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Preliminary Draft
Version 0.28

TEST PROCEDURE

§170.302(m) Submission to Immunization Registries

Document Change History

Version Number	Description of Change	Date Published
0.28	<ul style="list-style-type: none"> ▪ Updated DTR 1 Electronically Record Immunization Information on page 5 <ul style="list-style-type: none"> - VE170.302.m.1 – 03: Changed from "Vendor shall <u>identify an existing</u> patient record in the EHR ..." to "Vendor shall <u>create a</u> patient record in the EHR ..." - Added Ethnicity and removed Administration Route from data elements ▪ Updated DTR 2 Electronically Retrieve and Display Immunization Information on page 6 <ul style="list-style-type: none"> - Removed Administration Route, Administration Notes, Administering Provider Family Name/Surname, Administering Provider Given Name, Location Vaccine Administered Information, Facility Name ID, Facility Street Address, Facility City, Facility State, Facility Zip Code from data elements table ▪ Updated DTR 3 Electronically Transmit Immunization Information on page 7 <ul style="list-style-type: none"> - Removed Administering provider information from Inspection Test Guide ▪ Updated Test Data Message Structures section on page 9 <ul style="list-style-type: none"> - Explanatory paragraph updated to provide clarification - Usage codes key has been added - All data elements in the charts match HL7 terminology - System-Dependent Data have been identified in the charts - The word "Usage" has been added to the headers for the VXU 2.3.1 and 2.3.5 columns - In the MSH Segment, Locations MSH-3 to MSH-6.3 have been added - Explanatory paragraph has been added after the MSH and PID Segment charts in the Test Data Message Structures section - In the PID Segment, Locations PID-3.4 to PID-3.4.3 and PID-13.6 to PID-22.3 have been added - In the ORC Segment, Required has been replaced with Not Applicable for the VXU 2.3.1 - In the RXA Segment, Date/Time Start of Administration and Date/Time End of Administration Locations have been corrected - In the Test Data, Ethnic Group data have been added and Race Data Element has been changed from Optional to Required • Updated Test Data on page 14, <ul style="list-style-type: none"> ○ Vaccine Name data have been clarified and the CVX Code data have been added for reference • Updated Conformance Test Tools section on page 25, <ul style="list-style-type: none"> ○ Added sentence to provide information on location of additional testing materials including example messages, detailed message structure, and conformance testing requirements 	May 17, 2010

Test Procedure for §170.302 (m) Submission to Immunization Registries

This document describes the draft test procedure for evaluating conformance of complete EHRs or EHR modules to the certification criteria defined in 45 CFR Part 170 Subpart C of the Interim Final Rule (IFR) as published in the Federal Register on January 13, 2010. The document is organized by test procedure and derived test requirements with traceability to the normative certification criteria as described in the Overview document located at http://healthcare.nist.gov/docs/TestProcedureOverview_v1.pdf. These test procedures will be updated to reflect the certification criteria defined in the ONC Final Rule.

Note: This test procedure is scoped only to the criteria defined in 45 CFR Part 170 Subpart C of the Interim Final Rule (IFR) as published in the Federal Register on January 13, 2010. This test procedure will be updated to reflect updates to the criteria and standards as published in the ONC Final Rule. Questions about the criteria and standards should be directed to ONC.

CERTIFICATION CRITERIA

§170.302 (m) Submission to immunization registries. Electronically record, retrieve, and transmit immunization information to immunization registries in accordance with:

- (1) One of the standards specified in §170.205(h)(1) and, at a minimum, the version of the standard specified in §170.205(h)(2); or
- (2) The applicable state-designated standard format

INFORMATIVE TEST DESCRIPTION

This section provides an informative description of how the test procedure is organized and conducted. It is not intended to provide normative statements of the certification requirements.

This test evaluates the capability for a Complete EHR or EHR Module¹ to electronically record, retrieve and transmit immunization information to immunization registries in either HL7 2.3.1 or HL7 2.5.1 format including the appropriate HL7 CVX codes.

NIST considers that the alternative requirement for an “applicable state-designated standard format” cannot be tested without the application of an implementation guide. If a Vendor wishes to claim conformance to a specific State-designated standard format, the Tester will conduct the test as described in this test procedure and will evaluate message conformance against the Vendor-supplied implementation guide for the State.

