Cypress™

Cypress Tech Talk

March 23, 2021

MITRE

The Office of the National Coordinator for Health Information Technology

CMS CENTERS FOR MEDICARE & MEDICAID SERVICES

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Agenda

- Software Updates
  - Cypress 6.1.1 Updates
  - Cypress 6.1.2 Updates
  - Bundle Updates
- Recent Issue
  - CVU+ Calculation Issue CYPRESS-2199
  - Cypress Known Issues Dashboard
- Cypress Versions
- Open Discussion
- Contact Information

*See the Glossary at the back for definitions of terms

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Software Updates

Cypress 6.1.1 Update

- **In the previous Cypress version, CVU+ calculations were not properly accounting for negated valuesets**
  - Caused by an update to save certain patient information during CVU+ calculations
  - Patient negation adjustments did not get appropriately saved
- **Cypress 6.1.1 update saves negation adjustments**
  - Released January 6, 2021

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Software Updates

Cypress 6.1.2 Update

- **Announcement on the eCQI Resource Center**
  - https://ecqi.healthit.gov/updated-2021-cms-qrda-iii-implementation-guide-schematron-and-sample-files-support-mips-apm-entity-reporting
  - "The Centers for Medicare & Medicaid Services (CMS) has published an update of the 2021 Quality Reporting Document Architecture (QRDA) Category III Implementation Guide (IG), Schematron, and Sample Files for Eligible Clinicians and Eligible Professionals Programs. The updated 2021 CMS QRDA III IG includes the addition of Merit-Based Incentive Payment System (MIPS) Alternative Payment Model (APM) Entity reporting for QRDA III submissions."
- **Cypress 6.1.2 updates the schematron and adds MIPS APM Entity**
  - Release date February 11, 2021

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Software Updates

Bundle Updates

- **Bundle update to 2020.0.5**
  - Bundle deprecation can be used to replace previously installed bundle with 2020.0.5
  - New bundle is available to download from the demo server
- **Master Patient List Calculations Updated**
  - Calculations displayed in **Master Patient List** updated to reflect updated guidance for Relevant dateTime/Relevant Period
- **Timing issues update**
  - Patients: CMS771 5, BH Peds Z1, BH Peds Z4, BH Peds Z5, BH Peds Z6
  - QRDA Category I reports using timezone offsets (other than UTC) could experience calculation discrepancies due to daylight savings.

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Recent Issue

CYPRESS-2199

- **What is the beginning of this interval? September 30th or October 1st?**

```
where ( Mammogram.relevantDatetime 27 months or less on or before day of
  end of "Measurement Period"
)
```

- **Current Cypress Calculation**
  - End of measurement period
    - 12/31/2021
  - 27 months before
    - 9/31/2019
  - Since 9/31/2019 isn't a date, the calculation engine coverts it to
    - 10/1/2019
- **However, CQL states the following for month calculations**
  - If the resulting date is not a valid date in the resulting year, the last day of the resulting calendar month is used.
- **Proper calculation**
  - 9/30/2019

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

CYPRESS-2199

What eCQMs calculations could be impacted?

- **What eCQMs calculations could be impacted?**
  - Any eCQM that use Month/Year calculations with dates at the end of the month (i.e., 29,30,31)
    - "x months before end of Measurement Period"
    - "x months before Encounter"
    - CMS125, CMS771
  - eCQMs that use "12 month" comparisons will only be impacted on leap years.
    - CMS69, CMS149, CMS159
- **No Cypress test patients are impacted by this calculation bug, and therefore will not impact Certification Test**
- **CVU+ calculations for 'Vendor supplied' patients on these edges will be incorrect**
- **This bug will be addressed in the Cypress release for the 2021 Annual Update**

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

CYPRESS-2199

CMS771 – Example

ELEMENTS

ASSESSMENT

Performed American Urological Association Symptom Index [AUASI]

Performed If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that [IPSS]

Performed International Prostate Symptom Score [IPSS]

PATIENT HISTORY

ENCOUNTER	DATE
Performed: Office Visit	03/31/2012 – 03/31/2012

CONDITION	DATE
Diagnosis: Benign prostatic hyperplasia with lower urinary tract symptoms	03/31/2012

ASSESSMENT	DATE
Performed: International Prostate Symptom Score [IPSS]	05/01/2012

ASSESSMENT	DATE
Performed: International Prostate Symptom Score [IPSS]	10/31/2012

