

2015 Edition §170.315(c)(4) Clinical Quality Measures - filter				
Testing Components:				
				ONC Supplied Test Data
Test Procedure Version 1.0 – Last Updated 8/04/16				

Please consult the Final Rule entitled: *2015 Edition Health Information Technology (Health IT) Certification Criteria, 2015 Edition Base Electronic Health Record (EHR) Definition, and ONC Health IT Certification Program Modifications* for a detailed description of the certification criterion with which these testing steps are associated. We also encourage developers to consult the Certification Companion Guide in tandem with the test procedure as they provide clarifications that may be useful for product development and testing.

Note: The order in which the test steps are listed reflects the sequence of the certification criterion and does not necessarily prescribe the order in which the test should take place.

Required Tests

(c)(4)(i) Record the data listed in paragraph (c)(4)(iii) of this section in accordance with the identified standards, where specified.

Standards:

§170.205(f)(2): [“Race & Ethnicity – CDC” code system in the PHIN Vocabulary Access and Distribution System \(VADS\), Release 3.3.9](#)

§ 170.207(n)(1): Birth sex must be coded in accordance with HL7 Version 3 Value Sets for AdministrativeGender and NullFlavor attributed as follows:

- (i) Male. M
- (ii) Female. F
- (iii) Unknown. NullFlavor UNK.

§ 170.207(a)(4): [Development Organization \(IHTSDO\) Systematized Nomenclature of Medicine Clinical Terms \(SNOMED CT®\), U.S. Edition, September 2015 Release](#)

§ 170.207(r)(1): [Healthcare Provider Taxonomy Code Set \(updated April 2, 2015\)](#)

§ 170.207(s)(1): [Public Health Data Standards Consortium Source of Payer Typology Code Set Version 5.0 \(October 2011\)](#)

Criteria ¶	System Under Test	Test Lab Verification
(i)	<p>Record</p> <ol style="list-style-type: none"> For each quality measure being certified, the user records the data elements used to filter the Clinical Quality Measure(s) (CQM) data specified in (c)(4)(iii) in accordance with the identified standards where specified into a patient record: <ul style="list-style-type: none"> Taxpayer Identification Number. National Provider Identifier. Provider type in accordance with, at a minimum, the standard specified in § 170.207(r)(1), Healthcare Provider Taxonomy Code Set (updated April 2, 2015) Practice site address. Patient insurance in accordance with the standard specified in § 170.207(s)(1), Public Health Data Standards Consortium Source of Payer Typology Code Set Version 5.0 (October 2011). Patient age (Calculated from the Patient Date of Birth) Patient sex in accordance with the version of the standard specified in § 170.207(n)(1), birth sex must be coded in accordance with HL7 Version 3 Value Sets for AdministrativeGender and NullFlavor attributed as follows: <ol style="list-style-type: none"> Male. M Female. F Unknown. NullFlavor UNK. Patient race and ethnicity in accordance with, at a minimum, the version of the standard specified in § 170.207(f)(2), “Race & Ethnicity – CDC” code system in the PHIN Vocabulary Access and Distribution System (VADS), Release 3.3.9. Patient problem list data as defined by the CQM value sets in the certified CQMs. Patient problem list data should support the version of the standard specified in § 170.207(a)(4), SNOMED-CT[®]. 	<p>Record</p> <ol style="list-style-type: none"> The tester verifies that all of the CQM data can be recorded by the Health IT Module, in accordance with the identified standards, where specified in (c)(4)(iii). <p>Packaging of Results</p> <ol style="list-style-type: none"> Upon completion of the test, the tester generates a test artifact containing: <ul style="list-style-type: none"> all of the test data used to test (c)(4)(ii)(A) all of the data generated by the Health IT Module and any additional notes that the tester deems important into a single archive file

(ii) Filter

Filter CQM results at the patient and aggregate levels by each one and any combination of the data listed in paragraph (c)(4)(iii) of this section and be able to:

- (A) Create a data file of the filtered data in accordance with the standards adopted in § 170.205(h)(2) and § 170.205(k)(1) and (2); and
- (B) Display the filtered data results in human readable format.