The test procedure is organized into three sections:

- **Record** – evaluates the capability of the EHR to record immunization information
 - Using Vendor-defined EHR functions, the Tester enters immunization information into the EHR and stores it in the patient record.

¹ Department of Health and Human Services, 45 CFR Part 170 Proposed Establishment of Certification Programs for Health Information Technology, Proposed Rule, March 10, 2010.

- **Retrieve** – evaluates the capability of the EHR to retrieve and display previously stored immunization information.
 - Using Vendor-defined EHR functions, the Tester retrieves the previously entered immunization information and verifies that it is complete and correct

- **Transmit** – evaluates the capability of the EHR to transmit the recorded immunization information to an immunization registry in either HL7 2.3.1 or HL7 2.5.1 format including the appropriate HL7 CVX codes. If a Vendor wishes to claim conformance to a specific State-designated standard format, the Tester will conduct the test as described in this test procedure and will evaluate message conformance against the Vendor-supplied implementation guide for the State.
 - Using Vendor-defined EHR functions, the Tester transmits the recorded immunization information to an external source
 - The Tester validates that the transmitted immunization message is conformant using either:
 - The NIST conformance testing tool identified in the Conformance Tools section of this test procedure, or
 - The Vendor-supplied State-designated implementation guide (if selected by the Vendor)

REFERENCED STANDARDS

§170.205 Content exchange and vocabulary standards for exchanging electronic health information.	Regulatory Referenced Standard
(h) Electronic submission to immunization registries	
(1) The Secretary adopts the following content exchange standards for electronic submission to immunization registries:	
(i) Standard. HL7 2.3.1 (incorporated by reference in §170.299).	
(ii) Alternative standard. HL7 2.5.1 (incorporated by reference in §170.299).	
(2) The Secretary adopts the following vocabulary standard for electronic submissions to immunization registries.	
(i) Standard. HL7 Standard Code Set CVX - Vaccines Administered, July 30, 2009 version (incorporated by reference in §170.299).	
(ii) [Reserved]	

NORMATIVE TEST PROCEDURES

Derived Test Requirements

- DTR170.302.m.1: Electronically Record Immunization Information
- DTR170.302.m.2: Electronically Retrieve and Display Immunization Information
- DTR170.302.m.3: Electronically Transmit Immunization Information

DTR170.302.m.1: Electronically Record Immunization Information

Required Vendor Information

- VE170.302.m.1 – 01 : Vendor shall identify the EHR function(s) that are available to record, retrieve and transmit immunization information to an immunization registry
- VE170.302.m.1 – 02: Vendor shall specify whether they wish to use HL7 2.3.1 or HL7 2.5.1 format
- VE170.302.m.1 – 03: Vendor shall create a patient record in the EHR to be used for this test, and shall have entered the following information into the patient record using the NIST-supplied patient demographic test data sets:

Data Element	Inclusion Indicator
ID Number	Required
ID Number Type	Required
Family Name/Surname	Required
Given Name	Required
Date of Birth	Required
Administrative Sex/Gender	Required
Race	Required
Ethnicity	Required
Patient Address/Phone	
Street Address	Required
City	Required
State	Required
Zip Code	Required
Country	Required
Address Type	Required
Telephone Number - Home	Required

Required Test Procedure

- TE170.302.m.1 - 01: Tester shall select immunization test data from NIST-supplied test data sets
- TE170.302.m.1 - 02: Using EHR function(s) identified by the Vendor, the Tester shall select the patient's existing record and enter the immunization test data into the EHR
- TE170.302.m.1 - 03: Using the EHR function(s) identified by the Vendor and the NIST-supplied Inspection Test Guide, the Tester shall verify that the immunization information has

been entered correctly and without omission

Inspection Test Guide

IN170.302.m.1 - 01: Tester shall verify that the immunization test data are entered correctly and without omission

IN170.302.m.1 - 02: Tester shall verify that the immunization test data entered during the test are stored in the patient's record, including:

Vaccine Administration Information	Inclusion Indicator
Vaccine Name	Required
Date/Time Start of Vaccine Administration	Required
Administered Amount	Required
Administered Units	Conditional (If Administered Amount is known, then this field is required)
Vaccine Lot Number	Required

