



# NJIIS INTERFACE MANAGEMENT SYSTEM HL7 VERSION 2.5.1 LOCAL IMPLEMENTATION GUIDE: IMMUNIZATION MESSAGING

# (RELEASE 1.5)

2/11/2025

### **DOCUMENT VERSION HISTORY**

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1.0	Catherine Byrne	11/23/2020	Initial distribution of the NJIIS IMS Local IG for HL7 2.5.1 Version 1.5Immunization Messaging.
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1.2	Claudia Arredondo	10/14/2021	Updated Table 8-5 Patient Identifier Segment (PID) in RSP. Updated PID Field Usage Notes in the RSP.
1.3	Claudia Arredondo	12/20/2021	RXA-6 Field Usage Notes Updated.
1.4	Kulothungan Kannappan and Claudia Arredondo	05/23/2022	Revised and updated.
1.5	Kulothungan Kannappan	08/25/2022	Added V98 to User-defined Table 0064 – Financial Class
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1.7	Kulothungan Kannappan	03/08/2024	Added section 9.1.46 and Updated section 5.5.16, 9.1.37 for LOINC code 30963-3 Immunization Funding Source
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## **1** INTRODUCTION

## 1.1 NEW JERSEY IMMUNIZATION INFORMATION SYSTEM (NJIIS)

The New Jersey Immunization Information System (NJIIS), operating since 1997, is the statewide immunization information system (IIS) serving as the official repository of immunizations administered to individuals in the state of New Jersey. Containing over 11.3 million patients, over 103 million immunization records<sup>1</sup>, NJIIS is a free, confidential, population-based online system that collects and consolidates immunization information into a single record to provide an accurate immunization assessment for individuals in the state of New Jersey, as well as assists communities in assessing their immunization coverage and identifying pockets of need.

Individuals born on or after January 1, 1998, are automatically enrolled in NJIIS through the electronic birth certificate (EBC) process. Individuals born before January 1, 1998 may enroll in NJIIS voluntarily by completing a <u>NJIIS Consent to Participate form</u>. Health care providers, childcare centers, schools, colleges or universities, health plans, billing and practice management vendors, state or local public health and social service programs, and agencies or designated agents thereof may participate in and enroll as authorized users of NJIIS.

New Jersey state regulation requires health care providers in the state of New Jersey who administer

<sup>&</sup>lt;sup>1</sup> As of May 2022

immunizations to children under age seven (7) to report those immunizations administered to NJIIS within thirty (30) days of the administration date. Immunizations can be reported to NJIIS via:

- Direct data entry into the NJIIS web application.
- Manual electronic file transfer of Health Level Seven International (HL7) 2.5.1 messages via Secure File Transfer Protocol (SFTP) or Hypertext Transfer Protocol Secure (HTTPS) (also herein referred to as File Upload)
- Submission of HL7 2.5.1 messages utilizing the NJIIS HL7 webservice

Additional information on NJIIIS can be found on the NJIIS website.

## 1.2 NJIIS INTERFACE MANAGEMENT SYSTEM (IMS)

The NJIIS Interface Management System (IMS) is the system which processes the supported HL7 message types described in <u>Chapter 2</u> of this Local Implementation Guide (Local IG), to enable interoperability between NJIIS and data exchange partners. Data exchange partners wishing to exchange HL7 data with NJIIS are herein referred to as HL7 Data Exchange Partners.

HL7 Data Exchange Partners can interface with the NJIIS IMS via the interface type selected upon Interface Enrollment. For more information on Interface Enrollment and how to establish and interface with NJIIS, see <u>Getting Started: How to Establish an HL7 Interface with NJIIS</u>.

HL7 Data Exchange Partners can interface with the NJIIS IMS via one of the following three interface types (i.e., methods):

- File Upload: A method of manually uploading immunization data files via the NJIIS website.
- **SFTP**: An internet accessible SFTP/SSH2 server for secure drop off and pickup of data files. Upon authentication, the provider's SFTP client connects to a private directory.
- Web Services: A software system designed to support interoperable machine-to-machine interaction over a network; HL7 version 2.5.1 is the required standard for using the NJIIS HL7 webservice, a bi-directional web service.

HL7 Data Exchange Partners using the File Upload or SFTP interface type will be provided a MOVEit account to upload Quality Assurance (QA) data to the NJIIS Test Environment.

HL7 Data Exchange Partners using the Web Services interface type must consume NJIIS IMS web service to submit QA data to the NJIIS Test Environment. NJIIS provides two different schemas for implementing IMS Web Service.

Web Service providers are free to choose either the nationally specified CDC schema or the NJIIS schema. For more information on IMS Web Service, please refer to <u>Appendix D: Web Service</u>.

### 1.3 HL7 IMPLEMENTATION GUIDES

In order for different health information systems to exchange data, the structure and content of the data to be exchanged must be standardized. Three controlling documents define how the NJIIS IMS data exchange interface works. They are arranged in a hierarchy of documents, each refining and constraining

the HL7 Standard.

## 1.3.1 FIGURE: HL7 CONTROLLING DOCUMENT HIERARCHY



The first document is the HL7 2.5.1 standard developed by Health Level Seven, a not-for-profit American National Standards Institute (ANSI) accredited standards developing organization. This standard defines the structure and content of immunization messages but leaves many specific implementation details undecided. Beneficial information on HL7 and a copy of the HL7 message standard can be obtained from the Health Level Seven website at: <u>http://www.hl7.org</u>.

The second document is the Centers for Disease Control and Prevention's (CDC) **HL7 2.5.1 Implementation Guide for Immunization Messaging, Release 1.5** (CDC IG). This guide gives specific instructions regarding how to report to IIS, but still leaves some implementation decisions to each IIS. This guide and other technical information can be obtained from the CDC website at: <u>http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html</u>.

The third document is this document. It finalizes all implementation decisions and defines exactly what the NJIIS IMS Interface will and will not accept. It is written in accordance with the standards set in the first two documents. This Local IG has taken great care to point out differences from the CDC IG by adding additional columns to the tables. In cases where this guide differs from the CDC IG, this guide will provide both the CDC IG column followed by the local usage specification. This effort will prove highly

useful in the larger interoperability effort for Electronic Health Record (EHR)Systems, Indian Health Services, and any other electronic exchange that may span multiple IIS. Providing this information will allow the HL7 Data Exchange Partners to accurately compare the CDC IG with a Local IG, and compare differences between two different Local IGs.

### **1.4 INTENDED AUDIENCE**

This Local IG is intended for technical groups (e.g., vendors/integrators, providers/health systems, etc.) from IIS and EHR Systems that must implement these guidelines. The reader of this Local IG should have a solid HL7 foundation and be very familiar with the contents of the CDC IG. Chapters 2 and 3 of the CDC IG provide HL7 foundational concepts and set the stage for this Local IG. The goal of this Local IG is to provide an unambiguous specification for creating and interpreting messages.

## **1.5** Scope

The scope of this document is to clearly define the HL7 2.5.1 immunization messages supported by the NJIIS IMS. This document does not provide background on HL7 2.5.1 or the CDC HL7 2.5.1 Implementation Guide for Immunization Messaging (details can be found here: <a href="http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html">http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html</a>)

## 2 SUPPORTED HL7 MESSAGE TYPES

The NJIIS IMS supports two message types: Unsolicited Vaccination Update (VXU) and Query By Parameter (QBP), and their corresponding response messages: Message Acknowledgement (ACK) and Query Response (RSP).

The VXU is used by HL7 Data Exchange Partners to send client data and immunizations to NJIIS. The corresponding ACK is used by the NJIIS IMS to acknowledge to the HL7 Data Exchange Partner the results of the NJIIS IMS efforts to process the VXU.

The QBP (using the Z34 or Z44 profile) is used by HL7 Data Exchange Partners to Query by Parameter for client and related immunization data. The corresponding RSP is used by the NJIIS IMS to message a response to the HL7 Data Exchange Partner. The NJIIS IMS will return a RSP response message using the Z31 profile (multiple patient list) or Z42 or Z32 profile (exact patient match details).

It is important to understand some basic concepts, which are used throughout tables in this document. For more in- depth details, please refer to the CDC IG.

## 2.1 BASIC CONCEPTS

## 2.1.1 TABLE: BASIC CONCEPTS

The tables below show the segments that are used to construct each message type supported by the NJIIS IMS. Each segment is one line of text ending with the carriage return character as required by HL7. The full HL7 standard allows additional segments within these message types, but they are unused by the NJIIS IMS. In order to remain compliant with HL7, their use will not result in an error, but the NJIIS IMS will ignore the content of the additional segments. The segments that are documented here are sufficient to support the principal NJIIS IMS functions related to clients and immunizations.

Concept	Information			
[XYZ]	Square Brackets enclose optional segments.			
{XYZ}	Curly Braces enclose segments which can be repeated.			
[{XYZ}]	Defines an optional segment which can be repeated.			
Optionality/Usage	Defines an optional segment which can be repeated. $\frac{R - Required}{\text{These are required to message with the IIS.}}$ $\frac{RE - Required but may be empty}{\text{The sending system shall populate RE elements with a non-empty value if there is relevant data.}$ $\frac{C(a/b) - Conditional}{D}$ If the conditional predicate is true, the sending system must adhere to the usage defined by the "a" half of the conditional usage where "a" shall be one of "R", "RE", "O", or "X". If the conditional predicate is false, the sending system must adhere to the usage defined by the "b" half of the conditional usage where "b" shall be one of "R", "RE", "RE", "O", or "X". If the conditional predicate is false, the sending system must adhere to the usage defined by the "b" half of the conditional usage where "b" shall be one of "R", "RE", "RE", "O", or "X". $\frac{O - Optional}{D}$ These elements are entirely optional to provide by the sending system and optional for the IIS to process. $\frac{X - Not Supported}{D}$ These fields are not supported by the IIS. There should be no anticipation by the regulated by the US is consuming these elements.			
Cardinality	<ul> <li>Indicator of the minimum and maximum number of times the element may appear.</li> <li>[00]Element never present.</li> <li>[01]Element may be omitted or exist, at most, one occurrence.</li> <li>[0n]Element may be omitted or repeat up to n times.</li> <li>[0*]Element may be omitted or repeat an unlimited number of times.</li> <li>[11]Element must have exactly one occurrence.</li> <li>[1n]Element must appear at least once and may repeat up to n times.</li> </ul>			

	<ul><li>[1*]Element must appear at least once and may repeat unlimited number of times.</li><li>[mn]Element must appear at least m times and may repeat up to n times.</li></ul>
	Within a message type grammar table (VXU, RSP), there are groupings which may or may not be required and may or may not repeat. These groupings are further refined by the segments within the group.
Begin "Named" Group  End "Named" Group	For example, the Order Group in the VXU grammar table is defined with a cardinality of [1*] and an Optionality of R. This simply means that for each VXU message type, at least 1 Order Group (immunizations) must be sent, and multiple Order Groups (immunizations) are allowed.
	Within the Order Group there are 7 segments (ORC, TQ1, TQ2, RXA, RXR, OBX, NTE) each with their own cardinality and optionality. For each Order Group (immunization) in a VXU, each segment cardinality and optionality within the grouping must be followed. Meaning, for each immunization sent within the VXU, minimally there must be a least 1 ORC followed by 1 RXA.

## 2.2 VXU – UNSOLICITED VACCINATION UPDATE GRAMMAR

## 2.2.1 TABLE: UNSOLICITED VACCINATION UPDATE (VXU)

Segment	Cardinality	Optionality	Comment
MSH	[11]	R	
[{SFT}]	[00]	х	
PID	[11]	R	
[PD1]	[01]	C(R/O)	PD1 is required for new patients in NJIIS with Date of Birth < 1/1/1998. PD1 is ignored for patients with Date of Birth >=1/1/1998.
[{NK1}]	[0*]	RE	
ſ	[00]	х	<i>Begin Patient Group</i> The NJIIS IMS does not support this grouping for HL7 v2.5.1.
PV1	[00]	х	

Segment	Cardinality	Optionality	Comment
[PV2]	[00]	х	
]			End Patient Group
[GT1]	[00]	х	
{	[00]	х	<b>Begin Insurance Group</b> The NJIIS IMS does not support this grouping.
IN1	[00]	х	
[IN2]	[00]	х	
[IN3]	[00]	х	
}			End Insurance Group
{	[1*]	R	<b>Begin Order Group</b> Each VXU must contain at least one Order Group.
ORC	[11]	R	Each RXA requires exactly one ORC.
{	]00]	х	<b>Begin Timing Group</b> The NJIIS IMS does not support this grouping.
[TQ1]	[00]	х	
[TQ2]	[00]	х	
}			End Timing Group
RXA	[11]	R	Each ORC requires exactly one RXA.
[RXR]	[01]	RE	Every RXA segment in a VXU may have zero or one RXR segments.

Segment	Cardinality	Optionality	Comment
[	[0*]		Begin Observation Group
[OBX]	[01]	C(R/O)	Every RXA segment in a VXU may have zero or one OBX segment.
[NTE]	[01]	RE	Every OBX segment in a VXU may have zero or one NTE segment.
}			End Order Group
]			End Observation Group

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS.

## 2.3 ACK – MESSAGE ACKNOWLEDGEMENT GRAMMAR

### 2.3.1 TABLE: MESSAGE ACKNOWLEDGEMENT (ACK)

Segment	Cardinality	Optionality	Comment
MSH	[11]	R	
[{SFT}]	[00]	х	
MSA	[11]	R	
[{ERR}]	[0*]	RE	If an error exists, then this segment is populated. Each error will have its ownERR segment. This segment is also populated with theNJIIS Registry ID (if available) in its own ERR segment.

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS.

## 2.4 QBP – QUERY BY PARAMETER GRAMMAR

The NJIIS IMS supports querying using HL7 2.5.1 for a patient's immunization history using the Z34 and

Z44 profile for evaluated history and forecasting for QBP messages.

### 2.4.1 TABLE: QUERY BY PARAMETER

Segment	Cardinality	Optionality	Comment
MSH	[11]	R	
[{SFT}]	[00]	Х	
QPD	[11]	R	
RCP	[11]	R	
[DSC]	[00]	Х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS

### 2.5 RSP – RESPONSE GRAMMAR

The NJIIS Interface Management System (IMS) supports querying the NJIIS for a patient's immunization history using the Z34 profile and evaluated history and forecasting using the Z44 profile for QBP messages. If the QBP message is properly formatted (and, therefore, can be parsed), the NJIIS IMS will return a RSP response messagefor single patient match (Z32 or Z42 profile), multiple patients match (Z31 profile) and no patient match conditions.

Segment	Cardinality	Optionality	Comment		
MSH	[11]	R			
[{SFT}]	[00]	х			
MSA	[11]	R			

### 2.5.1 TABLE: SINGLE PATIENT MATCH RESPONSE (RSP – Z32 PROFILE)

Segment	Cardinality	Optionality	Comment
[ERR]	[01]	ο	If errors exist, then this segment is populated. Each error will have its own ERR segment. If immunization history is not available, then this segment is populated with its own ERR segment conveying the same.
QAK	[11]	R	
QPD	[11]	R	Query Parameter Definition Segment
PID	[11]	R	
[PD1 ]	[01]	RE	
[{NK1 }]	[0*]	RE	
[PV1]	[01]	0	
[IN1]	[01]	0	
[{	[0*]	RE	Begin Order
ORC	[11]	R	Required if client has immunization records (RXA). There is one ORC for each RXA
RXA	[11]	R	
[RXR ]	[01]	RE	
[{	[0*]	RE	Begin Observation
OBX	[11]	R	
[NTE ]	[01]	RE	
}]			End observation

Segment	Cardinality	Optionality	Comment
}]			End Order

## 2.5.2 TABLE: SINGLE PATIENT MATCH RESPONSE (RSP – Z42 PROFILE)

Segment	Cardinality	Optionality	Comment
MSH	[11]	R	
MSA	[11]	R	
[ERR]	[01]	RE	If errors exist, then this segment is populated. Each error will have its own ERR segment. If immunization history is not available, then this segment is populated with its own ERR segment conveying the same.
QAK	[11]	R	
QPD	[11]	R	Query Parameter Definition Segment
PID	[11]	R	
{	[1*]	R	Immunization History and Forecast Group
ORC	[11]	R	
RXA	[11]	R	
[RXR]	[01]	RE	
[{	[1*]	R	Begin Observation
OBX	[11]	R	

Segment	Cardinality	Optionality	Comment
}]			End Observation
]			End Immunization History
[{NK1}]	[00]	х	
}]			End Patient Identifier
[	[11]	R	Begin Immunization History Group
[PV1]	[00]	х	
[IN1]	[00]	х	
[{	[0*]	R	Begin Order Group
ORC	[11]	R	
RXA	[11]	R	
[RXR]	[01]	RE	
[{	[00]	х	Begin Observation Group
OBX	[00]	х	
[NTE]	[00]	х	
}]			End Observation
}]			End Order

Segment	Cardinality	Optionality	Comment		
]			End Immunization History		
}]			End Response Group		

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS.

## 2.5.3 TABLE: MULTIPLE PATIENTS MATCH RESPONSE (RSP – Z31 PROFILE)

Segment	Cardinality	Optionality	Comment
MSH	[11]	R	
[{SFT}]	[00]	х	
MSA	[11]	R	
[ERR]	[0*]	0	If errors exist, then this segment is populated. Each error will have its own ERR segment.
QAK	[11]	R	
QPD	[11]	R	Query Parameter Definition Segment
[{	[01]	0	Begin Response Group
[{	[2*]	R	Begin Patient Identifier Group
PID	[11]	R	
[PD1]	[00]	х	
[{NK1}]	[00]	х	

Segment	Cardinality	Optionality	Comment	
}]			End Patient Identifier	
[	[00]	Х	Begin Immunization History Group	
[PV1]	[00]	Х		
[IN1]	[00]	Х		
[{	[00]	х	Begin Order Group	
ORC	[00]	х		
RXA	[00]	х		
[RXR]	[00]	х		
[{	[00]	х	Begin Observation Group	
OBX	[00]	х		
[NTE]	[00]	х		
}]			End Observation	
}]			End Order	
]			End Immunization History	
}]			End Response Group	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS.

## 2.5.4 TABLE: NO PATIENT MATCH RESPONSE (RSP)

Segment	Cardinality	Optionality	Comment		
MSH	[11]	R			
[{SFT}]	[00]	х			
MSA	[11]	R			
[ERR]	[0*]	0	If errors exist, then this segment is populated. Each error will have its own ERR segment.		
QAK	[11]	R			
QPD	[11]	R	Query Parameter Definition Segment		
[{	[00]	х	Begin Response Group1		
[{	[00]	х	Begin Patient Identifier Group		
PID	[00]	х			
[PD1]	[00]	х			
[{NK1}]	[00]	х			
}]			End Patient Identifier		
[	[00]	х	Begin Immunization History Group		
[PV1]	[00]	х			
[IN1]	[00]	Х			

Segment	Cardinality	Optionality	Comment
[{	[00]	х	Begin Order Group
ORC	[00]	х	
RXA	[00]	х	
[RXR]	[00]	х	
[{	[00]	х	Begin Observation Group
ОВХ	[00]	х	
[NTE]	[00]	х	
}]			End Observation
}]			End Order
]			End Immunization History
}]			End Response Group

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS.

## 3 HL7 DATA TYPES

The CDC IG contains clearly defined HL7 data types that are the building blocks of an HL7 message. This guide will avoid potentially ambiguous situations and will not attempt to redefine an already clearly defined section. This guide will adhere to Chapter 4 of the CDC IG.

## 4 FILE AND BATCH SEGMENTS (FHS, FTS, BHS, BTS)

If a FHS, FTS, BHS, or BTS segment is sent by the HL7 Data Exchange Partner, the entire segment will be ignored by the NJIIS IMS.

## 5 UNSOLICITED VACCINATION UPDATE (VXU)

### 5.1 OVERVIEW

The NJIIS IMS supports submission of VXU messages via:

- Manual electronic file transfer of HL7 2.5.1 messages via SFTP or File Upload
- Submission of HL7 2.5.1 messages utilizing the NJIIS HL7 webservice

The NJIIS IMS takes as input an HL7 formatted VXU message as described in the sections below. It is important to notethat this guide describes the message formatting according to the HL7 2.5.1 standard only.

HL7 Data Exchange Partners can utilize VXU messages to:

- Report (i.e., add) immunizations to NJIIS
- Update historical immunizations or immunizations that the partner previously reported to NJIIS
- Delete immunizations that the partner had previously reported to NJIIS

When the NJIIS IMS receives the VXU message, it validates the message, searches for an existing patient (if any), createsa new patient (if none exists), adds/updates/deletes any new immunization information for that patient, and ignores any duplicate immunizations. If multiple matching patients are found the dose will not be added. One immunization can be added, updated, or deleted per RXA segment. Each VXU message can have multiple RXA segments. At least one valid ORC/RXA segment pair is required per VXU.

HL7 Data Exchange Partners must utilize the Action Code – RXA (RXA-21) field of each RXA segment to denote whether that RXA segment's immunization is being added, updated, or deleted.

### 5.2 REPORTING IMMUNIZATIONS

VXU messages are most commonly used to report (i.e., add) immunizations. HL7 Data Exchange Partners must set the value of the Action Code – RXA (RXA-21) field to the HL7 code "A" (for Add) to report an immunization.

Even if the Action Code – RXA (RXA-21) field is valued with the HL7 code "A" (for Add), if a matching immunization is found for that patient with the same vaccine, administration date, and administered-at location (RXA-11.4.1) as specified in the RXA segment, the RXA segment will be processed as an update insteadof an add.

Similarly, if the Action Code – RXA (RXA-21) field is valued with the HL7 code "A" (for Add), if a matching historical immunization is found for that patient with the same vaccine and administration date as specified in the RXA segment, the RXA segment will be processed as an update instead of an add.

If a matching immunization with the same vaccine, administration date, and administered-at location (RXA-11.4.1) specified in the RXA segment for the patient is not found, then the NJIIS IMS will add the immunization to NJIIS using the corresponding RXA segment. The exception to this rule is any new dose reported with the date of administration +/- 5 days of a dose that already exists in the system. In this case the dose will not be added.

If, however, a matching immunization for the patient is found, and if that matching immunization had been previously reported by a provider having the *same* NJIIS issued Provider ID that is specified in administered-at location (RXA-11.4.1) of the VXU message, then the NJIIS IMS will instead update the immunization in NJIIS using the corresponding RXA segment.

If a matching immunization is found, but that matching immunization is a historical immunization and had been previously reported by a historical provider, then the NJIIS IMS will instead update the immunization in NJIIS using the corresponding RXA segment.

If a matching immunization is found, but that matching immunization had been previously reported by a provider that is *different* from the NJIIS issued Provider ID that is specified in the administered-at location (RXA-11.4.1) field, then the immunization will not be added or updated. The NJIIS IMS ignores the corresponding RXA segment but continues processing any other RXA segments that are a part of that VXU message.

#### 5.3 UPDATING PREVIOUSLY REPORTED IMMUNIZATIONS

VXU messages can be used to request that the NJIIS IMS update historical immunizations or immunizations that the HL7 Data Exchange Partner had previously reported to NJIIS. HL7 Data Exchange Partners must set the value of the Action Code – RXA (RXA-21) field to the HL7 code "U" (for Update) to update historical immunizations or immunizations that the partner previously reported to NJIIS.

Even if the Action Code – RXA (RXA-21) field is valued with the HL7 code "U" (for Update), if a matching immunization is NOT found for that patient with the same vaccine, administration date, and administered-at location as specified in the RXA segment, the RXA segment will be processed as an add instead of an update.

If a matching immunization for the patient is found, and if that matching immunization had been previously reported by a provider having the same NJIIS issued Provider ID that is specified in administered-at location (RXA-11.4.1) of the VXU message, then the NJIIS IMS will update the immunization in NJIIS using the corresponding RXA segment.

If a matching immunization is found, but that matching immunization is a historical immunization and had been previously reported by a historical provider, then the NJIIS IMS will update the immunization in NJIIS using the corresponding RXA segment.

If a matching immunization is found, but that matching immunization had been previously reported by a provider that is different from the NJIIS issued Provider ID that is specified in the administered-at location (RXA-11.4.1) field, then the immunization will not be added or updated. The NJIIS IMS ignores the corresponding RXA segment but continues processing any other RXA segments that are a part of that VXU message.

If however, a matching immunization with the same vaccine, administration date, and administered-at location (RXA- 11.4.1) specified in the RXA segment for the patient is not found, then the NJIIS IMS will instead add the immunization to NJIIS using the corresponding RXA segment.

### 5.4 DELETING PREVIOUSLY REPORTED IMMUNIZATIONS

VXU messages can be used to request that the NJIIS IMS delete immunizations that the HL7 Data Exchange Partner had previously reported to NJIIS. HL7 Data Exchange Partners must set the value of the Action Code – RXA (RXA-21) field to the HL7 code "D" (for Delete) to request that the NJIIS IMS delete a previously reported immunization that matches the patient, the administered-at location, the vaccine, and the administration date specified by the RXA segment.

If a matching immunization is found, and if that matching immunization had been previously reported by a provider having the same NJIIS issued Provider ID that is specified in the administered-at location (RXA-11.4.1) of the VXU message, then the NJIIS IMS will delete the immunization from NJIIS.

If a matching immunization is found, but that matching immunization had been previously reported by a provider that is different from the NJIIS issued Provider ID that is specified in the administered-at location (RXA-11.4.1) field, then the immunization will not be deleted. The NJIIS IMS ignores the corresponding RXA segment but continues processing any other RXA segments that are a part of that VXU message.

If a matching immunization is not found, then the NJIIS ignores the corresponding RXA segment but continues processing any other RXA segments that are a part of that VXU message.

## 5.5 VXU MESSAGE SEGMENTS

### 5.5.1 MSH – MESSAGE HEADER SEGMENT

MSH is a required segment in a VXU message.

### TABLE MESSAGE HEADER SEGMENT (MSH)

SEQ	Element Name	Data Type	Value set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Field Separator	ST		[11]	[11]	R	R	
2	Encoding Characters	ST		[11]	[11]	R	R	
3	Sending Application	HD		[01]	[01]	RE	RE	
4	Sending Facility	HD		[01]	[11]	RE	R	
5	Receiving Application	HD		[01]	[01]	RE	RE	
6	Receiving Facility	HD		[01]	[01]	RE	RE	
7	Date/Time of Message	TS_Z		[11]	[11]	R	R	
8	Security	ST				0	0	
9	Message Type	MSG		[11]	[11]	R	R	
10	Message Control ID	ST		[11]	[11]	R	R	
11	Processing ID	РТ	0103	[11]	[11]	R	R	
12	Version ID	VID		[11]	[11]	R	R	
13	Sequence Number	NM				0	0	

SEQ	Element Name	Data Type	Value set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
14	Continuation Pointer	ST		[01]	[01]	0	0	
15	Accept Acknowledgement Type	ID	0155	[11]	[11]	R	R	
16	Application Acknowledgment Type	ID	0155	[11]	[11]	R	R	
17	Country Code	ID				0	0	
18	Character Set	ID				0	0	
19	Principal Language Of Message	CE				0	0	
20	Alternate Character Set Handling Scheme	ID				0	0	
21	Message Profile Identifier	EI		[1*]	[1*]	R	R	
22	Sending Responsible Organization	XON		[01]	[01]	RE	RE	
23	Receiving Responsible Organization	XON		[01]	[01]	RE	RE	
24	Sending Network Address	HD				Ο	0	
25	Receiving Network Address	HD				0	0	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

### FIELD USAGE NOTES MESSAGE HEADER SEGMENT (MSH)

#### MSH-1 Field Separator (ST)

This field contains the separator between the segment ID and the first real field, Encoding Characters

(MSH-2). As such it serves as the separator and defines the character to be used as a separator for the rest of the message. **This is a required field. Required value is |** (ASCII124).

Example: MSH |

#### MSH-2 Encoding Characters (ST)

This field contains the four characters in the following order: the component separator, repetition separator, escape character, and subcomponent separator. **This is a required field. Required values are ^~\&** (ASCII 94, 126, 92, and 38, respectively).