Standards: §170.205(k)(1): [Quality Reporting Document Architecture Category III, Implementation Guide for CDA Release 2](#) (incorporated by reference in [§70.299](#))

§170.205(k)(2): [HL7 Implementation Guide for CDA® Release 2: Quality Reporting Document Architecture—Category III, DSTU Release 1 \(US Realm\) with September 2014 Errata](#)

§170.205(h)(2): [HL7 CDA® Release 2 Implementation Guide for: Quality Reporting Document Architecture – Category I\(QRDA I\), DTSU Release 3 \(US Realm\)](#)

Test Data: [Cypress](#)-“Category III Filter Test” test data instructions

Test Tool: - [Cypress Test Tool User Interface](#)

Criteria ¶	System Under Test	Test Lab Verification
(ii)(A)	<p>Setup</p> <ol style="list-style-type: none"> The Health IT Module provides the following information in order to enable the creation of the (c)(1)(i) “Cypress Gold Standard Test Data” which includes instructions to enable the recording of CQM data within patient record(s): <ul style="list-style-type: none"> Name of the health IT developer; Name of the Product; List of CQMs to be certified; and List of certification criteria to be tested. <u>Instructions on how a user can filter and export patient data using the Health IT Module</u> <p>Import</p> <ol style="list-style-type: none"> Using the "Cypress Gold Standard Test Data" a user demonstrates the importing of reports formatted in accordance with the standard specified at § 170.205(h)(2), HL7 CDA® R2 Implementation Guide: Quality Reporting Document Architecture – Category I (QRDA I) DSTU Release 3 (US Realm for all of the data needed to calculate each of the clinical quality measures (CQMs) presented for testing, for one or multiple patients. <p>Filter</p> <ol style="list-style-type: none"> For each CQM being certified: Using the “Filter Tests” instructions and the Health IT Module, the user applies the filters against the same patient data in Setup Step 2 in order to demonstrate the ability to filter the CQM results at the patient and aggregate levels by each one and any combination of the CQM data elements specified in (C)(4)(iii): <ul style="list-style-type: none"> Taxpayer Identification Number. National Provider Identifier. Provider type 	<p>Calculate Filtered Aggregate Reports</p> <ol style="list-style-type: none"> Using the Cypress Test Tool User Interface, the tester <ul style="list-style-type: none"> uploads the aggregate report(s) submitted from the Health IT Module in step 3 of the SUT. evaluates and displays the accuracy of the submitted CQM results. The verification should include at least: <ul style="list-style-type: none"> Two multi-factor (at least two criteria) filter tests based on patient information Two multi-factor (at least two criteria) filter tests based on provider information A filter test based on patient problem list <p>Note: All filter tests in Cypress use AND logic in multi-factor tests.</p> <p>Filtered QRDA Reports</p> <ol style="list-style-type: none"> The tester exports the filtered results and uploads the CQM results data file from the Health IT Module in step 5 of the SUT. Using the Cypress Test Tool Cypress supplied XML Schema validation, the CQM results data file and the aggregate files from the Health IT module step 3 of the SUT, the tester verifies that the Health IT module can create a filtered CQM results data file at the patient and aggregate levels, in accordance with at a minimum the standards adopted in § 170.205(h)(2), and § 170.205(k)(1) and (2). <p>Alternative: Cypress Certification API</p> <ol style="list-style-type: none"> A user may use the Cypress Certification API to perform step 3 of the SUT. The tester can verify the results in Cypress as normal, however the tester should manually perform verification steps 2-4 for at least one CQM to ensure this functionality is present.

Criteria ¶	System Under Test	Test Lab Verification
(ii)(A), continued	<p><i>continued from previous page</i></p> <ul style="list-style-type: none"> • Practice site address. • Patient insurance. • Patient age. (Calculated from Patient date of birth) • Patient sex. • Patient race and ethnicity. • (I) Patient problem list <p>This includes the following types of filtering:</p> <ul style="list-style-type: none"> • Filter by individual data elements • Filter with any combination of filter data elements. <p><u>Calculate Filtered Aggregate Reports</u></p> <p>4. The user calculates the aggregate reports (as specified in (c)(2)(ii)) for each filter applied to the imported data set in step 1.</p> <p>5. The Health IT Module submits a set of aggregate reports which includes the aggregate reports for all of the filtered CQMs.</p> <p><u>Filtered QDRA Reports</u></p> <p>6. The user creates a CQM results data file based upon the filtered data in (c)(4)(ii) step 1, in accordance with the standards adopted in § 170.205(h)(2), HL7 CDA® Release 2 Implementation Guide for: Quality Reporting Document Architecture – Category I (QRDA I), DTSU Release 3 (US Realm) for one or more patients with one or more quality measures; using at a minimum, § 170.205(k)(1), Quality Reporting Document Architecture Category III, Implementation Guide for CDA Release 2 , and § 170.205(k)(2), HL7 Implementation Guide for CDA® Release 2: Quality Reporting Document Architecture—Category III, DSTU Release 1 (US Realm) with September 2014 Errata; for calculation of the CQMs containing a calculated summary of one or more quality measures for a specific population.</p> <p>7. The Health IT Module submits the CQM results data file.</p>	