DTR170.302.m.2: Electronically Retrieve and Display Immunization Information

Required Vendor Information

- As defined in DTR170.302.m.1, no additional information is required

Required Test Procedure

TE170.302.m.2 - 01: Using EHR function(s) identified by the Vendor, the Tester shall retrieve and display the immunization information entered during the Electronically Record Immunization Information test

TE170.302.m.2 - 02: Using the NIST-supplied Inspection Test Guide, the Tester shall verify that the immunization information entered during the Electronically Record Immunization Information test is displayed correctly and without omission

Inspection Test Guide

IN170.302.m.2 - 01: Tester shall verify that the displayed immunization information includes all of the following sections and data elements, including:

Vaccine Administration Information	Inclusion Indicator
Vaccine Name	Required
Date/Time Start of Vaccine Administration	Required
Administered Amount	Required
Administered Units	Conditional (If Administered Amount is

Vaccine Administration Information	Inclusion Indicator
	known, then this field is required)
Vaccine Lot Number	Required

DTR170.302.m.3: Electronically Transmit Immunization Information

Required Vendor Information

As defined in DTR170.302.m.1, and

VE170.302.m.3 – 01: At the Vendor's discretion, the Vendor may provide a State-designated implementation guide for transmitting immunization information to an immunization registry. If provided, the implementation guide will be used to evaluate conformance instead of the NIST conformance tool

Required Test Procedures

TE170.302.m.3 - 01: Using the EHR function(s) identified by the Vendor, the Tester shall transmit the Immunization Information entered during the Record test to an external system.

TE170.302.m.3 - 02: The Tester shall verify conformance of the transmitted immunization message to the applicable standards using either:

- The NIST-supplied conformance tool identified in the Conformance Tools section of this test procedure, or
- The Vendor-supplied State-designated implementation guide as identified in VE170.302.m.3- 1.01

Inspection Test Guide

IN170.302.m.3 - 01: Using the NIST-supplied conformance testing tools described in the Conformance Tools section, the Tester shall verify that the immunization information test data are transmitted by the EHR to an external system, including:

- Patient information
- Vaccine information
- Vaccine administration information

In addition to validating conformance to the HL7 standards, the NIST-supplied testing tools will also validate that the test data supplied in the Test Data section of this test procedure appears correctly in the transmitted message.

IN170.302.m.3 - 02: Tester shall verify that the immunization test data transmitted to the NIST-supplied test tool are complete and correct, and that the received test data are conformant to

the referenced HL7v2 and CVX vocabulary standards.

Alternative Conformance Assessment Procedure:

IN170.302.m.3 - 03: If the Vendor requests conformance assessment against a State-designated implementation guide, the Tester shall evaluate conformance based on the conformance requirements defined in the implementation guide.

PRELIMINARY DRAFT

TEST DATA MESSAGE STRUCTURES

The Test Data Message Structures section provides a detailed description of the message data elements required for this test procedure. **Location** indicates the canonical element location in the HL7 V2 message. For example, MSH-9.3 represents the 3rd component in the 9th field of the MSH segment. **Data Element** is the name of the data element as specified by the HL7 V2 standard. **Test Data** is content provided by the NIST test procedure and is required content. As described in the Normative Test Procedures section of this document, the system under test shall record and use these data to generate the message. In evaluation of the message, the exact content of these data will be examined by the test tool. **System Dependent Data** are data that are customarily provided automatically and are dependent on the system under test. The system under test is expected to provide data for these elements. In evaluation of the message, the test tool confirms the existence of the data but will not evaluate the content for conformance. NIST has categorized data as test data or system dependent data. The testing body has the latitude as part of the testing process to re-categorize these data based on the capabilities of the system under test. **Comments** provide additional information about the data element. The **Table #** indicates the HL7 value set which is used to evaluate conformance of the data element. VXU 2.3.1 Usage and VXU 2.5.1 Usage indicate the data element requirements for the test procedure for the selected HL7 V2 version. See the **Usage Code** table below for meaning of the entries.