Special characters that are utilized within HL7 messages as separators (also referred to as delimiters) should not be included within those same HL7 messages as data because their presence would interfere with the parsing of the message. If an HL7 message does contain one of these special delimiter characters as part of the message content (e.g., an ampersand as part of an address: "Apt. A & B"), then the HL7 Data Exchange Partner must utilize a special escape sequence to indicate that the character is a text character and not a delimiter content (e.g., "Apt. A\T\B" to represent "Apt. A & B"); otherwise, the NJIIS IMS cannot distinguish between the delimiter character and a character that is part of the text.

In order to include any one of these special characters as data within an HL7 message, those characters must be converted into a predefined sequence of characters that begin and end with the escape character "\". HL7 Data Exchange Partners should utilize the following table to convert special characters into escape sequences when creating messages sent to the NJIIS IMS and to convert escape sequences to special characters when parsing messages coming from the NJIISIMS.

Special Character Description	Special Character	Escape Sequence
Escape character	١	\E\
Field separator	I	\F\
Repetition separator	~	\R\
Component separator	^	\s\
Subcomponent separator	&	\Τ\

#### MSH-3 Sending Application (HD)

This field uniquely identifies the sending application. This is not the product, but rather the name of the specific instance. HL7 Data Exchange Partner shall value this field if there is relevant data.

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and,

therefore, will not limit MSH-3.1 values to the CDC IG's User-defined Table 0361 value set. The HL7 Data Exchange Partner must value MSH-3.1 with the sending software application's name and software version.

Example: MSH|^~\&|**My EHR 1.0**|

#### MSH-4 Sending Facility (HD)

This field identifies the organization responsible for the operations of the sending application. **This is a required field.** 

The HL7 Data Exchange Partner must value MSH-4.1 with the NJIIS Provider ID issued by NJIIS. The value in MSH-4.1 must be the same as the NJIIS Provider ID associated with the HL7 Data Exchange Partner's Interface Profile sending the message.

If the NJIIS Provider ID supplied in MSH-4.1 is not valid or does not match the NJIIS Provider ID that is associated with the Interface Profile sending the message, it will be considered an error (message will be rejected).

The NJIIS IMS will not maintain a list of facilities/Provider IDs in the CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-4.1 values to the CDC IG's User-defined Table 0362 value set.

Example: |325|

When Administration Notes (RXA-9.1) is valued with "00" (New immunization record), the NJIIS Provider ID valued in MSH-4.1 must be the same as the NJIIS Provider ID valued in Administered-at Location (RXA-11.4.1); otherwise, it will be considered an error (the dose will not be added to the patient record).

In the case described above, the Patient's Primary Provider in NJIIS will always be set using the NJIIS Provider ID specified in Administered-at Location (RXA-11.4.1).

#### MSH-5 Receiving Application (HD)

This field uniquely identifies the receiving application. This is not the product, but rather the name of the specific instance.

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and, therefore, will not limit MSH-5.1 values to the CDC IG's User-defined Table 0361 value set. The HL7 Data Exchange Partner should value MSH-5.1 with the receiving application's name. When sending a VXU, **MSH-5.1 should contain: |NJIIS|** 

#### MSH-6 Receiving Facility (HD)

This field identifies the organization responsible for the operations of the receiving application.

The NJIIS IMS will not maintain a list of facilities/Provider IDs in CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-6.1 values to the CDC IG's User-defined Table 0362 value set.

The HL7 Data Exchange Partner should value MSH-6.1 with the organization responsible for the operations of the receiving application.

When sending a VXU, MSH-6.1 should contain: |NJDOH|

#### MSH-7 Date/Time of Message (TS\_Z)

This field contains the date/time that the sending system created the message. This is a required field.

The degree of precision should be to the second. The time zone must be specified and will be used throughout the message as the default time zone. When the time zone is not included, it is presumed to be the time zone of the sender.

The expected format is YYYYMMDDHHMMSS. Milliseconds and Time zone values are Optional. For example, formats including milliseconds and time zones are: YYYYMMDDHHMMSS.SSSS or YYYYMMDDHHMMSS.SSSS+/-ZZZZ.

#### Example:

#### 20120204030159-0500

This represents February 4, 2012 at 3:01:59 Eastern Standard Time (EST).

Additional precision as specified in the Date/Time (DTM) HL7 data type, if sent, will be accepted. If the Date/Time of Message is not sent or is invalid (i.e., not a valid date or not in the correct format), an error will be reported, and the message will not be processed.

#### MSH-9 Message Type (MSG)

This field contains the message type, trigger event, and message structure ID for the message. This is a required field. All three components are required.

When sending a VXU, MSH-9 must contain: |VXU^V04^VXU\_V04|

The HL7 Data Exchange Partner must value the following required components:

- MSH-9.1 Message Type with VXU
- MSH-9.2 Trigger Event with V04
- MSH-9.3 Message Structure ID with VXU\_V04

All other values will be considered an error.

If MSH-9 is not valued or is valued with a value other than the expected message type and trigger event,
the message cannot be parsed and, therefore, will be rejected as an improperly formatted message.

### MSH-10 Message Control ID (ST)

This field contains the identifier assigned by the sending application (MSH-3) that uniquely identifies a message instance. This identifier is unique within the scope of the sending facility (MSH-4), sending application (MSH-3), and the YYYYMMDD portion of message date (MSH-7). **This is a required field.** 

The NJIIS IMS will echo this ID back to the HL7 Data Exchange Partner in the Message Acknowledgment Segment (MSA) of the ACK response message. The content and format of the data sent in this field is the responsibility of the HL7 Data Exchange Partner.

### MSH-11 Processing ID (PT)

This field is used to decide whether to process the message as defined in HL7 Application (level 7) Processing rules. **This is a required field.** 

Refer to <u>HL7-defined Table 0103 – Processing ID</u> in Appendix A of this document for values supported by the NJIIS IMS.

The HL7 Data Exchange Partner must value MSH-11.1 with either:

- "P" for Production
- "T" for Training or for when testing

All other values will be considered an error if "T" is sent for a Production message, the message will be rejected.

If MSH-11.1 is valued with "T", any initial Test VXU messages to satisfy Phase 1 of the NJIIS Interface Enrollment process, MUST only include dummy data.

If MSH-11.1 is valued with "T", any subsequent Test VXU messages submitted to the NJIIS Test Environment, to satisfy Phase 2 of the NJIIS Interface Enrollment process' data quality review, should include production data.

If MSH-11.1 is valued with "P", any Production VXU messages submitted to the NJIIS Production Environment MUST only include production data.

### MSH-12 Version ID (VID)

This field contains the identifier of the version of the HL7 messaging standard used in constructing, interpreting, and validating the message. **This is a required field.** 

Only the first component needs to be populated. When sending a 2.5.1 message, MSH-12.1 must contain: [2.5.1]

### MSH-15 Accept Acknowledgment Type (ID)

This field identifies the conditions under which accept acknowledgments are required to be returned in response to this message. Required for enhanced acknowledgment mode. Refer to <u>HL7-defined Table</u> 0155

• Accept/Application Acknowledgment Conditions in Appendix A of this document for values supported by the NJIIS IMS.

Accept acknowledgement indicates if the message was safely received or not. It does not indicate successful processing.

Application acknowledgement indicates the outcome of processing.

#### When sending a VXU, MSH-15 should contain: |NE|

The NJIIS IMS never sends an accept acknowledgement when the message is received; it only sends an application acknowledgement once it has processed the message. **This is a required field.** 

### MSH-16 Application Acknowledgment Type (ID)

This field contains the conditions under which application acknowledgments are required to be returned in response to this message. Required for enhanced acknowledgment mode. Refer to <u>HL7-defined Table</u> 0155

• Accept/Application Acknowledgment Conditions in Appendix A of this document for values supported by the NJIIS IMS.

If MSH-15 (Accept Acknowledgment Type) and MSH-16 (Application Acknowledgment Type) are omitted (or are both empty), the original acknowledgment mode rules are used. This means that, unless otherwise specified, the receiving application will send acknowledgment when it has processed the message.

When sending a VXU, MSH-16 should contain: |AL|

The NJIIS IMS will always send an acknowledgement once it has processed an HL7 2.5.1 VXU message. **This is a required field.** 

### MSH-21 Message Profile Identifier (EI)

This field may be used to assert adherence to, or reference, a message profile. Message profiles contain detailed explanations of grammar, syntax, and usage for a particular message or set of messages. This field will be required whenever a profile is being used to constrain the message. **This is a required field**.

Example: [Z22^ CDCPHINVS]

## MSH-22 Sending Responsible Organization (XON)

Business organization that originated and is accountable for the content of the message. Currently, MSH provides fields to transmit both sending/receiving applications and facilities (MSH.3 – MSH.6). However, these levels of organization do not necessarily relate to or imply a legal entity such as a business organization. As such, multiple legal entities (organizations) may share a service bureau, with the same application and facility identifiers. Another level of detail is required to delineate the various organizations using the same service bureau. Therefore, the Sending Responsible Organization field provides a complete picture from the application level to the overall business level. The Business Organization represents the legal entity responsible for the contents of the message.

## MSH-23 Receiving Responsible Organization (XON)

Business organization that is the intended receiver of the message and is accountable for acting on the data by the transaction. This field has the same justification as the Sending Responsible Organization except in the role of the Receiving Responsible Organization. The receiving organization has the legal responsibility to act on the information in the message.

## 5.5.2 SFT – SOFTWARE SEGMENT

If present, the entire SFT segment is ignored by the NJIIS IMS.

## 5.5.3 PID – PATIENT IDENTIFIER SEGMENT

PID is a required segment in a VXU message.

The PID segment is used as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to changefrequently.

## TABLE PATIENT IDENTIFIER SEGMENT (PID)

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag e	NJIIS IMS Usag e	Condition al Predicate
1	Set ID - PID	SI		[11]	[11]	R	R	
2	Patient ID	сх		[00]	[00]	х	х	
3	Patient Identifier List	СХ		[1*]	[1*]	R	R	
4	Alternate Patient ID	СХ		[00]	[00]	х	х	

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag e	NJIIS IMS Usag e	Condition al Predicate
5	Patient Name	XPN		[1*]	[1*]	R	R	
6	Mother's Maiden Name	XPN_ M		[01]	[01]	RE	RE	
7	Date/Time of Birth	TS_NZ		[11]	[11]	R	R	
8	Administrativ e Sex	IS	0001	[01]	[11]	RE	R	
9	Patient Alias	XPN		[00]	[00]	х	х	
10	Race	CE	0005	[0*]	[0*]	RE	RE	
11	Patient Address	XAD		[0*]	[1*]	RE	R	
12	County Code	IS		[00]	[00]	х	х	
13	Phone Number - Home	XTN		[0*]	[0*]	RE	RE	
14	Phone Number - Business	XTN				0	Ο	
15	Primary Language	CE	0296			0	0	
16	Marital Status	CE				0	х	
17	Religion	CE				0	Х	
18	Patient Account Number	СХ				0	х	
19	SSN Number - Patient	ST		[00]	[00]	х	Х	

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag	NJIIS IMS Usag	Condition al Predicate
20	Driver's License Number - Patient	DLN		[00]	[00]	х	х	
21	Mother's Identifier	СХ		[00]	[00]	х	х	
22	Ethnic Group	CE	CDCRE C	[01]	[01]	RE	RE	
23	Birth Place	ST				0	х	
24	Multiple Birth Indicator	ID	0136	[01]	[01]	RE	RE	
25	Birth Order	NM		[01]	[01]	C(RE/O )	C(RE/O )	
26	Citizenship	CE				0	х	
27	Veterans Military Status	CE				0	х	
28	Nationality	CE				0	х	
29	Patient Death Date and Time	TS		[01]	[01]	C(RE/X )	х	If PID-30 is valued "Y"
30	Patient Death Indicator	ID	0136	[01]	[01]	RE	х	
31	ldentity Unknown Indicator	ID				Ο	x	
32	Identity Reliability Code	IS				Ο	х	
33	Last Update Date/Time	TS				0	х	

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag e	NJIIS IMS Usag e	Condition al Predicate
34	Last Update Facility	HD				0	х	
35	Species Code	CE				0	х	
36	Breed Code	CE				0	х	
37	Strain	ST				0	х	
38	Production Class Code	CE				0	х	
39	Tribal Citizenship	CWE				0	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow

### FIELD USAGE NOTES PATIENT IDENTIFIER SEGMENT (PID)

### PID-1 Set ID - PID (SI)

This field contains the number that identifies this transaction. For the first occurrence of the segment, the sequence number shall be one, for the second occurrence, the sequence number shall be two, etc. Every VXU can only have one PID segment, so for a VXU, this should always be 1.

When sending a VXU, PID-1 should contain: [1]

### PID-3 Patient Identifier List (CX)

This field contains the list of identifiers (one or more) used by the healthcare facility to uniquely identify a patient. This is a required field.

At least one NJIIS supported, and properly formatted, patient identifier must be submitted.

The HL7 Data Exchange Partner must value the following required components:

- PID-3.1 with the ID Number.
- PID-3.4.1 with the Assigning Authority.
- PID-3.5 with the Identifier Type Code.

### Example: **12345^^^325^MR~202729^^^NJIIS^SR**

This represents a list of two identifiers:

- Medical Record Number "12345" with Assigning Authority "325" which is the NJIIS Provider ID of the Assigning Authority.
- NJIIS Registry ID (State Registry ID) "202729" with Assigning Authority "NJIIS".
- SR (for State Registry ID)
- MR (for Medical Record Number)

It is strongly recommended that HL7 Data Exchange Partners include at least one of the following NJIIS supported patient identifiers, preferably the NJIIS Registry ID, in their VXU messages because it will significantly decrease the time that it takes for the NJIIS IMS to process and respond to the messages, as well as increase the likelihood that a patient match will be found:

The State Registry ID is used to communicate the NJIIS unique identifier (NJIIS Registry ID) for the patient. The NJIIS IMS will transmit the NJIIS Registry ID back to the HL7 Data Exchange Partner in a Message Acknowledgement (ACK) message. When returning an ACK message in response to a VXU message, the NJIIS IMS will return the NJIIS Registry ID in the Diagnostic Information (ERR-7) field. When returning a RSP message in response to a QBP message, the NJIIS IMS will return the NJIIS Registry ID in the Patient Identifier List (PID-3) field.

The HL7 Data Exchange Partner should store the State Registry ID with their patient records and include that identifier in subsequent VXU messages. Including the State Registry ID in subsequent VXU messages ensures accurate patient matching in NJIIS

The NJIIS IMS does not support the full data set of identifiers; for example, Social Security Number (SS) and Person Number (PN) are currently not supported. Refer to <u>User-defined Table 0203 – Identifier Type</u> in Appendix A of this document for values supported by the NJIIS IMS. Unsupported identifiers will be ignored.

Additional rules are as follows:

- When valuing the ID Number (PID-3.1) with a State Registry ID, the Assigning Authority (PID-3.4.1) must be valued with an NJIIS supported value in <u>User-defined Table 0363 Assigning Authority</u> in Appendix A of this document.
  - Currently, the only State Registry ID that is supported is the NJIIS Registry ID, and therefore Assigning Authority (PID-3.4.1) must be valued with "NJIIS" if sending a NJIIS Registry ID in the ID Number (PID-3.1).
  - Unsupported Assigning Authorities will be ignored.
- When valuing the ID Number (PID-3.1) with a Medical Record Number, the Assigning Authority (PID- 3.4.1) must be valued with a NJIIS Provider ID issued by NJIIS. The NJIIS IMS will not

maintain a list of Provider IDs for use in <u>User-defined Table 0363 – Assigning Authority</u> in Appendix A of this document.

- If Assigning Authority (PID-3.4.1) is valued with "NJIIS", the ID Number (PID-3.1) must be valued with a valid NJIIS Registry ID and Identifier Type Code (PID-3.5) must be valued with "SR", otherwise the identifier disregarded.
- If multiple identifiers of the same type are sent (e.g., multiple Medical Record Numbers), only the first occurrence of the identifier of that type (e.g., the first occurrence of Medical Record Number) will be processed. Other identifiers of that same type will be ignored.
- Each of the NJIIS supported patient identifiers must adhere to the following:
  - The State Registry ID must be digits and cannot exceed 12 digits.
  - The Medical Record Number cannot exceed 20 characters.
- If there are multiple identifiers, at least one identifier must not exceed the character limit, must be formatted correctly, and must include the required components; otherwise, it will be considered an error. For all other identifiers:
  - If a required component is missing, it will be reported as an error and the identifier disregarded.
  - If the identifier exceeds the character limit or is formatted incorrectly, it will be reported as an error and the identifier disregarded.

### PID-5 Patient Name (XPN)

This field contains the names of the patient. This is a required field.

The primary or legal name of the patient must be reported first. The NJIIS IMS will only process the Patient Name sent in the first occurrence in a list of repeating Patient Names; all other Patient Names will be ignored. For the Patient Name sent in the first occurrence, the Name Type Code specified in PID-5.7 must be set to "L" for Legal Name; if it is omitted or other than "L" for Legal Name, it will be treated as if "L" was sent and an error reported. Refer to <u>HL7-defined Table 0200 – Name Type</u> in Appendix A of this document for values supported by the NJIIS IMS.

The HL7 Data Exchange Partner must value the following required components:

- PID-5.1.1 with the Surname (i.e., Last Name)
- PID-5.2 with the Given Name (i.e., First Name)

The HL7 Data Exchange Partner should value the following components:

• PID-5.7 with the Name Type Code of "L"

#### Example: Smith/Joey/Milo///L

Additional rules are as follows:

• The First Name, Last Name, and Middle Name must each be 30 characters or less; otherwise, it will be truncated, and no error will be reported.

- If PID-5.1.1 and PID-5.2 are omitted, it will be considered an error and the message will be rejected.
- If there is relevant data, PID-5.3 should be valued with the Patient Second and Further Given Names or Initials Thereof (i.e., Middle Name).
  - If PID-5.3 is included, the NJIIS IMS will only process the Middle Name sent in the first occurrence; all other Middle Names will be ignored.
- For the Patient Name sent in the first occurrence, PID-5.7 must be valued with the Name Type Code of "L"; if it is omitted or other than "L" for Legal Name, it will be treated as if "L" was sent and an error will be reported.
- Suffix (PID-5.4) and Prefix (PID-5.5) are optional. All other PID-5 components not described in this field usage note, if provided, will be ignored.

### PID-6 Mother's Maiden Name (XPN\_M)

This field contains the family name under which the mother was born (i.e., before marriage) and should be sent if there is relevant data. It is used to distinguish between patients with the same last name. The Name Type Code specified in PID-6.7 should be set to "M" for Maiden Name. Refer to <u>HL7-defined Table</u> <u>0200 – Name Type</u> in Appendix A of this document for values supported by the NJIIS IMS.

If there is relevant Mother's Maiden Name data, the HL7 Data Exchange Partner must value **the following required components:** 

- PID-6.1.1 with the Surname (i.e., Maiden Name)
- PID-6.2 with the Given Name (i.e., First Name)

The HL7 Data Exchange Partner should value the following components:

• PID-6.7 with the Name Type Code of "M"

#### Example: **Doe^Jane^^^^M**

Additional rules are as follows:

- The Surname (i.e., Last Name) (PID-6.1.1) and Given Name (i.e., First Name) (PID-6.2) must be30 characters or less; otherwise, it will be truncated and no error will be reported.
- If PID-6.1.1 and PID-6.2 are omitted, it will be considered an error.
- If Name Type Code (PID-6.7) is omitted or contains a value other than "M", the name in PID-6 will still be considered the maiden name of the patient's mother (i.e., PID-6.7 treated as if "M" was sent) and an error will be reported.
- All other PID-6 components, if provided, will be ignored.

### PID-7 Date/Time of Birth (TS\_NZ)

This field contains the patient's date and time of birth. This is a required field.

The date must be in the YYYYMMDD format; otherwise, it will be considered an error and the message will be rejected. The time component of the HL7 Data Type will be ignored if it is provided.

Example: [20080423]

This represents a date of birth on April 23, 2008.

Additional date validation rules for Patient's date of birth (DOB) include the following:

- The Patient's DOB must be on or before the current date.
- The Immunization Date (i.e., Date/Time Start of Administration (RXA-3)) must be on or after the Patient's DOB.

The Patient's DOB must be less than 120 years in the past. Violation of the above validation rules will also be considered an error.

### PID-8 Administrative Sex (IS)

This field contains the patient's sex. This is a required field.

The NJIIS IMS supports all of the values listed in the CDC IG's <u>HL7-defined Table 0001 – Administrative</u> <u>Sex</u>. If PID-8 is not valued or contains a value other than "M", "F", "X," or "U", this will be considered an error and the message will be rejected.

### PID-10 Race (CE)

This field refers to the patient's race and should be sent if there is relevant data. The NJIIS IMS will process the first occurrence of race in a list of repeating races; all others will be ignored.

The NJIIS IMS supports all of the U.S. Race Code values listed in the CDC IG's <u>HL7-defined Table 0005 –</u> <u>Race</u>. All other values will be ignored, and the VXU message processed as if PID-10 was not valued. The NJIIS IMS does not support NIP alpha race codes, and if sent, they will be ignored.

While the NJIIS IMS does not support NIP alpha race codes, if however, both alpha and numeric codes are sent, per the CDC IG, the second triplet of the CE data type for race should be used for the governmentally assigned numeric codes (####-#) as the first triplet is reserved for use (backward compatibility) of NIP alpha race codes. If only the numeric U.S. Race Code is sent, it should be sent in the first triplet since the first component and third component of the CE data type are required as per the CDC IG. When sending the U.S. Race Code, the third component of the triplet it is sent in must be "HL70005".

Example: **|2106-3^White^HL70005|** - or - **|**W^White^NIP^**2106-3^White^HL70005|** 

### PID-11 Patient Address (XAD)

This field contains the address of the patient. Refer to HL7-defined Table 0190 – Address Type in

Appendix A of this document for values supported by the NJIIS IMS. This is a required field.

For the address sent in the first occurrence, if any PID-11 component is valued, then all the following required components must be valued, otherwise, it will be considered an error:

- PID-11.1.1 with Street Address
- PID-11.3 with City
- PID-11.4 with State
- PID-11.5 with Zip
- PID-11.7 with Address Type

The HL7 Data Exchange Partner should value the following components if there is relevant data:

- PID-11.2 with Other Designation (i.e., "Street Address 2" such as apartment or suite number).
- PID-11.6 with Country. Refer to <u>HL7-defined Table0399 Country Code</u> of HL7 Messaging Standard Version 2.5.1, section 2.15.9.17 for valid values.

#### Example:

### |123 Anywhere St&Anywhere St&123^Apt 5A^Trenton^NJ^12345^USA^L|

This represents a legal address: 123 Anywhere St, Apt 5A, Trenton, NJ, 12345, USA Additional rules are as follows:

Additional rules are as follows:

- Street Address (PID-11.1.1) should contain Dwelling (i.e., House) Number in the beginning of the field followed by the Street Name. The value cannot exceed 50 characters; otherwise it will be truncated.
  - If PID-11.1.1 is valued, then Street Name (PID-11.1.2) and Dwelling Number (PID- 11.1.3) should also be valued. PID-11.1.2 and PID-11.1.3 are optional; however, valuing these components will aid in data quality.
  - If the values in PID-11.1.2 and PID-11.1.3 do not correspond to the value in PID-11.1.1, the NJIIS IMS will process PID-11.1.1 and ignore PID-11.1.2 and PID-11.1.3.
- If there is relevant data, Other Designation (PID-11.2) should contain the "Street Address 2" (e.g., apartment or suite number). The value cannot exceed 50 characters; otherwise it will be truncated.
- City (PID-11.3) cannot exceed 34 characters; otherwise it will be truncated.
- State (PID-11.4) must be a valid State Code and cannot exceed 2 characters; otherwise, it will be considered an error.
- Zip (PID-11.5):
  - The NJIIS IMS only supports a 5-digit Zip code format (#####).
  - Must be exactly 5 digits
  - Cannot exceed 5 digits; otherwise Zip will be truncated and only the first 5 digits of the Zip will be processed; no error will be reported. If the first 5 are not digits, it will be considered an error
- County (PID-11.9) is optional. All other PID-11 components, if provided, will be ignored.

### PID-13 Phone Number - Home (XTN)

This field contains the patient's personal phone numbers and should be sent if there is relevant data. All personal phone numbers for the patient are sent in the following order. The first occurrence is considered the primary number (for backward compatibility). If the primary number is not sent, then a repeat delimiter is sent in the first occurrence. Each type of telecommunication shall be in its own repetition. For example, if a person has a phone number and an email address, they shall each have a repetition. Refer to <u>HL7-defined Table 0201 – Telecommunication Use Code</u> and <u>HL7- defined Table 0202 – Telecommunication Equipment Type</u> in Appendix A of this document for values supported by the NJIIS IMS. They are also listed below for convenience.

Multiple phone numbers for the same person may be sent and must include an NJIIS Supported Telecommunication Use Code and should include Telecommunication Equipment Type.

NJIIS Supported Telecommunication Use Codes:

- "PRN" for Primary Residence Number
- "ORN" for Other Residence Number
- "NET" for Network (Email) Address

NJIIS Supported Telecommunication Equipment Types:

- "PH" for Telephone
- "CP" for Cellular Phone
- "X.400" for X.400 Email Address. Use only if Telecommunication Use Code is "NET".

If any PID-13 component is valued, then all the following required components must be valued, otherwise, it will be reported as an error and the phone number will be disregarded:

- PID-13.2 with Telecommunication Use Code
- PID-13.4 with Email Address, if PID-13.2 is "NET"
- PID-13.6 with Area Code, if PID-13.2 is "PRN" or "ORN"
- PID-13.7 with Local Number, if PID-13.2 is "PRN" or "ORN"

The HL7 Data Exchange Partner should value the following components if there is relevant data:

• PID-13.3 with Telecommunication Equipment Type

#### Example:

|^PRN^PH^^^609^5551212~^ORN^CP^^^732^5551212~^NET^X.400^joey.smith@fakeemail.com|

This represents a list of 2 phone numbers and an email address:

- The first is a primary residence number: (609) 555-1212
- The second is a cell phone number: (732) 555-1212
- The third is an email address: joey.smith@fakeemail.com

Additional rules are as follows:

- Any Telecommunication Use Code and Telecommunication Equipment Type that is not supported by the NJIIS IMS will be ignored and no error will be reported.
- If multiple phone numbers or emails with the same Telecommunication Use Code are sent, the

NJIIS IMS will only process the first occurrence of the phone number or email with that Telecommunication Use Code; all other phone numbers or emails with that Telecommunication Use Code will be disregarded.

- If PID-13.4 is not in email address format, it will be reported as an error and the email address will be disregarded.
- If PID-13.6 is not 3 digits and if PID-13.7 is not 7 digits, it will be reported as an error and the phone number will be disregarded.
- Extension (PID-13.8) is optional. All other PID-13 components not described in this field usage note, if provided, will be ignored.

### PID-14 Phone Number - Business (XTN)

This field contains the patient's business telephone numbers. All business numbers for the patient are sent in the following order. The first occurrence is considered the patient's primary business number (for backward compatibility). If the primary business phone number is not sent, then a repeat delimiter is sent in the first occurrence. Each type of telecommunication shall be in its own repetition. For example, if a person has a business phone number and a business email address, they shall each have a repetition. Refer to <u>HL7-defined Table 0201 – Telecommunication Use Code</u> and <u>HL7-defined Table 0202 – Telecommunication Equipment Type</u> in Appendix A of this document for values supported by the NJIIS IMS.

A business phone number and business email address for the same person may be sent and must include a NJIIS Supported Telecommunication Use Code and should include Telecommunication Equipment Type.