Criteria ¶	System Under Test	Test Lab Verification
(ii)(B)	<p>Display Filtered Data Results</p> <p>Using the Health IT Module and the filtered data created in (c)(4)(ii)(A) step 1, the user can display the filtered data results in human readable format including the display of the following information for each of the measures:</p> <ul style="list-style-type: none"> • patient population; • denominator; • numerator; • exclusions; and • exceptions. 	<p>Display Filtered Data Results</p> <ol style="list-style-type: none"> 1. The tester verifies that the Health IT Module can demonstrate the ability to display the filtered data created in (c)(4)(ii) step 1 in human readable format using Visual Inspection. 2. Using the Cypress test tool – User interface, the tester verifies that the displayed filtered data displayed in step 1 compare to the Cypress User interface aggregate report, and compare the denominator, numerator and exclusions with the expected results.

(iii) Data.

- (A) Taxpayer Identification Number.
- (B) National Provider Identifier.
- (C) Provider type in accordance with, at a minimum, the standard specified in § 170.207(r)(1).
- (D) Practice site address.
- (E) Patient insurance in accordance with, at the standard specified in § 170.207(s)(1).
- (F) Patient age.
- (G) Patient sex in accordance with the version of the standard specified in § 170.207(n)(1).
- (H) Patient race and ethnicity in accordance with, at a minimum, the version of the standard specified in § 170.207(f)(2).
- (I) Patient problem list data in accordance with, at a minimum, the version of the standard specified in § 170.207(a)(4).

Standards: §170.205(f)(2): [“Race & Ethnicity – CDC” code system in the PHIN Vocabulary Access and Distribution System \(VADS\), Release 3.3.9.](#)

§ 170.207(n)(1): Birth sex must be coded in accordance with HL7 Version 3 Value Sets for AdministrativeGender and NullFlavor attributed as follows:

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§ 170.207(s)(1): [Public Health Data Standards Consortium Source of Payer Typology Code Set Version 5.0 \(October 2011\);](#)

§ 170.207(r)(1): [Healthcare Provider Taxonomy Code Set \(updated April 2, 2015\)](#)

Criteria ¶	System Under Test	Test Lab Verification
(iii)	<p>The following data elements are used to filter the CQM Results using the health IT developer-identified health IT function(s) in accordance with the identified standards, where specified.</p> <ul style="list-style-type: none"> • Taxpayer Identification Number. • National Provider Identifier. • Provider type in accordance with, at a minimum, the standard specified in § 170.207(r)(1), Healthcare Provider Taxonomy Code Set (updated April 2, 2015) • Practice site address. • Patient insurance in accordance with the standard specified in § 170.207(s)(1), Public Health Data Standards Consortium Source of Payer Typology Code Set Version 5.0 (October 2011). • Patient age (Calculated from the Patient Date of Birth) • Patient sex in accordance with the version of the standard specified in § 170.207(n)(1), Birth sex must be coded in accordance with HL7 Version 3 attributed as follows: <ul style="list-style-type: none"> (i) Male. M (ii) Female. F (iii) Unknown. UNK. • Patient race and ethnicity in accordance with, at a minimum, the version of the standard specified in § 170.207(f)(2), “Race & Ethnicity – CDC” code system in the PHIN Vocabulary Access and Distribution System (VADS), Release 3.3.9. • Patient problem list data in accordance with, at a minimum, the version of the standard specified in § 170.207(a)(4), SNOMED-CT[®]. 	<p>The tester verifies that the Health IT Module supports all of the CQM data elements specified in (c)(4)(iii) in accordance with the identified standards, where specified through the verification of: (c)(4)(i), (c)(4)(ii)(A) and (c)(4)(ii)(B).</p> <ul style="list-style-type: none"> • Note: There is no expectation that the tester verifies all combinations, rather demonstrate that the filtering ability includes filtering any combination of the data values

Document History

Version Number	Description of Change	Date
1.0	Final Test Procedure	August 4, 2016

Dependencies: For all related and required criteria, please refer to the [Master Table of Related and Required Criteria](#).