Usage Codes	
Required	The data element is required for meaningful use
Conditional	The data element is required if the conditional is satisfied for meaningful use
Not Applicable	The data element is not required for meaningful use

Message Header Segment – Immunization VXU Message

Location	Data Element	Test Data	**System Dependent Data	Comments	Table #	VXU 2.3.1 Usage	VXU 2.5.1 Usage
MSH-1	Field Separator			FIXED		Required	Required
MSH-2	Encoding Characters	^~\&		FIXED		Required	Required
MSH-3	Sending Application*		**			Required	Required
MSH-3.1	Namespace ID					Conditional	Conditional
MSH-3.2	Universal ID					Conditional	Conditional
MSH-3.3	Universal ID Type				HL70301	Conditional	Conditional

Location	Data Element	Test Data	**System Dependent Data	Comments	Table #	VXU 2.3.1 Usage	VXU 2.5.1 Usage
MSH-4	Sending Facility*		**			Required	Required
MSH-4.1	Namespace ID					Conditional	Conditional
MSH-4.2	Universal ID					Conditional	Conditional
MSH-4.3	Universal ID Type				HL70301	Conditional	Conditional
MSH-5	Sending Facility*		**			Required	Required
MSH-5.1	Namespace ID					Conditional	Conditional
MSH-5.2	Universal ID					Conditional	Conditional
MSH-5.3	Universal ID Type				HL70301	Conditional	Conditional
MSH-6	Sending Facility*		**			Required	Required
MSH-6.1	Namespace ID					Conditional	Conditional
MSH-6.2	Universal ID					Conditional	Conditional
MSH-6.3	Universal ID Type				HL70301	Conditional	Conditional
MSH-7	Date/Time of Message			Current time of the SUT		Required	Required
MSH-9	Message Type					Required	Required
MSH-9.1	Message Code	VXU		FIXED	HL70076	Required	Required
MSH-9.2	Event Type	V04		FIXED	HL70003	Required	Required
MSH-9.3	Message Structure	VXU_V04		FIXED	HL70354	Optional	Required
MSH-10	Message Control ID			Created by the SUT		Required	Required
MSH-11	Processing ID	P		FIXED	HL70103	Required	Required
MSH-12	Version ID	2.3.1		FIXED	HL70104	Required	Not Applicable
MSH-12	Version ID	2.5.1		FIXED	HL70104	Not Applicable	Required

FIXED: the test data for this field will always be the same for any data set

* For the data elements specified with the HD datatype, namely MSH-3, MSH-4, MSH-5, MSH-6, and PID-3.4 the following rule will apply. The parent element is required. This requirement may be satisfied in one of the following 3 ways. The first element of the HD datatype is populated, the second and third pair is populated, or all three elements are populated. Therefore the components of the HD datatype are indicated as conditional. For more information please consult the HL7 V2 standard.

Patient ID Segment – Immunization Message

Location	Data Element	**System Dependent Data	Table #	VXU 2.3.1 Usage	VXU 2.5.1 Usage
PID-3	Patient Identifier List			Required	Required
PID-3.1	ID Number	**		Required	Required
PID-3.4	Assigning Authority*	**		Required	Required
PID-3.4.1	Namespace ID			Conditional	Conditional
PID-3.4.2	Universal ID			Conditional	Conditional
PID-3.4.3	Universal ID Type		HL70301	Conditional	Conditional
PID-3.5	ID Number Type		HL70203	Required	Required
PID-5	Patient Name			Required	Required
PID-5.1	Family Name			Required	Not Applicable
PID-5.1.1	Surname			Not Applicable	Required
PID-5.2	Given Name			Required	Required
PID-7	Date of Birth			Required	Required
PID-8	Administrative Sex		HL70001	Required	Required
PID-10	Race				
PID-10.1	Identifier		HL70005	Required	Required
PID-10.2	Text			Required	Required
PID-10.3	Name of Coding System			Required	Required
PID-11	Patient Address				
PID-11.1	Street Address			Required	Required
PID-11.3	City			Required	Required
PID-11.4	State			Required	Required
PID-11.5	Zip Code			Required	Required
PID-11.6	Country		HL70399	Required	Required
PID-11.7	Address Type		HL70190	Required	Required
PID-13	Phone Number-Home			Required	Required

Location	Data Element	**System Dependent Data	Table #	VXU 2.3.1 Usage	VXU 2.5.1 Usage
PID-13.1	Telephone Number			Conditional	Conditional
PID-13.6	Area/City Code			Conditional	Conditional
PID-13.7	Local Number			Conditional	Conditional
PID-22	Ethnic Group				
PID-22.1	Identifier		HL70189	Required	Required
PID-22.2	Text			Required	Required
PID-22.3	Name of Coding System			Required	Required

* For the data elements specified with the HD datatype, namely MSH-3, MSH-4, MSH-5, MSH-6, and PID-3.4 the following rule will apply. The parent element is required. This requirement may be satisfied in one of the following 3 ways. The first element of the HD datatype is populated, the second and third pair is populated, or all three elements are populated. Therefore the components of the HD datatype are indicated as conditional. For more information please consult the HL7 V2 standard.

