Cypress™

Cypress Tech Talk

January 29, 2019

MITRE

The Office of the National Coordinator for
Health Information Technology

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES
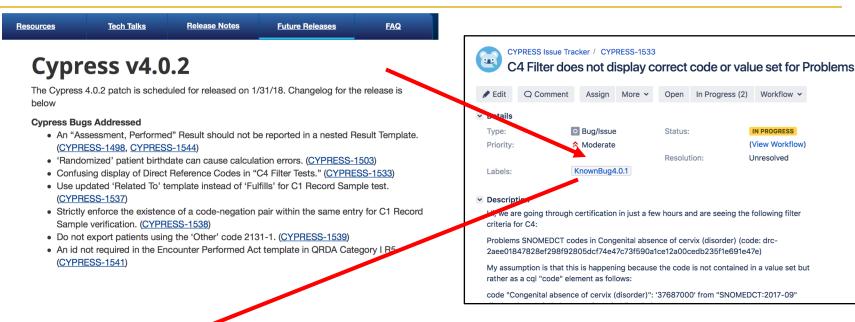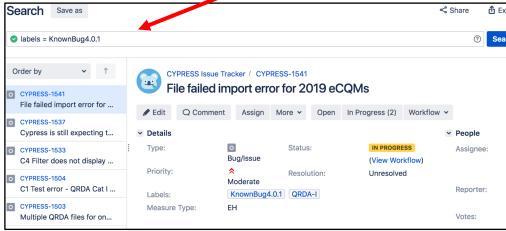
Agenda

- Software Updates
  - Bugs to be addressed in 4.0.2 patch release
- Cypress Versions
- Open Discussion
- Contact Information

Software Updates
Bugs addressed in 4.0.2 patch release

- An "Assessment, Performed" Result should not be reported in a nested Result Template. (CYPRESS-1498, CYPRESS-1544)
- 'Randomized' patient birthdate can cause calculation errors. (CYPRESS-1503)
- Confusing display of Direct Reference Codes in "C4 Filter Tests." (CYPRESS-1533)
- Use updated 'Related To' template instead of 'Fulfills' for C1 Record Sample test. (CYPRESS-1537)
- Strictly enforce the existence of a code-negation pair within the same entry for C1 Record Sample verification. (CYPRESS-1538)
- Do not export patients using the 'Other' code 2131-1. (CYPRESS-1539)
- An id not required in the Encounter Performed Act template in QRDA Category I R5. (CYPRESS-1541)

Software Updates
Bugs addressed in 4.0.2 patch release

Software Updates

CYPRESS-1498/CYPRESS-1544: Result Value embedded in Observation

- **Precondition**
  - A Cypress 4.0.1 instance
  - Measures with an Assessment, Performed with a "Result"
    - Ex: CMS149v7, CMS56v7, CMS66v7
- **Issue**
  - Cypress exports patients for these measures that contain Assessment, Performed elements with a "Result" value
  - The result is embedded in an Observation
  - QRDA Category I R5 expects the Result in the top level Assessment element
- **Changes:**
  - Changes to both export and read patient files according to the correct template format
  - Note: Changed from previous format in QRDA I R4

```xml
<entry>
  <observation classCode="OBS" moodCode="EVN" >
    <!-- Assessment Performed -->
    <templateId
root="2.16.840.1.113883.10.20.24.3.144" extension="2017-08-01"
/>

    ...
    <entryRelationship typeCode="REFR">
      <observation classCode="OBS" moodCode="EVN">
        <!-- Conforms to C-CDA R2 Result
Observation (V2) -->
        <templateId
root="2.16.840.1.113883.10.20.22.4.2" extension="2015-08-01"/>
        ...
        <value xsi:type="PQ" value="35.3"
unit="%"/>

      </observation>
    </entryRelationship>
  </observation>
</entry>
```

```xml
<observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.22.4.2"
extension="2015-08-01" />
    <value xsi:type="PQ" value="35.3" unit="%" />
    ....
</observation>
```