NJIIS Supported Telecommunication Use Codes:

- "WPN" for Work Number
- "NET" for Network (Email) Address

NJIIS Supported Telecommunication Equipment Types:

- "PH" for Telephone
- "CP" for Cellular Phone
- "X.400" for X.400 Email Address. Use only if Telecommunication Use Code is "NET"

If any PID-14 component is valued, then all of the following required components must be valued, otherwise, it will be reported as an error and the business phone number will be disregarded:

- PID-14.2 with Telecommunication Use Code
- PID-14.4 with Email Address, if PID-14.2 is "NET"
- PID-14.6 with Area Code, if PID-14.2 is "WPN"
- PID-14.7 with Local Number, if PID-14.2 is "WPN"

The HL7 Data Exchange Partner should value the following components if there is relevant data:

• PID-14.3 with Telecommunication Equipment Type

#### Example:

|^WPN^PH^^^908^5551212~^NET^X.400^jsmith@fakeworkemail.com|

This represents a phone number and an email address:

- The first is a work number: (908)555-1212
- The second is an email address: jsmith@fakeworkemail.com

Additional rules are as follows:

- Any Telecommunication Use Code and Telecommunication Equipment Type that is not supported by the NJIIS IMS will be ignored and no error will be reported.
- If multiple business phone numbers or emails with the same Telecommunication Use Code are sent, the NJIIS IMS will only process the first occurrence of the business phone number or email with that Telecommunication Use Code; all other phone numbers or emails with that Telecommunication Use Code will be disregarded and it will be reported as an error.
- If PID-14.4 is not in email address format, it will be reported as an error and the email address will be disregarded.
- If PID-14.6 is not 3 digits and if PID-14.7 is not 7 digits, it will be reported as an error and the phone number will be disregarded.
- Extension (PID-14.8) is optional. All other PID-14 components not described in this field usage note, if provided, will be ignored.

### PID-15 Primary Language (CE)

This field contains the patient's primary language. HL7 recommends using International Organization for Standardization (ISO) Table 639 as the suggested values in the <u>User-defined Table 0296 – Language</u>.

Example: |eng^English^HL70296|

## PID-22 Ethnic Group (CE)

This field further defines the patient's ancestry and should be sent if there is relevant data.

The NJIIS IMS supports all the U.S. Ethnicity Codes found in the <u>CDCREC/User-defined Table 0189 –</u> <u>Ethnicity</u>. All other values will be ignored, and the VXU message processed as if PID-22 was not valued.

As per the CDC IG, the second triplet of the CE data type for ethnic group (alternate identifier, alternate text, and name of alternate coding system) is reserved for governmentally assigned codes. When sending the U.S. Ethnicity Code, the third component of the triplet it is sent in must be CDCREC or HL70189.

Example: |2186-5^Not Hispanic or Latino^CDCREC|

### PID-24 Multiple Birth Indicator (ID)

This field indicates whether the patient was part of a multiple birth and should be sent if there is relevant data. Refer to <u>HL7-defined Table 0136 – Yes/No indicator</u> in Appendix A of this document for

values supported by the NJIIS IMS.

- "Y" for Yes means the patient was part of a multiple birth.
- "N" for No means the patient was a single birth.
- Empty field means the multiple birth status is undetermined.

### PID-25 Birth Order (NM)

When a patient was part of a multiple birth, this field indicates patient's birth order. If Multiple Birth Indicator (PID-24) is valued with the following, then PID-25 should be sent if there is relevant data:

- "Y" for Yes, then PID-25 should be populated with a value (number) indicating the patient's birth order. A value of "1" represents the first child born, "2" for the second, "3" for the third and so on. If the value in PID-25 is not a number, it will be reported as an error.
- "N" for No, then PID-25 is ignored by the NJIIS IMS.

### PID-29 Patient Death Date and Time (TS)

This field contains the date and time at which the patient death occurred. While the CDC IG lists an optionality/usage of "C(RE/X)" for this field whereby the HL7 Data Exchange Partner should value this field if there is relevant data when Patient Death Indicator (PID-30) is valued with "Y", the NJIIS IMS ignores this field.

### PID-30 Patient Death Indicator (ID)

This field indicates whether the patient is deceased. Refer to <u>HL7-defined Table 0136 – Yes/No indicator</u> for valid values. While the CDC IG lists an optionality/usage of "RE" for this field whereby the HL7 Data Exchange Partner should value this field if there is relevant data, the NJIIS IMS ignores this field.

## 5.5.4 PD1 – PATIENT DEMOGRAPHIC SEGMENT

# PD1 is a conditionally required segment in a VXU message and must be sent for patients born before January 1, 1998.

The PD1 segment contains patient demographic information that may change from time to time. There are three primary uses for the PD1 segment in Immunization Messages. These include indicating whether the person wants his/her data protected, whether the person wants to receive recall/reminder notices, and the person's current status in the registry. However, the only use currently supported by NJIIS is to indicate whether the person wants his/her data protected.

## TABLE PATIENT DEMOGRAPHIC SEGMENT (PD1)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Living Dependency	IS				0	х	
2	Living Arrangement	IS				0	х	
3	Patient Primary Facility	XON				0	х	
4	Patient Primary Care Provider Name & ID No.	XCN		[00]	[00]	х	х	
5	Student Indicator	IS				0	х	
6	Handicap	IS				0	х	
7	Living Will Code	IS				0	х	
8	Organ Donor Code	IS				0	х	
9	Separate Bill	ID				0	х	
10	Duplicate Patient	СХ				0	х	
11	Publicity Code	CE	0215	[01]	[01]	RE	RE	
12	Protection Indicator	ID	0136	[01]	[01]	RE	C(R/RE)	lf PID-7 < 19980101
13	Protection Indicator Effective Date	DT_T		[01]	[01]	C(RE/X)	C(R/X)	If PD1-12 is valued
14	Place of Worship	XON				0	Х	
15	Advance Directive Code	CE				0	Х	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
16	Immunization Registry Status	IS		[01]	[01]	RE	RE	
17	Immunization Registry Status Effective Date	DT_T		[01]	[01]	C(RE/X)	C(RE/X)	If PD1-16 is valued
18	Publicity Code Effective Date	DT_T		[01]	[01]	C(RE/X)	C(RE/X)	If PD1-11 is valued
19	Military Branch	IS				0	х	
20	Military Rank/Grade	IS				0	х	
21	Military Status	IS				0	Х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

### FIELD USAGE NOTES PATIENT DEMOGRAPHIC SEGMENT (PD1)

### PD1-11 Publicity Code (CE)

This field contains a user-defined code indicating what level of publicity is allowed (e.g., No Publicity, Family Only) for the patient. In the context of immunization messages, this refers to how a person wishes to be contacted in a reminder or recall situation. Refer <u>User-defined Table 0215 – Publicity Code</u> in Appendix A of this document for values supported by the NJIIS IMS.

### PD1-12 Protection Indicator (ID)

This field identifies whether a person's information may be shared with others. Specific protection policies are a local consideration (opt in or opt out, for instance). This field conveys the current state in the sending system. Refer <u>HL7- defined Table 0136 – Yes/No indicator</u> in Appendix A of this document for values supported by the NJIIS IMS.

The protection state must be actively determined by the clinician. If it is not actively determined, then the protection indicator shall be empty.

**For patients born before 1/1/1998 (i.e., Date/Time of Birth (PID-7) < 19980101), this field is required** and must be valued with "Y" or "N". If it is omitted or valued with a code that is not "Y" or "N", and the patient is a new patient in NJIIS, it will be considered an error.

For patients born on or after 1/1/1998 (i.e., Date/Time of Birth (PID-7) >= 19980101), this field should be

valued if there is relevant data. If it is omitted, and the patient is a new patient in NJIIS, no error will be reported.

#### There are 3 states:

Code	Protection State
Y	Yes, protect the data. Client (or guardian) has indicated that the information shall be protected. (Do not share data)
Ν	No, it is not necessary to protect data from other clinicians. Client (or guardian) has indicated that the information does not need to be protected. (Sharing is OK)
PD1-12 is empty.	No determination has been made regarding client's (or guardian's) wishes regarding information sharing.

Example:

|N|

This indicates that no, it is not necessary to protect data from other clinicians.

### PD1-13 Protection Indicator Effective Date (DT\_T)

This field indicates the effective date for the Protection Indicator (PD1-12). **This field is required if Protection Indicator (PD1-12) is valued**, otherwise it will be considered an error. If Protection Indicator (PD1-12) is not valued, the NJIIS IMS does not support the Protection Indicator Effective Date (PD1-13), thereby ignoring it.

Example: [20130409]

This indicates the effective date for the Protection Indicator (PD1-12) is April 9, 2013.

### PD1-16 Immunization Registry Status (IS)

This field identifies the current status of the patient in relation to the sending provider organization. PD1-16, if valued, will be ignored by the NJIIS IMS

### PD1-17 Immunization Registry Status Effective Date (DT\_T)

This field indicates the effective date for the registry status reported in Immunization Registry Status (PD1- 16). While the CDC IG lists an optionality/usage of "C(RE/X)" for this field whereby the HL7 Data Exchange Partner should value this field if there is relevant data when Immunization Registry Status (PD1-16) is valued, the NJIIS IMS ignores this field.

### PD1-18 Publicity Code Effective Date (DT\_T)

This is the effective date for Publicity Code (PD1-11). While the CDC IG lists an optionality/usage of

"C(RE/X)" for this field whereby the HL7 Data Exchange Partner should value this field if there is relevant data when Publicity Code (PD1- 11) is valued, the NJIIS IMS ignores this field.

## 5.5.5 NK1 – NEXT OF KIN SEGMENT

The NK1 segment contains information about the patient's other related parties, such as mother, father, guardian, etc. Multiple NK1 segments can be sent for a patient.

TABLE NEXT	OF KIN SEGMENT	(NK1)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Set ID - NK1	SI		[11]	[11]	R	R	
2	Name	XPN		[1*]	[11]	R	R	
3	Relationship	CE	0063	[11]	[11]	R	R	
4	Address	XAD		[0*]	[0*]	RE	RE	
5	Phone Number	XTN		[0*]	[0*]	RE	RE	
6	Business Phone Number	XTN				Ο	0	
7	Contact Role	CE				0	х	
8	Start Date	DT				Ο	х	
9	End Date	DT				0	х	
10	Next of Kin / Associated Parties Job Title	ST				0	Х	
11	Next of Kin / Associated Parties Job Code/Class	JCC				0	Х	
12	Next of Kin / Associated Parties Employee Number	СХ				0	х	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
13	Organization Name - NK1	XON				0	х	
14	Marital Status	CE				0	х	
15	Administrative Sex	IS				0	х	
16	Date/Time of Birth	TS				Ο	х	
17	Living Dependency	IS				0	х	
18	Ambulatory Status	IS				Ο	х	
19	Citizenship	CE				0	х	
20	Primary Language	CE				Ο	х	
21	Living Arrangement	IS				0	х	
22	Publicity Code	CE				Ο	х	
23	Protection Indicator	ID				0	х	
24	Student Indicator	IS				Ο	х	
25	Religion	CE				0	х	
26	Mother's Maiden Name	XPN				о	х	
27	Nationality	CE				Ο	х	
28	Ethnic Group	CE				О	х	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
29	Contact Reason	CE				О	х	
30	Contact Person's Name	XPN				Ο	х	
31	Contact Person's Telephone Number	XTN				0	х	
32	Contact Person's Address	XAD				0	х	
33	Next of Kin/Associated Party's Identifiers	сх				0	Х	
34	Job Status	IS				0	х	
35	Race	CE				Ο	х	
36	Handicap	IS				0	х	
37	Contact Person Social Security Number	ST				0	Х	
38	Next of Kin Birth Place	ST				Ο	х	
39	VIP Indicator	IS				0	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES NEXT OF KIN SEGMENT (NK1)

### NK1-1 Set ID - NK1 (SI)

This field contains the number that identifies this transaction. This is a required field.

Multiple NK1 segments can be sent for a patient (e.g., to provide the mother's, the father's, the guardian's names, etc. and their contact information). Each subsequent NK1 increments the previous Set

ID by 1. If, for example, 3 NK1 segments were sent in one message, the first would have a Set ID of "1", the second would have a Set ID of "2", and the third would have a Set ID of "3".

### NK1-2 Name (XPN)

This field contains the name of the next of kin or associated party. This is a required field.

The legal name of the person must be reported first. Refer to <u>HL7-defined Table 0200 – Name Type</u> in Appendix A of this document for values supported by the NJIIS IMS. The NJIIS IMS will only process the Name sent in the first occurrence in a list of repeating Names; all other Names will be ignored. For the Name sent in the first occurrence, the Name Type Code specified in NK1-2.7 must set to "L" for Legal Name; if it is omitted or other than "L" for Legal Name, it will be treated as if "L" was sent, and an error will be reported.

The HL7 Data Exchange Partner must value **the following required components:** 

- NK1-2.1.1 with the Surname (i.e., Last Name)
- NK1-2.2 with the Given Name (i.e., First Name)

### Example: [Smith/Jane/Marie////L]

Additional rules are as follows:

- The First Name, Last Name, and Middle Name must each be 30 characters or less; otherwise, it will be truncated, and no error will be reported.
- If NK1-2.1.1 and NK1-2.2 are omitted, an error will be reported and the NK1 segment will be disregarded.
- If there is relevant data, NK1-2.3 should be valued with the Person's Second and Further Given Names or Initials Thereof (i.e., Middle Name).
- If NK1-2.3 is included, the NJIIS IMS will only process the Middle Name sent in the first occurrence; all other Middle Names will be ignored.
- Name Type Code (NK1-2.7) must be valued with "L"; if it is omitted or other than "L" for Legal Name, it will be treated as if "L" was sent and an error reported.
- Suffix (NK1-2.4) and Prefix (NK1-2.5) are optional. All other NK1-2 components not described in this field usage note, if provided, will be ignored.

### NK1-3 Relationship (CE)

This field contains the actual personal relationship that the next of kin/associated party has to the patient. **This is a required field.** 

The NJIIS IMS supports all values in the CDC IG's User-defined Table 0063 – Relationship. Refer to <u>User-defined Table 0063 – Relationship</u> in Appendix A of this document for values supported by the NJIIS IMS. If NK1-3 is not valued or contains a value other than a NJIIS IMS supported value in <u>User-defined Table 0063 – Relationship</u> in Appendix A of this document, it will be reported as an error, and the NK1 segment will be disregarded.

Example: |MTH^Mother^HL70063|

### NK1-4 Address (XAD)

This field contains the address of the next of kin/associated party. Refer to <u>HL7-defined Table 0190 –</u> <u>Address Type</u> in Appendix A of this document for values supported by the NJIIS IMS. **This is a required field.** 

For the address sent in the first occurrence, if any NK1-4 component is valued, then all the following required components must be valued.

- NK1-4.1.1 with Street Address
- NK1-4.3 with City
- NK1-4.4 with State
- NK1-4.5 with Zip
- NK1-4.7 with Address Type

The HL7 Data Exchange Partner should value the following components if there is relevant data:

- NK1-4.2 with Other Designation (i.e., "Street Address 2" such as apartment or suite number).
- NK1-4.6 with Country. Refer to <u>HL7-defined Table 0399 Country Code</u> of HL7 Messaging Standard Version 2.5.1, section 2.15.9.17 for valid values.

#### Example:

#### |123 Anywhere St&Anywhere St&123^Apt 5A^Trenton^NJ^12345^USA^L|

This represents a legal address: 123 Anywhere St, Apt 5A, Trenton, NJ, 12345, USA

Additional rules are as follows:

- Street Address (NK1-4.1.1) should contain Dwelling (i.e., House) Number in the beginning of the field followed by the Street Name. The value cannot exceed 50 characters; otherwise, it will be truncated.
  - If NK1-4.1.1 is valued, then Street Name (NK1-4.1.2) and Dwelling Number (NK1- 4.1.3) should also be valued. NK1-4.1.2 and NK1-4.1.3 are optional; however, valuing these components will aid in data quality.
  - If the values in NK1-4.1.2 and NK1-4.1.3 do not correspond to the value in NK1-4.1.1, the NJIIS IMS will process NK1-4.1.1 and ignore NK1-4.1.2 and NK1-4.1.3.
- If there is relevant data, Other Designation (NK1-4.2) should contain the "Street Address 2" (e.g., apartment or suite number). The value cannot exceed 50 characters; otherwise, it will be truncated.
- City (NK1-4.3) cannot exceed 34 characters; otherwise, it will be truncated.
- State (NK1-4.4) must be a valid State Code and cannot exceed 2 characters; otherwise, it will be considered an error.
- Zip (NK1-4.5):
  - The NJIIS IMS only supports a 5-digit Zip code format (#####).
  - Must be exactly 5 digits; otherwise, it will be considered an error.
  - Cannot exceed 5 digits; otherwise, Zip will be truncated and only the first 5 digits of the

Zip will be processed; no error will be reported. If the first 5 are not digits, it will be considered an error.

• County (NK1-4.9) is optional. All other NK1-4 components, if provided, will be ignored.

### NK1-5 Phone Number (XTN)

This field contains the telephone number of the next of kin/associated party and should be sent if there is relevant data. The primary telephone number must be sent in the first occurrence. If the primary telephone number is not sent, then the repeat delimiter must be sent in the first occurrence. Refer to <u>HL7- defined Table 0201 – Telecommunication Use Code</u> and <u>HL7-defined Table 0202 –</u> <u>Telecommunication Equipment Type</u> in Appendix A of this document for values supported by the NJIIS IMS. They are also listed below for convenience.

Multiple phone numbers for the same person may be sent and must include an NJIIS Supported Telecommunication Use Code and should include Telecommunication Equipment Type. NJIIS Supported Telecommunication Use Codes:

- "PRN" for Primary Residence Number
- "ORN" for Other Residence Number
- "NET" for Network (Email) Address

NJIIS Supported Telecommunication Equipment Types:

- "PH" for Telephone
- "CP" for Cellular Phone
- "X.400" for X.400 Email Address. Use only if Telecommunication Use Code is "NET"

If any NK1-5 component is valued, then all the following required components must be valued,

otherwise, it will be reported as an error and the phone number will be disregarded:

- NK1-5.2 with Telecommunication Use Code
- NK1-5.4 with Email Address, if NK1-5.2 is "NET"
- NK1-5.6 with Area Code, if NK1-5.2 is "PRN" or "ORN"
- NK1-5.7 with Local Number, if NK1-5.2 is "PRN" or "ORN"

The HL7 Data Exchange Partner should value the following components if there is relevant data:

• NK1-5.3 with Telecommunication Equipment Type

Example:

|^PRN^PH^^^609^5551212~^ORN^CP^^^973^5551212~^NET^X.400<u>^jane.smith@fakeemail.com</u>|

This represents a list of 2 phone numbers and an email address:

- The first is a primary residence number: (609)555-1212
- The second is a cell phone number: (973) 555-1212
- The third is an email address: jane.smith@fakeemail.com

Additional rules are as follows:

- Any Telecommunication Use Code and Telecommunication Equipment Type that is not supported by the NJIIS IMS will be ignored and no error will be reported.
- If multiple phone numbers or emails with the same Telecommunication Use Code are sent, the

NJIIS IMS will only process the first occurrence of the phone number or email with that Telecommunication Use Code; all other phone numbers or emails with that Telecommunication Use Code will be disregarded and it will be reported as an error.

- If NK1-5.4 is not in email address format, it will be reported an error and the email address will be disregarded.
- If NK1-5.6 is not 3 digits and if NK1-5.7 is not 7 digits, it will be reported as an error and the phone number will be disregarded.
- Extension (NK1-5.8) is optional. All other NK1-5 components not described in this field usage note, if provided, will be ignored.

### NK1-6 Business Phone Number (XTN)

This field contains the business telephone number of the next of kin/associated party. Multiple phone numbers are allowed for the same person. The primary business telephone number must be sent in the first occurrence. If the primary business telephone number is not sent, then the repeat delimiter must be sent in the first occurrence. Refer to <u>HL7-defined Table 0201 – Telecommunication Use Code</u> and <u>HL7- defined Table 0202 – Telecommunication Equipment Type</u> in Appendix A of this document for values supported by the NJIIS IMS. They are also listed below for convenience.

A business phone number and business email address for the same person may be sent and must include a NJIIS Supported Telecommunication Use Code and should include Telecommunication Equipment Type.

NJIIS Supported Telecommunication Use Codes:

- "WPN" for Work Number
- "NET" for Network (Email) Address

NJIIS Supported Telecommunication Equipment Types:

- "PH" for Telephone
- "CP" for Cellular Phone
- "X.400" for X.400 Email Address. Use only if Telecommunication Use Code is "NET"

**If any NK1-6 component is valued, then all the following required components must be valued,** otherwise, it will be reported as an error and the business phone number will be disregarded:

- NK1-6.2 with Telecommunication Use Code
- NK1-6.4 with Email Address, if NK1-6.2 is "NET"
- NK1-6.6 with Area Code, if NK1-6.2 is "WPN"
- NK1-6.7 with Local Number, if NK1-6.2 is "WPN"

The HL7 Data Exchange Partner should value the following components if there is relevant data:

• NK1-6.3 with Telecommunication Equipment Type

Example:

^WPN^PH^^201^5551212~^NET^X.400<u>^jane.smith@fakeworkemail.com</u>

This represents a phone number and an email address:

- The first is a work number: (201)555-1212
- The second is an email address: jane.smith@fakeworkemail.com

Additional rules are as follows:

- Any Telecommunication Use Code and Telecommunication Equipment Type that is not supported by the NJIIS IMS will be ignored and no error will be reported.
- If multiple business phone numbers or emails with the same Telecommunication Use Code are sent, the NJIIS IMS will only process the first occurrence of the business phone number or email with that Telecommunication Use Code; all other phone numbers or emails with that Telecommunication Use Code will be disregarded and it will be reported as an error.
- If NK1-6.4 is not in email address format, it will be reported as an error and the email address will be disregarded.
- If NK1-6.6 is not 3 digits and if NK1-6.7 is not 7 digits, it will be reported as an error and the phone number will be disregarded.
- Extension (NK1-6.8) is optional. All other NK1-6 components not described in this field usage note, if provided, will be ignored.

## 5.5.6 PV2 - PATIENT VISIT SEGMENT

The PV2 segment is not supported by the NJIIS IMS and should not be sent.

## 5.5.7 GT1 – GUARANTOR SEGMENT

The GT1 segment is not supported by the NJIIS IMS and should not be sent.

### 5.5.8 IN1 – INSURANCE SEGMENT

The IN1 segment is not supported by the NJIIS IMS and should not be sent.

### 5.5.9 IN2 – INSURANCE SEGMENT

The IN2 segment is not supported by the NJIIS IMS and should not be sent.

## 5.5.10 IN3 – INSURANCE SEGMENT

The IN3 segment is not supported by the NJIIS IMS and should not be sent.

## 5.5.11 ORC – ORDER REQUEST SEGMENT

#### ORC is a required segment in a VXU message.

The ORC segment is used to transmit fields that are common to all orders (all types of services that are requested). When sending a VXU message, each RXA must be associated with one ORC, based on the HL7 standard. If an RXA is sent without a corresponding ORC, the message will be rejected. There must be at least one valid ORC/RXA pair sent in the VXU message, otherwise the message will be

### rejected.

## TABLE ORDER REQUEST SEGMENT (ORC)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Order Control	ID	0119	[11]	[11]	R	R	
2	Placer Order Number	EI		[01]	[01]	RE	RE	
3	Filler Order Number	EI		[11]	[11]	R	R	
4	Placer Group Number	EI				0	х	
5	Order Status	ID				0	х	
6	Response Flag	ID				0	х	
7	Quantity/Timing	TQ		[00]	[00]	Х	Х	
8	Parent	EIP				0	Х	
9	Date/Time of Transaction	TS				0	0	
10	Entered By	XCN		[01]	[01]	RE	RE	
11	Verified By	XCN				0	х	
12	Ordering Provider	XCN		[01]	[01]	C(RE/O)	C(RE/O)	Indicates the clinician who ordered the vaccination
13	Enterer's Location	PL				0	х	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
14	Call Back Phone Number	XTN				0	х	
15	Order Effective Date/Time	TS				0	х	
16	Order Control Code Reason	CE				0	х	
17	Entering Organization	CE				RE	RE	
18	Entering Device	CE				0	Х	
19	Action By	XCN				0	Х	
20	Advanced Beneficiary Notice Code	CE				0	х	
21	Ordering Facility Name	XON				0	Х	
22	Ordering Facility Address	XAD				0	х	
23	Ordering Facility Phone Number	XTN				0	х	
24	Ordering Provider Address	XAD				О	х	
25	Order Status Modifier	CWE				0	Х	
26	Advanced Beneficiary Notice Override Reason	CWE				Ο	х	
27	Filler's Expected Availability Date/Time	ΤS				0	х	
28	Confidentiality Code	CWE				0	Х	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
29	Order Type	CWE				0	х	
30	Enterer Authorization Mode	CNE				0	х	
31	Parent Universal Service Identifier	CWE				Ο	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

### FIELD USAGE NOTES ORDER REQUEST SEGMENT (ORC)

### ORC-1 Order Control (ID)

This field determines the function of the Order Request segment. This is a required field.

**For VXU messages, the value must be "RE" for Observations to Follow.** Refer to <u>HL7-defined Table</u> <u>0119 – Order Control Codes</u> in Appendix A of this document for values supported by the NJIIS IMS. *Example:* **|RE**|

## **ORC-2 Placer Order Number (EI)**

The placer order number is used to uniquely identify this order among all orders sent by a provider organization. While the CDC IG lists an optionality/usage of "RE" for this field whereby the HL7 Data Exchange Partner should value this field if there is relevant data, the NJIIS IMS ignores this field.

Placer Order Number (ORC-2) and Filler Order Number (ORC-3) are unique identifiers from the system where an order was placed and where the order was filled. They were originally designed for managing lab orders.

In the context that ORC will be used in immunization messaging either ORC-2 or ORC-3 must be populated. They may both be populated. In the immunization context, it is not common to have one system placing and one filling an immunization order. In some cases, neither is known.

The use case that these have supported is to allow a system that sent an immunization record to another system to identify an immunization that needs to be changed using the Filler Order Number it had sent.

This Guide specifies that Placer Order Number is RE. The Filler OrderNumber shall be the unique Immunization ID of the sending system.

### **ORC-3 Filler Order Number (EI)**

The filler order number is used to uniquely identify this order among all orders sent by a provider organization that filled the order. **This is a required field.** 

This shall be the unique identifier of the sending system in a given transaction. The HL7 Data Exchange Partner must value **the following required components**:

- ORC-3.1 with the unique Immunization ID for this immunization record.
- ORC-3.2 with the Assigning Authority (e.g., NJIIS Provider ID)

All other components of ORC-3, if valued, will be ignored by the NJIIS IMS.

In the case where system A sends the record to system B and system B then forwards to system C, system B will send its own unique identifier.

Use of this foreign key will allow the initiating system to accurately identify the previously sent immunization record, facilitating update or deletion of that record.

In the case where a historic immunization is being recorded (i.e., from an immunization card), the sending system shall populate ORC 3.1 and ORC 3.2 following the same rules as for immunizations administered by the sending provider.

In the case where an RXA is conveying information about an immunization which was not given (e.g., refusal) the filler order number shall be 9999. *Example:* **[111102^10392**] This represents unique immunization ID and Provider ID:

- The first is unique immunization ID:111102
- The second is Provider ID: 10392

### ORC-10 Entered By (XCN)

This field identifies the individual that entered this particular order. It may be used in conjunction with an RXA to indicate who recorded a particular immunization.

### ORC-12 Ordering Provider (XCN)

This field contains the identity of the person who is responsible for creating the request (i.e., ordering physician). In the case where this segment is associated with a historic immunization record and the ordering provider is not known, then this field should not be populated.

### **ORC-17 Entering Organization (CE)**

This field identifies the organization that the enterer belonged to at the time he/she enters/maintains the order, such as medical group or department. The person who entered the request is defined in ORC-10 (entered by).

## 5.5.12 TQ1 – TIMING/QUANTITY SEGMENT

The TQ1 segment is not supported by the NJIIS IMS and should not be sent.

## 5.5.13 TQ2 – TIMING/QUANTITY SEGMENT

The TQ2 segment is not supported by the NJIIS IMS and should not be sent.

### 5.5.14 RXA – PHARMACY/TREATMENT ADMINISTRATION SEGMENT

RXA is a required segment in a VXU message.