CMS771V2

SHOW ALL RESULTS

✔INITIAL POPULATION:

```
define "Initial Population":
  ( "Patient is Male" )
    and "Has Qualifying Encounter"
    and "Has Qualifying BPH Diagnosis"
    and "Urinary Symptom Score Within 1
Month after Initial BPH Diagnosis" is
not null
    and "Urinary Symptom Score 6 to 12
Months After Initial BPH Diagnosis" is
not null
```

SHOW RESULT

✔DENOMINATOR:

```
define "Denominator":
  "Initial Population"
```

Assessment on 5/1/2012 is being considered as “1 month” after the Diagnosis

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

CYPRESS-2199

CMS69 – Example

ELEMENTS

- CONDITION
- ENCOUNTER
- INTERVENTION
- MEDICATION
- PATIENT CHARACTERISTIC
- PHYSICAL EXAM

PATIENT HISTORY

ENCOUNTER	DATE
Performed: Encounter to Evaluate BMI	02/28/2011 – 02/28/2011

PHYSICAL EXAM	DATE
Performed: Body mass index (BMI) [Ratio]	02/28/2011

INTERVENTION	DATE
Performed: Follow Up for Above Normal BMI	02/29/2012 – 02/29/2012

CMS69V9

SHOW RESULT

```
define "High BMI and Follow Up
Provided":
  "Most Recent Documented BMI"
MostRecentBMI
    with ["Intervention, Performed":
"Follow Up for Above Normal BMI"]
AboveNormalFollowUp
      such that
MostRecentBMI.relevantDatetime 12
months or less on or before day of
start of
AboveNormalFollowUp.relevantPeriod
         and AboveNormalFollowUp.reason
in "Overweight or Obese"
    where MostRecentBMI.result >= 25
'kg/m2'
```

SHOW RESULT

```
define "High BMI and Order for Follow
Up":
  "Most Recent Documented BMI"
MostRecentBMI
    with ( ( ( ["Intervention, Order":
"Follow Up for Above Normal BMI"]
        union ["Intervention, Order":
"Referrals Where Weight Assessment May
Occur"] ) ReferralHighBMI
```

Physical Exam on 2/28/2011 is not considered “12 months before 2/29/2012”

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Recent Issue

Cypress Known Issues Dashboard

- https://oncprojectracking.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

Filter Results: Cypress Known Bugs 6.0.0

Summary	2021 Performance Period EP/EC eCQMs	2021 Reporting Period EH/CAH eCQMs	Solution
CMS72v9-QRDA1 issue			
CMS134v9 Denominator Exclusion count	CMS134v9/NQFna		
CMS68v10 procedure performed incomplete issue			
CMS-190v9 C1 Sample testing returning Internal Error with code nullFlavor in Facility Location			
CMS-108/190 returning warning when submitting Z29 VTE for C1/C3 testing			

1–5 of 5

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Cypress Versions

Version	Dates	Measures Supported
V5.4.2	**September 17, 2020**	Latest version supporting eCQMs for the 2020 Reporting/Performance Period and CQL. Contains updates to support telehealth checking.
V6.1.1	**January 6, 2021**	Update to CVU+ calculations to fix valueset negations.
V6.1.2	**February 11, 2021**	Updates to support new schematron and MIPS APM Entity for the 2021 reporting/performance period eCQMs.

Bundle Version	Dates	Features
2019.2.0	**September 17, 2020**	**Cypress v5 only** CQL-based measures released in 2019 for the 2020 reporting year. Contains updates for ELM issues found in CMS128v8, CMS146v8, and CMS56v8.
2020.0.4	**October 15, 2020**	**Cypress v6 only** CQL-based measures released in 2020 for the 2021 reporting year. Updated patients to use relevant dateTime or relevant period, as appropriate.
2020.0.5	**February 19, 2021**	**Cypress v6 only** Calculations for Master Patient List updated to reflect updated guidance for Relevant dateTime/Relevant Period and addresses issues with time zone offsets.

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

OPEN DISCUSSION

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Next Cypress Tech Talk

- Tuesday, April 6, 2021 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

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

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://oncprojectracking.healthit.gov/support/browse/CYPRESS

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054

Glossary

- API – Application Programming Interface
- CQL – Clinical Quality Language
- CVU – Cypress Validation Utility
- CVU+ – Cypress Validation Utility Plus Calculation Check
- EC – Eligible Clinician
- eCQM – Electronic Clinical Quality Measure
- EH – Eligible Hospital
- EP – Eligible Professional
- HL7 – Health Level Seven International
- IG – Implementation Guide
- QPP – Quality Payment Program
- QRDA – Quality Reporting Document Architecture
- UMLS – Unified Medical Language System

© 2021 The MITRE Corporation. All rights reserved. Approved for Public Release; Distribution Unlimited. Case Number 16-3054