# Test Criteria: 170.315.g.8 – Application Access – Data Category Request

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| **Testing Result** |  |
| Participant and Product-with-version |  |
| Setting (Ambulatory or Inpatient) |  |
| Test Proctor |  |
| Test Date |  |
| Test Result | Pass:  Fail:  No Attempt: |
| Error Description (if applicable) |  |
| Modifications to Product Under Test |  |
| Additional Software Used |  |
| Additional Proctor Notes |  |
| Test Client Used |  |

### Overview

In this document you will find:

* [Test Data and Test Tools](#_Test_Data_and)
* [Standards Support](#_Demonstrate_Standards_Support)
* [Drummond Test Report (Instructions, Expected Results, Points to Remember)](#_170.315(g)(8)(i)_Data_Category)
* [Test Procedures](#_Test_Procedures)
* [Appendix A: Testing Guide](#_Appendix_A:_Testing)
* [Appendix B: ONC Criteria](#_Appendix_B:_ONC)

### Version of ONC Test Method

1.1

### Scope of Proctoring Sheet

The ONC test method associated with this criterion is the only approved test method for EHR Meaningful Use certification. This Proctoring Sheet is not a replacement test method but a test procedure document for performing the ONC test method and recording the results. Proctoring Sheet describe test data, test criteria and expected results. It is assumed the Health IT developer or Participant under Test is familiar with the associated ONC test method.

# Robustness and Reliability Requirement

To satisfy the module criteria, it is expected that the Product-Under-Test is able to complete the testing requirements reliably, including repeat testing with the same result without error, and with a satisfactory level of robustness. This includes unexpected error messages produced through normal operation, multiple unintended restarts of the application or any other “buggy” facets of the product displayed while testing. These errors are record in the Additional Proctor Notes of the proctor sheet. Lack of reliability and robustness of design will result in failure of the module.

# Test Data and Tools

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| **Test Data Source:** | ONC-Supplied  DG-Supplied:  Developer-Supplied: |
| **Pre-Test Data Setup:**  Health IT developer pre-loads either:   * Developer-supplied test data; or * ONC test data specified for 170.315(g)(9) for the applicable setting. See Edge Test Tool [C-CDA R2.1 Validator](https://ttpedge.sitenv.org/ttp/#/validators) for data. | |
| **Test Data:**  Developer-supplied or ONC-supplied. | |
| **Test Tools:**  Health IT developer should supply its own API test client. Test Client Minimum Requirements:   * API Test Client should include all necessary functionality to demonstrate compliance with the criteria outlined in the Test Method for 170.315(g)(7) and the steps outlined in this Document. * Ability to show the API call being executed (including any messages being sent from the client to the API server) and the results returned from the API server to the API client in raw form (XML, JSON, or other computable format). * Authenticate to the API server using a valid login or other security credential and demonstrate the ability to use a validated security token for the API session for subsequent API calls until the session expires or time out. * Demonstrate the communication security layer being used between the API Client and the API Server. | |

# Demonstrate Standards Support

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| **Test Result:** | PASS:  FAIL:  No Attempt: |
| **Instructions:** Implement support for standards to demonstrate compliance for sending patient data. | |

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| **§170.205 Content Exchange Standards – Patient Summary Record.** | | |
|  | §170.205(a)(4) | HL7 Implementation Guide for CDA® Release 2: Consolidated CDA Templates for Clinical Notes (US Realm), Draft Standard for Trial Use, Volume 1—Introductory Material, Release 2.1 and HL7 Implementation Guide for CDA® Release 2: Consolidated CDA Templates for Clinical Notes (US Realm), Draft Standard for Trial Use, Volume 2—Templates and Supporting Material, Release 2.1 (incorporated by reference in § 170.299). |
| **§170.207 Vocabulary standards for representing electronic health information \*** | | |
|  | §170.207(a)(4) | IHTSDO SNOMED CT®, U.S. Edition, September 2015 Release. |
|  | §170.207(b)(2) | 45 CFR 162.1002(a)(5)—combination of HCPCS and CPT-4 |
|  | §170.207(b)(3) | 45 CFR 162.1002(a)(4)—Code on Dental Procedures and Nomenclature. |
|  | §170.207(b)(4) | 45 CFR 162.1002(c)(3)—ICD-10-PCS |
|  | §170.207(c)(3) | LOINC® Database version 2.52. |
|  | §170.207(d)(3) | RxNorm, September 8, 2015 Release. |
|  | §170.207(e)(3) | HL7 CVX—Vaccines Administered, updates through August 17, 2015. |
|  | §170.207(e)(4) | National Drug Code Directory—Vaccine Codes, updates through August 17, 2015. |
|  | §170.207(f)(1) | OMB as revised, October 30, 1997. |
|  | §170.207(f)(2) | CDC Race and Ethnicity Code Set Version 1.0 (March 2000) (incorporated by reference in § 170.299). |
|  | §170.207(g)(2) | Request for Comments (RFC) 5646 (incorporated by reference in § 170.299). |
|  | §170.207(h) | Smoking status constrained codes from SNOMED CT®. |
|  | §170.207(m)(1) | Numerical references—(1) Standard. The Unified Code of Units of Measure, Revision 1.9 (incorporated by reference in § 170.299). |
|  | §170.207(n)(1) | Birth sex must be coded in accordance with HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor (incorporated by reference in § 170.299), attributed as follows:  (i) Male. M (ii) Female. F  (iii) Unknown. nullFlavor UNK |

