# Test Criteria: 170.315.g.9 – Application Access – All Data 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)(9)(i)_All_Data)
* [Test Procedures](#_170.315(g)(9)_Application_Access)
* [Appendix A: Testing Guide](#_Appendix_A:_Testing)
* [Appendix B: ONC Criteria](#_Appendix_B:_ONC)
* Appendix C: [CCDS](#_Appendix_C:_CCDS) Reference Table

### 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 the 170.315(g)(9) ONC test data specified below based on health care setting. | |
| **Test Data:**  Test Data is downloaded for the applicable setting from the ETT [C-CDA R2.1 Validator](https://ttpedge.sitenv.org/ttp/#/validators) using the “Sender SUT Test Data” selection:   * + Inpatient Setting: 170.315\_g9\_api\_access\_inp\_sample\*.docx (All Samples)   + Ambulatory Setting: 170.315\_g9\_api\_access\_amb\_sample\*.docx (All Samples) | |
| **Test Tools:**  ETT [C-CDA R2.1 Validator](https://ttpedge.sitenv.org/ttp/#/validators)  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)(9) Application Access - All Data Request

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| --- | --- |
| **Test Result:** | PASS:  FAIL:  No Attempt: |
| **Optional Field Included?** | YES:  NO: |
| **Instructions:**   * User makes an API request (using test client) for a C-CDA R2.1 Continuity of Care Document for the test Patient using a Patient ID or other token based upon: * a specific date request; and * a date range * Proctor validates the CCD with the ETT and performs a visual inspection to verify the CCD contains all required data in the CCDS and records results in the CCDS table below. * User makes an API request (using test client) for a C-CDA R2.1 Continuity of Care Document for the test Patient using a Patient ID or other token and a date range. | |
| **Expected Test Result:**   * Respond to requests for patient data for all of the data categories specified in the Common Clinical Data Set at one time and return such data (according to the specified standards, where applicable) in a summary record formatted according to the standard adopted at § 170.205(a)(4) following the CCD document template. * Respond to requests for patient data associated with a specific date as well as requests for patient data within a specified date range. If a date range is specified, the CCD only contains data within the date range specified. * The API returns the required C-CDA R2.1 CCD document based on the setting being tested for certification. * 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:**   * 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. * 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. | |

**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 Requests for Patient Data for All Data Categories**

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|  | Using the test data provided in the ETT, user demonstrates that the API responds to and returns all data from the Common Clinical Data Set in a summary record formatted in accordance with the standard adopted at § 170.205(a)(4), following the CCD document template and including the CCDS data requirements as specified in the CCDS Reference Document for the unique patient identified by the ID or token. User submits each CCD to Proctor for validation. |
|  | Proctor performs the following validation:   * Validate each CCD using ETT [C-CDA R2.1 Validator](https://ttpedge.sitenv.org/ttp/#/validators) to verify the CCD document returned by the API is in a summary record formatted in accordance with the standard adopted at § 170.205(a)(4) using the CCD document template. * Visually inspect each CCD to verify it contains all required CCDS data elements *(see* [*Appendix C*](#_Appendix_C:_CCDS) *for “CCDS Reference Table”)* and additional checks for equivalent text for the content of all section level narrative text. * Verify the API routine(s) can respond to a request for patient data for a specific date and a specific date range, and that the patient data returned is accurate and without omission based upon the health IT developer’s documentation for data return based upon: * a date request; and * a date range request |

<INSERT SCREEN SHOTS>

**1.3 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). |

*(Continued)*

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|  | 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-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)(9) Application Access – All Data 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

all of the data categories specified in the Common Clinical Data Set at

one time and return such data (according to the specified standards,

where applicable) in a summary record formatted according to the

standard specified in §170.205(a)(4) following the CCD document

template.

(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)(9)(ii)(A) of this section

must be available via a publicly accessible hyperlink.

# Appendix C: CCDS Reference Table

# *This appendix contains a reference guide to evaluate the Common Clinical Data Set and additional elements are populated accurately and without omission.*