Common Order Segment – Immunization Message

Location	Data Element	Comments	Table #	VXU 2.3.1 Usage	VXU 2.5.1 Usage
ORC-1	Order Control	FIXED Value = RE	HL70119	Not Applicable	Required

FIXED: the test data for this field will always be the same for any data set

RXA Vaccine Segment – Immunization Message

Location	Data Element	**System Dependent Data	Comments	Table #	VXU 2.3.1 Usage	VXU 2.5.1 Usage
RXA-1	Give Sub-ID Counter		FIXED Value = 0		Required	Required
RXA-2	Administration Sub-ID Counter		FIXED Value = 1		Required	Required
RXA-3	Date/Time Start of Administration				Required	Required

Location	Data Element	**System Dependent Data	Comments	Table #	VXU 2.3.1 Usage	VXU 2.5.1 Usage
RXA-4	Date/Time End of Administration		(if null, date/time of start is assumed)		Required	Required
RXA-5	Administered Code					
RXA-5.1	Identifier			HL70292	Required	Required
RXA-5.2	Text				Required	Required
RXA-5.3	Name of Coding System		FIXED Value = CVX or HL70292		Required	Required
RXA-6	Administered Amount				Required	Required
RXA-7	Administered Units (ml, etc)		If RXA-6 does not equal 999 (unknown amount) then this field is required		Conditional	Conditional
RXA-15	Substance Lot Numbers				Required	Required
RXA-17	Substance Manufacturer Name					
RXA-17.1	Identifier			HL70227	Required	Required
RXA-17.2	Text				Required	Required
RXA-17.3	Name of Coding System		FIXED Value = MVX or HL70227		Required	Required

FIXED: the test data for this field will always be the same for any data set

TEST DATA

Immunization Data Set #1

Data Element	Data	Inclusion Indicator
ID Number	9817566735	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Johnson	Required
Given Name	Philip	Required
Date of Birth	May 26, 1984	Required
Administrative Sex/Gender	Male	Required
Race	White	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	3345 Elm Street	Required
City	Aurora	Required
State	Colorado	Required
Zip Code	80011	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	303-554-8889	Required
Vaccine Administration Information		
Vaccine Name	Hepatitis A, Adult	Required
CVX Code (for reference)	52	
Date/Time Start of Vaccine Administration	February 24, 2010 10:00AM	Required
Administered Amount	1	Required
Administered Units	ml	Conditional
Vaccine Lot Number	HAB9678V1	Required

Immunization Data Set #2

Data Element	Data	Inclusion Indicator
ID Number	5667351009	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Anderson	Required
Given Name	Janet	Required
Date of Birth	September 30, 1986	Required
Administrative Sex/Gender	Female	Required
Race	White	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	3345 16th Street	Required
City	Fargo	Required
State	North Dakota	Required
Zip Code	54102	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	701-454-8989	Required
Vaccine Administration Information		
Vaccine Name	Influenza-NOS	Required
CVX Code (for reference)	88	
Date/Time Start of Vaccine Administration	November 12, 2009 1:00PM	Required
Administered Amount	0.5	Required
Administered Units	ml	Conditional
Vaccine Lot Number	L888355	Required

Immunization Data Set #3

Data Element	Data	Inclusion Indicator
ID Number	686774009	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Takamura	Required
Given Name	Michael	Required
Date of Birth	19820815	Required
Administrative Sex/Gender	Male	Required
Race	Asian	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	3567 Maple Street	Required
City	Oakland	Required
State	California	Required
Zip Code	94607	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	510-665-8876	Required
Vaccine Administration Information		
Vaccine Name	Hepatitis B, Adult	Required
CVX Code (for reference)	43	
Date/Time Start of Vaccine Administration	February 13, 2007	Required
Administered Amount	999 (= unknown)	Required
Administered Units		Conditional
Vaccine Lot Number		Required

