	Z12 GP Adult	February 3, 1972	Male					
Erik Bates	Z13 N GP Adult	February 13, 1972	Male					
Toni Stevenson	B (Independent Risk Factors 4) Cancer Female	September 1, 1965	Female					
Carl Warren	A N BH Adult	January 1, 1978	Male					

Software Updates

C1 Record Sample tests will remain Incomplete until first QRDA upload

■ Before

3 ⚡ View Results			
Upload Results	C1 Upload Results	C3 Upload Results	Status
<input type="radio"/> Not Started	<input type="radio"/> Not Started	<input type="radio"/> Not Started	<input type="radio"/> Not Started
Data Criteria Verification			Status
CMS2v9 Preventive Care and Screening: Screening for Depression and Follow-Up Plan			Failing
CMS22v8 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented			Not Started
CMS69v8 Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan			Not Started

■ After

3 ⚡ View Results			
Upload Results	C1 Upload Results	C3 Upload Results	Status
<input type="radio"/> Not Started	<input type="radio"/> Not Started	<input type="radio"/> Not Started	<input type="radio"/> Not Started
Data Criteria Verification			Status
CMS2v9 Preventive Care and Screening: Screening for Depression and Follow-Up Plan			Incomplete
CMS22v8 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented			Not Started
CMS69v8 Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan			Not Started


Software Updates

CVU+ will evaluate QRDA Cat I files with unknown demographic information

- Previous Cypress/CVU versions would return an “internal error” for QRDA files with unknown demographic information

Results

Most Recent - March 9, 2020 1:26pm (internal error) [Refresh View](#)

 CM Execution: An internal error occurred

Errors and Warnings

```
<patient>
  <name>
    <given>Adam</given>
    <family>Austin</family>
  </name>
  <administrativeGenderCode code="M" codeSystem="2.16.840.1.113883.5.1" codeSystemName="AdministrativeGender"/>
  <birthTime value="19730826153000"/>
  <raceCode nullFlavor="UNK"/>
  <ethnicGroupCode code="2135-2" codeSystem="2.16.840.1.113883.6.238" codeSystemName="CDCREC"/>
  <languageCommunication>
    <languageCode code="eng"/>
  </languageCommunication>
</patient>
```


Software Updates

All users can download reports in Demo mode

- Previously, only users with Admin or ATL privileges could download a report on a Cypress instance in Demo mode
- Now, any user (with access to the specified Vendor page) can download a report on a Cypress instance in Demo mode
- Downloading a report will still be restricted to ATL and Admin users for Cypress instances used for certification (ATL mode)

Application Mode

☐ Internal
☒ **Demo**
☐ ATL
☐ Custom



Dashboard
Vendor: test
Product: new test

new test

[Edit Product](#)
[Download Report](#)

C1		C2	C3		C4		
Sample	QRDA-I	QRDA-III	Sample	QRDA-I	QRDA-III	QRDA-I	QRDA-III
<div style="display: flex; justify-content: space-between;"> ✓ 0 Passing Tests ✗ 0 Failing Tests ○ 15 Not started Tests </div>							
3	3		3	3	3		

Download Full Test Deck

This download contains a folder for each measure selected for this product. Inside these folders are XML documents for each patient associated with that measure.

[Download All Patients \(.zip\)](#)

Software Updates

Installation script for simplified upgrade

■ Before

Connect to your machine running cypress and run the following commands:

```
sudo apt-get update
sudo apt-get install cypress
sudo apt-get install cqm-execution-service
sudo systemctl restart cypress
sudo systemctl restart cqm-execution-service
```

■ After

Connect to your machine running cypress and run the following command:

```
curl https://raw.githubusercontent.com/projectcypress/cypress/master/contrib/upgrade_
```

<https://github.com/projectcypress/cypress/wiki/Cypress-5.x-Upgrade-Instructions> show full command:

```
curl https://raw.githubusercontent.com/projectcypress/cypress/master/contrib/upgrade_cypress_50.sh | sudo bash
```

Software Updates

QRDA Cat I R5.1 schematron updated (CYPRESS-1959)

- Cypress 5.2 was running an outdated schematron for QRDA Cat I R5.1.
- As a result, Cypress would return an error for the following conformance statement.