The RXA segment carries pharmacy administration data. It is a child of an ORC segment. When sending a VXU message, each RXA must be associated with and preceded by an ORC, based on the HL7 2.5.1 standard. If an RXA is sent without a corresponding ORC, the message will be rejected. There must be at least one valid ORC/RXA pair sent in the VXU message, otherwise the message will be rejected.

SEQ	Element Name	Data Type	Value Set	CDC IG Cardin ality	NJIIS IMS Cardin ality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Give Sub-ID Counter	NM		[11]	[11]	R	R	
2	Administration Sub- ID Counter	NM		[11]	[11]	R	R	
3	Date/Time Start of Administration	TS_N Z		[11]	[11]	R	R	
4	Date/Time End of Administration	TS		[01]	[01]	0	0	
5	Administered Code	CE	CVX, NDC	[11]	[11]	R	R	
6	Administered Amount	NM		[11]	[11]	R	R	
7	Administered Units	CE	UCUM	[01]	[01]	C(R/O)	C(R/O)	If RXA-6 is not valued "999"
8	Administered Dosage Form	CE		[01]	[00]	0	Х	
9	Administration Notes	CE	NIP001	[1*]	[11]	C(R/O)	R	
10	Administering Provider	XCN		[01]	[01]	C(RE/O)	C(RE/O)	
11	Administered-at Location	LA2		[01]	[11]	C(RE/O)	C(R/O)	If RXA-9.1 is valued "00"
12	Administered Per (Time Unit)	ST				0	Х	
13	Administered Strength	NM				0	х	
14	Administered Strength Units	CE				0	х	
15	Substance Lot Number	ST		[0*]	[0*]	C(R/O)	C(R/O)	If RXA-9.1 is valued "00"

## TABLE PHARMACY/TREATMENT ADMINISTRATION (RXA)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardin ality	NJIIS IMS Cardin ality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
16	Substance Expiration Date	TS_M		[01]	[01]	C(RE/O)	C(RE/O)	If RXA-15 is valued
17	Substance Manufacturer Name	CE	MVX	[01]	[01]	C(R/O)	C(R/O)	If RXA-9.1 is valued "00"
18	Substance/Treatm ent Refusal Reason	CE	NIP002	[0*]	[0*]	C(R/X)	C(R/X)	If RXA-20 is valued "RE"
19	Indication	CE		[01]	[00]	0	Х	
20	Completion Status	ID	0322	[01]	[01]	RE	RE	
21	Action Code - RXA	ID	0323	[01]	[01]	C(R/O)	C(R/O)	
22	System Entry Date/Time	TS				0	х	
23	Administered Drug Strength Volume	NM				0	х	
24	Administered Drug Strength Volume Units	CWE				О	х	
25	Administered Barcode Identifier	CWE				0	х	
26	Pharmacy Order Type	ID				0	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES PHARMACY/TREATMENT ADMINISTRATION (RXA)

### RXA-1 Give Sub-ID Counter (NM)

This field is used to match an RXA, which is not a function under IIS, and is constrained to "0" (zero). This is a required field.

If RXA-1 is omitted or valued with a value other than "0", it will be treated as if "0" was sent and no error

will be reported.

### RXA-2 Administration Sub-ID Counter (NM)

This field is used to track multiple RXA under an ORC. Since each ORC has only one RXA in immunization messages, constrain to "1". **This is a required field.** 

This should not be used for indicating dose number, which belongs in an OBX.

If RXA-2 is omitted or valued with a value other than "1", it will be treated as if "1" was sent and no error will be reported.

### RXA-3 Date/Time Start of Administration (TS\_NZ)

The field contains the date the vaccination occurred. This is a required field.

Date validation rules for Immunization Date (i.e., Date/Time Start of Administration) include the following:

- The Immunization Date must be a valid date in the YYYYMMDD format. The time component will be ignored if it is provided.
- The Immunization Date cannot be a future date.
- The Immunization Date must be on or after the Patient's Date/Time of Birth (PID-7).
- The Immunization Date must be less than 120 years in the past.

Violation of the above validation rules will be considered an error for this dose. Errors for this dose will result in the NJIIS IMS disregarding the entire RXA segment. If it is the only RXA segment in the VXU message, then the message will be rejected (patient will not be added into NJIIS).

Example: [20090501]

This represents an immunization date on May 1, 2009.

### RXA-4 Date/Time End of Administration (If Applies) (TS)

This field, in the context of immunization, is equivalent to the Start Date/Time. If populated it should contain the same value as in Date/Time Start of Administration (RXA-3). If empty, the Date/Time Start of Administration (RXA-3) is assumed.

### RXA-5 Administered Code (CE)

This field identifies the medical substance administered. This is a required field.

If the substance administered is a vaccine, NJIIS IMS accepts National Drug Code (NDC) codes and/or CVX codes to identify the vaccine administered. NJIIS requires that one of the triplets in the incoming message contain the NDC or CVX code. If an NDC or CVX code is not included or is not support by NJIIS

IMS, then the NJIIS IMS will return an error and the dose will be rejected. NJIIS only support NDC 11-digit codes.

If submitting more than one data element for the vaccine administered, use triplet components four through six. For example, if NDC code was submitted in addition to CVX code, use the fourth component of the triplet for the code itself, fifth component of the triplet for description and "NDC" in the sixth component of the triplet.

The HL7 Data Exchange Partner must value **the following required components**:

- RXA-5.1 with a valid CVX or NDC code as specified in Table HL70292 in this implementation guide. All other codes will be considered an error and the dose will be rejected.
- RXA-5.3 with "CVX" or "NDC". If the code type is omitted or other than "CVX" or "NDC", it will be
- considered an error and the dose will be rejected.

The HL7 Data Exchange Partner should value the following component if there is relevant data:

• RXA-5.2 with a text description of the CVX or NDC code.

If RXA-5 contains CVX code only then CVX will be used to determine the dose administered.

If RXA-5 contains NDC code only then NDC will be used to determine the dose administered.

If RXA-5 contains both CVX and NDC codes:

- NJIIS IMS will validate whether the NDC code provided is mapped to the CVX provided.
- If the mapping is consistent, NJIIS IMS will use the NDC code.
- If the mapping is not consistent NJIIS IMS will return an error and the dose will not be added.

Example: [21^Varicella^CVX]

Example: [58160-0810-43^10 pack-1 dose vials^NDC].

Example: **|20^DTaP^CVX^58160-0810-43^10 pack-1 dose vials^NDC|.** (notE: Use hyphens when reporting NDC code).

Errors for this dose will result in the NJIIS IMS disregarding the entire RXA segment. If it's the only RXA segment in the VXU message, then the message will be rejected (patient will not be added into NJIIS).

Please reference the following link for a full list of the CVX and NDC codes accepted by the NJIIS IMS <u>https://njiis.nj.gov/docs/interfaces/NJIIS\_NDC\_CVX\_Crosswalk.xlsx</u>. The NJIIS IMS CVX code will be updated as needed to include new codes. Please reference the link below for a full list of CVX codes supported by the CDC (<u>https://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=cvx</u>). Please reference the link below for a full list of NDC code supported by the CDC <u>https://www2a.cdc.gov/vaccines.asp?rpt=cvx</u>). Please reference the link below for a full list of NDC code supported by the CDC <u>https://www2a.cdc.gov/vaccines.asp?rpt=ndc</u>.

### RXA-6 Administered Amount (NM)

This field records the amount of pharmaceutical administered. This is a required field.

The units are expressed in the Administered Units (RXA-7). If the HL7 Data Exchange Partner captures the amount of pharmaceutical administered, they must value the Administered Amount (RXA-6) with a numeric value. If the HL7 Data Exchange Partner does not capture the amount of pharmaceutical administered, they must value Administered Amount (RXA-6) with "999". If this field is not valued with either a numeric value or "999", it will be considered an error for this dose. Errors for this dose will result in the NJIIS IMS disregarding the entire RXA segment. If it is the only RXA segment in the VXU message, then the message will be rejected (patient will not be added into NJIIS).

If Administration Notes (RXA-9.1) is valued with "00" for New Immunization Record, the HL7 Data Exchange Partner must value RXA-6 with the amount of pharmaceutical administered.

If Administration Notes (RXA-9.1) is valued with "00" for New Immunization Record, and RXA-6 is valued with "999" the NJIIS IMS will report an error.

Example: [0.5]

This represents 0.5. Along with RXA-7, it represents 0.5 mL administered.

### RXA-7 Administered Units (CE)

This field is conditional because it is required if the Administered Amount (RXA-6) code does not imply units. This field must be in simple units that reflect the actual quantity of the substance administered. It does not include compound units.

**This field is required if Administered Amount (RXA-6) is not valued with "999".** If the Administered Amount (RXA-6) is valued with "999", the NJIIS IMS will ignore Administered Units (RXA-7).

If Administered Amount (RXA-6) is not valued with "999", the HL7 Data Exchange Partner must value the following required components in Administered Units (RXA-7):

- RXA-7.1 with the Administered Units.
- RXA-7.3 with the Name of the Coding System.

Example:

|mL^^UCUM|

This represents milliliter. Along with RXA-6, it represents 0.5 mL administered.

### RXA-9 Administration Notes (CE)

This field is used to indicate whether this immunization record is based on a historical record or was given by the reporting provider. **This is a required field.**
The RXA-9 field must contain the information source. The NJIIS IMS accepts all the information sources in the table <u>CDC-defined NIP001 – Immunization Information Source</u>. The first component shall contain the code, the second component the free text, and the third component shall contain the Name of the Coding System, i.e., "NIP001".

The HL7 Data Exchange Partner must value **the following required components:** 

- RXA-9.1 with a valid Immunization Information Source from the table <u>CDC-defined NIP001 –</u> <u>Immunization Information Source</u>. All other values will be considered an error for this dose and the dose will not be added to the record.
- RXA-9.3 with "NIP001".
  - If the Name of the Coding System is omitted, it will be considered an error for this dose.
  - If the Name of the Coding System is valued with a value other than "NIP001", it will be treated as if "NIP001" was sent and an error reported.

The HL7 Data Exchange Partner should value the following component if there is relevant data:

• RXA-9.2 with a text description of the Immunization Information Source.

#### Example:

#### |00^New Immunization Record^NIP001|

Omitting required components for reporting a dose will result in the NJIIS IMS disregarding the entire RXA segment. If it's the only RXA segment in the VXU message, then the message will be rejected (patient will not be added into NJIIS).

### RXA-10 Administering Provider (XCN)

This field is intended to contain the name and provider ID of the person physically administering the pharmaceutical and should be sent if there is relevant data. NJIIS only supports storing the name of the Administering Provider.

The HL7 Data Exchange Partner should value the following components if there is relevant data:

- RXA-10.2.1 with the Surname (i.e., Last Name) of the person physically administering the pharmaceutical.
- RXA-10.3 with the Given Name (i.e., First Name) of the person physically administering the pharmaceutical.

All other RXA-10 components, if provided, will be ignored.

Example: [^Shotgiver^Sally]

#### RXA-11 Administered-at Location (LA2)

This field is used to report the facility that administered or recorded the immunization.

This field is required when reporting new immunizations (i.e., Administration Notes (RXA-9.1) is

valued with "00"). The HL7 Data Exchange Partner must value RXA-11.4.1 with the NJIIS Provider ID of the location at which the immunization was administered. Failure to provide a valid NJIIS Provider ID issued by NJIIS will be considered an error. The NJIIS IMS will not maintain a list of facilities/Provider IDs in the CDC IG's User-defined Table 0362 and, therefore, will not limit RXA-11.4.1 values to the CDC IG's User- defined Table 0362 value set.

If Administration Notes (RXA-9.1) is valued with a value other than "00", the NJIIS IMS will ignore Administered-at Location (RXA-11).

Example: [^^^325]

All other RXA-11 components, if provided, will be ignored.

When Administration Notes (RXA-9.1) is valued with "00" (New immunization record), the NJIIS Provider ID valued in MSH-4.1 must be the same as the NJIIS Provider ID valued in Administered-at Location (RXA- 11.4.1); otherwise, it will be considered an error.

In the case described above, the Patient's Primary Provider in NJIIS will always be set using the NJIIS Provider ID specified in Administered-at Location (RXA-11.4.1), unless:

- The NJIIS Provider ID valued in MSH-4.1 is associated with a Pharmacy; thereby the Patient's Primary Provider in NJIIS will not beset.
- The corresponding CVX or NDC code valued in Administered Code (RXA-5) is a CVX or NDC code for an influenza vaccine or for any travel vaccines (typhoid, yellow fever, Japanese Encephalitis); thereby the Patient's Primary Provider in NJIIS will not be set.

# RXA-15 Substance Lot Number (ST)

This field contains the Lot Number of the medical substance administered. It may remain empty if the dose is from a historical record.

This field is required if Administration Notes (RXA-9.1) is valued with "00" and will be considered an error for this dose if omitted. This field is optional if Administration Notes (RXA-9.1) is valued with a value other than "00".

The Lot Number is the number printed on the label attached to the container holding the substance and, on the packaging, which houses the container. If two Lot numbers are associated with a product that is a combination of different components, they may be included in this field. The first repetition should be the vaccine.

NJIIS currently does not store multiple Lot Numbers for a product. If multiple Lot Numbers are sent, only the first occurrence of Lot Number will be processed by the NJIIS IMS and stored in NJIIS; all other Lot Numbers will be ignored.

The Lot Number cannot exceed 16 characters; otherwise, it will be considered an error for this dose. Errors for this dose will result in the NJIIS IMS disregarding the entire RXA segment. If it is the only RXA segment in the VXU message, then the message will be rejected.

### RXA-16 Substance Expiration Date (TS\_M)

This field contains the expiration date of the medical substance administered. It may remain empty if the dose is from a historical record.

If there is relevant data, this field should be valued if Substance Lot Number (RXA-15) is valued. The expiration date must be a valid date in YYYYMMDD format. The time component will be ignored if it is provided.

If expiration date is not a valid date, or not in YYYYMMDD an error will be reported, and the expiration date will be disregarded.

# RXA-17 Substance Manufacturer Name (CE)

This field contains the manufacturer of the medical substance administered.

This field is required if Administration Notes (RXA-9.1) is valued with "00" and will be considered an error if omitted. This field is optional if Administration Notes (RXA-9.1) is valued with a value other than "00". For vaccines, the Manufacturers of Vaccines (MVX) code system must be used to code this field.

The HL7 Data Exchange Partner must value the following required components:

- RXA-17.1 with a valid MVX code. All other codes will be considered an error for this dose.
- RXA-17.3 with "MVX". If the code type is omitted or other than "MVX", it will be considered an error for this dose.

The HL7 Data Exchange Partner should value the following component if there is relevant data:

• RXA-17.2 with a text description of the MVX code.

#### Example: [PMC^Sanofi Pasteur.^MVX]

Please reference the following link for a full list of the MVX codes accepted by the NJIIS IMS <u>https://njiis.nj.gov/docs/interfaces/NJIIS\_List\_of\_Manufacturers.xlsx</u>. Please reference the link below for a full list of MVX codes supported by the CDC <u>https://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=mvx</u>.

#### RXA-18 Substance/Treatment Refusal Reason (CE)

This field contains the reason the patient refused the medical substance/treatment. Any entry in the field indicates that the patient did not take the substance. **This field is required if Completion Status (RXA-20) is valued with "RE"** for Refused and will be considered an error if omitted. If an invalid value is

supplied in the incoming message, the NJIIS IMS will return an error but will continue to process the incoming message. Vaccine refusals are captured as notes on the patient record.

HL7 Data Exchange partners can refer to <u>CDC-defined NIP002 – Substance Refusal Reason</u> for supported values for this field.

# RXA-20 Completion Status (ID)

This field indicates if the dose was successfully given and should be sent if there is relevant data.

Currently, the NJIIS IMS supports VXU messages reporting successfully given doses with a Completion Status of "CP" for Complete, "PA" for Partially Administered, "NA" for Not Administered, and "RE" for Refused Vaccine. Refer to <u>HL7-defined Table 0322 – Completion Status</u> in Appendix A of this document for values supported by the NJIIS IMS.

- If Completion Status (RXA-20) is omitted, it will be treated as if "CP" was sent and an error reported.
- If Completion Status (RXA-20) is populated with a value other than the NJIIS IMS supported vales, the NJIIS IMS will report an error for this dose and disregard the entire RXA segment. If it is the only RXA segment in the VXU message, then the message will be rejected.

### RXA-21 Action Code – RXA (ID)

This field indicates the action expected by the HL7 Data Exchange Partner such as adding (reporting) immunizations, updating previously reported immunizations, or deleting previously reported immunizations. This field should be sent if there is relevant data. The NJIIS IMS supports all the values listed in the CDC IG's <u>HL7-defined Table 0323 – Action Code</u>.

The HL7 Data Exchange Partner should value this field with:

- "A" for Add, to report an immunization.
- "D" for Delete, to request a delete to an immunization that the HL7 Data Exchange Partner had previously reported.
- "U" for Update, to request an update to an immunization that the HL7 Data Exchange Partner had previously reported.

If this field is omitted or valued with a value other than "A", "D", or "U", the NJIIS IMS will assume that the that the purpose is to report an immunization, treat it as if "A" was sent, and report an error.

If the Action Code – RXA (RXA-21) field is valued with the HL7 code "A" (for Add), if a matching immunization is found for that patient with the same vaccine, administration date, and administered-at location (RXA-11.4.1) as specified in the RXA segment, the RXA segment will be processed as an update instead of an add.

Similarly, if the Action Code – RXA (RXA-21) field is valued with the HL7 code "A" (for Add), if a matching historical immunization is found for that patient with the same vaccine and administration date as specified in the RXA segment, the RXA segment will be processed as an update instead of an add.

If the Action Code – RXA (RXA-21) field is valued with the HL7 code "U" (for Update), if a matching immunization is NOT found for that patient with the same vaccine, administration date, and administered-at location as specified in the RXA segment, the RXA segment will be processed as an add instead of an update.

See <u>Reporting Immunizations</u>, <u>Updating Previously Reported Immunizations</u>, and <u>Deleting Previously</u> <u>Reported Immunizations</u> in this Local IG for more information.

# 5.5.15 RXR – PHARMACY/TREATMENT ROUTE SEGMENT

The RXR segment contains the alternative combination of route, site, administration device, and administration method that are prescribed as they apply to a particular order. It is a child of an RXA segment. NJIIS currently only accepts the route and administration site.

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Route	CE	NCIT/0162	[11]	[11]	R	R	
2	Administration Site	CWE	0163	[01]	[01]	RE	RE	
3	Administration Device	CE				0	х	
4	Administration Method	CE				Ο	х	
5	Routing Instruction	CE				0	х	

# TABLE PHARMACY/TREATMENT ROUTE (RXR)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
6	Administration Site Modifier	CWE				0	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

# FIELD USAGE NOTES PHARMACY/TREATMENT ROUTE (RXR)

# RXR-1 Route (CE)

This field is the route of administration. This is a required field.

Refer to <u>NCI Thesaurus (NCIT) – Route of Administration/HL7-defined Table 0162 – Route of</u> <u>Administration</u> in Appendix A of this document for values supported by the NJIIS IMS.

The HL7 Data Exchange Partner must value the following required components:

- RXR-1.1 with a NJIIS supported HL7 code from <u>NCI Thesaurus (NCIT) Route of</u> <u>Administration/HL7-defined Table 0162 – Route of Administration</u> in Appendix A of this document.
- RXR-1.3 with "HL70162" or "NCIT'.

The HL7 Data Exchange Partner should value the following component if there is relevant data:

• RXR-1.2 with a text description of the HL7 code.

Example:

### |SC^Subcutaneous^HL70162| or |C38299^Subcutaneous^NCIT|

Additional rules are as follows:

- If RXR-1.1 is omitted, an error will be reported.
- If RXR-1.1 is valued with a value other than a NJIIS supported value from <u>HL7-defined Table 0162</u> <u>– Route of Administration</u> in Appendix A of this document, the NJIIS IMS will report an error.
- If RXR-1.3 is omitted, an error will be reported. All other RXR-1 components not described in this field usage note, if provided, will be ignored.

# RXR-2 Administration Site (CWE)

This field contains the site of the administration and should be sent if there is relevant data.

The NJIIS IMS supports all the HL7 values in the CDC IG's <u>HL7-defined Table 0163 – Site of</u> <u>Administration</u>.

If any RXR-2 component is valued, then the NJIIS IMS requires the following components to be valued,

otherwise, a warning will be reported:

- RXR-2.1 with a value from the CDC IG's <u>HL7-defined Table 0163 Site of Administration</u>.
- RXR-2.3 with"HL70163".

The HL7 Data Exchange Partner should value the following components, if there is relevant data:

• RXR-2.2 with a text description of the HL7 code.

#### Example: [LD^Left Deltoid^HL70163]

Additional rules are as follows:

- If RXR-2.1 is valued with a value other than a value from the CDC IG's <u>HL7-defined Table 0163 –</u> <u>Site of Administration</u>, NJIIS will report a warning.
- If RXR-2.3 is omitted or valued with value other than "HL70163", the NJIIS IMS will report an error.
- All other RXR-2 components not described in this field usage note, if provided, will be ignored.

# 5.5.16 OBX – OBSERVATION RESULT SEGMENT

The observation result segment has many uses. It carries observations about the object of its parent segment. In the VXU/RSP it is associated with the RXA or immunization record. The basic format is a question (OBX-3) and an answer (OBX-5). It is a child of an RXA segment.

For VXU messages, the NJIIS IMS will accept OBX segments that convey the following information:

- Vaccine funding program eligibility category
- Disease with presumed immunity
- Contraindications
- Reaction

#### All other OBX segments will be ignored.

# TABLE OBSERVATION SEGMENT (OBX)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Set ID – OBX	SI		[11]	[11]	R	R	
2	Value Type	ID	0125	[11]	[11]	R	R	
3	Observation Identifier	CE	NIP 003	[11]	[11]	R	R	
4	Observation Sub-ID	ST		[11]	[11]	R	R	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
5	Observation Value	Varies		[11]	[11]	R	R	
6	Units	CE		[01]	[01]	C(R/O)	C(R/O)	If OBX-2 is valued "NM" or "SN"
7	References Range	ST				0	Х	
8	Abnormal Flags	IS				0	х	
9	Probability	NM				0	х	
10	Nature of Abnormal Test	ID				0	х	
11	Observation Result Status	ID	0085	[11]	[11]	R	R	
12	Effective Date of Reference Range Values	TS				О	х	
13	User Defined Access Checks	ST				0	х	
14	Date/Time of the Observation	TS_NZ		[01]	[01]	RE	RE	
15	Producer's Reference	CE				0	х	
16	Responsible Observer	XCN				0	х	
17	Observation Method	CE		[01]	[01]	C(RE/O)	C(RE/O)	If OBX-3.1 is valued "64994- 7"
17	Observation Method	CE		[01]	[01]	C(RE/O)	C(RE/O)	If OBX-3.1 is valued "64994-7"

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
18	Equipment Instance Identifier	EI				Ο	х	
19	Date/Time of the Analysis	ΤS				0	х	
20	Reserved for harmonization with V2.6			[00]	[00]	х	х	
21	Reserved for harmonization with V2.6			[00]	[00]	х	х	
22	Reserved for harmonization with V2.6			[00]	[00]	х	х	
23	Performing Organization Name	XON				0	х	
24	Performing Organization Address	XAD				0	х	
25	Performing Organization Medical Director	XCN				0	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

# FIELD USAGE NOTES OBSERVATION SEGMENT (OBX)

# OBX-1 Set ID - OBX (SI)

This field contains the sequence number. This is a required field.

The HL7 Data Exchange Partner must value OBX-1 with "1". NJIIS IMS will process the OBX segments in the order listed in the order group. The OBX-1 should be valued in numerical order.

# **OBX-2 Value Type (ID)**

This field contains the format of the observation value in OBX. This is a required field.

This field must be valued with "ID", "NM", "CE" or "DT".

# OBX-3 Observation Identifier (Varies)

This field contains a unique identifier for the observation. This is a required field.

For VXU messages, the NJIIS IMS will process OBX segments that convey the following:

OBX-3.1 should be populated with one of the following LOINC codes.

- 64994-7 Vaccine funding program eligibility category
- 30963-3 Immunization Funding Source
- 59784-9 Disease with presumed immunity
- 30945-0 Contraindication/Precaution
- 30946-8 (Contraindication/Precaution effective date)
- 30944-3 (Contraindication/Precaution expiration date)
- 31044-1 (Reaction)

Refer to <u>CDC-defined NIP003 – Observation Identifiers</u> in Appendix A of this document for values supported by the NJIIS IMS.

All other LOINC codes will be ignored.

The Observation Identifier (OBX-3) may be thought of as a question that the Observation Value (OBX-5) answers.

When an OBX is sent, the HL7 Data Exchange Partner must value the following required components:

- OBX-3.1 with Logical Observation Identifiers Names and Codes (LOINC) code.
- OBX-3.3 with "LN" for LOINC.
- OBX-3.2 with a text description of the LOINC code.

#### Example:

#### |64994-7^vaccine fund pgm elig cat^LN|

Additional rules are as follows:

- If OBX-3 is omitted, error will be reported, and OBX-3 will be disregarded.
- If OBX-3.1 is omitted or valued with a LOINC code other than above, an error will be reported, and OBX-3 will be disregarded.
- If Observation Identifier (OBX-3) is disregarded, the corresponding Observation Value (OBX-5) will also be disregarded.
- If OBX-3.3 is omitted or valued with a value other than "LN", the NJIIS IMS will treat it as if an "LN" was sent and error will be reported.
- For each RXA, the NJIIS IMS can support one or more OBX segments for LOINCs specified above.
- NJIIS IMS will process the OBX segments in the order listed in the order group. The OBX-1 should be valued in numerical order according to the order they are listed within an order group.
- When sending Disease with presumed immunity observation
  - o ORC-3 must be valued with 9999
  - RXA-5 must be valued with "998" (no vaccine administered), RXA-6 must be valued with 999 and RXA-20 must be valued with "NA" (not administered).

- When sending Contraindication observation,
  - ORC-3 must be valued with 9999,
  - If the contraindication is related to a particular dose, RXA-5.1 must be valued with a CVX code, and RXA-6 must be valued with dosage amount and RXA-20 must be valued with CP.
  - If the contraindication is related to a dose that is not administered, RXA-5.1 must be valued with 998 for no vaccine administered, RXA-6 must be valued with 999 and RXA-20 must be valued with NA.

# OBX-4 Observation Sub-ID (ST)

This field is used to group related observations by setting the value to the same number. Each relative observation would share an Observation sub-id.

Example:

OBX|1|NM|^observation 1 part 1^^^^|1|... OBX|2|NM|^ observation 1 part 2^^^^|1|... OBX|3|DT|^a different observation^^^^|2|...

# **OBX-5 Observation Value (CE)**

This field contains the observation (answer) posed by the question in Observation Identifier (OBX-3). **This is a required field.** 

For VXU messages, the NJIIS IMS will only process the OBX segments that convey one of the following observations:

- Immunization-level vaccine funding program eligibility category
- Immunization Funding Source
- Disease with presumed immunity
- Contraindication/Precaution
- Contraindication/Precaution effective date
- Contraindication/Precaution expiration date
- Reaction

#### When an OBX is sent, the HL7 Data Exchange Partner must value the following required components:

• OBX-5.1 with a NJIIS supported LOINC code value

#### Examples:

Vaccine funding program eligibility category – Refer to <u>User-defined Table 0064 – Financial Class</u> in Appendix A of this document.

#### V02^VFC eligible-Medicaid/Medicaid Managed Care^HL70064

Immunization Funding Source - Refer to <u>Value Set Name – Immunization Funding Source</u> in Appendix A of this document.

#### |PHC70^Private Funds^CDCPHINVS|

Disease with Presumed Immunity – Refer to <u>Value Set Name – History of Disease as Evidence of</u> <u>Immunity</u> in Appendix A of this document. [38907003^HISTORY OF VARICELLA INFECTION^SCT]

Contraindication – Refer to <u>Value Set Name – Vaccination Contraindications</u> in Appendix A of this document.