Immunization Data Set #4

Data Element	Data	Inclusion Indicator
ID Number	774009153	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Sinclair	Required
Given Name	John	Required
Date of Birth	19871012	Required
Administrative Sex/Gender	Male	Required
Race	African American	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	3567 Maple Street	Required
City	Elizabeth City	Required
State	North Carolina	Required
Zip Code	27909	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	252-227-5887	Required
Vaccine Administration Information		
Vaccine Name	Influenza, whole	Required
CVX Code (for reference)	16	
Date/Time Start of Vaccine Administration	December 7, 2009	Required
Administered Amount	0.5	Required
Administered Units	ml	Conditional
Vaccine Lot Number	U6007	Required

Immunization Data Set #5

Data Element	Data	Inclusion Indicator
ID Number	874889153	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Haena	Required
Given Name	Mary	Required
Date of Birth	19791122	Required
Administrative Sex/Gender	Female	Required
Race	Native Hawaiian	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	6778 Kaulula Road	Required
City	Honolulu	Required
State	Hawaii	Required
Zip Code	96813	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	808-727-8755	Required
Vaccine Administration Information		
Vaccine Name	Pneumococcal Polysaccharide Vaccine	Required
CVX Code (for reference)	33	
Date/Time Start of Vaccine Administration	October 10, 2008 1010	Required
Administered Amount	0.5	Required
Administered Units	ml	Conditional
Vaccine Lot Number	1039A	Required

Immunization Data Set #6

Data Element	Data	Inclusion Indicator
ID Number	987488015	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Whiteagle	Required
Given Name	Adam	Required
Date of Birth	19800321	Required
Administrative Sex/Gender	Male	Required
Race	Alaska Native	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	354 Glacier Road	Required
City	Eklutna	Required
State	Alaska	Required
Zip Code	99567	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	907-755-2189	Required
Vaccine Administration Information		
Vaccine Name	Measles Mumps Rubella Vaccine	Required
CVX Code (for reference)	03	
Date/Time Start of Vaccine Administration	April 15, 2006 0900	Required
Administered Amount	999 (= unknown)	Required
Administered Units		Conditional
Vaccine Lot Number		Required

Immunization Data Set #7

Data Element	Data	Inclusion Indicator
ID Number	787478017	Required
ID Number Type	Medical Record	Required
Family Name/Surname	James	Required
Given Name	Wanda	Required
Date of Birth	19810430	Required
Administrative Sex/Gender	Female	Required
Race	White	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	574 Wilkins Road	Required
City	Shawville	Required
State	Pennsylvania	Required
Zip Code	16873	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	814-575-2819	Required
Vaccine Administration Information		
Vaccine Name	Hepatitis A, Adult	Required
CVX Code (for reference)	52	
Date/Time Start of Vaccine Administration	February 24, 2010 1000	Required
Administered Amount	1	Required
Administered Units	ml	Conditional
Vaccine Lot Number	HAB9678V1	Required
Vaccine Administration Information		
Vaccine Name	Measles Mumps Rubella Vaccine	Required
CVX Code (for reference)	03	
Date/Time Start of Vaccine Administration	April 15, 2006 0900	Required

Data Element	Data	Inclusion Indicator
Administered Amount	999 (= unknown)	Required
Administered Units		Conditional
Vaccine Lot Number		Required

Immunization Data Set #8

Data Element	Data	Inclusion Indicator
ID Number	9787478015	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Tyler	Required
Given Name	Christine	Required
Date of Birth	19880728	Required
Administrative Sex/Gender	Female	Required
Race	African American	Required
Ethnic Group	Hispanic or Latino	Required
Patient Address		
Street Address	766 Bohen Street	Required
City	Marshalltown	Required
State	Iowa	Required
Zip Code	50158	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	641-225-8190	Required
Vaccine Administration Information		
Vaccine Name	Influenza-NOS	Required
CVX Code (for reference)	88	
Date/Time Start of Vaccine Administration	November 12, 2009 1300	Required
Administered Amount	0.5	Required