This code SHALL contain at least one [1..*] translation, which SHOULD be selected from ValueSet
Problem Type urn:oid:2.16.840.1.113883.3.88.12.3221.7.2 2014-09-02 (CONF:1198-32848).

jump to error

- This conformance statement has now been removed and will not be returned as an error message.

Software Updates

CQL Calculation Engine updated to fix CVU+ calculations of Open Boundaries (CYPRESS-1924)

- A calculation bug in CVU+ impacts the calculation of logic like the following

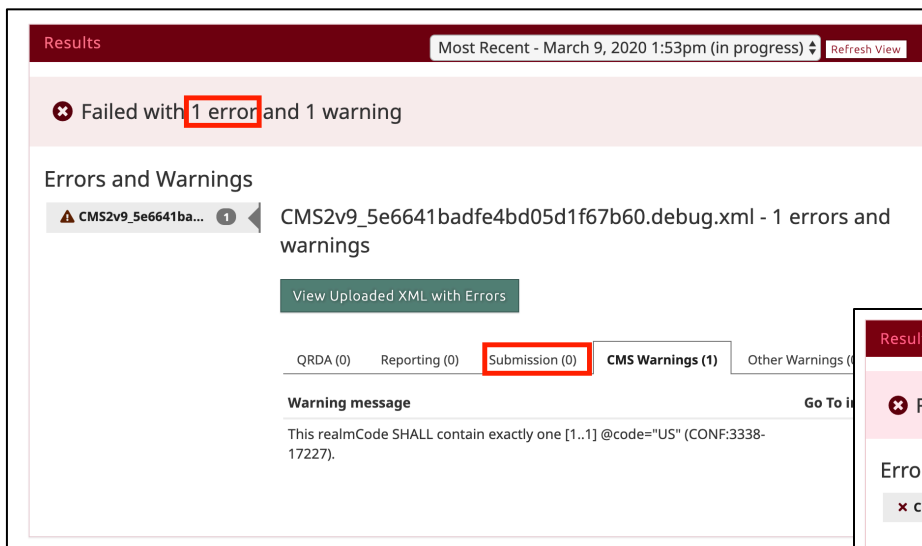
```
MI.prevalencePeriod ends 3 years or less before day of start of  
Encounter.relevantPeriod
```

- The CVU+ calculations were not accounting for the “day of” precision and allowed the “MI” to occur on the same day as the “Encounter”
- This impacts CVU+ calculations for the following eCQMs
 - CMS56v8, CMS90v9, CMS125v8, CMS133v8, CMS136v9, CMS137v8, CMS145v8, CMS154v8, CMS161v8