Should be:

```xml
<value xsi:type="PQ" value="35.3" unit="%" />
```

Guidance for Reporting Diagnostic Study Performed Results Data in 2018 CMS QRDA I Reports

- **On January 16, 2019**
  - The Centers for Medicare & Medicaid Services (CMS) and The Joint Commission (TJC) are releasing guidance for reporting diagnostic test data in the Diagnostic Study Performed (V3) template of Quality Reporting Document Architecture (QRDA) Category I files. This affects the electronic clinical quality measure (eCQM) CMS31v6 - Hearing Screening Prior To Hospital Discharge only. The 2018 CMS QRDA Category I Implementation Guide (IG) for Hospital Quality Reporting allows for two ways of reporting the result of a diagnostic test in the Diagnostic Study Performed (V3) template:
    - Using the element "value" inherited from its parent template Procedure Activity Observation (V2), or
    - Using the contained template Result (V3).
  - For 2018 reporting, CMS has aligned with TJC to only use the first option. Result data for the Diagnostic Study Performed template must be in the value element in order to be processed by CMS.

- **https://ecqi.healthit.gov/ecqi/ecqi-news/guidance-reporting-diagnostic-study-performed-results-data-2018-cms-qrda-i-reports**

Software Updates
CYPRESS-1503: Differing birthdates for duplicated patients in Cypress

- **Precondition**
  - A Cypress 4.0.1 instance
  - The following measures
    - CMS82v6, Maternal Depression Screening
    - CMS52v7, HIV/AIDS PCP Prophylaxis
    - Measures where age is calculated with sub-year precision (Month, Week, Day)
- **Issue**
  - When duplicating patients, Cypress can (but does not always) change the birthdate
  - Normally, this doesn't affect measure calculation
  - However, occasionally the "duplicated" patient's birthdate will change measure results for the patient
- **Changes**
  - Cypress will now check for measure calculation changes as a result of birthdate changes and will not provide patient files with birthdates that cause this problem

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▲ Turns 6 Months of Age During Measurement Period

```
["Patient Characteristic Birthdate"] BirthDate
    where "CalendarAgeInMonthsAt"(BirthDate.birthDatetime, start of "Measurement Period")< 6
        and "CalendarAgeInMonthsAt"(BirthDate.birthDatetime, end of "Measurement Period")>= 6
```

Software Updates

CYPRESS-1525: Patient Characteristic Sex in Record Sample
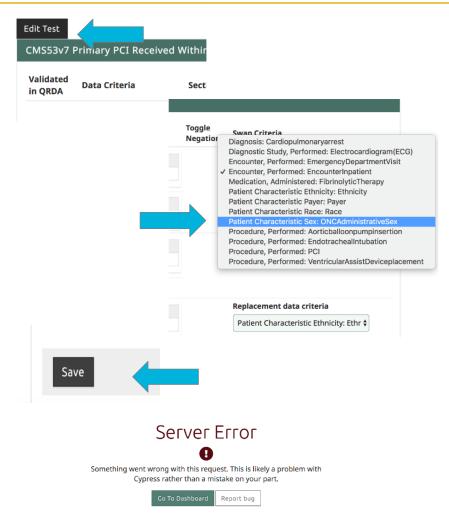
- **Precondition**
  - A Cypress 4.0.1 instance
  - Editing Record Sample Test
- **Issue**
  - When editing a Record Sample Test Data Criteria list, there are a number of options for replacement data criteria
  - If the user selects Patient Characteristic Sex, and saves the test, they receive a Server Error message.
- **Workaround:**
  - Vendors and ATLs should not swap Patient Characteristic Sex in, should use any other criteria

Software Updates
CYPRESS-1533: Display of Direct Reference Codes
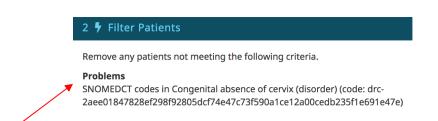
- **Precondition**
  - A Cypress 4.0.1 instance
  - Filtering Criteria or Record Sample Criteria

