# Test Criteria: 170.315.f.1 – Transmission to Immunization Registries

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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 |  |

### Overview

In this document you will find:

* [Test Data and Test Tools](#_Test_Data_and_1)
* [Standards Support](#_Demonstrate_Standards_Support)
* [Drummond Test Report (Instructions, Expected Results, Points to Remember)](#_170.315(f)(1)-Transmission_to_Immun)
* [Test Procedures](#_1.1_Create_immunization)
* [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 test data from the [NIST HL7 v2 Immunization Test Suite](https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/home):   * Eight (8) test patients using demographics and immunization test data from the ten (10) cases under “Administration Group” * Four (4) test patients using demographics test data under “Evaluated History and Forecast Group” | |
| **Test Data:**  All NIST test cases are required. | |
| **Test Tools:**  [NIST HL7 v2 Immunization Test Suite](https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/home) | |

# Demonstrate Standards Support

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| **Test Result:** | PASS:  FAIL:  No Attempt: |
| **Instructions:** Implement standards below for immunization content. | |

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|  | **Standard** |  |
|  | §170.205(e)(4) | HL7 2.5.1 Implementation Guide for Immunization Messaging, Release 1.5, October 2014; and HL7 Version 2.5.1 Implementation Guide for Immunization Messaging (Release 1.5) – Addendum, July 2015. |
|  | §170.207(e)(3) | HL7 Standard Code Set CVX – Vaccines Administered, updates through August 17, 2015. |
|  | §170.207(e)(4) | National Drug Code Directory – Vaccine Codes, updates through August 17, 2015. |

# 170.315(f)(1)-Transmission to Immunization Registries

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| --- | --- |
| **Test Result:** | PASS:  FAIL:  No Attempt: |
| **Instructions:** Create immunization information for electronic transmission. | |
| **Expected Test Result:**  Health IT module must:   * Record immunization content and generate the HL7 v2.5.1 Z22 VXU immunization information messages * Consume the associated acknowledgement (ACK) messages according to the §170.205(e)(4) HL7 v2.5.1 Immunization Guide * Generate evaluated immunization history and forecast query messages * Receive and display HL7 evaluated immunization history and forecast response * Support §170.207(e)(3) CVX codes for historical vaccines * Support §170.207(e)(4) National Drug Code Directory – vaccine codes for administered vaccines * Compliance to the CDC-defined NIP003-Immunization Information Source value set specified in §170.205(e)(4) HL7 v2.5.1 Immunization Guide * Additional value set from the §170.205(e)(4) HL7 v2.5.1 Immunization Guide to be selected and inspected by Proctor to verify compliance | |
| **Points to Remember:**   * Within the [NIST HL7 v2 Immunization Test Suite](https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/home): * Use the [NIST IZ Normative Test Process Document](http://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/doc) for test procedures * The “Context-based” tab should be used for testing and validation * See “Documentation” tab for test process document and additional resources * Vocabularies/value sets are accessible once a test step is loaded | |

**Test Procedures**

### 1.1 Create immunization information messages

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|  | User identifies each patient record containing pre-loaded immunization data, or input immunization data, based on the ten (10) NIST “Administration Group” V04\_Z22 test cases listed below:   * 1.IZ-AD-1.1\_Send\_V04\_Z22 * 1.IZ-AD-2.1\_Send\_V04\_Z22 * 1.IZ-AD-3.1\_Send\_V04\_Z22 * 1.IZ-AD-4.1\_Send\_V04\_Z22 * 1.IZ-AD-5.1\_Send\_V04\_Z22 * 1.IZ-AD-6.1\_Send\_V04\_Z22 * 1.IZ-AD-7.1\_Send\_V04\_Z22 * 1.IZ-AD-8.1\_Send\_V04\_Z22 * 1.IZ-AD-9.1\_Send\_V04\_Z22 * 1.IZ-AD-10.1\_Send\_V04\_Z22 |
|  | As instructed in the [NIST Normative Test Process](http://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/doc), user generates the HL7 v2.5.1 Z22 messages for each patient based and provide copies to the Proctor. |
|  | Proctor validates each immunization message using the NIST Immunization Test Tool to verify compliance. |
|  | By visually inspecting Test Tool Report and Health IT configuration file (i.e., backend database, tables displayed in user interface, etc.), the Proctor verifies Health IT module supports the following vocabularies/value sets:   * CVX codes for historical vaccines * NDC codes for administered vaccines * CDC-defined NIP003 Observation Identifiers |
|  | User identifies the Health IT module function(s) available to import acknowledgement (ACK) messages. |
|  | ACK Test Messages - Positive   * User demonstrates health IT module receives and processes at least one positive acknowledgement (i.e., no errors reported back) from the first six messages from the NIST immunization tool. Additional messages may be tested at Proctor’s discretion. |
|  | ACK Test Messages - Errors   * User demonstrates health IT module receives and processes the four (4) messages with ERR segments and display the issues in some manner in the Health IT module. |