**VXC22**^encephalopathy within 7 days of previous dose of DTP or DTaP^CDCPHINVS

Reaction - Refer to <u>Value Set Name – Vaccination Reaction</u> in Appendix A of this document. |VXC14^Rash within 14 days of dose^CDCPHINVS|

Additional rules are as follows:

- If Observation Identifier (OBX-3) is disregarded, the corresponding Observation Value (OBX-5) will also be disregarded.
- If OBX-3.1 is valued with LOINC code 64994-7, 30963-3, 59784-9, 30945-0, 30946-8, 30944-3, 31044-1 and the corresponding OBX-5.1 is valued with a code that is not an NJIIS supported value the NJIIS IMS will not process that OBX segment.
- If OBX-3.1 is valued with LOINC code 64994-7, 30963-3, 59784-9, 30945-0, 30946-8, 30944-3, 31044-1 and the corresponding OBX-5.1 is omitted or no value is provided, the NJIIS IMS will treat as if required value missing OBX segment will not be processed.

# OBX-6 Units (CE)

This shall be the units for the value in Observation Value (OBX-5). The value shall be from the ISO+ list of units.

The HL7 Data Exchange Partner is required to value this field when Value Type (OBX-2) is valued with "NM" or "SN". If value is omitted an error will be returned.

# **OBX-11** Observation Result Status (ID)

This field contains the observation result status. The expected value is "F" or final.

If Observation Result Status (OBX-11) is omitted or valued with a value other than "F" and the NJIIS IMS will process as "F" had been sent and will report an error.

# OBX-14 Date/Time of the Observation (TS\_NZ)

This field contains the time of the observation. It is the physiologically relevant date-time or the closest approximation to that date-time of the observation.

# **OBX-17 Observation Method (CE)**

This field can be used to transmit the method or procedure by which an observation was obtained when

the sending system wishes to distinguish among one measurement obtained by different methods and the distinction is not implicit.

It is used to differentiate the way that Eligibility Status was collected (i.e., recorded in the sending system at the immunization level or recorded in the sending system at the visit level).

- If the eligibility is captured by vaccine dose, OBX-17 must be valued with:
  - "VXC40^per immunization^CDCPHINVS"
- If the method of capture is per visit, OBX-17 must be valued with:
  - "VXC41^per visit^CDCPHINVS"

While the CDC IG lists an optionality/usage of "C(RE/O)" for this field whereby the HL7 Data Exchange Partner is required to value this field when Observation Identifier (OBX-3) is valued with "64994-7", the NJIIS IMS ignores this field.

# 5.5.17 NTE – NOTE SEGMENT

The NTE segment is used for sending notes and comments. It is used in relation to OBX in the VXU and RSP.

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Set ID - NTE	SI				0	х	
2	Source of Comment	ID				0	х	
3	Comment	FT		[11]	[11]	R	R	
4	Comment Type	CE				0	х	

# TABLE NOTE SEGMENT (NTE)

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

# FIELD USAGE NOTES NOTE SEGMENT (NTE)

# NTE-3 Comment (FT)

This field contains the comment contained in the segment. This is a required field.

Example:

|Parent to contact Doctor's office in case of fever more than 102° F|

# 6 MESSAGE ACKNOWLEDGEMENT (ACK)

# 6.1 OVERVIEW

The NJIIS IMS will always respond with an ACK to an HL7 2.5.1 VXU message sent by an HL7 Data Exchange Partner, regardless of whether that VXU was sent to report, update, or delete an immunization.

If the VXU is processed successfully, the NJIIS IMS sends an ACK response. MSA-1 will be valued with "AA" indicating that the VXU was successful.

**If there are errors in the VXU message**, the NJIIS IMS sends an ACK response with a MSA-1 value of "AE". The ACK will contain an ERR segment (one for each error) that provides information about the error, such as the error location and the type of error. Refer <u>HL7-defined Table 0516 – Error Severity</u> <u>Code</u> in Appendix A of this document.

If the VXU is not processed, the NJIIS IMS send an ACK response with an MSA-1 value of "AR" it indicates that the VXU message was rejected.

The NJIIS IMS will transmit the patient's NJIIS Registry ID (if available) back to the HL7 Data Exchange Partner in an ACK response. The NJIIS Registry ID (if available) will be returned in Diagnostic Information (ERR-field, where the HL7 Error Code (ERR-3) is set to "0" (Message Accepted), Severity (ERR-4) is set to "1" (Information) and Application Error. Parameter (ERR-6) is set to "NJIIS\_REGISTRY\_ID".

It is highly recommended that the HL7 Data Exchange Partner store the NJIIS Registry ID, returned by the NJIIS IMS, in their system with the patient record and include that NJIIS Registry ID in future VXU and QBP messagesto decrease the time that it takes for the NJIIS IMS to process and respond to the messages, as well as increase the likelihood that a patient match will be found.

Under certain circumstances, a patient's NJIIS Registry ID may change. The NJIIS IMS will always send the surviving NJIIS Registry ID in the ACK response message; therefore, the NJIIS Registry ID returned by the NJIIS IMS within the ACK may be different from the NJIIS Registry ID that the HL7 Data Exchange Partner submitted in the VXU message. The HL7 Data Exchange Partner's system should replace its existing NJIIS Registry ID reference with the new NJIIS Registry ID that was communicated within the ACK message.

In the ACK message, ERR segments containing the highest error severity of "errors" will be returned first, followed by ERR segments with "warnings" will be returned, followed by ERR segments containing informational errors will be returned, followed by ERR segment containing NJIIS registry ID.

# 6.2 ACK MESSAGE SEGMENTS

# 6.2.1 MSH – MESSAGE HEADER SEGMENT

# TABLE MESSAGE HEADER SEGMENT (MSH)

SEQ	Element Name	Data Type	Value set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Field Separator	ST		[11]	[11]	R	R	
2	Encoding Characters	ST		[11]	[11]	R	R	
3	Sending Application	HD		[01]	[11]	RE	R	
4	Sending Facility	HD		[01]	[11]	RE	R	
5	Receiving Application	HD		[01]	[01]	RE	RE	
6	Receiving Facility	HD		[01]	[01]	RE	RE	
7	Date/Time Of Message	TS_Z		[11]	[11]	R	R	
8	Security	ST		[01]	[01]	Ο	0	
9	Message Type	MSG		[11]	[11]	R	R	
10	Message Control ID	ST		[11]	[11]	R	R	
11	Processing ID	РТ		[11]	[11]	R	R	
12	Version ID	VID		[11]	[11]	R	R	
13	Sequence Number	NM		[01]	[01]	О	0	

SEQ	Element Name	Data Type	Value set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
14	Continuation Pointer	ST		[01]	[01]	0	0	
15	Accept Acknowledgement Type	ID	0155	[11]	[11]	R	R	
16	Application Acknowledgment Type	ID	0155	[11]	[11]	R	R	
17	Country Code	ID		[01]	[01]	0	0	
18	Character Set	ID		[01]	[01]	0	0	
19	Principal Language Of Message	CE		[01]	[01]	0	0	
20	Alternate Character Set Handling Scheme	ID		[01]	[01]	0	0	
21	Message Profile Identifier	EI		[1*]	[1*]	R	R	
22	Sending Responsible Organization	XON		[01]	[01]	RE	RE	
23	Receiving Responsible Organization	XON		[01]	[01]	RE	RE	
24	Sending Network Address	HD		[01]	[01]	Ο	0	
25	Receiving Network Address	HD		[01]	[01]	0	0	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

# FIELD USAGE NOTES MESSAGE HEADER SEGMENT (MSH)

# MSH-1 Field Separator (ST)

This field contains the separator between the segment ID and the first real field, Encoding Characters

(MSH-2). As such it serves as the separator and defines the character to be used as a separator for the rest of the message. This is a required field. The NJIIS IMS will value this field with the required value which is | (ASCII 124).

Example: MSH

### MSH-2 Encoding Characters (ST)

This field contains the four characters in the following order: the component separator, repetition separator, escape character, and subcomponent separator. This is a required field. The NJIIS IMS will value this field with the required values which are ^~\& (ASCII 94, 126, 92, and 38, respectively).

Special characters that are utilized within HL7 messages as separators (also referred to as delimiters) should not be included within those same HL7 messages as data because their presence would interfere with the parsing of the message. If an HL7 message does contain one of these special delimiter characters as part of the message content (e.g., an ampersand as part of an address: "Apt. A & B"), then the HL7 Data Exchange Partner must utilize a specialescape sequence to indicate that the character is a text character and not a delimiter content(e.g., "Apt. A\T\B" to represent "Apt. A & B"); otherwise, the NJIIS IMS cannot distinguish between the delimiter character and a character that is part of the text.

In order to include any one of these special characters as data within an HL7 message, those characters must be converted into a predefined sequence of characters that begin and end with the escape character "\". HL7 Data Exchange Partners should utilize the following table to convert special characters into escape sequences when creating messages sent to the NJIIS IMS and to convert escape sequences to special characters when parsing messages coming from the NJIISIMS.

Special Character Description	Special Character	Escape Sequence
Escape character	١	\E\
Field separator	I	\F\
Repetition separator	~	\R\
Component separator	۸	\s\
Subcomponent separator	&	\T\

# MSH-3 Sending Application (HD)

This field uniquely identifies the sending application. This is not the product, but rather the name of the specific instance. **This is a required field.** 

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and, therefore, will not limit MSH-3.1 values to the CDC IG's User-defined Table 0361 value set. The NJIIS IMS will value MSH-3.1 with "NJIIS".

Example: MSH|^~\&**|NJIIS|** 

# MSH-4 Sending Facility (HD)

This field identifies the organization responsible for the operations of the sending application. **This is a required field.** 

The NJIIS IMS will not maintain a list of facilities/Provider IDs in the CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-4.1 values to the CDC IG's User-defined Table 0362 value set. The NJIIS IMS will value MSH-4.1 with "NJDOH".

Example: [NJDOH]

# MSH-5 Receiving Application (HD)

This field uniquely identifies the receiving application. This is not the product, but rather the name of the specific instance.

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and, therefore, will not limit MSH-5.1 values to the CDC IG's User-defined Table 0361 value set.

The NJIIS IMS will value MSH-5.1 in the ACK message with what was provided in MSH-3.1 of the corresponding VXU or QBP message.

# MSH-6 Receiving Facility (HD)

This field identifies the organization responsible for the operations of the receiving application.

The NJIIS IMS will not maintain a list of facilities/Provider IDs in CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-6.1 values to the CDC IG's User-defined Table 0362 value set.

The NJIIS IMS will value MSH-6.1 in the ACK message with what was provided in MSH-4.1 of the corresponding VXU or QBP message.

# MSH-7 Date/Time Of Message (TS\_Z)

This field contains the date/time that the sending system created the message. This is a required field.

The degree of precision should be to the second. The time zone must be specified and will be used

throughout the message as the default time zone. When the time zone is not included, it is presumed to be the time zone of the sender.

The expected format is YYYYMMDDHHMMSS. Milliseconds and Time zone values are optional. For example, formats including milliseconds and time zones are: YYYYMMDDHHMMSS.SSSS or

YYYYMMDDHHMMSS.SSSS+/-ZZZZ.

Example: **|20120204030159|** This represents February 4, 2012 at 3:01:59.

# MSH-9 Message Type (MSG)

This field contains the message type, trigger event, and the message structure ID for the message. **This** is a required field. All three components are required.

When sending an ACK, **the NJIIS IMS will value MSH-9 with: ACK^V04^ACK** The NJIIS IMS will value **the following required components:** 

- MSH-9.1 Message Type with ACK
- MSH-9.2 Trigger Event with V04
- MSH-9.3 Message Structure ID with ACK

### MSH-10 Message Control ID (ST)

This field contains the identifier assigned by the sending application (MSH-3) that uniquely identifies a message instance. This identifier is unique within the scope of the sending facility (MSH-4), sending application (MSH-3), and the YYYYMMDD portion of message date (MSH-7). **This is a required field.** 

The NJIIS IMS will value MSH-10 in the ACK message with what was provided in the MSH-10 of the corresponding VXU message.

### MSH-11 Processing ID (PT)

This field is used to decide whether to process the message as defined in HL7 Application (level 7) Processing rules. **This is a required field.** 

Refer to <u>HL7-defined Table 0103 – Processing ID</u> in Appendix A of this document for values supported by the NJIIS IMS.

The NJIIS IMS will value MSH-11 in the ACK message with what was provided in the MSH-11 of the corresponding VXU message.

### MSH-12 Version ID (VID)

This field contains the identifier of the version of the HL7 messaging standard used in constructing, interpreting, and validating the message. **This is a required field.** 

Only the first component needs to be populated. When sending a 2.5.1 message, the NJIIS IMS will value MSH-12 with: [2.5.1]

# MSH-15 Accept Acknowledgment Type (ID)

This field identifies the conditions under which accept acknowledgments are required to be returned in response to this message. Required for enhanced acknowledgment mode. Refer to <u>HL7-defined Table</u> <u>0155 – Accept/Application Acknowledgment Conditions</u> in Appendix A of this document for values supported by the NJIIS IMS.

Accept acknowledgement indicates if the message was safely received or not. It does not indicate successful processing. Application acknowledgement indicates the outcome of processing.

Since the NJIIS IMS does not expect nor require the HL7 Data Exchange Partner to send an acknowledgment in response to an ACK message, the NJIIS IMS will value **MSH-15 with: |NE|.** 

# MSH-16 Application Acknowledgment Type (ID)

This field contains the conditions under which application acknowledgments are required to be returned in response to this message. Required for enhanced acknowledgment mode. Refer to <u>HL7-defined Table</u> <u>0155 – Accept/Application Acknowledgment Conditions</u> in Appendix A of this document for values supported by the NJIIS IMS.

If MSH- 15 (Accept Acknowledgment Type) and MSH-16 (Application Acknowledgment Type) are omitted (or are both empty), the original acknowledgment mode rules are used. This means that, unless otherwise specified, the receiving application will send acknowledgment when it has processed the message.

Since the NJIIS IMS does not expect nor require the HL7 Data Exchange Partner to send an acknowledgment in response to an ACK message, the NJIIS IMS will value **MSH-15 with: |NE|.** 

# 6.2.2 SFT - SOFTWARE SEGMENT

The SFT segment will not be included in an ACK message.

# 6.2.3 MSA – MESSAGE ACKNOWLEDGEMENT SEGMENT

# TABLE MESSAGE ACKNOWLEDGEMENT SEGMENT (MSA)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Acknowledgment Code	ID	0008	[11]	[11]	R	R	
2	Message Control ID	ST		[11]	[11]	R	R	
3	Text Message	ST		[00]	[00]	х	Х	
4	Expected Sequence Number	NM		[01]	[00]	0	х	
5	Delayed Acknowledgment Type			[01]	[00]	0	х	
6	Error Condition	CE		[00]	[00]	х	Х	

# FIELD USAGE NOTES MESSAGE ACKNOWLEDGEMENT SEGMENT (MSA)

# MSA-1 Acknowledgment Code (ID)

This field contains an acknowledgment code, see message processing rules. This is a required field.

Refer to <u>HL7-defined Table 0008 – Acknowledgement Code</u> in Appendix A of this document for values supported by the NJIIS IMS. The NJIIS IMS will value this field with one of the NJIIS IMS supported values.

# MSA-2 Message Control ID (ST)

This field contains the Message Control ID of the message sent by the sending system. This is a required field.

It allows the sending system to associate this response with the message for which it is intended. This field echoes the Message Control ID sent in MSH-10 by the initiating system. Therefore, the NJIIS IMS will value MSA-2 in the ACK message with what was provided in the MSH-10 of the corresponding VXU message.

# 6.2.4 ERR – ERROR SEGMENT

# TABLE ERROR SEGMENT (ERR) IN ACK

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Error Code and Location	ELD		[00]	[00]	х	х	
2	Error Location	ERL		[01]	[01]	RE	RE	
3	HL7 Error Code	CWE	0357	[11]	[11]	R	R	
4	Severity	ID	0516	[11]	[11]	R	R	
5	Application Error Code	CWE	0533	[01]	[01]	RE	RE	
6	Application Error Parameter	ST		[01]	[01]	0	Ο	
7	Diagnostic Information	тх		[01]	[01]	0	0	
8	User Message	тх		[01]	[01]	RE	RE	
9	Inform Person Indicator	IS		[01]	[00]	0	х	
10	Override Type	CWE		[01]	[00]	Ο	х	
11	Override Reason Code	CWE		[01]	[00]	0	х	
12	Help Desk Contact Point	XTN		[01]	[00]	0	х	

Non-supported fields (usage of "X") will not be valued by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

# FIELD USAGE NOTES ERROR SEGMENT (ERR) IN ACK

# ERR-2 Error Location (ERL)

The NJIIS IMS will value this field with the location of the error within the VXU message. Each error will have an ERR segment. This field will only be empty if location is not meaningful (e.g., unidentifiable).

ERR-2 will be formatted as follows:

- The 1st component contains the Segment ID
- The 2nd component contains the Segment Sequence
- The 3rd component contains the Field Position
- The 4th component contains the Field Repetition
- The 5th component contains the Component Number

Example for ERR-2 if PID-5 (Patient Name) was not valued:

#### ERR||PID^1^5^1|

If PID-3 was valued with **|12345^^325^MR~202729^^^NJIIS^|**, then ERR-2 would be valued as follows to indicate the error is in the 2nd repetition of PID-3.5 of the 1st (only) PID segment: ERR||PID^1^3^2^5|

### ERR-3 HL7 Error Code (CWE)

The NJIIS IMS will value this field the HL7 (communications) error code.

Refer to <u>HL7 Table 0357 – Message Error Condition Codes</u> within the CDC IG for all valid values.

Example: ERR||PID^1^7^1|102^data type error^HL70357|

# ERR-4 Severity (ID)

The NJIIS IMS will value this field with one of the following <u>HL7-defined Table 0516 – Error Severity Code</u> in Appendix A of this document.

# ERR-5 Application Error Code (CWE)

If meaningful to help identify the specific error that occurred, the NJIIS IMS will value this field with one of the application specific error codes from <u>User-defined Table 0533 – Application Error Code</u> in Appendix A of this document.

Example: ERR||PID^1^7^1|102^data typeerror^HL70357|E|BadDateTime^^HL70533|

# 7 QUERY BY PARAMETER (QBP)

# 7.1 OVERVIEW

The NJIIS IMS supports querying the NJIIS for a patient's immunization history using the Z34/Z44 profile for QBP messages. This operation takes an HL7 formatted QBP message as input using the Z34/Z44 query profile and returns an RSP using the Z32/Z42 profile for exact patient match. If the IMS finds multiple patients records it will send an RSP using the Z31 profile. If the QBP is malformed and cannot be parsed, an error will be returned. Refer to <u>Appendix D: Web Service</u> for additional information.

# 7.2 QBP MESSAGE SEGMENTS

# 7.2.1 MSH – MESSAGE HEADER SEGMENT

This is a required segment.

# TABLE MESSAGE HEADER SEGMENT (MSH) IN A QBP

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Field Separator	ST		[11]	[11]	R	R	
2	Encoding Characters	ST		[11]	[11]	R	R	
3	Sending Application	HD		[01]	[11]	RE	R	
4	Sending Facility	HD		[01]	[11]	RE	R	
5	Receiving Application	HD		[01]	[01]	RE	RE	
6	Receiving Facility	HD		[01]	[01]	RE	RE	
7	Date/Time Of Message	TS_Z		[11]	[11]	R	R	
8	Security	ST		[01]	[00]	0	х	
9	Message Type	MSG		[11]	[11]	R	R	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
10	Message Control ID	ST		[11]	[11]	R	R	
11	Processing ID	РТ		[11]	[11]	R	R	
12	Version ID	VID		[11]	[11]	R	R	
13	Sequence Number	NM		[01]	[00]	0	х	
14	Continuation Pointer	ST		[01]	[00]	0	х	
15	Accept Acknowledgement Type	ID		[01]	[01]	R	R	
16	Application Acknowledgment Type	ID		[01]	[01]	R	R	
17	Country Code	ID		[00]	[00]	х	х	
18	Character Set	ID		[00]	[00]	х	х	
19	Principal Language Of Message	CE		[01]	[00]	0	х	
20	Alternate Character Set Handling Scheme	ID		[1*]	[1*]	х	х	
21	Message Profile Identifier	EI		[11]	[11]	R	R	
22	Sending Responsible Organization	XON	0362	[01]	[01]	RE	RE	
23	Receiving Responsible Organization	XON	0362	[01]	[01]	RE	RE	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

# FIELD USAGE NOTES MESSAGE HEADER SEGMENT (MSH) IN A QBP

# MSH-1 Field Separator (ST)

This field contains the separator between the segment ID and the first real field, MSH-2-encoding characters. As such it serves as the separator and defines the character to be used as a separator for the rest of the message. **This is a required field. Required value is |** (ASCII 124). Example: MSH

# MSH-2 Encoding Characters (ST)

This field contains the four characters in the following order: the component separator, repetition separator, escape character, and subcomponent separator. **This is a required field. Required values are ^~\&** (ASCII 94, 126, 92, and 38, respectively).

Special characters that are utilized within HL7 messages as separators (also referred to as delimiters) should not be included within those same HL7 messages as data because their presence would interfere with the parsing of the message. If an HL7 message does contain one of these special delimiter characters as part of the message content (e.g., an ampersand as part of an address: "Apt. A & B"), then the HL7 Data Exchange Partner must utilize a specialescape sequence to indicate that the character is a text character and not a delimiter content(e.g., "Apt. A\T\B" to represent "Apt. A & B"); otherwise, the NJIIS IMS cannot distinguish between the delimiter character and a character that is part of the text.

In order to include any one of these special characters as data within an HL7 message, those characters must be converted into a predefined sequence of characters that begin and end with the escape character "\". HL7 Data Exchange Partners should utilize the following table to convert special characters into escape sequences when creating messages sent to the NJIIS IMS and to convert escape sequences to special characters when parsing messages coming from the NJIISIMS.

Special Character Description	Special Character	Escape Sequence
Escape character	١	\E\
Field separator	l	\F\
Repetition separator	~	\R\
Component separator	۸	\s\
Subcomponent separator	&	\T\

# MSH-3 Sending Application (HD)

This field uniquely identifies the sending application. This is not the product, but rather the name of the specific instance. **This is a required field.** 

Previous guidance provided in the "NJIIS Interface Specifications for HL7 Message Types" document indicated valuing MSH-3 with the vendor name. However, as per this Local IG, MSH-3 must instead be valued with the sending software application's name and software version in the MSH-3.1 component.

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and, therefore, will not limit MSH-3.1 values to the CDC IG's User-defined Table 0361 value set. The HL7 Data Exchange Partner must value MSH-3.1 with the sending software application's name and software version.

Example: MSH|^~\&**|My EHR 1.0|** 

# MSH-4 Sending Facility (HD)

This field identifies the organization responsible for the operations of the sending application. **This is a required field.** 

The HL7 Data Exchange Partner must value MSH-4.1 with the NJIIS Provider ID issued by NJIIS. The value in MSH-4.1 must be the same as the NJIIS Provider ID associated with the HL7 Data Exchange Partner's Interface Profile sending the message.

If the NJIIS Provider ID supplied in MSH-4.1 is not valid or does not match the NJIIS Provider ID that is associated with the Interface Profile sending the message, it will be considered an error.

The NJIIS IMS will not maintain a list of facilities/Provider IDs in the CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-4.1 values to the CDC IG's User-defined Table 0362 value set.

Example: |**325**|

# MSH-5 Receiving Application (HD)

This field uniquely identifies the receiving application. This is not the product, but rather the name of the specific instance.

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and, therefore, will not limit MSH-5.1 values to the CDC IG's User-defined Table 0361 value set.

The HL7 Data Exchange Partner should value MSH-5.1 with the receiving application's name.

When sending a QBP, MSH-5.1 should contain: |NJIIS|

### MSH-6 Receiving Facility (HD)

This field identifies the organization responsible for the operations of the receiving application.

The NJIIS IMS will not maintain a list of facilities/Provider IDs in CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-6.1 values to the CDC IG's User-defined Table 0362 value set.

The HL7 Data Exchange Partner should value MSH-6.1 with the organization responsible for the operations of the receiving application.

When sending a QBP, MSH-6.1 should contain |NJDOH|

### MSH-7 Date/Time of Message (TS\_Z)

This field contains the date/time that the sending system created the message. This is a required field.

The degree of precision should be to the second. The time zone must be specified and will be used throughout the message as the default time zone. When the time zone is not included, it is presumed to be the time zone of the sender.

The expected format is YYYYMMDDHHMMSS.

Example: **|20120204030159|** This represents February 4, 2012 at 3:01:59.

Additional precision as specified in the Date/Time (DTM) HL7 data type, if sent, will be accepted. If the Date/Time of Message is not sent or is invalid (i.e., not a valid date or not in the correct format), an error will be reported.

# MSH-9 Message Type (MSG)

This field contains the message type, trigger event, and the message structure ID for the message. **This** is a required field. All three components are required.

When sending a QBP, MSH-9 must contain |QBP^Q11^QBP\_Q11|

The HL7 Data Exchange Partner must value **the following required components:** 

- MSH-9.1 Message Type with QBP
- MSH-9.2 Trigger Event with Q11
- MSH-9.3 Message Structure ID with QBP\_Q11

All other values will be considered an error.

If MSH-9 is not valued or is valued with a value other than the expected message type and trigger event, the message cannot be parsed and, therefore, will be rejected as an improperly formatted message.

### MSH-10 Message Control ID (ST)

This field contains the identifier assigned by the sending application (MSH-3) that uniquely identifies a message instance. This identifier is unique within the scope of the sending facility (MSH-4), sending application (MSH-3), and the YYYYMMDD portion of message date (MSH-7). **This is a required field.** 

The NJIIS IMS will echo this ID back to the HL7 Data Exchange Partner in the Message Acknowledgment Segment (MSA) of the ACK response message. The content and format of the data sent in this field is the responsibility of the HL7 Data Exchange Partner.

### MSH-11 Processing ID (PT)

This field is used to decide whether to process the message as defined in HL7 Application (level 7) Processing rules. **This is a required field.** Refer to <u>HL7-defined Table 0103 – Processing ID</u> in Appendix A of this document for values supported by the NJIIS IMS.

The HL7 Data Exchange Partner must value MSH-11 with either:

- "P" for Production
- "T" for Training or for when testing

All other values will be considered an error if "T" is sent for a Production message, the message will be rejected.

### MSH-12 Version ID (VID)

This field contains the identifier of the version of the HL7 messaging standard used in constructing, interpreting, and validating the message. **This is a required field.** 

Only the first component needs to be populated. When sending a 2.5.1 message, MSH-12 must contain: [2.5.1]

#### MSH-15 Accept Acknowledgment Type (ID)

This field identifies the conditions under which accept acknowledgments are required to be returned in response to this message. Required for enhanced acknowledgment mode. Refer to <u>HL7-defined Table</u> <u>0155 – Accept/Application Acknowledgment Conditions</u> in Appendix A of this document for values supported by the NJIIS IMS.

Accept acknowledgement indicates if the message was safely received or not. It does not indicate successful processing. Application acknowledgement indicates the outcome of processing.

#### When sending a QBP, if valued, MSH-15 should contain: |ER|

The NJIIS IMS never sends an accept acknowledgement when the message is received; it only sends an application acknowledgement once it has processed the message. This is a required field

#### MSH-16 Application Acknowledgment Type (ID)

This field contains the conditions under which application acknowledgments are required to be returned in response to this message. Required for enhanced acknowledgment mode. Refer to <u>HL7-defined Table</u> <u>0155 – Accept/Application Acknowledgment Conditions</u> in Appendix A of this document for values supported by the NJIIS IMS.

If MSH-15 (Accept Acknowledgment Type) and MSH-16 (Application Acknowledgment Type) are omitted (or are both empty), the original acknowledgment mode rules are used. This means that, unless otherwise specified, the receiving application will send acknowledgment when it has processed the message.