# 170.315(g)(8) Data Category Request function

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| **Test Result:** | PASS:  FAIL:  No Attempt: |
| **Optional Field Included?** | YES:  NO: |
| **Instructions:**   * User makes an API call (using a Patient ID or other token) to get data according to each CCDS category. * User makes an API call with a date range for one CCDS category. * Proctor verifies that each API call returns correct and complete data. | |
| **Expected Test Result:**   * Respond to requests for patient data for each of the individual data categories specified in the Common Clinical Data Set and return the full set of data for that data category (according to the specified standards, where applicable) in a computable format. * Respond to requests for patient data associated with a specific date as well as requests for patient data within a specified date range. * The data returned from the identified API routine(s) is in accordance to the standard specified for the specific Common Clinical Data Element and in in a computable format (e.g. xml or json). * If a date range is specified, the response from the API only contains data within the date range specified. * API must include accompanying documentation that contains at a minimum: * API syntax, function names, required and optional parameters and their data types, return variables and their types/structures, exceptions and exception handling methods and their returns. * The software components and configurations that would be necessary for an application to implement in order to be able to successfully interact with the API and process its response(s). * Terms of use. The terms of use for the API must be provided, including, at a minimum, any associated developer policies and required developer agreements. * Documentation must be available via publicly accessible hyperlink | |
| **Points to Remember:**   * The API must be able to respond to requests for patient data (using an ID or other token) for each of the data categories specified in the Common Clinical Data Set. * Applications should not be required to pre-register (or be approved in advance) with the provider or their Health IT Module developer before being allowed to access the API. * P&S certification framework for the API criteria requires that a Health IT Module certified to this criterion be capable of ensuring that: valid user credentials such as a username and password are presented (that match the credentials on file at the provider for that user); the provider can authorize the user to view the patient’s data; the application connects through a trusted connection; and the access is audited. * No standard is required for the overall structure of the data category request, so long as the data returned are in a computable format (machine-readable format) and the data is represented according to applicable standards. * While there are no standards required for the API functionality, ONC encourages the use of the Fast Healthcare Interoperability Resources (FHIR) specification. * Health IT Developer should maintain a copy of the API test client used during testing for auditing or surveillance activities. * All of the documentation must be accessible to the public via a hyperlink without additional access requirements, including, without limitation, any form of registration, account creation, “click-through” agreements, or requirement to provide contact details or other information prior to accessing the documentation. | |

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### Test Procedures

**1.1 Developer-Supplied Test Client**

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|  | Using the developer-supplied API test client, Proctor will verify the following minimum requirements during the test event:   * Verify the API call being executed (including any messages being sent from the client to the API server) and the results returned from the API server to the API client in raw form (XML, JSON, or other computable format). * Authenticate to the API server using a valid login or other security credential and demonstrate the ability to use a validated security token for the API session for subsequent API calls until the session expires or time out. * Demonstrate the communication security layer being used between the API Client and the API Server. |

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**1.2 Respond to Patient Data Requests for Individual Data Categories**

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|  | User demonstrates that one or more API routines responds to and returns the full set of data for each data category from the CCDS for the unique patient identified by the ID or token. Where applicable, the data must be formatted using the specified standards defined in the CCDS Reference Document in a computable format to the developer-identified requesting application:   * Patient Name * Sex * Date of Birth * Race * Ethnicity * Preferred Language * Smoking Status * Problems * Medications * Medication Allergies * Laboratory Tests * Laboratory Values(s)/Result(s) * Vital Signs * Procedures * Care Team Member(s) * Immunizations * Unique Device Identifier(s) for a Patient’s Implantable Device(s) * Assessment and Plan of Treatment * Goals * Health Concerns |
|  | Proctor performs the following verification:   * the identified API routine(s) can respond to a request for the CCDS category for each of the identified API routine(s) necessary to return the full set of data for a given data category; * the data returned from the identified API routine(s) is in a computable format (e.g. XML, JSON, or another computable format documented by the health IT developer); and * the data returned from the identified API routine(s) is in accordance with the standards associated with the specific data element(s) as specified in the CCDS Reference Document |