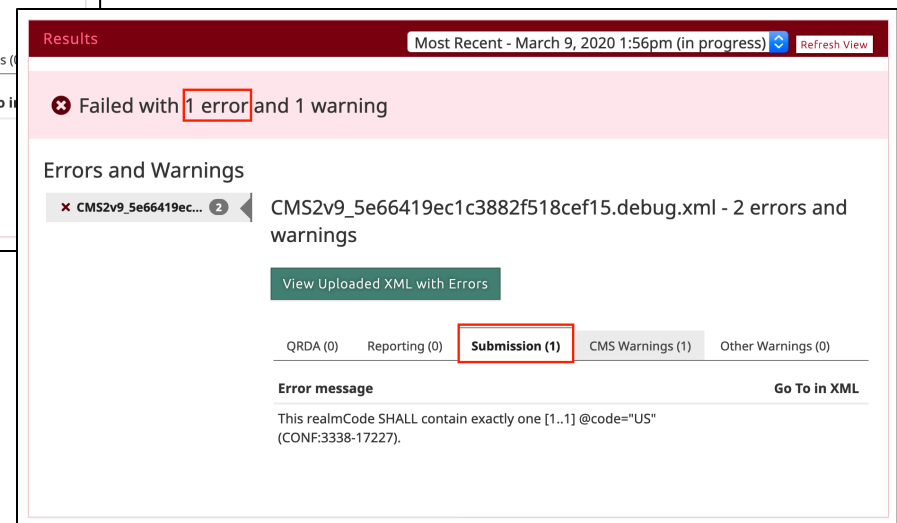
Software Updates

Submission errors were not being displayed for C1/C3 tests (CYPRESS-1968)

- When C2 was not selected, Cypress would not show Submission errors in the error table.



Before



After

Software Updates

Upcoming Cypress v6 Releases

- **Cypress 6 Alpha release anticipated mid-May**
 - Initial support for QRDA category 1 R5.2
 - Initial support for 2021 reporting/performance period eCQMs
- **Final Cypress 6.0.0 release anticipated late July**
 - Full support for R5.2 and 2021 measures

Recent Issue

Cypress Known Issues Dashboard

- <https://oncprojecttracking.healthit.gov/support/secure/Dashboard.jspa?selectPageId=18000>
- The Dashboard collects all labeled known issues in one place, sorted by Cypress version
- Easily navigate to the dashboard from the Cypress summary page

Cypress Known Issues			
<p>Cypress Known Issues</p> <p>Below are tables that list known issues for the most recent Cypress Versions</p> <p>Release Notes for Cypress Versions can be found here</p>			
Filter Results: Cypress Known Bugs 5.2.0			
Summary	2020 Performance Period EP/EC eCQMs	2020 Reporting Period EH eCQMs	Solution
CMS 145 Denominator Issue			...
QRDA III giving C3 Execution: An internal error occurred			
QRDA-I Validation Error			
1-3 of 3			

Cypress Versions

Version	Dates	Measures Supported
V4.0.4	October 3, 2019	Latest version supporting eCQMs for the 2019 Reporting/Performance Period and CQL. Fixes QRDA and other 4.0.3 bugs.
V5.1.0	November 7, 2019	Support for QRDA Category I R5.1 errata
V5.2.0	December 19, 2019	Latest version supporting eCQMs for the 2020 Reporting/Performance Period and CQL. Contains feature improvements and fixes for bugs found in Cypress v5.1.0
V5.3.0	March 12, 2020	Unit checking updates and interval boundary calculation updates

Bundle Version	Dates	Features
2018.1.0	October 11, 2018	Cypress v4 only CQL-based measures released in 2018 for the 2019 reporting year eCQM Value Sets as of 9/17/2018.
2019.1.0	November 7, 2019	Cypress v5 only Precalculated results Updates to Z6 VTE, Z13 N VTE, B GP Peds and 1 BH Infant
2019.1.1	December 19, 2019	Cypress v5 only CQL-based measures released in 2019 for the 2020 reporting year. Removed retired measures as announced on November 19, 2019.

OPEN DISCUSSION

Next Cypress Tech Talk

- Tuesday, April 7, 2020 at 1pm ET
- To join online, visit: <https://global.gotomeeting.com/join/529898157>
- To join via phone, dial: 1-646-749-3122
- Meeting Number: 529 898 157
- Meeting link, as well as a calendar event file, available at:
 - <https://www.healthit.gov/cypress/techtalks.html>

Notes

- **Completed Webinars will be posted on the Cypress website on the Tech Talks tab**
 - <https://www.healthit.gov/cypress/techtalks.html>
- **Send questions and feedback to the Cypress Talk List at**
 - project-cypress-talk@googlegroups.com
- **Report bugs and issues to the Cypress JIRA at**
 - <https://oncprojecttracking.healthit.gov/support/browse/CYPRESS>