#### When sending a QBP, if valued, MSH-16 should contain: |AL|

The NJIIS IMS will always send an acknowledgement once it has processed an HL7 2.5.1 VXU message. **This is a required field.** 

### MSH-21 Message Profile Identifier (EI)

This field is used to assert adherence to, or reference, a message profile. Message profiles contain detailed explanations of grammar, syntax, and usage for a particular message or set of messages.

When sending a QBP, MSH-21 must contain: **|Z34^CDCPHINVS| or |Z44^CDCPHINVS|. This is a required field.** 

The HL7 Data Exchange Partner must value **the following required components**:

- MSH-21.1 Entity Identifier with Z34 or Z44
- MSH-21.2 Namespace ID with CDCPHINVS

All other values will be considered as an error. If the MSH-21 is empty NJIIS IMS will treat as Z34 was sent.

# 7.2.2 SFT - SOFTWARE SEGMENT

If present, the entire SFT segment is ignored by the NJIIS IMS.

# 7.2.3 QPD – QUERY PARAMETER DEFINITION

The QPD is a required segment that defines the parameters of the query.

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Message Query Name	CE	0471	[11]	[11]	R	R	
2	Query Tag	ST		[11]	[11]	R	R	
3	Patient List	СХ		[0*]	[0*]	RE	RE	
4	Patient Name	XPN		[01]	[11]	RE	R	
5	Patient Mother MaidenName	XPN_M		[01]	[01]	RE	RE	
6	Patient Date of Birth	TS_NZ		[01]	[11]	RE	R	
7	Patient Sex	IS		[01]	[11]	RE	R	
8	Patient Address	XAD		[01]	[01]	RE	RE	
9	Patient Home Phone	XTN		[01]	[01]	RE	RE	
10	Patient Multiple Birth Indicator	ID	0136	[01]	[01]	RE	RE	
11	Patient Birth Order	NM		[01]	[01]	RE	RE	
12	Client last updated date	TS		[01]	[01]	RE	RE	
13	Client last update facility	HD		[01]	[01]	0	0	

# TABLE QUERY PARAMETER DEFINITION (QPD) IN A QBP

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

# FIELD USAGE NOTES QUERY PARAMETER DEFINITION (QPD) IN A QBP

# QPD-1 Message Query Name (CE)

This field contains the name of the query. These names are assigned by the function-specific chapters of this specification. It is one to one with the conformance statement for this query name, and it is in fact an identifier for that conformance statement.

The NJIIS IMS will accept query using the profile Z34 and Z44 profiles. When sending a QBP, QPD-1 must contain: **|Z34^Request Immunization History^CDCPHINVS| or |Z44^Request Immunization History^CDCPHINVS|.** This is a required field.

The HL7 Data Exchange Partner must value the following required components:

- QPD-1.1 Identifier with Z34 or Z44
- QPD-1.3 Name of coding system CDCPHINVS

The HL7 Data Exchange Partner should value the following component if there is relevant data:

- QPD-1.2 Text with Request Immunization History or Request Immunization History and Forecast.
- If QPD -1 is empty NJIIS IMS will treat as Z34 was sent.

#### Example:

| Z34^Request Immunization History^CDCPHINVS|

Example: **Z44^Request Evaluated History and Forecast^CDCPHINVS** 

# QPD-2 Query Tag (ST)

**This is a required field;** it must be valued by the HL7 Data Exchange Partner's system to identify the query and may be used to match response messages to the originating query.

The NJIIS IMS will echo it back in the RSP as the first field in the query acknowledgement segment (QAK).

# QPD-3 Patient Identifier List (CX)

This field contains identifiers, such as the Medical Record Number (MR) or State Registry ID (SR) or Birth Registry Number (BR) used by the healthcare facility to uniquely identify a patient.

If the field is valued, the HL7 Data Exchange Partner must value the following required components:

- QPD-3.1 with the Patient Identifier.
- QPD-3.4.1 with the Assigning Authority.
- QPD-3.5 with the Identifier Type Code.

#### Example: **|12345^^^325^MR~202729^^^NJIIS^SR~33223445^^^NJA^BR |**

This represents a list of three identifiers:

- Medical Record Number "12345" with Assigning Authority "325" which is the NJIIS Provider ID of the Assigning Authority.
- NJIIS Registry ID (State Registry ID) "202729" with Assigning Authority "NJIIS".
- Birth Registry Number "33223445" with Assigning Authority "NJA".

It is strongly recommended that HL7 Data Exchange Partners include one of the following NJIIS supported patient identifiers, preferably the NJIIS Registry ID, in their QBP messages because it will significantly increase the likelihood that a patient match will be found:

- SR (for State Registry ID)
- MR (for Medical Record Number)
- BR (for Birth Registry Number)

The State Registry ID is used to communicate the NJIIS unique identifier (NJIIS Registry ID) for the patient. When returning an RSP message in response to a QBP, the NJIIS IMS will transmit the State Registry ID back to the HL7 data exchange partner via the QPD-3 field (identifier type "SR" for State Registry ID). The HL7 data exchange partner should store the Local Registry ID with their patient records and include that identifier in subsequent QBP messages.

The NJIIS IMS does not support the full data set of identifiers; for example, Social Security Number (SS) and Person Number (PN) are currently not supported. Refer to <u>User-defined Table 0203 – Identifier Type</u> in Appendix A of this document for values supported by the NJIIS IMS. Unsupported identifiers will be ignored.

Additional rules are as follows:

- When valuing the Patient Identifier (QPD-3.1) with a State Registry ID, the Assigning Authority (QPD-3.4.1) must be valued with an NJIIS supported value in <u>User-defined Table 0363 –</u> <u>Assigning Authority</u> in Appendix A of this document.
  - Currently, the only State Registry ID that is supported is the NJIIS Registry ID, and therefore Assigning Authority (QPD-3.4.1) must be valued with "NJIIS" if sending a NJIIS Registry ID in the Query Parameter Definition (QPD-3.1).
  - Unsupported Assigning Authorities will be ignored.
- When valuing the Patient Identifier (QPD-3.1) with a Medical Record Number, the Assigning Authority (QPD-3.4.1) must be valued with a NJIIS Provider ID issued by NJIIS. The NJIIS IMS will not maintain a list of Provider IDs for use in <u>User-defined Table 0363 in Appendix A of this</u> <u>document</u>.
- If Assigning Authority (QPD-3.4.1) is valued with "NJIIS", the Patient Identifier (QPD-3.1) must be valued with a valid NJIIS Registry ID and Identifier Type Code (QPD-3.5) must be valued with "SR", otherwise it will be reported as an error and the identifier disregarded.
- If multiple identifiers of the same type are sent (e.g., multiple Medical Record Numbers), only the first occurrence of the identifier of that type (e.g., the first occurrence of Medical Record Number) will be processed. Other identifiers of that same type will be ignored.
- Each of the NJIIS supported patient identifiers must adhere to the following:
  - The State Registry ID must be digits and cannot exceed 15 digits.

- The Medical Record Number cannot exceed 15 characters.
- The Birth Registry Number cannot exceed 15 characters.
- If there are multiple identifiers, at least one identifier must not exceed the character limit, must be formatted correctly, and must include the required components; otherwise, it will be considered an error and the identifiers will be ignored.

# QPD-4 Patient Name (XPN)

This field contains the names of the patient. This is a required field.

The primary or legal name of the patient must be reported first. The NJIIS IMS will only process the Patient Name sent in the first occurrence in a list of repeating Patient Names; all other Patient Names will be ignored. For the Patient Name sent in the first occurrence, the Name Type Code specified in QPD-4.7 must be set to "L" for Legal Name; if it is omitted or other than "L" for Legal Name, it will be treated as if "L" was sent, and an error reported. Refer to <u>HL7-defined Table 0200 – Name Type</u> in Appendix A of this document for values supported by the NJIIS IMS.

The HL7 Data Exchange Partner must value **the following required components:** 

- QPD-4.1.1 with the Surname (i.e., Last Name)
- QPD-4.2 with the Given Name (i.e., First Name)

#### Example: Smith/Joey/Milo///L

Additional rules are as follows:

- The First Name, Last Name, and Middle Name must each be 30 characters or less; otherwise, it will be truncated, and no error will be reported.
- If QPD-4.1.1 and QPD-4.2 are omitted, it will be considered an error.
- If there is relevant data, QPD-4.3 should be valued with the Patient Second and Further Given Names or Initials Thereof (i.e., Middle Name).
  - If QPD-4.3 is included, the NJIIS IMS will only process the Middle Name sent in the first occurrence; all other Middle Names will be ignored.
- For the Patient Name sent in the first occurrence, QPD-4.7 must be valued with the Name Type Code of "L", if it is omitted or other than "L" for Legal Name, it will be treated as if "L" was sent and an error reported.
- Suffix (QPD-4.4) and Prefix (QPD-4.5) are optional. All other QPD-4 components not described in this field usage note, if provided, will be ignored.

# QPD-5 Mother's Maiden Name (XPN\_M)

This field contains the family name under which the mother was born (i.e., before marriage) and should be sent if there is relevant data. It is used to distinguish between patients with the same last name. The Name Type Code specified in QPD-5.7 should be set to "M" for Maiden Name. Refer to <u>HL7-defined</u> <u>Table 0200 – Name Type</u> in Appendix A of this document for values supported by the NJIIS IMS.

If there is relevant Mother's Maiden Name data, the HL7 Data Exchange Partner must value the

following required components:

- QPD-5.1.1 with the Surname (i.e., Maiden Name)
- QPD-5.2 with the Given Name (i.e., First Name)
  - While the XPN data type requires the Given Name component, the NJIIS IMS ignores QPD-5.2, and no error will be reported if it is omitted.

The HL7 Data Exchange Partner should value the following components:

• QPD-5.7 with the Name Type Code of "M"

#### Example: [Doe^Jane^^^^M]

Additional rules are as follows:

- The Surname (i.e., Last Name) (QPD-5.1.1) and Given Name (i.e. First Name) (QPD-5.2) must be 30 characters or less; otherwise it will be truncated and no error will be reported.
   If QPD-5.1.1 and QPD-5.2 are omitted, an error will be reported.
- If Name Type Code (QPD-5.7) is omitted or contains a value other than "M", the name in QPD-5 will still be considered the maiden name of the patient's mother (i.e., QPD-5.7 treated as if "M" was sent) and no error will be reported.
- All other QPD-5 components, if provided, will be ignored.

# QPD-6 Date/Time of Birth (TS\_NZ)

This field contains the patient's date and time of birth. This is a required field.

The date must be in the YYYYMMDD format; otherwise, it will be considered an error. The time component of the HL7 Data Type will be ignored if it is provided.

### Example:

#### 20080423

This represents a date of birth on April 23, 2008.

Additional date validation rules for Patient's date of birth (DOB) include the following:

- The Patient's DOB must be on or before the current date.
- The Immunization Date (i.e., Date/Time Start of Administration (RXA-3)) must be on or after the Patient's DOB.
- The Patient's DOB must be less than 120 years in the past.

Violation of the above validation rules will also be considered an error and the message will be rejected.

# QPD-7 Administrative Sex (IS)

This field contains the patient's sex. This is a required field.

The NJIIS IMS supports all the values listed in the CDC IG's <u>HL7-defined Table 0001 – Administrative Sex</u>. If QPD-7 is not valued or contains a value other than "M", "F", "X", or "U", this will be considered an

error and the message will be rejected.

# QPD-8 Patient Address (XAD)

This field contains the mailing address of the patient. Refer to <u>HL7-defined Table 0190 – Address Type</u> in Appendix A of this document for values supported by the NJIIS IMS.

# For the address sent in the first occurrence, if any QPD-8 component is valued, then all of the following required components must be valued.

- QPD-8.1.1 with Street Address
- QPD-8.3 with City
- QPD-8.4 with State
- QPD-8.5 with Zip
- QPD-8.7 with Address Type

The HL7 Data Exchange Partner should value the following components if there is relevant data:

- QPD-8.2 with Other Designation (i.e., "Street Address 2" such as apartment or suite number).
- QPD-8.6 with Country. Refer to <u>HL7-defined Table 0399 Country Code</u> of HL7 Messaging Standard Version 2.5.1, section 2.15.9.17 for valid values.

#### Example:

#### |123 Anywhere St&Anywhere St&123^Apt 5A^Trenton^NJ^12345^USA^L|

This represents a legal address: 123 Anywhere St, Apt 5A, Trenton, NJ, 12345, USA

Additional rules are as follows:

- Street Address (QPD-8.1.1) should contain Dwelling (i.e., House) Number in the beginning of the field followed by the Street Name. The value cannot exceed 50 characters: otherwise it will be truncated.
  - If QPD-8.1.1 is valued, then Street Name (QPD-8.1.2) and Dwelling Number (QPD-8.1.3) should also be valued.
  - If the values in QPD-8.1.2 and QPD-8.1.3 do not correspond to the value in QPD-8.1.1, the NJIIS IMS will process QPD-8.1.1 and ignore QPD-8.1.2 and QPD-8.1.3.
- If there is relevant data, Other Designation (QPD-8.2) should contain the "Street Address 2" (e.g., apartment or suite number). The value cannot exceed 50 characters; otherwise, it will be truncated.
- City (QPD-8.3) cannot exceed 34 characters; otherwise, it will be truncated.
- State (QPD-8.4) must be a valid State Code and cannot exceed 2 characters; otherwise, it will be considered an error.
- Zip (QPD-8.5):
  - The NJIIS IMS only supports a 5-digit Zip code format (#####).
  - Must be exactly 5 digits; otherwise, it will be considered an error.
  - Cannot exceed 5 digits; otherwise, Zip will be truncated and only the first 5 digits of the Zip will be processed; no error will be reported. If the first 5 are not digits, it will be considered an error.
- County (QPD-8.9) is optional. All other QPD-8 components, if provided, will be ignored.
- For the address sent in the first occurrence only:
  - With the exception of State, for all of the QPD-8 components supported by the NJIIS IMS, if the character limit is exceeded, it will result in truncation of the value and no error will be reported.
  - All other errors, (e.g., invalid State code, Zip not exactly 5 digits, missing component, etc.) will be considered an error.

## QPD-9 Phone Number - Home (XTN)

All personal phone numbers for the patient are sent in the following order. The first occurrence is considered the primary number. If the primary number is not sent, then a repeat delimiter is sent in the first occurrence. Refer to <u>HL7-defined Table 0201 – Telecommunication Use Code</u> and <u>HL7-defined</u> <u>Table 0202 – Telecommunication Equipment Type</u> in Appendix A of this document for values supported by the NJIIS IMS. They are also listed below for convenience.

NJIIS Supported Telecommunication Use Codes:

- "PRN" for Primary Residence Number
- "ORN" for Other Residence Number

NJIIS Supported Telecommunication Equipment Types:

- "PH" for Telephone
- "CP" for Cellular Phone

If any QPD-9 component is valued, then all the following required components must be valued, otherwise, it will be reported as an error and the phone number will be disregarded:

- QPD-9.2 with Telecommunication Use Code
- QPD-9.6 with Area Code, if QPD-9.2 is "PRN" or "ORN"
- QPD-9.7 with Local Number, if QPD-9.2 is "PRN" or "ORN"

The HL7 Data Exchange Partner should value the following components if there is relevant data:

• QPD-9.3 with Telecommunication Equipment Type

#### Example: [^PRN^PH^^609^5551212~^ORN^CP^^732^5551212]

This represents a list of 2 phone numbers:

- The first is a primary residence number: (609)555-1212
- The second is a cell phone number: (732)555-1212

Additional rules are as follows:

- Any Telecommunication Use Code and Telecommunication Equipment Type that is not supported by the NJIIS IMS will be ignored and no error will be reported.
- If multiple phone numbers or emails with the same Telecommunication Use Code are sent, the NJIIS IMS will only process the first occurrence of the phone number with that Telecommunication Use Code; all other phone numbers with that Telecommunication Use Code will be disregarded and it will be reported as an error.

- If QPD-9.6 is not 3 digits and if QPD-9.7 is not 7 digits, it will be reported as an error and the phone number will be disregarded.
- Extension (QPD-9.8) is optional. All other QPD-9 components not described in this field usage note, if provided, will be ignored.

## QPD-10 Multiple Birth Indicator (ID)

This field indicates whether the patient was part of a multiple birth and should be sent if there is relevant data. Refer to <u>HL7-defined Table 0136 – Yes/No indicator</u> in Appendix A of this document for values supported by the NJIIS IMS. They are also listed below for convenience.

- "Y" for Yes means the patient was part of a multiple birth.
- "N" for No means the patient was a single birth.
- Empty field means the multiple birth status is undetermined.

## QPD-11 Birth Order (NM)

When a patient was part of a multiple birth, this field indicates patient's birth order. If Multiple Birth Indicator (QPD-11) is valued with the following, then QPD-11 should be sent if there is relevant data:

- "Y" for Yes, then QPD-11 should be populated with a value (number) indicating the patient's birth order. A value of "1" represents the first child born, "2" for the second, "3" for the third and so on. If the value in QPD-11 is not a number, it will be reported as an I error.
- "N" for No, then QPD-11 is ignored by the NJIIS IMS.

## 7.2.4 RCP – RESPONSE CONTROL PARAMETER SEGMENT

The RCP segment is used to restrict the amount of data that should be returned in response to query. It lists the segments to be returned. **This is a required Segment.** 

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Query Priority	ID	0091	[01]	[01]	RE	RE	
2	Quantity Limited Request	CQ	0126	[00]	[01]	х	RE	
3	Response Modality	CE				0	х	
4	Execution and Delivery Time	ΤS				0	х	

### TABLE RESPONSE CONTROL PARAMETER (RCP)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
5	Modify Indicator	ID				0	х	
6	Sort-by Field	SRT				0	х	
7	Segment group inclusion	ID				Ο	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

When a QPD is sent to the NJIIS IMS, the response will be immediate and real-time. Expected field values are provided in the Field Usage Notes.

## FIELD USAGE NOTES RESPONSE CONTROL PARAMETER (RCP)

## RCP-2 Quantity Limited Request (CQ)

This field contains the maximum number of patients the HL7 Data Exchange Partner can accept, when multiple possible matches were found (Z31 Profile), however NJIIS IMS will restrict the maximum number of patients to 10.

The numerical value is given in the first component and the units are specified in the second component. If RCP-2 is not valued or valued other than 10, then NJIIS IMS will process the message as if "10^RD" was sent.

## 7.2.5 DSC - CONTINUATION POINTER SEGMENT

If present, the entire DSC segment is ignored by NJIIS IMS.

# 8 QUERY RESPONSE (RSP)

## 8.1 OVERVIEW

The NJIIS IMS supports querying the NJIIS for a patient's immunization history using the Z34 or Z44 profile for QBP messages. If the QBP message is properly formatted and, therefore, can be parsed, the NJIIS IMS will return an RSP response message using the Z32 or Z42profile.

When a malformed message is received, the response is an ACK (Acknowledgement).

#### Single (Exact) Match Found:

- If the NJIIS IMS locates exactly one matching patient, the interface will return an HL7 formatted RSP message that contains the PID, and the patient's immunization history (including an indicator of any immunizations that are determined to be invalid) and recommended vaccinations (including due date).
  - If there were no errors in the QBP message:
    - QAK-2 (Query Response Status) will contain a value of "OK", indicating that the patient was found and there were no errors.
    - MSA-1 (Acknowledgement Code) will be valued with "AA".
  - If there were errors in the QBP message:
    - QAK-2 and MSA-1 will be valued with "AE".
    - The errors will be reported in the ERR segments; ERR-4 (Error Severity) will be valued with "E" for "Error", "W" for "Warning", or "I" for "Informational".

#### No Patients Found:

- If the NJIIS IMS cannot locate any matching patients, the interface will return an HL7 formatted RSP message that includes the following:
  - If there were no errors in the QBP message:
    - QAK-2 will contain a value of "NF", indicating no matching patients were found.
    - MSA-1 (Acknowledgement Code) will be valued with "AA"
  - If there were errors in the QBP message:
    - QAK-2 and MSA-1 will be valued with "AE"
    - The errors will be reported in the ERR segments; ERR-4 (Error Severity) will be valued with, "E", "W" or "I".

#### Multiple Patients Found:

- If the NJIIS IMS locates multiple matching patients, the interface will return an HL7 formatted RSP message that includes the following:
  - If there were no errors in the QBP message:
    - QAK-2 will contain a value of "TM" indicating multiple matches were found.
    - MSA-1 (Acknowledgement Code) will be valued with "AA"
  - If there were errors in the QBP message:
    - QAK-2 and MSA-1 will be valued with "AE"
    - The errors will be reported in the ERR segments; ERR-4 (Error Severity) will be valued with "E", "W" or "I".

#### Errors (but message can still be parsed):

- If the query is malformed (e.g., a required field is missing in a required segment), the interface will return an HL7 formatted RSP message without any patient information.
  - QAK-2 and MSA-1 will contain a value of "AE".
  - The errors will be reported in the ERR segments. Errors will have an ERR-4 (Error Severity) value of "E", "W" or "I".

#### Malformed Message (message cannot be parsed):

• If the message is malformed, the interface will return an HL7 formatted ACK message with AR in the MSA-1 (Acknowledgement Code).

#### Contents of the RSP message for single matching patient:

When a single matching patient is found, the RSP message's Response Group segments will contain the following:

- Patient Data
  - NJIIS ID
  - Patient Name (First, Middle, and Last)
  - Date of Birth
  - o Sex
- Immunization History
  - If a patient has immunization history, the RSP will include an ORC/RXA segment combination for each immunization.
    - The RXA segment will include the administration date, vaccine code, and vaccine description.
    - If available, the RXA segment will also include the lot number, expiration date, and manufacturer associated with the immunization.
    - Each RXA segment may be followed by one RXR segment.
- If a patient does not have an immunization history, the RSP will contain an ERR segment conveying the same.
  - The message "Immunization history is not available." will be returned in Diagnostic Information (ERR-7) field, where the HL7 Error Code (ERR-3) is set to "0" (Message Accepted) and Severity (ERR-4) is set to "I"(Information).

## 8.2 RSP MESSAGE SEGMENTS

## 8.2.1 MSH – MESSAGE HEADER SEGMENT

### TABLE MESSAGE HEADER SEGMENT (MSH)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Field Separator	ST		[11]	[11]	R	R	
2	Encoding Characters	ST		[11]	[11]	R	R	
3	Sending Application	HD		[01]	[01]	RE	RE	
4	Sending Facility	HD		[01]	[11]	RE	R	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
5	Receiving Application	HD		[01]	[01]	RE	RE	
6	Receiving Facility	HD		[01]	[01]	RE	RE	
7	Date/Time Of Message	TS_Z		[11]	[11]	R	R	
8	Security	ST		[01]	[01]	0	0	
9	Message Type	MSG		[11]	[11]	R	R	
10	Message Control ID	ST		[11]	[11]	R	R	
11	Processing ID	РТ		[11]	[11]	R	R	
12	Version ID	VID		[11]	[11]	R	R	
13	Sequence Number	NM		[01]	[01]	0	Ο	
14	Continuation Pointer	ST		[01]	[01]	0	Ο	
15	Accept Acknowledgement Type	ID	0155	[11]	[11]	R	R	
16	Application Acknowledgment Type	ID	0155	[11]	[11]	R	R	
17	Country Code	ID		[01]	[01]	0	0	
18	Character Set	ID		[01]	[01]	Ο	Ο	
19	Principal Language OfMessage	CE		[01]	[01]	0	0	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
20	Alternate Character SetHandling Scheme	ID		[01]	[01]	0	0	
21	Message Profile Identifier	EI		[1*]	[11]	R	R	
22	Sending Responsible Organization	XON	0362	[01]	[01]	RE	RE	
23	Receiving Responsible Organization	XON	0362			RE	RE	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES MESSAGE HEADER SEGMENT (MSH)

## MSH-1 Field Separator (ST)

This field contains the separator between the segment ID and the first real field, Encoding Characters (MSH-2). As such it serves as the separator and defines the character to be used as a separator for the rest of the message. This is a required field. The NJIIS IMS will value this field with the required value which is | (ASCII 124).

Example: MSH

### MSH-2 Encoding Characters (ST)

This field contains the four characters in the following order: the component separator, repetition separator, escape character, and subcomponent separator. **This is a required field**. **The NJIIS IMS will value this field with the required values which are ^~\&** (ASCII 94, 126, 92, and 38, respectively).

Special characters that are utilized within HL7 messages as separators (also referred to as delimiters) should not be included within those same HL7 messages as data because their presence would interfere with the parsing of the message. If an HL7 message does contain one of these special delimiter characters as part of the message content (e.g., an ampersand as part of an address: "Apt. A & B"), then the HL7 Data Exchange Partner must utilize a specialescape sequence to indicate that the character is a text character and not a delimiter content(e.g., "Apt. A\T\B" to represent "Apt. A & B"); otherwise, the NJIIS IMS cannot distinguish between the delimiter character and a character that is part of the text.

In order to include any one of these special characters as data within an HL7 message, those characters must be converted into a predefined sequence of characters that begin and end with the escape character "\". HL7 Data Exchange Partners should utilize the following table to convert special characters into escape sequences when creating messages sent to the NJIIS IMS and to convert escape sequences to special characters when parsing messages coming from the NJIISIMS.

Special Character Description	Special Character	Escape Sequence
Escape character	١	\E\
Field separator	I	\F\
Repetition separator	~	\R\
Component separator	٨	\\$\
Subcomponent separator	&	\T\

### MSH-3 Sending Application (HD)

This field uniquely identifies the sending application. This is not the product, but rather the name of the specific instance. **This is a required field**.

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and, therefore, will not limit MSH-3.1 values to the CDC IG's User-defined Table 0361 value set. The NJIIS IMS will value MSH-3.1 with "NJIIS".

Example: MSH|^~\&|**NJIIS**|

#### MSH-4 Sending Facility (HD)

This field identifies the organization responsible for the operations of the sending application. **This is a required field**.

The NJIIS IMS will not maintain a list of facilities/Provider IDs in the CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-4.1 values to the CDC IG's User-defined Table 0362 value set. The NJIIS IMS will value MSH-4.1 with "NJDOH".

Example: |NJDOH|

#### MSH-5 Receiving Application (HD)

This field uniquely identifies the receiving application. This is not the product, but rather the name of the specific instance.

The NJIIS IMS will not maintain a list of IIS applications in the CDC IG's User-defined Table 0361 and, therefore, will not limit MSH-5.1 values to the CDC IG's User-defined Table 0361 value set.

The NJIIS IMS will value MSH-5.1 in the ACK message with what was provided in MSH-3.1 of the corresponding VXU or QBP message.

#### MSH-6 Receiving Facility (HD)

This field identifies the organization responsible for the operations of the receiving application.

The NJIIS IMS will not maintain a list of facilities/Provider IDs in CDC IG's User-defined Table 0362 and, therefore, will not limit MSH-6.1 values to the CDC IG's User-defined Table 0362 value set.

The NJIIS IMS will value MSH-6.1 in the ACK message with what was provided in MSH-4.1 of the corresponding VXU or QBP message.

#### MSH-7 Date/Time Of Message (TS\_Z)

This field contains the date/time that the sending system created the message. This is a required field.

The degree of precision should be to the second. The time zone must be specified and will be used throughout the message as the default time zone. When the time zone is not included, it is presumed to be the time zone of the sender.

The expected format is YYYYMMDDHHMMSS. Milliseconds and Time zone values are Optional. For example, formats including milliseconds and time zones are: YYYYMMDDHHMMSS.SSSS or YYYYMMDDHHMMSS.SSSS+/-ZZZZ.

Example: **|20120204030159|** This represents February 4, 2012 at 3:01:59.

## MSH-9 Message Type (MSG)

This field contains the message type, trigger event, and the message structure ID for the message. **This** is a required field. All three components are required.

When sending an RSP, **the NJIIS IMS will value MSH-9 with:** | **RSP^K11^RSP\_K11**| The HL7 Data Exchange Partner must value **the following required components:** 

- MSH-9.1 Message Type with RSP
- MSH-9.2 Trigger Event with K11
- MSH-9.3 Message Structure ID with RSP\_K11

### MSH-10 Message Control ID (ST)

This field contains the identifier assigned by the sending application (MSH-3) that uniquely identifies a message instance. This identifier is unique within the scope of the sending facility (MSH-4), sending application (MSH-3), and the YYYYMMDD portion of message date (MSH-7). **This is a required field**.