**CCDS Reference Table**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Test Data** | **CCDS** | **Standard** |
|  |  | Patient Name | **<Not applicable>** |
|  |  | Sex; including Birth sex | **§170.207 (n)(1)** |
|  |  | Date of Birth | **<Not applicable>** |
|  |  | Race | **§170.207 (f)(1)** mapped to **§170.207(f)(2);**  **§170.207 (f)(2)** |
|  |  | Ethnicity | **§170.207(f)(1)** mapped to **§170.207(f)(2);**  **§170.207 (f)(2)** |
|  |  | Preferred Language | **§170.207 (g)(2)** |
|  |  | Smoking Status | **§170.207 (h)** |
|  |  | Problems | **§170.207 (a)(4)** |
|  |  | Medications | **§170.207 (d)(3)** |
|  |  | Allergies | **§170.207 (d)(3)** |
|  |  | Lab Tests | **§170.207 (m)(1)** |
|  |  | Lab Values(s)/Results | **<Not applicable>** |
|  |  | Vital Signs | **§170.207 (k)(1), §170.207 (m)(1)** |
|  |  | BMI (Optional) | **§170.207 (c)(3), §170.207 (m)(1)** |
|  |  | BMI (Optional) |  |
|  |  | Procedures | **§170.207 (a)(4)**  **§170.207 (b)(2)** |
|  |  | Procedures (Optional: for dental systems) | **§170.207 (b)(3)** |
|  |  | Procedures (Optional) | **§170.207 (b)(4)** |
|  |  | Care Team Member(s) | **<Not applicable>** |
|  |  | Immunizations | **§170.207 (e)(3), §170.207 (e)(4)** |
|  |  | Unique Device Identifier(s) for a Patient’s Implantable Device(s) | **“Product Instance” in the “Procedure Activity Procedure Section” of the standard specified in § 170.205(a)(4)** |
|  |  | Assessment and Plan of Treatment | **In accordance with the “Assessment and Plan Section (V2)” of the standard specified in § 170.205(a)(4); or**  **In accordance with the “Assessment Section (V2)” and “Plan of Treatment Section (V2)” of the standard specified in § 170.205(a)(4).** |
|  |  | Goals | **Goals Section” of the standard specified in §170.205(a)(4) for certification to the 2015 Edition health IT criteria.** |
|  |  | Health Concerns | **In accordance with the “Health Concerns Section” of the standard specified in § 170.205(a)(4) for certification to the 2015 Edition health IT certification criteria.** |
|  | **Test Data** | **Data Element** | **Standard** |
|  |  | Encounter diagnoses | **§170.207 (i) or §170.207 (a)(4)** |
|  |  | Cognitive Status | **<Not applicable>** |
|  |  | Functional Status | **<Not applicable>** |
| **AMBULATORY ONLY** | | | |
|  | **Test Data** | **Data Element** | **Standard** |
|  |  | Reason for referral | **<Not applicable>** |
|  |  | Referring or transitioning provider’s name and office contact information | **<Not applicable>** |
| **INPATIENT ONLY** | | | |
|  | **Test Data** | **Data Element** | **Standard** |
|  |  | Discharge Instructions | **<Not applicable>** |
|  |  | Patient matching | **§170.207(f)(1) m**apped to **§170.207(f)(2);**  **§170.207 (f)(2)** |
| **PATIENT MATCHING** | | | |
|  | **Test Data** | **Data Element** | **Standard** |
|  |  | First name |  |
|  |  | Last name |  |
|  |  | Previous name |  |
|  |  | Middle name (including middle initial) |  |
|  |  | Suffix |  |
|  |  | Date of birth | **(i)The year, month and day of birth must be present for a date of birth The technology must include a null value**  **when the date of birth is unknown.**  **(i) Optional: When the hour, minute and second are associated with a date of birth the technology must demonstrate that the correct**  **time zone offset is included.** |
|  |  | Address |  |
|  |  | Phone number | **Represent phone number (home, business, cell) in accordance with the standards adopted in § 170.207(q)(1). All phone numbers must be included when multiple phone numbers are present.** |
|  |  | Sex | **Represent sex in accordance with the standard adopted in § 170.207(n)(1).** |

# 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-Jun-2016 | Added date range request to last step in section 1.2 |
| 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 1.1. |
| 01-Mar-2016 | Initial Release. |
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**About Drummond Group LLC**

Drummond Group LLC is a global software test and certification lab that serves a wide range of vertical industries.  In healthcare, Drummond Group tests and certifies Controlled Substance Ordering Systems (CSOS), Electronic Prescription of Controlled Substances (EPCS) software and processes, and Electronic Health Records (EHRs) – designating the trusted test lab as the only third-party certifier of all three initiatives designed to move the industry toward a digital future. Founded in 1999, and accredited for the Office of the National Coordinator Health IT Certification Program as an Authorized Certification Body (ACB) and an Authorized Test Lab (ATL), Drummond Group continues to build upon its deep experience and expertise necessary to deliver reliable and cost-effective services. For more information, please visit <http://www.drummondgroup.com> or email [ehr@drummondgroup.com](mailto:ehr@drummondgroup.com)

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