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**1.3 Respond to Patient Data Requests for Specific Date and Date Range**

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|  | Health IT module’s identified API functions, return data to the developer-identified requesting application for:   * a specific date the requesting application identifies; and * a date range the requesting application identifies |
|  | Proctor verifies API routine(s) can respond to a request for patient data and that the patient data returned is accurate and without omission based upon:   * a date request; and * a date range request |

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**1.4 API Documentation**

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|  | Health IT developer provides documentation describing the API, with the intended audience of developers, and includes at a minimum:   * API syntax; * function names; * required and optional parameters and their data types; * return variables and their types/structures; and * exceptions and exception handling methods and their returns * API implementation requirements including the software components and configurations that would be necessary for an application to implement in order to be able to successfully interact with the API and process its response(s). |
|  | Health IT developer supplies the API’s Terms of Use, which needs to include, at a minimum, any associated developer policies and required developer agreements. |
|  | Documentation supplied for this section must be available via a publicly accessible hyperlink. |
|  | Proctor reviews submitted documentation and verifies:   * Health IT module’s API definition is accurate and without omission and that it matches the version of the software release; * Health IT Module’s API interface requirements (including both the software components and the configuration) is accurate and without omission and that it matches the version of the software release; * The supplied documentation contains Terms of Use and that it matches the version of the software release; and * The supplied documentation is publicly accessible by hyperlink. |

<INSERT LINK TO API DOCUMENTATION and PUBLIC URL>

# Appendix A: Testing Guide

*This appendix contains more details and background on the testing requirements, including explanation on underlying standards, notable issues and best practice suggestions.*

Rev 01-Apr-2016 Additions

* The term “token” is not to be interpreted as the token in the OAuth2 workflow, but simply as an identifier for a unique patient ID.
* The technology specifications should be designed and implemented in such a way as to return meaningful responses to queries, particularly with regard to exceptions and exception handling, and should make it easy for applications to discover what data exists for the patient.
* Health IT returning an entire patient record that does not reflect the specific date or date range requested is not permissible when a specific date or date range is requested.
* Health IT Developers that typically execute unique agreements or contracts with interested third party applications using their API, must disclose that this is a standard practice in their terms of use. Health IT Developers are not required to disclose the actual completed agreements that they establish with third party applications. Instead, they must be clear and transparent about the general terms of such agreements that will typically apply to prospective third party applications.
* The hyperlink provided for the terms of use must reflect the most current version of the Health IT Developer’s terms of use.

Rev 01-Mar-2016 Additions

* <NONE>

# Appendix B: ONC Criteria and Standards

*This appendix contains copy of the relevant 2015 Edition Final Rule ONC criteria and*

*standards as a reference. In the event of a discrepancy, the ONC final rule takes*

*precedence. The link to the final rule is found here:*

*https://www.federalregister.gov/articles/2015/10/16/2015-25597/2015-edition-healthinformation-technology-health-it-certification-criteria-2015-edition-base*

**§170.315(g)(8) Application Access – Data Category Request**

The following technical outcomes and conditions must be met through the demonstration

of an application programming interface (API).

(i) Functional requirements*.*

(A) Respond to requests for patient data (based on an ID or other token) for

each of the individual data categories specified in the Common Clinical

Data Set and return the full set of data for that data category (according to

the specified standards, where applicable) in a computable format.

(B) Respond to requests for patient data associated with a specific date as

well as requests for patient data within a specified date range.

(ii) Documentation*.*

(A) The API must include accompanying documentation that contains, at a

minimum:

(1) API syntax, function names, required and optional parameters and their

data types, return variables and their types/structures, exceptions and

exception handling methods and their returns.

(2) The software components and configurations that would be necessary

for an application to implement in order to be able to successfully

interact with the API and process its response(s).

(3) Terms of use*.* The terms of use for the API must be provided, including,

at a minimum, any associated developer policies and required developer

agreements.

(B) The documentation used to meet paragraph (g)(8)(ii)(A) of this section

must be available via a publicly accessible hyperlink.

# Change Log

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| --- | --- |
| Revision | Change Description |
| 15-Sept-2017 | Added clarification that documentation must be available to the public via a hyperlink without any additional access requirements. |
| 01-Oct-2016 | Updated hyperlink for ONC-hosted ETT. |
| 01-May-2016 | Added test client requirement to be supplied by health IT developer under “Test Data and Tools” section. Added section for verification of Test Client Requirements during test event. |
| 01-Apr-2016 | Removed “time” requirement under section 1.2. Added “sex” as a required element under section 1.1. Added clarifications under Appendix A. |
| 01-Mar-2016 | Initial Release. |
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**About Drummond Group LLC**

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