The NJIIS IMS will value MSH-10 in the ACK message with what was provided in the MSH-10 of the corresponding VXU or QBP message.

#### MSH-11 Processing ID (PT)

This field is used to decide whether to process the message as defined in HL7 Application (level 7) Processing rules. **This is a required field**.

Refer to <u>HL7-defined Table 0103 – Processing ID</u> in Appendix A of this document for values supported by the NJIIS IMS.

The NJIIS IMS will value MSH-11 in the ACK message with what was provided in the MSH-11 of the corresponding VXU or QBP message.

#### MSH-12 Version ID (VID)

This field contains the identifier of the version of the HL7 messaging standard used in constructing, interpreting, and validating the message. **This is a required field**.

Only the first component needs to be populated. When sending a 2.5.1 message, the NJIIS IMS will value MSH-12 with: [2.5.1]

#### MSH-15 Accept Acknowledgement Type (ID)

This field identifies the conditions under which accept acknowledgments are required to be returned in

response to this message.

Since the NJIIS IMS does not expect nor required the HL7 Data Exchange Partner to send an acknowledgment in response to the RSP message, the NJIIS IMS will value this field with "NE" (Never).

#### MSH-16 Application Acknowledgement Type (ID)

This field contains the conditions under which application acknowledgments are required to be returned in response to the VXU message.

Since the NJIIS IMS does not expect nor required the HL7 Data Exchange Partner to send an acknowledgment in response to the RSP message, the NJIIS IMS will value this field with "NE" (Never).

### MSH-21 Message Profile Identifier (EI)

This field may be used to assert adherence to, or reference, a message profile. Message profiles contain detailed explanations of grammar, syntax, and usage for a particular message or set of messages. This field will be required whenever a profile is being used to constrain the message.

While this field has a usage of "R" per the CDC IG for QBP and RSP message types, the NJIIS IMS will value this field in RSP messages only when a match(s) is found.

#### MSH-22 Responsible Sending Organization

Business organization that originated and is accountable for the content of the message. Currently, MSH provides fields to transmit both sending/receiving applications and facilities (MSH.3 – MSH.6). However, these levels of organization do not necessarily relate to or imply a legal entity such as a business organization. As such, multiple legal entities (organizations) may share a service bureau, with the same applications and facility identifiers. Another level of detail is required to delineate the various organizations using the same service bureau. Therefore, the Sending Responsible Organization field provides a complete picture from the application level to the overall business level. The Business Organization represents the legal entity responsible for the contents of the message.

### MSH-23 Responsible Receiving Organization

Business organization that is the intended receiver of the message and is accountable for acting on the data conveyed by the transaction. This field has the same justification as the Sending Responsible Organization except in the role of the Receiving Responsible Organization. The receiving organization has the legal responsibility to act on the information in the message.

## 8.2.2 SFT – SOFTWARE SEGMENT

The SFT segment will not be included in an RSP message.

## 8.2.3 MSA – MESSAGE ACKNOWLEDGEMENT SEGMENT

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Acknowledgment Code	ID	0008	[11]	[11]	R	R	
2	Message Control ID	ST		[11]	[11]	R	R	
3	Text Message	ST				х	х	
4	Expected Sequence Number	NM				Ο	х	
5	Delayed Acknowledgment Type					0	Х	
6	Error Condition	CE				х	х	

## TABLE MESSAGE ACKNOWLEDGEMENT SEGMENT (MSA)

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES MESSAGE ACKNOWLEDGEMENT SEGMENT (MSA)

## MSA-1 Acknowledgment Code (ID)

This field contains an acknowledgment code, see message processing rules.

Refer to <u>HL7-defined Table 0008 – Acknowledgement Code</u> in Appendix A of this document for values supported by the NJIIS IMS. The NJIIS IMS will value this field with one of the NJIIS IMS supported values.

## MSA-2 Message Control ID (ST)

This field contains the Message Control ID of the message sent by the sending system.

It allows the sending system to associate this response with the message for which it is intended. This field echoes the Message Control ID sent in MSH-10 by the initiating system. Therefore, the NJIIS IMS will value MSA-2 in the RSP message with what was provided in the MSH-10 of the corresponding VXU or QBP message.

## 8.2.4 ERR - ERROR SEGMENT

According to NIST requirement only one error segment will be shown in RSP (with highest severity).

# TABLE ERROR SEGMENT (ERR)

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS Usage	Conditional Predicate
1	Error Code and Location	ELD		[00]	[00]	х	х	
2	Error Location	ERL		[01]	[01]	RE	RE	
3	HL7 Error Code	CWE	0357	[11]	[11]	R	R	
4	Severity	ID	0516	[11]	[11]	R	R	
5	Application Error Code	CWE				RE	RE	
6	Application ErrorParameter	ST				0	Ο	
7	Diagnostic Information	тх				0	0	
8	User Message	тх				RE	RE	
9	Inform Person Indicator	IS				0	х	
10	Override Type	CWE				0	х	
11	Override Reason Code	CWE				0	х	
12	Help Desk Contact Point	XTN				0	х	

Non-supported fields (usage of "X") will not be valued by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES ERROR SEGMENT (ERR)

## ERR-2 Error Location (ERL)

The NJIIS IMS will value this field with the location of the error within the QBP message. Each error will have an ERR segment, so no repeats are allowed on this field. This field will only be empty if location is not meaningful (e.g., unidentifiable).

ERR-2 will be formatted as follows:

- The 1st component contains the Segment ID
- The 2nd component contains the Segment Sequence
- The 3rd component contains the Field Position
- The 4th component contains the Field Repetition
- The 5th component contains the Component

Number Example for ERR-2 if the entire QPD segment was missing: **ERR|QPD^1|** 

Example for ERR-2 if QPD-4 (Patient Name) was not valued: **ERR|QPD^1^4^1** 

If QPD-3 was valued with **|12345^^^325^MR~202729^^^NJIIS^~3232232^^^NJA^BR|**, then ERR-2 would be valued as follows to indicate the error is in the 2nd repetition of QPD-3.5 of the 1st (only) QPD segment:

ERR||QPD^1^3^2^5|

### ERR-3 HL7 Error Code (CWE)

The NJIIS IMS will value this field the HL7 (communications) error code.

Refer to <u>HL7 Table 0357 – Message Error Condition Codes</u> in appendix A of this document.

Example: ERR||QPD^1^6^1|102^data type error^HL70357|

### ERR-4 Severity (ID)

The NJIIS IMS will value this field the HL7 severity code.

Refer to following <u>HL7-defined Table 0516 – Error Severity Code</u> in appendix A of this document.

### ERR-5 Application Error Code (CWE)

If meaningful to help identify the specific error that occurred, the NJIIS IMS will value this field with one of the application specific error codes from <u>User-defined Table 0533 – Application Error Code</u> in Appendix A of this document.

Example:

ERR||QPD^1^6^1|102^data type error^HL70357|E|BadDateTime^^HL70533|

## 8.2.5 QAK - QUERY ACKNOWLEDGEMENT SEGMENT

The NJIIS IMS supports querying the NJIIS for a patient's immunization history using the Z34 or Z44 profile for QBP messages.

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Query Tag	ST		[11]	[11]	R	R	
2	Query Response Status	ID	0208	[01]	[01]	RE	RE	
3	Message Query Name	CE	0471	[11]	[01]	R	R	
4	Hit Count	NM		[01]	[00]	0	х	
5	This payload	NM		[01]	[00]	0	х	
6	Hits remaining	NM		[01]	[00]	0	х	

## TABLE QUERY ACKNOWLEDGEMENT SEGMENT (QAK)

Non-supported fields (usage of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES QUERY ACKNOWLEDGEMENT SEGMENT (QAK)

## QAK-1 Query Tag (ST)

This field contains the value sent in QPD-2 (query tag) by the initiating system and will be used to match response messages to the originating query. The NJIIS IMS will echo it back as the first field in the query acknowledgement segment (QAK).

## QAK-2 Query Response Status (ID)

The NJIIS IMS will value this field with one of the following HL7 Query Response Status codes (from HL7 Table 0208):

- "OK" if there were no errors in the QBP and a single matching patient was found.
- "NF" if there were no errors in the QBP and a matching patient was not found.
- "TM" if there were no errors in the QBP and more than one matching patient was found(Z31Profile).
- "AE" if there were errors in the QBP.
- "AR" if there were errors in the QBP and the message cannot be parsed.

### QAK-3 Message Query Name (CE)

This field contains the name of the query. This shall mirror the QPD-1 (Message Query Name) found in the query message that is being responded to.

## 8.2.6 QPD – QUERY PARAMETER DEFINITION

The Response QPD segment echoes back the information exactly as it was received in the QPD segment of the QBP request sent by the HL7 Data Exchange Partner.

## 8.2.7 PID – PATIENT IDENTIFIER SEGMENT

The PID segment is part of the Response Group and will be returned when a single or multiple patients match is found. The NJIIS IMS only supports and returns the PID fields listed below.

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag e	NJIIS IMS Usag e	Condition al Predicate
1	Set ID - PID	SI		[11]	[11]	R	R	
2	Patient ID	СХ		[00]	[00]	х	х	
3	Patient Identifier List	СХ		[1*]	[1*]	R	R	
4	Alternate Patient ID	СХ		[00]	[00]	х	х	
5	Patient Name	XPN		[1*]	[1*]	R	R	
6	Mother's Maiden Name	XPN_ M		[01]	[01]	RE	RE	

## TABLE PATIENT IDENTIFIER SEGMENT (PID) IN A RSP

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag e	NJIIS IMS Usag e	Condition al Predicate
7	Date/Time of Birth	TS_NZ		[11]	[11]	R	R	
8	Administrativ e Sex	IS	0001	[01]	[11]	R	R	
9	Patient Alias	XPN		[00]	[00]	х	х	
10	Race	CE	0005	[0*]	[0*]	RE	RE	
11	Patient Address	XAD		[0*]	[0*]	RE	RE	
12	County Code	IS		[00]	[00]	х	х	
13	Phone Number - Home	XTN		[0*]	[0*]	RE	RE	
14	Phone Number - Business	XTN				0	0	
15	Primary Language	CE	0296			0	0	
16	Marital Status	CE				0	х	
17	Religion	CE				0	Х	
18	Patient Account Number	сх				Ο	х	
19	SSN Number - Patient	ST		[00]	[00]	х	х	
20	Driver's License Number - Patient	DLN		[00]	[00]	х	х	
21	Mother's Identifier	СХ		[00]	[00]	х	х	

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag e	NJIIS IMS Usag e	Condition al Predicate
22	Ethnic Group	CE	CDCRE C	[01]	[01]	RE	RE	
23	Birth Place	ST				0	х	
24	Multiple Birth Indicator	ID	0136	[01]	[01]	RE	RE	
25	Birth Order	NM		[01]	[01]	C(RE/O )	C(RE/O )	
26	Citizenship	CE				0	х	
27	Veterans Military Status	CE				0	х	
28	Nationality	CE				0	х	
29	Patient Death Date and Time	TS		[01]	[01]	C(RE/X )	x	If PID-30 is valued "Y"
30	Patient Death Indicator	ID	0136	[01]	[01]	RE	х	
31	ldentity Unknown Indicator	ID				Ο	х	
32	Identity Reliability Code	IS				Ο	х	
33	Last Update Date/Time	TS				0	х	
34	Last Update Facility	HD				0	х	
35	Species Code	CE				0	х	
36	Breed Code	CE				0	Х	

SE Q	Element Name	Data Type	Value Set	CDC IG Cardinalit Y	NJIIS IMS Cardinalit Y	CDC IG Usag e	NJIIS IMS Usag e	Condition al Predicate
37	Strain	ST				0	х	
38	Production Class Code	CE				0	х	
39	Tribal Citizenship	CWE				0	х	

Non-supported fields (usage of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES PATIENT IDENTIFIER SEGMENT (PID) IN A RSP

### PID-1 Set ID - PID (SI)

The NJIIS IMS will value the sequence number for the first occurrence of the segment as one, for the second occurrence, the sequence number shall be two, etc.

#### PID-3 Patient Identifier List (CX)

The NJIIS IMS will value this field with the State Registry ID (SR).

The HL7 data exchange partner should store the State Registry ID with their patient record and include that identifier in subsequent VXU and QBP messages to significantly increase the will be found.

#### PID-5 Patient Name (XPN\_M)

The NJIIS IMS will value this field with the patient's legal (L) name (first, middle, and last).

#### PID-7 Date/Time of Birth (TS\_NZ)

The NJIIS IMS will value this field with the patient's date and time of birth in the YYYYMMDD format.

#### PID-8 Administrative Sex (IS)

The NJIIS IMS will value this field with the patient's gender (M for Male or F for Female, X for Non-Binary, or U for Unknown). See the <u>HL7-defined Table 0001 – Administrative Sex</u> in Appendix A of this document for values supported by the NJIIS.

#### PID-10 Race (CE)

The NJIIS IMS will value this field with the patient's race if available in the |2106-3^White^HL70005| - or - |W^White^NIP^2106-3^White^HL70005| format.

#### PID-11 Patient Address (XTN)

The NJIIS IMS will value this field with the address of the patient in the |123 Anywhere St&Anywhere St&123^Apt 5A^Trenton^NJ^12345^USA^L| format.

#### PID-13 Phone Number - Home (XTN)

The NJIIS IMS will value this field with the patient's personal number if available in the |^PRN^PH^^^609^5551212~^ORN^CP^^^732^5551212~^NET^X.400^joey.smith@fakeemail.com| format.

#### PID-15 Primary Language (CE)

The NJIIS IMS will value this field with the patient's primary language if available, in the |eng^English^HL70296| format.

#### PID-22 Ethnic Group (CE)

The NJIIS IMS will value this field with the patient's ethnicity if available, in the |2186-5^Not Hispanic or Latino^CDCREC| Or |N^Not Hispanic or Latino^CDCREC|format.

### 8.2.8 PD1 – PATIENT DEMOGRAPHIC SEGMENT

The NJIIS IMS will not include a Patient Demographic segment in RSP messages.

### 8.2.9 NK1 – NEXT OF KIN SEGMENT

The NJIIS IMS will not include a NK1 segment in RSP messages.

### 8.2.10 ORC – ORDER REQUEST SEGMENT

The ORC and RXA segments are part of the Response Group. This segment will only be returned when a single matching patient is found.

If a patient has immunization history, the RSP returned by the NJIIS IMS will include an ORC segment/RXA segment combination for each immunization.

# TABLE ORDER REQUEST SEGMENT (ORC) IN AN RSP

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Order Control	ID	0119	[11]	[11]	R	R	
2	Placer Order Number	EI		[01]	[01]	RE	RE	
3	Filler Order Number	EI		[11]	[11]	R	R	
4	Placer Group Number	EI				0	х	
5	Order Status	ID				0	х	
6	Response Flag	ID				0	х	
7	Quantity/Timing	TQ		[00]	[00]	х	х	
8	Parent	EIP				0	х	
9	Date/Time of Transaction	TS				0	х	
10	Entered By	XCN		[01]	[00]	RE	х	
11	Verified By	XCN				0	х	
12	Ordering Provider	XCN		[01]	[01]	C(RE/0)	х	
13	Enterer's Location	PL				0	х	
14	Call Back Phone Number	XTN				0	х	
15	Order Effective Date/Time	TS				0	х	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
16	Order Control CodeReason	CE				0	х	
17	Entering Organization	CE				RE	х	
18	Entering Device	CE				0	х	
19	Action By	XCN				0	х	
20	Advanced BeneficiaryNotice Code	CE				Ο	Х	
21	Ordering Facility Name	XON				0	х	
22	Ordering Facility Address	XAD				0	х	
23	Ordering Facility Phone Number	XTN				0	х	
24	Ordering Provider Address	XAD				0	х	
25	Order Status Modifier	CWE				0	х	
26	Advanced Beneficiary Notice Override Reason	CWE				Ο	Х	
28	Confidentiality Code	CWE				0	х	
29	Order Type	CWE				0	х	
30	Enterer Authorization Mode	CNE				Ο	х	
31	Parent Universal Service Identifier	CWE				0	х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are

described in the Field Usage Notes that follow.

## FIELD USAGE NOTES ORDER REQUEST SEGMENT (ORC) IN AN RSP

### ORC-1 Order Control (ID)

This field determines the function of the Order Request segment.

Refer to <u>HL7-defined Table 0119 – Order Control Codes</u> in Appendix A of this document for values supported by the NJIIS IMS.

## **ORC-3 Filler Order Number (EI)**

The filler order number is used to uniquely identify this order among all orders sent by a provider organization that filled the order.

The NJIIS IMS will value the following required components:

- ORC-3.1 with the unique Immunization ID for this immunization record.
- ORC-3.2 with the Assigning Authority (NJIIS).

All other components of ORC-3, if valued, will be ignored by the NJIIS IMS.

### RXA – Pharmacy/Treatment Administration Segment

The RXA segment carries pharmacy administration data. It is a child of an ORC segment.

### TABLE PHARMACY/TREATMENT ADMINISTRATION (RXA) IN AN RSP

SEQ	Element Name	Data Type	Value Set	CDC IG Cardin ality	NJIIS IMS Cardin ality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Give Sub-ID Counter	NM		[11]	[11]	R	R	
2	Administration Sub- IDCounter	NM		[11]	[11]	R	R	
3	Date/Time Start of Administration	TS_N Z		[11]	[11]	R	R	
4	Date/Time End of Administration	TS		[01]	[00]	0	Х	
5	Administered Code	CE		[11]	[11]	R	R	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardin ality	NJIIS IMS Cardin ality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
6	Administered Amount	NM		[11]	[11]	R	R	
7	Administered Units	CE	UCUM	[01]	[00]	C(R/X)	Х	
8	Administered DosageForm	CE		[01]	[00]	0	Х	
9	Administration Notes	Varie s	NIP001	[0*]	[0*]	C(R/O)	C(R/O)	
10	Administering Provider	XCN		[01]	[01]	C(RE/O)	C(RE/O)	
11	Administered-at Location	LA2		[01]	[11]	C(RE/O)	C(RE/O)	If Provider ID in QBP MSH 4.1 is the administered at location
12	Administered Per (TimeUnit)	ST		[01]	[00]	0	Х	
13	Administered Strength	NM		[01]	[00]	0	Х	
14	Administered StrengthUnits	CE		[01]	[00]	0	Х	
15	Substance Lot Number	ST		[0*]	[01]	C(R/O)	C(R/O)	If available in NJIIS
16	Substance ExpirationDate	TS_M		[01]	[01]	C(RE/O)	C(RE/O)	If available in NJIIS
17	Substance Manufacturer Name	CE	MVX	[01]	[01]	C(R/O)	C(R/O)	If available in NJIIS
18	Substance/Treatm entRefusal Reason	CE	NIP002	[0*]	[0*]	C(R/X)	C(R/X)	
19	Indication	CE		[01]	[00]	0	Х	

SEQ	Element Name	Data Type	Value Set	CDC IG Cardin ality	NJIIS IMS Cardin ality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
20	Completion Status	ID	0322	[01]	[01]	RE	RE	
21	Action Code - RXA	ID	0323	[01]	[01]	0	0	
22	System Entry Date/Time	TS		[01]	[00]	0	Х	
23	Administered Drug Strength Volume	NM		[01]	[00]	0	Х	
24	Administered Drug Strength Volume Units	CWE		[01]	[00]	0	Х	
25	Administered Barcode Identifier	CWE		[01]	[00]	0	Х	
26	Pharmacy Order Type	ID		[01]	[00]	0	Х	

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES PHARMACY/TREATMENT ADMINISTRATION (RXA) IN AN RSP

### RXA-1 Give Sub-ID Counter (NM)

This field is used to match an RXA, which is not a function under IIS, and is constrained to "0" (zero).

### RXA-2 Administration Sub-ID Counter (NM)

This field is used to track multiple RXA under an ORC. Since each ORC has only one RXA in immunization messages, constrain to "1".

## RXA-3 Date/Time Start of Administration (TS\_NZ)

The field contains the date the vaccination occurred.

Example: **|20090501|** This represents an immunization date on May 1, 2009.

### RXA-5 Administered Code (CE)

This field identifies the medical substance administered. Vaccines Administered (CVX) codes will be in the first triplet of the CE data type.

Example: [21^Varicella^CVX]

### RXA-6 Administered Amount (NM)

This field records the amount of pharmaceutical administered. The NJIIS IMS will default this field to "999".

Example: [999]

## RXA-11 Administered-at Location (LA2)

This field is valued with administered provider NJIIS ID.

Example: [^^^325]

## RXA-15 Substance Lot Number (ST)

This field may contain the Lot Number of the medical substance administered.

## RXA-16 Substance Expiration Date (TS\_M)

This field may contain the expiration date of the medical substance administered.

### RXA-17 Substance Manufacturer Name (CE)

This field may contain the manufacturer of the medical substance administered.

## RXA-20 Completion Status (ID)

This field indicates if the dose was successfully given and may be sent if NJIIS IMS has relevant data.

## 8.2.11 RXR – PHARMACY/TREATMENT ROUTE SEGMENT

The RXR segment contains the alternative combination of route, site, administration device, and administration method that are prescribed as they apply to a particular order. It is a child of an RXA segment. NJIIS currently only accepts the route and administration site.

SEQ	Element Name	Data Type	ValueSet	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Route	CE	NCIT/0162	[11]	[11]	R	R	
2	Administration Site	CWE	0163	[01]	[01]	RE	RE	
3	Administration Device	CE				Ο	х	
4	Administration Method	CE				Ο	х	
5	Routing Instruction	CE				0	х	
6	Administration SiteModifier	CWE				Ο	х	

## TABLE PHARMACY/TREATMENT ROUTE (RXR) IN AN RSP

Non-supported segments (Optionality of "X") will be ignored by the NJIIS IMS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES PHARMACY/TREATMENT ROUTE (RXR) IN AN RSP

## RXR-1 Route (CE)

This field is the route of administration.

Refer to <u>NCI Thesaurus (NCIT) – Route of Administration/HL7-defined Table 0162 – Route of</u> <u>Administration</u> in Appendix A of this document for values supported by the NJIIS IMS.

Example: [SC^Subcutaneous^HL70162]

### RXR-2 Administration Site (CWE)

This field contains the administration site and may be valued by NJIIS IMS if there is relevant data.

The NJIIS IMS supports all the HL7 values in the CDC IG's <u>HL7-defined Table 0163 – Site of</u> <u>Administration</u>.

Example: |LD^Left Deltoid^HL70163|

## 8.2.12 OBX – OBSERVATION SEGMENT

The OBX segment is also part of the Response Group. The Response Group will only be returned when a single matching patient is found.

In an RSP, the OBX segment carries observations associated with the RXA or immunization record. The basic format is a question (OBX-3) and an answer (OBX-5).

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
1	Set ID – OBX	SI		[11]	[11]	R	R	
2	Value Type	ID	0125	[11]	[11]	R	R	
3	Observation Identifier	CE		[11]	[11]	R	R	
4	Observation Sub- ID	ST		[11]	[11]	R	R	
5	Observation Value	Varies		[11]	[11]	R	R	
6	Units	CE		[01]	[00]	C(R/O)	C(R/O)	
7	References Range	ST				0	0	
8	Abnormal Flags	IS				0	0	
9	Probability	NM				0	0	
10	Nature of Abnormal Test	ID				0	Ο	
11	Observation Result Status	ID		[11]	[11]	R	R	

## TABLE OBSERVATION SEGMENT (OBX) IN AN RSP

SEQ	Element Name	Data Type	Value Set	CDC IG Cardinality	NJIIS IMS Cardinality	CDC IG Usage	NJIIS IMS Usage	Conditional Predicate
12	Effective Date of Reference Range Values	TS				0	0	
13	User Defined Access Checks	ST				Ο	0	
14	Date/Time of the Observation	TS_NZ		[01]	[01]	RE	RE	
15	Producer's Reference	CE				0	0	
16	Responsible Observer	XCN				0	0	
17	Observation Method	CE		[01]	[00]	0	0	
18	Equipment Instance Identifier	EI				0	0	
19	Date/Time of the Analysis	TS				0	0	
20	Reserved for harmonization with V2.6			[01]	[00]	х	х	
21	Reserved for harmonization with V2.6			[01]	[00]	х	x	
22	Reserved for harmonization with V2.6			[01]	[00]	Х	х	
23	Performing Organization Name	XON				0	x	
24	Performing Organization Address	XAD				0	х	
25	Performing Organization Medical Director	XCN				0	х	

Non-supported fields (usage of "X") will not be valued by NJIIS. All other fields are described in the Field Usage Notes that follow.

## FIELD USAGE NOTES OBSERVATION SEGMENT (OBX) IN AN RSP

### OBX-1 Set ID - OBX (SI)

This field contains the sequence number.

For each OBX under an RXA, the NJIIS will value the first OBX with "1"; each subsequent OBX will be valued with the next number in sequence.

## **OBX-2 Value Type (ID)**

The NJIIS will value this field with the data type (e.g., CE, NM, ID, ST, or DT) that corresponds to the format of the observation value (OBX-5). For example, if the OBX-2 value is "CE" then the OBX-5 value will be a coded entry.

Example: OBX111**CE**30956-7^Vaccine Type^LN141**37^HPV^CVX**1111F

## **OBX-3 Observation Identifier (CE)**

This field contains a unique identifier for the observation. The format is that of the Coded Element (CE).

Example: [59779-9^Immunization Schedule used^LN]

OBX-3 may be thought of as a question that the observation (OBX-5) answers. In the example above, the question is "when is the next dose of this vaccine due (recommended)". The answer in OBX-5 could be "20130714".

The NJIIS IMS will populate this field with the corresponding identifier supported by NJIIS.

## **OBX-4** Observation Sub-ID (ST)

This field is used to group related observations by setting the value to the same number. Each related observation would share an Observation sub-id.

### **OBX-5 Observation Value (varies)**

This field contains the observation (answer) posed by the question in OBX-3 (Observation Identifier). OBX-2 (Value Type) contains the data type for this field.

#### **OBX-11** Observation Result Status (ID)

The NJIIS IMS will value this field with "F" (Final).

## OBX-14 Date/Time of the Observation (TS\_NZ)

This field represents the time of the observation. It is the physiologically relevant date-time or the closest approximation to that date-time of the observation.

# 9 APPENDIX A: CODE TABLES

Code Tables are only listed in this appendix if the NJIIS IMS supports a subset of the codes or when the table is user- defined and contains NJIIS-specific codes. For the full list of Code Tables, please see Appendix A in the HL7 2.5.1 Implementation Guide for Immunization Messaging, Release 1.5 (CDC IG).

Code Tables in this Local IG follow the order, layout, and format of the Code Tables in the CDC IG. See the message specific, field usage notes of this Local IG for additional information regarding the NJIIS IMS usage of these codes.

## 9.1 TABLES

## 9.1.1 HL7-DEFINED TABLE 0001 – ADMINISTRATIVE SEX

These codes are used in PID-8, and QPD-7.

Value	Description
м	Male
F	Female
U	Unknown
x	Non-Binary

## 9.1.2 CDCREC/User-defined Table 0005 - Race

These codes are used in PID-10.

Concept Code	Concept Name	HL7 Table 0396 Code
1002-5	American Indian or Alaska Native	CDCREC
2028-9	Asian	CDCREC

Concept Code	Concept Name	HL7 Table 0396 Code
2054-5	Black or African American	CDCREC
2076-8	Native Hawaiian or Other Pacific Islander	CDCREC
2131-1	Other Race	CDCREC
2106-3	White	CDCREC
1	Prefer not to Specify	

# 9.1.3 HL7-defined Table 0008 – Acknowledgement Code

These codes are used in MSA-1.