- **Issue**
  - Cypress displays direct reference code (drc) information with an underlying UID rather than human readable format

- **Changes**
  - Cypress has made changes to the user interface to display a readable drc that can be input into EHR systems

Software Updates
CYPRESS-1537: "relatedTo" attribute in Record Sample

- **Precondition**
  - A Cypress 4.0.1 instance
  - Measures with "Communication: From Provider To Provider"
    - Uses "relatedTo" attribute
    - Ex: CMS50v7
  - "Communication: From Provider To Provider" is randomly selected for test
- **Issue**
  - Cypress expecting retired "fulfills" template id for the "Communication: From Provider To Provider" attribute "relatedTo"
  - "relatedTo" id should be accepted instead
- **Changes:**
  - Cypress now expects the appropriate "Related To" template id (2.16.840.1.113883.10.20.24.3.150)

Previous version:

9.5 Fulfills (V2)
Fulfills (V2) (urn:hl7ii:2.16.840.1.113883.10.20.24.3.126:2016-08-01)

Cypress should be expecting:

4.2 Related To
[sdtc:inFulfillmentOf1: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.150:2017-08-01 (open)]

Software Updates
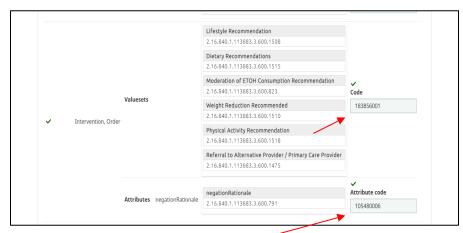# CYPRESS-1538: Non-strict Code Correlation for Record Sample

- **Precondition**
  - A Cypress 4.0.1 instance
  - Record Sample Test
  - Criteria with corresponding attribute
  - File with both correct codes in separate file locations
- **Issue**
  - Cypress checks for the appropriate attributes in correlation with a sample data criteria input
  - In some cases, the attribute code may be in a different location in the file than the corresponding data criteria
  - Cypress still passes these files as correct even though code was not put in under the correct data criteria
- **Changes**
  - Cypress will only pass a file as containing the correct data criteria if the corresponding attribute is associated with that data criteria
  - Otherwise will display appropriate error


```
<code xsi:type="CD" code="183856001" codeSystem="2.16.840.1.113883.6.96"/>
```

```
<value xsi:type="CD" code="105480006" codeSystem="2.16.840.1.113883.6.96"/>
```

Both codes in file but in separate entries

Software Updates
CYPRESS-1539: Export of Patients with 'Other Race' Codes

- **Precondition**
  - Cypress includes test patients that use the 'Other' Race code 2131-1.

- **Issue**
  - When following the Electronic Clinical Quality Measure Logic and Implementation Guidance "Other Race 2131-1 should not be used because missing patient race information should be described using null values (described in the following paragraphs). "

- **Changes**
  - Cypress test decks will only include patients with the following race codes:
    - 1002-5 American Indian or Alaska Native
    - 2028-9 Asian
    - 2054-5 Black or African American
    - 2076-8 Native Hawaiian or Other Pacific Islander
    - 2106-3 White

Patient Details

DOB	August 27, 1956
Gender	Male
Race	Other Race
Ethnicity	Not Hispanic or Latino

Software Updates
CYPRESS-1541: ID Requirement in "Encounter, Performed" template act element

- **Precondition**
  - A Cypress 4.0.1 instance
  - Patient with Encounter, Performed

- **Issue**
  - Cypress is incorrectly requires an id element in the Encounter Performed Act template instead of the "Encounter, Performed" template.

- **Changes**
  - Cypress has been updated to import the id from the Encounter, Performed template.