<INSERT Test Tool Report for 1.IZ-AD-1.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-2.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-3.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-4.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-5.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-6.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-7.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive and Process ERROR Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-8.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive and Process ERROR Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-9.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive and Process ERROR Acknowledgement>

<INSERT Test Tool Report for 1.IZ-AD-10.1\_Send\_V04\_Z22 >

<INSERT SCREEN SHOT – Receive and Process ERROR Acknowledgement>

### 1.2 Create forecast query messages and receive immunization history

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|  | User identifies each patient record containing pre-loaded patient demographics, or input patient demographics, based on the four (4) NIST “Evaluated History and Forecast Group” query test cases listed below:   * 1.IZ-QR-1.1\_Query\_Q11\_Z44 * 1.IZ-QR-2.1\_Query\_Q11\_Z44 * 1.IZ-QR-3.1\_Query\_Q11\_Z44 * 1.IZ-QR-4.1\_Query\_Q11\_Z44 |
|  | User generates the HL7 v2.5.1 Z44 QBP query message for each patient and provides copies to the Proctor. |
|  | Proctor validates each query message using the NIST Immunization Test Tool to verify compliance. |
|  | User identifies the Health IT module function(s) available to receive the evaluated immunization history and forecast response (RSP) messages. |
|  | User demonstrates the health IT module receives, processes, and displays responses that contain evaluated history and forecast information for:   * 2.IZ-QR-1.2\_Response\_K11\_Z42 * 2.IZ-QR-2.2\_Response\_K11\_Z42 |
|  | Proctor utilizes NIST Juror Document to verify health IT module processes and displays history and forecast information as expected. |
|  | User demonstrates the health IT module receives, processes, and displays the following response with a notification that the query is complete *but no matching records were found*:   * 2.IZ-QR-3.2\_Response\_NF\_K11\_Z33 |
|  | Proctor utilizes NIST Juror Document to verify health IT module processes and displays a notification indicating that the query for an evaluated immunization history and immunization forecast is complete but no matching records were found for the person in the query. |
|  | User demonstrates the health IT module receives, processes, and displays the following response with a notification that the query is complete *but too many matches were found*:   * 2.IZ-QR-4.2\_Response\_TM\_K11\_Z33 |
|  | Proctor utilizes NIST Juror Document to verify health IT module processes and displays a notification indicating that the query for an evaluated immunization history and immunization forecast is complete but too many matches were found for the person in the query. |

<INSERT SCREEN SHOTS>

<INSERT Test Tool Report for 1.IZ-QR-1.1\_Query\_Q11\_Z44 >

<INSERT SCREEN SHOT – Forecast Response>

<INSERT Test Tool Report for 1.IZ-QR-2.1\_Query\_Q11\_Z44 >

<INSERT SCREEN SHOT – Forecast Response>

<INSERT Test Tool Report for 1.IZ-QR-3.1\_Query\_Q11\_Z44 >

<INSERT SCREEN SHOT – Forecast Response “No Matching Patients Found”>

<INSERT Test Tool Report for 1.IZ-QR-4.1\_Query\_Q11\_Z44 >

<INSERT SCREEN SHOT – Forecast Response “Too Many Matches Found”>

# 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

* Some examples of valid immunization messages can be found at the site hosting the [NIST Immunization Validation Tool](https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/home). Go to the Documentation section (select the Documentation tab in the header menu) and then scroll down to the Test Documentation section.
* Many data elements in the implementation profile guide are identified with an RE usage (Required-but may be empty if unknown). Per the interpretation of the test tool developers, RE usage indicates that EHR implementations must be capable of supporting such elements and must populate them if the information is known. As part of the test story/test data, ONC has made the elements known. Therefore, the EHRs are required to demonstrate that they support these elements and shall send such data when received/known. This is how the test tool validates messages in Context-based validations.

# Appendix B: ONC Criteria and Standards

*This appendix contains copy of the relevant ONC criteria and standards for this proctor sheet as a reference. In the event of a discrepancy with the ONC Final Rule, the ONC Final Rule takes precedence.*

**§170.315(f)(1) Transmission to Immunization.**

Technology must be able to create immunization information and query, access, and display an immunization history and forecast from an immunization registry.

**§170.205(e)(4). Standard.** HL7 2.5.1. Implementation Specifications. HL7 2.5.1 Implementation Guide for Immunization Messaging, Release 1.5 and HL7 version 2.5.1 Implementation Guide for Immunization Message (Release 1.5) -Addendum July 2015.

**§170.207(e)(3).** Standard. HL7 Standard Code Set CVX—Vaccines Administered, updates through August 17, 2015.

**§170.207(e)(4).** Standard. National Drug Code Directory (NDC) – Vaccine NDC Linker, updates through August 17, 2015.

# Change Log

|  |  |
| --- | --- |
| Revision | Change Description |
| 03-Apr-2017 | Consolidated sections to include acknowledgements and forecast responses. |
| 01-Nov-2016 | Corrected number of test patients from 10 to 8 in Test Data section. |
| 01-Mar-2016 | Initial Release. |
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**About Drummond Group LLC**

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