Data Element	Data	Inclusion Indicator
Administered Units	ml	Conditional
Vaccine Lot Number	L888355	Required
Vaccine Administration Information		
Vaccine Name	Influenza, whole	Required
CVX Code (for reference)	16	
Date/Time Start of Vaccine Administration	December 7, 2009	Required
Administered Amount	0.5	Required
Administered Units	ml	Conditional
Vaccine Lot Number	U6007	Required

Immunization Data Set #9

Data Element	Data	Inclusion Indicator
ID Number	78015669	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Singer	Required
Given Name	Carlton	Required
Date of Birth	19781015	Required
Administrative Sex/Gender	Male	Required
Race	White	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		
Street Address	677 Tylar Street	Required
City	Blanchard	Required
State	Oklahoma	Required
Zip Code	73010	Required
Country	USA	Required
Address Type	Mailing	Required

Data Element	Data	Inclusion Indicator
Telephone Number - Home	405-255-9229	Required
Vaccine Administration Information		
Vaccine Name	Hepatitis B, Adult	Required
CVX Code (for reference)	43	
Date/Time Start of Vaccine Administration	February 13, 2007	Required
Administered Amount	999 (= unknown)	Required
Administered Units		Conditional
Vaccine Lot Number		Required
Vaccine Administration Information		
Vaccine Name	Measles Mumps Rubella Vaccine	Required
CVX Code (for reference)	03	
Date/Time Start of Vaccine Administration	April 15, 2006 0900	Required
Administered Amount	999 (=unknown)	Required
Administered Units		Conditional
Vaccine Lot Number		Required

Immunization Data Set #10

Data Element	Data	Inclusion Indicator
ID Number	97833566	Required
ID Number Type	Medical Record	Required
Family Name/Surname	Brown	Required
Given Name	Mark	Required
Date of Birth	19880617	Required
Administrative Sex/Gender	Male	Required
Race	African American	Required
Ethnic Group	Not Hispanic or Latino	Required
Patient Address		

Data Element	Data	Inclusion Indicator
Street Address	799 Newton Street	Required
City	Augusta	Required
State	Maine	Required
Zip Code	04330	Required
Country	USA	Required
Address Type	Mailing	Required
Telephone Number - Home	207-959-2228	Required
Vaccine Administration Information		
Vaccine Name	Pneumococcal Polysaccharide Vaccine	Required
CVX Code (for reference)	33	
Date/Time Start of Vaccine Administration	October 10, 2008 1500	Required
Administered Amount	0.5	Required
Administered Units	ml	Conditional
Vaccine Lot Number	1039A	Required
Vaccine Administration Information		
Vaccine Name	Influenza, whole	Required
CVX Code (for reference)	16	
Date/Time Start of Vaccine Administration	December 7, 2009	Required
Administered Amount	0.5	Required
Administered Units	ml	Conditional
Vaccine Lot Number	U6007	Required

CONFORMANCE TEST TOOLS

The following testing tools are available to evaluate conformance to the standards referenced in this test procedure:

- HL7 v2 – NIST provides an HL7 v2 validation tool designed specifically to support ARRA Meaningful Use Testing as described in this test procedure. The tool is available in three forms:
 - Web Application
 - Desktop Java Application
 - Java class library (archive/jar file)
- All three instances can be downloaded for local installation
- NIST is making available the web-accessible version for pre-testing
- The downloadable tools and the web application validation service are available at:

<http://xreg2.nist.gov:8080/HL7V2MuValidation2011>
- Additional test materials are available at this site—including example messages, detailed message structure and conformance testing requirements and test artifacts

Support for these tools is available by contacting
Rob Snelick (Robert.Snelick@nist.gov)
Computer Scientist
National Institute of Standards and Technology (NIST)
Information Technology Laboratory

The following information is provided to assist the Tester in interpreting the conformance reports generated by the NIST meaningful use conformance testing tools.

The ARRA Meaningful Use NIST HL7 conformance testing tool evaluates individual conformance statements which have been derived from the standards identified in the IFR and the test data provided in this test procedure. The conformance tool evaluates the submitted HL7 message for each conformance statement, and then produces a conformance report. The Tester should consider that a report containing only Affirmative and Warning messages indicates general conformance to the standard and test data expectations. If reported, Errors should be considered as significant departures from the standard or test data requirements which need to be corrected in order to claim conformance.