Figure 45: Encounter Performed Act Example

```
<act classCode="ACT" moodCode="EVN">
    <!--Encounter performed Act -->
    <templateId root="2.16.840.1.113883.10.20.24.3.133"/>
    <id root="ec8a6ff8-ed4b-4f7e-82c3-e98e58b45de7"/>
    <code code="ENC" codeSystem="2.16.840.1.113883.5.6" displayName="Encounter"
codeSystemName="ActClass"/>
    <entryRelationship typeCode="SUBJ">
        <encounter classCode="ENC" moodCode="EVN">
            <!-- Conforms to C-CDA R2.1 Encounter Activity (V3) -->
            <templateId root="2.16.840.1.113883.10.20.22.4.49" extension="2015-08-01"/>
            <!-- Encounter Performed (V3) templateId-->
            <templateId root="2.16.840.1.113883.10.20.24.3.23" extension="2016-02-01"/>
            <id root="12345678-9d11-439e-92b3-5d9815ff4de1"/>
            <code code="4525004" displayName="Emergency Department visit"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"
sdtc:valueSet="{$QDMElementValueSetOID}">
                <text>Encounter, Performed: Emergency Department Visit</text>
                <statusCode code="completed"/>
                <effectiveTime>
                    <!-- QDM Attribute: admission datetime -->
                    <low value="20150301090000+0500"/>
                    <!-- QDM Attribute: discharge datetime -->
                    <high value="20150303103000+0500"/>
                </effectiveTime>
            </encounter>
    </entryRelationship>
</act>
```

Figure 40: Encounter Performed Act (V2) Example

```
<act classCode="ACT" moodCode="EVN">
    <!--Encounter performed Act (V2) -->
    <templateId root="2.16.840.1.113883.10.20.24.3.133" extension="2017-08-01"/>
    <code code="ENC" codeSystem="2.16.840.1.113883.5.6" displayName="Encounter"
codeSystemName="ActClass"/>
    <entryRelationship typeCode="SUBJ">
        <encounter classCode="ENC" moodCode="EVN">
            <!-- Conforms to C-CDA R2.1 Encounter Activity (V3) -->
            <templateId root="2.16.840.1.113883.10.20.22.4.49" extension="2015-08-01"/>
            <!-- Encounter Performed (V4) templateId-->
            <templateId root="2.16.840.1.113883.10.20.24.3.23" extension="2017-08-01"/>
            <id root="12345678-9d11-439e-92b3-5d9815ff4de1"/>
            <code code="4525004" displayName="Emergency Department visit"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED CT"/>
                <text>Encounter, Performed: Emergency Department Visit</text>
                <statusCode code="completed"/>
                <effectiveTime>
                    <!-- QDM Attribute: Relevant Period - admission datetime -->
                    <low value="20170301090000"/>
                    <!-- QDM Attribute: Relevant Period - discharge datetime -->
                    <high value="20170301130000"/>
                </effectiveTime>
            </encounter>
    </entryRelationship>
</act>
```

Cypress Versions

Version	Dates	Measures Supported
V 3.2.3	December 14, 2017	Support for the eCQMs for the 2018 Reporting/Performance Period ***will be supported alongside Cypress v4**
V4.0.1	**October 11, 2018**	Support for the eCQMs for the 2019 Reporting/Performance Period Support for Clinical Quality Language (CQL) calculation
V4.0.2	*January 31, 2019*	

Bundle Version	Dates	Features
2017.0.3	April 24, 2018	**Cypress v3 only** "Z1 BH Adult" updated for CMS128v6
2017.0.4	September 25, 2018	**Cypress v3 only** Errata update to fix 'Download All Patients' feature when 2017.0.3 and 2017.0.2 are installed simultaneously
2018.0.1	July 26, 2018	**Cypress v4 only** CQL-based measures released in 2018 for the 2019 reporting year eCQM Value Sets as of 5/4/2018.
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.

OPEN DISCUSSION

Next Cypress Tech Talk

- Tuesday, February 12, 2019 at 1pm ET
- To join online, visit: https://meetings.cms.gov/orion/joinmeeting.do?MTID=98271705d4bcc4ad148cf1e39d5c7408
- To join via phone, dial: 1-877-267-1577
- Meeting Number: 998 084 717
- 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 Timeline 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