Value	Description	
AA	Message was accepted without error	
AE	Message was processed and errors are being reported. AE is sent whenever an error is detected. This may range from data that are ignored because they are not wanted to rejection of the entire message.	
AR	<ul> <li>Message was rejected because one of the following occurred:</li> <li>Unsupported Message Type</li> <li>Unsupported Event Code</li> <li>Unsupported Processing ID</li> <li>Unable to process for reasons unrelated to format or content</li> </ul>	

## 9.1.4 User-defined Table 0063 – Relationship

These codes are used in NK1-3.

Value	Description
BRO	Brother
CGV	Care giver
CHD	Child

Value	Description
FTH	Father
FCH	Foster child
GRP	Grandparent
GRD	Guardian
МТН	Mother
PAR	Parent
SIB	Sibling
SIS	Sister
SCH	Stepchild
SPO	Spouse
ОТН	Other

# 9.1.5 User-defined Table 0064 – Financial Class

These codes are used in OBX-5.

Code	Label	
V01	Not VFC eligible	
V02	VFC eligible-Medicaid, Medicaid Managed Care, and NJ FamilyCare Plan A	
V03	VFC eligible-Uninsured (Has no health insurance)	
V04	VFC eligible-American Indian/Alaskan Native	
V05	VFC eligible-Federally Qualified Health Center Patient (under-insured)	

Code	Label	
V07	Local-specific eligibility. Use this code for "NJ FamilyCare Plans B, C & D" (CHIP). From 07/01/2014 onwards NJ Family Care Plan B, C, & D will not be part of VFC inventory/funding. If Date of administration is BEFORE 07/01/2014 then inventory for VFC must decrement, if the patient VFC Eligibility is NJ Family Care Plan B, C, & D. If Date of administration is On/After 07/01/2014 Provider must use private vaccines to administer NJ Family Care Plan B, C, & D patients.	
V23	317 Eligible	
V25	State program eligibility	
V98	Federal Not VFC	
NJIIS01	Not Available	
NJIIS02	Grantee-State	

## 9.1.6 HL7-DEFINED TABLE 0091 – QUERY PRIORITY

Fields using this code set are expected to be I or empty, which indicates Immediate processing is expected.

Value	Description	Usage
l or Empty	Immediate Processing	Supported

## 9.1.7 HL7-DEFINED TABLE 0103 – PROCESSING ID

These codes are used in MSH-11.

Value	Description
Р	Production
т	Training

## 9.1.8 HL7-defined Table 0119 – Order Control Codes

This code is used in ORC-1.

Value	Description	Usage
RE	Observations to follow	Supported

# 9.1.9 HL7-DEFINED TABLE 0125 - VALUE TYPE

Value	Description
CE	Coded Element
CE_TX	Text only CE Data Type
cq	Composite Quantity with Units
CWE	Coded with Exceptions
сх	Extended Composite ID with Check Digit
DT	Date
DT_D	Date with Precision to Day
DTM	Date/Time
EI	Entity Identifier
ERL	Error Location
FN	Family Name
FT	Formatted Text
HD	Hierarchic Designator
ID	Coded Values for HL7 Tables
IS	Coded Value for User-Defined Tables
LA2	Location with Address Variation 2

Value	Description	
MSG	Message Type	
NM	Numeric	
РТ	Processing Type	
SAD	Street Address	
SI	Sequence ID	
ST	String	
тѕ	Time Stamp	
тѕ_м	Time Stamp with Optional Precision to the Day and No Time Zone	
TS_NZ	Time Stamp with Precision to the Day and No Time Zone	
TS_Z	Time Stamp Requiring Time Zone	
VID	Version Identifier	
XAD	Extended Address	
XCN	Extended Composite ID Number and Name for Persons	
XON	Extended Name and ID Number for Organizations	
XPN	Extended Person Name	
XTN	Extended Telephone Number	

## 9.1.10 HL7-DEFINED TABLE 0126 – QUANTITY LIMITED REQUEST

This code is used in RCP-2. Fields using this code set are expected to be set to RD for records.

Value	Description	Usage
RD	Records	Supported
		'
# 9.1.11 HL7-DEFINED TABLE 0136 – YES/NO INDICATOR

These codes are used in PID-24, PID-30, and PD1-12.

Value	Description
Y	Yes
N	Νο
<empty field="">   </empty>	Make no changes to the record in the receiving database. The sending system has no information on this field.

## 9.1.12 HL7-DEFINED TABLE 0155 – ACCEPT/APPLICATION ACKNOWLEDGMENT CONDITIONS

These codes are used in MSH-15 and MSH-16.

Value	Description
AL	Always
NE	Never
ER	Error/Reject conditions only

# 9.1.13 NCI THESAURUS (NCIT) – ROUTE OF ADMINISTRATION/HL7-DEFINED TABLE 0162 – ROUTE OF ADMINISTRATION

These codes are used in RXR-1.

NCIT Value	HL7-0162 Value	Description
C38238	ID	Intradermal
C28161	IM	Intramuscular
C38284	NS	Nasal
C38288	РО	Oral

NCIT Value	HL7-0162 Value	Description
C38299	SC	Subcutaneous

# 9.1.14 HL7-DEFINED TABLE 0163 – SITE OF ADMINISTRATION

These codes are used in RXR-2.

Value	Description
LA	Left Upper Arm
LD	Left Deltoid
LG	Left Gluteous Medius
LLFA	Left Lower Forearm
LT	Left Thigh
LVL	Left Vastus Lateralis
RA	Right Upper Arm
RD	Right Deltoid
RG	Right Gluteous Medius
RLFA	Right Lower Forearm
RT	Right Thigh
RVL	Right Vastus Lateralis

# 9.1.15 CDCREC/User-defined Table 0189 – ETHNICITY

These codes are used in PID-22 and NK1-28.

Concept Code	Concept Name	HL7 Table 0396 Code
2135-2	Hispanic or Latino	CDCREC
2186-5	Not Hispanic or Latino	CDCREC
2138-6	Andalusian	CDCREC
2166-7	Argentinean	CDCREC
2139-4	Asturian	CDCREC
2142-8	Belearic Islander	CDCREC
2167-5	Bolivian	CDCREC
2163-4	Canal Zone	CDCREC
2145-1 Canarian		CDCREC
2140-2	Castillian	CDCREC
2141-0	Catalonian	CDCREC
2155-0	Central American	CDCREC
2162-6	Central American Indian	CDCREC
2151-9	Chicano	CDCREC
2168-3	Chilean	CDCREC
2169-1	Colombian	CDCREC
2156-8	Costa Rican	CDCREC
2176-6	Criollo	CDCREC
2182-4	Cuban	CDCREC
2184-0	Dominican	CDCREC

Concept Code	Concept Name	HL7 Table 0396 Code
2170-9	Ecuadorian	CDCREC
2143-6	Gallego	CDCREC
2157-6	Guatemalan	CDCREC
2158-4	Honduran	CDCREC
2152-7	La Raza	CDCREC
2178-2	Latin American	CDCREC
2148-5	Mexican	CDCREC
2149-3	149-3Mexican AmericanCDCREC	
2153-5	53-5 Mexican American Indian C	
2150-1	Mexicano	CDCREC
2159-2	Nicaraguan	CDCREC
2160-0	Panamanian	CDCREC
2171-7	Paraguayan	CDCREC
2172-5	Peruvian	CDCREC
2180-8	Puerto Rican	CDCREC
2161-8	Salvadoran	CDCREC
2165-9	South American	CDCREC
2175-8	South American Indian	CDCREC
2137-8	Spaniard	CDCREC
2146-9	Spanish Basque	CDCREC

Concept Code	Concept Name	HL7 Table 0396 Code
2173-3	Uruguayan	CDCREC
2144-4	Valencian	CDCREC
2174-1	Venezuelan	CDCREC
U	Unknown	
Р	Prefer not to Specify	

# 9.1.16 HL7-DEFINED TABLE 0190 – ADDRESS TYPE

These codes are used in all XAD data types including PID-11 and NK1-4.

Value	Description
С	Current or temporary
Р	Permanent
м	Mailing
н	Home
L	Legal address

# 9.1.17 HL7-DEFINED TABLE 0200 – NAME TYPE

These codes are used in all XCN, XPN data types, including PID-5, PID-6, and NK1-2.

Value	Description	Definition	Comment
L	Legal name	This is a person's official name. It is theprimary name recorded in the IIS.	Used in PID-5 & NK1-2.
М	Maiden name	This is a woman's name before marriage.	Used in PID-6.

# 9.1.18 HL7-DEFINED TABLE 0201 – TELECOMMUNICATION USE CODE

These codes are used in all XTN data types including PID-13, PID-14, NK1-5, and NK1-6.

Value	Description	Comment
PRN	Primary residence number	Used in PID-13 and NK1-5.
ORN	Other residence number	Used in PID-13 and NK1-5.
WPN	Work number	Used in PID-14 and NK1-6.
NET	Network (email) address	Used in PID-13, PID-14, NK1-5, and NK1-6.

## 9.1.19 HL7-DEFINED TABLE 0202 – TELECOMMUNICATION EQUIPMENT TYPE

These codes are used in all XTN data types including PID-13, PID-14, NK1-5, and NK1-6.

Value	Description
РН	Telephone
СР	Cellular Phone
X.400	X.400 email address: Use only if telecommunication use code is NET

## 9.1.20 USER-DEFINED TABLE 0203 – IDENTIFIER TYPE

These codes are used in all CX, XCN type codes, including PID-3, and QPD-3.

Value	Description
SR	State Registry ID
MR	Medical Record Number
BR	Birth Registry Number

## 9.1.21 USER-DEFINED TABLE 0208 – QUERY RESPONSE STATUS

This value used in QAK-2

Value	Description	Comment
ОК	Data found, no errors (this is the default)	Like AA in table HL70008
NF	No Data found, no errors	
AE	Application error	Query had an error in content of format.
AR	Application reject	Message was rejected because one of thefollowing occurred: • Unsupported message type • Unsupported event code • Unsupported processing ID Unable to process for reasons unrelated for format or content
ТМ	Too many candidates found	

## 9.1.22 USER DEFINED TABLE 0215 – PUBLICITY CODE

This code is used in PD1-11

Value	Description
01	No reminder/recall
02	Reminder/recall - any method

# 9.1.23 HL7-DEFINED TABLE 0227 – MANUFACTURERS OF VACCINES (CODE = MVX)

Please reference the following link for a full list of the MVX codes accepted by the NJIIS IMS <a href="https://njiis.nj.gov/docs/interfaces/NJIIS\_List\_of\_Manufacturers.xlsx">https://njiis.nj.gov/docs/interfaces/NJIIS\_List\_of\_Manufacturers.xlsx</a>.

Please reference the link below for a full list of MVX codes supported by the CDC <u>https://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=mvx</u>.

# 9.1.24 HL7-DEFINED TABLE 0292 – CODES FOR VACCINES ADMINISTERED (CODE=CVX)

Please reference the following link for a full list of the CVX and NDC codes accepted by the NJIIS IMS <u>https://njiis.nj.gov/docs/interfaces/NJIIS NDC CVX Crosswalk.xlsx</u>. The NJIIS IMS CVX code will be updated as needed to include new codes.

Please reference the link below for a full list of CVX codes supported by the CDC (<u>https://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=cvx</u>).

Please reference the link below for a full list of NDC code supported by the CDC <u>https://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=ndc</u>.

## 9.1.25 USER-DEFINED TABLE 0296 – LANGUAGE

These codes are used in all CX, XCN type codes, including PID-15.

Value	Description
SGN	American Sign Language
ARA	Arabic
ARM	Armenian
BEN	Bengali
МКН	Cambodian (Khmer)
САТ	Catalan; Valencian
СНА	Chamorro
СНІ	Chinese
YUE	Chinese, Cantonese
CMN	Chinese, Mandarin
HRV	Croatian
CZE	Czech

Value	Description
DAN	Danish
DUT	Dutch
ENG	English
FAS	Farsi (Persian)
FRE	French
GER	German
ELL	Greek
НАТ	Haitian; Haitian Creole
HEB	Hebrew
HIN	Hindi
HMN	Hmong
HUN	Hungarian
ILO	llocano
IND	Indonesian
ITA	Italian
JPN	Japanese
KOR	Korean
LAO	Laotian
ОТН	Other
POL	Polish

Value	Description
POR	Portuguese
RUM	Romanian
RUS	Russian
SMO	Samoan
SRP	Serbian
SLO	Slovak
SOM	Somali
SPA	Spanish
TGL	Tagalog
THA	Thai
TON	Tongan
UKR	Ukrainian
UNK	Unknown
URD	Urdu
VIE	Vietnamese
YID	Yiddish

# 9.1.26 HL7-DEFINED TABLE 0322 – COMPLETION STATUS

This code is used in RXA-20.

Value	Description
СР	Complete

Value	Description
RE	Refused
NA	Not Administered
РА	Partially Administered

# 9.1.27 HL7-DEFINED TABLE 0323 – ACTION CODE

This code is used in RXA-21.

Value	Description
A	Add
D	Delete
U	Update

# 9.1.28 HL7-DEFINED TABLE 0357 – MESSAGE ERROR STATUS CODES

Code	Text	Description
0	Message accepted	Success. Optional, as the AA conveys this. Used for systems that must always return a status code.
100	Segment sequence error	The message segments were not in the proper order or required segments are missing.
101	Required field missing	A required field is missing from the segment.
102	Data type error	The field contained data of the wrong data type, e.g., aNM (number) field contained letters of the alphabet.
103	Table value not found	A field of data type ID or IS was compared against the corresponding table and no match was found.
200	Unsupported message	The message type is not supported.
203	Unsupported version ID	The Version ID is not supported.
200	Unsupported message type	The Message type is not supported.

Code	Text	Description
201	Unsupported event code	The Event Code is not supported.
202	Unsupported processing ID	The Processing ID is not supported.
203	Unsupported version ID	The Version ID is not supported.
204	Unknown key identifier	The ID of the patient, order, etc. was not found. Used for transactions other than additions, e.g., transfer of a non-existent patient.
205	Duplicate key identifier	The ID of the patient, order, etc. already exists. Used in response to addition transactions (Admit, New Order, etc.).
206	Application record locked	The transaction could not be performed at the application storage level, e.g., database locked.
207	Application internal error	A catchall for internal errors not explicitly covered by other codes.

## 9.1.29 USER-DEFINED TABLE 0363 – ASSIGNING AUTHORITY

This code is used in PID-3.4.1 when PID-3.5 is "SR" and QPD-3.4.1 when QPD-3.5 is "SR".

Code	Grantee
NJIIS	New Jersey Immunization Information System

#### 9.1.30 HL7-DEFINED TABLE 0396 – NAME OF CODING SYSTEM

Only selected values listed. See HL7 version 2.5.1 Table 0396 for other values. Use is CE data types to denote the coding system used for coded values.

Value	Description
сvх	CDC Vaccine Codes
MVX	CDC Vaccine Manufacturer Codes
NDC	National Drug Codes
99zzz or L	Local general code (where z is an alphanumeric character)

# 9.1.31 HL7-DEFINED TABLE 0399 – COUNTRY CODE

#### Refer link below

https://phinvads.cdc.gov/vads/ViewValueSet.action?id=1FD34BBC-617F-DD11-B38D-00188B398520

# 9.1.32 USER-DEFINED TABLE 0471 – QUERY NAME

Value	Description
Z34	Request Immunization History
Z44	Request Evaluated History and Forecast

# 9.1.33 HL7-DEFINED TABLE 0516 – ERROR SEVERITY CODE

This code is used in ERR-4.

Value	Description	Comment
E	Error	The application rejected data that it views as important. This could include required fields or the entire message. The sender should be alerted to review and correct the message.
w	Warning	Transaction was successful, but there may be issues. These may include non-fatal errors with potential for loss of data.
I	Information	Transaction successful but includes returned information.

## 9.1.34 USER-DEFINED TABLE 0533 – APPLICATION ERROR CODE

This code is used in ERR-5.

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
10010	VENDOR NAME not FOUND IN REQUEST.	Error	10190	NK1 FIRST NAME IS MISSING.	Error
10011	PROVIDER ID not FOUND IN REQUEST.	Error	10191	DOSE ADMIN START TIME IS MISSING.	Error
10012	MESSAGE TYPE not FOUND IN REQUEST.	Error	10192	DOSE ADMIN START TIME FORMAT IS INVALID.	Error
10013	VERSION ID not FOUND IN REQUEST.	Warning	10193	DOSE ADMIN START TIME CAN not EARLIER THAN	Error

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
				DATE OF BIRTH OR IN FUTURE DATE.	
10014	PATIENT ID not FOUND IN REQUEST.	Warning	10194	DOSE CVX CODE IS MISSING.	Error
10015	PATIENT LASTNAME not FOUND IN REQUEST	Error	10195	DOSE CVX CODE IS INVALID. NO MATCHING NJIIS VACCINE ID FOUND.	Error
10016	PATIENT FIRSTNAME not FOUND IN REQUEST	Error	10196	DOSE CVX CODE NAME IS MISSING.	Error
10017	PATIENT DATE OF BIRTH not FOUND IN REQUEST.	Error	10197	DOSE CVX CODE NAME IS INVALID	Error
10018	PATIENT GENDER not FOUND IN REQUEST.	Error	10198	DOSE DOSAGE AMOUNT IS MISSING	Error
10019	MULTIPLE BIRTH INDICATOR not FOUND IN REQUEST.	Error	10199	DOSE DOSAGE UNIT IS MISSING	Error
10020	MULTIPLE BIRTH INDICATOR IS GREATER THAN 1 AND PATIENT BIRTH ORDER not FOUND IN REQUEST.	Error	10200	DOSE ADMIN notES CODE IS MISSING.	Error
10021	CONSENT not FOUND IN REQUEST. ASSIGNED DEFAULT VALUE 'Y/N' BASED ON PATIENT'S DATE OF BIRTH	Warning	10201	DOSE ADMIN notES CODE SYSTEM IS MISSING.	Error
10022	CONSENT DATE not FOUND IN REQUEST.	Error	10202	DOSE ADMIN notES CODE SYSTEM IS INVALID. not SUPPORTED BY NJIIS.	Error
10023	CONTACT LAST NAME not FOUND IN REQUEST.	Error	10203	DOSE ADMIN PROVIDER ID IS not VALID NUMERICAL ID.	Error
10024	CONTACT FIRST NAME not FOUND IN REQUEST.	Warning	10204	DOSE ADMIN PROVIDER ID IS DIFFERENT FROM MESSAGE HEADER PROVIDER ID.	Error
10025	CONTACT RELATIONSHIP not FOUND IN REQUEST.	Error	10205	NEW IMMUNIZATION DOSE LOT NUMBER IS MISSING.	Error
10026	CONTACT STREET ADDRESS LINE 1 not FOUND IN REQUEST.	Error	10206	NEW IMMUNIZATION DOSE LOT NUMBER LENGTH EXCEEDS 16 CHARACTERS.	Error

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
10027	CONTACT CITY not FOUND IN REQUEST.	Error	10207	NEW IMMUNIZATION DOSE LOT EXPIRATION DATE IS MISSING.	Warning
10028	CONTACT STATE not FOUND IN REQUEST.	Error	10208	NEW IMMUNIZATION DOSE LOT EXPIRATION DATE FORMAT IS INVALID.	Warning
10029	CONTACT ZIP not FOUND IN REQUEST.	Error	10209	NEW IMMUNIZATION DOSE LOT MVX CODE IS MISSING.	Warning
10034	CVX CODE not FOUND IN REQUEST.	Error	10210	NEW IMMUNIZATION DOSE LOT MVX CODE IS INVALID.	Warning
10035	CPT CODE not FOUND IN REQUEST.	Error	10211	IMMUNIZATION DOSE COMPLETION STATUS IS INVALID. not SUPPORTED BY NJIIS.	Error
10036	ADMINISTRATION notE not FOUND IN REQUEST.	Warning	10212	IMMUNIZATION DOSE ACTION CODE IS INVALID. not SUPPORTED BY NJIIS.	Warning
10037	ADMINISTERING CLINIC not FOUND IN REQUEST.	Error	10213	IMMUNIZATION DOSE ADMIN ROUTE IS INVALID. not SUPPORTED BY NJIIS.	Warning
10101	NJIIS PROVIDER SEQ not FOUND IN REQUEST.	Error	10214	IMMUNIZATION DOSE ADMIN SITE IS INVALID. not SUPPORTED BY NJIIS.	Warning
10102	NJIIS PROVIDER SEQ SHOULD BE A NUMBER.	Error	10215	IMMUNIZATION DOSE FINANCIAL CODE IS MISSING.	Warning
10103	NJIIS PROVIDER SEQ IS INVALID.	Error	10216	IMMUNIZATION DOSE FINANCIAL CODE IS INVALID. not SUPPORTED BY NJIIS.	Warning
10104	PATIENT LAST NAME not FOUND IN REQUEST.	Error	10217	NJIIS PROVIDER PROFILE SETUP IS INCOMPLETE.	Error
10105	PATIENT FIRST NAME not FOUND IN REQUEST	Error	10218	PATIENT CONSENT IS MISSING. REQUIRED FOR PATIENTS BORN BEFORE 01/01/1998	Error
10106	PATIENT DATE OF BIRTH not FOUND IN REQUEST.	Error	10219	PATIENT BIRTH ORDER IS MISSING.	Warning
10107	PATIENT DATE OF BIRTH FORMAT IS INVALID. CORRECT FORMAT IS YYYYMMDD	Error	10220	PATIENT BIRTH ORDER CANnot BE > 1 WHEN PLURALITY IS N	Warning

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
10108	PATIENT DATE OF BIRTH CAN not BE IN FUTURE DATE.	Error	10221	GIVEN NJIIS PATIENT REGISTRY ID IS INVALID.	Error
10109	PATIENT AGE CAN not BE 120+ YEARS.	Error	10222	PATIENT CONSENT RELATIONSHIP IS MISSING.	Error
10110	PATIENT GENDER not FOUND IN REQUEST	Error	10223	MESSAGE PROCESSING ID IS MISSING	Error
10111	PATIENT GENDER IS INVALID.	Error	10224	MESSAGE PROCESSING ID IS INVALID	Error
10112	PATIENT RACE IDENTIFIER IS INVALID.	Warning	10225	MESSAGE PROCESSING ID IS INVALID. PRODUCTION MESSAGE ON TRAINING SERVER	Warning
10113	PATIENT PRIMARY LANGUAGE IDENTIFIER IS INVALID	Warning	10226	MESSAGE PROCESSING ID IS INVALID. TRAINING MESSAGE ON PRODUCTION SERVER	Error
10114	PATIENT ETHNICITY IS INVALID.	Warning	10227	DOB, GENDER, LAST, FIRST NAME MATCH FAILED.	Error
10115	PATIENT PLURALITY IS INVALID.	Warning	10228	NK1 CONTACT RELATIONSHIP IS MISSING.	Error
10116	PATIENT BIRTH ORDER IS INVALID.	Warning	10229	NK1 CONTACT RELATIONSHIP IS INVALID.	Error
10117	PATIENT CONSENT IS INVALID.	Warning	10230	PATIENT CONSENT DATE CAN not BE IN FUTURE DATE.	Error
10118	PATIENT CONSENT DATE not FOUND.	Error	10231	DOSE ADMIN notES CODE IS INVALID.	Error
10119	PATIENT CONSENT DATE IS INVALID.	Error	10232	DOSE CVX CODE WAS DEACTIVATED BEFORE DOSE ADMIN DATE.	Error
10123	PATIENT ID NUMBER not FOUND.	Warning	10233	IMMUNIZATION DOSE ACTION CODE IS NULL.	Warning
10124	PATIENT ID NUMBER ASSIGNING AUTHORITY NAMESPACE ID not FOUND.	Warning	12000	NJIIS PROVIDER SEQ not FOUND IN REQUEST.	Error
10125	PATIENT ID IDENTIFIER TYPE CODE not FOUND.	Warning	12001	NJIIS PROVIDER SEQ SHOULD BE A NUMBER.	Error
10126	PATIENT ID IDENTIFIER ID NUMBER IS INVALID.	Warning	12002	NJIIS PROVIDER SEQ IS INVALID.	Error

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
10127	PATIENT ID ASSIGNING AUTHORITY IS INVALID. IT SHOULD BE NJIIS WHEN ID TYPE CODE IS SR.	Warning	12003	NJIIS PROVIDER PROFILE SETUP IS INCOMPLETE.	Error
10128	IF PATIENT ID IDENTIFIER TYPE CODE MR, ASSIGNING AUTHORITY SHOULD BE VALID NJIIS PROVIDER ID.	Error	12004	MESSAGE QUERY NAME not FOUND IN REQUEST.	Error
10129	PATIENT ID ASSIGNING AUTHORITY IS not A VALID NJIIS PROVIDER ID.	Error	12005	MESSAGE QUERY NAME IS INVALID. EXPECTED VALUE IS Z34.	Error
10130	PATIENT ID IDENTIFIER TYPE CODE HAS UNSUPPORTED VALUE.	Warning	12006	PATIENT LAST NAME not FOUND IN REQUEST.	Error
10131	PATIENT HOME PHONE TELECOM USE CODE IS MISSING.	Error	12007	PATIENT FIRST NAME not FOUND IN REQUEST.	Error
10132	PATIENT BUSINESS PHONE TELECOM USE CODE IS MISSING.	Error	12008	PATIENT DATE OF BIRTH not FOUND IN REQUEST.	Error
10133	NK1 HOME PHONE TELECOM USE CODE IS MISSING.	Error	12009	PATIENT DATE OF BIRTH FORMAT IS INVALID. CORRECT FORMAT IS YYYYMMDD	Error
10134	NK1 BUSINESS PHONE TELECOM USE CODE IS MISSING.	Error	12010	PATIENT DATE OF BIRTH CAN not IN FUTURE DATE.	Error
10135	PATIENT HOME PHONE TELECOM USE CODE IS INVALID.	Error	12011	PATIENT AGE CAN not 120+ YEARS.	Error
10136	NK1 HOME PHONE TELECOM USE CODE IS INVALID.	Error	12012	PATIENT GENDER not FOUND IN REQUEST.	Error
10137	PATIENT BUSINESS PHONE TELECOM USE CODE IS INVALID.	Error	12013	PATIENT GENDER IS INVALID.	Error
10138	NK1 BUSINESS PHONE TELECOM USE CODE IS INVALID.	Error	12014	PATIENT PLURALITY IS INVALID.	Warning
10139	PATIENT HOME PHONE TELECOM EQUIPMENT TYPE IS MISSING.	Error	12015	PATIENT BIRTH ORDER IS INVALID.	Warning

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
10140	PATIENT BUSINESS PHONE TELECOM EQUIPMENT TYPE IS MISSING.	Error	12016	PATIENT BIRTH ORDER CANnot BE > 1 WHEN PLURALITY IS N.	Warning
10141	NK1 HOME PHONE TELECOM EQUIPMENT TYPE IS MISSING.	Error	12017	PATIENT BIRTH ORDER IS MISSING.	Warning
10142	NK1 BUSINESS PHONE TELECOM EQUIPMENT TYPE IS MISSING.	Error	12018	PATIENT ID NUMBER not FOUND.	Warning
10143	PATIENT HOME PHONE TELECOM EQUIPMENT TYPE IS INVALID.	Error	12019	PATIENT ID NUMBER ASSIGNING AUTHORITY NAMESPACE ID not FOUND.	Warning
10144	NK1 HOME PHONE TELECOM EQUIPMENT TYPE IS INVALID.	Error	12020	PATIENT ID IDENTIFIER TYPE CODE not FOUND.	Warning
10145	PATIENT BUSINESS PHONE TELECOM EQUIPMENT TYPE IS INVALID.	Error	12021	PATIENT ID IDENTIFIER ID NUMBER IS INVALID.	Warning
10146	NK1 BUSINESS PHONE TELECOM EQUIPMENT TYPE IS MISSING.	Error	12022	PATIENT ID ASSIGNING AUTHORITY IS INVALID. IT SHOULD BE NJIIS WHEN ID TYPE CODE IS SR.	Warning
10147	PATIENT HOME EMAIL IS MISSING.	Error	12023	IF PATIENT ID IDENTIFIER TYPE CODE MR, ASSIGNING AUTHORITY SHOULD BE VALID NJIIS PROVIDER ID.	Warning
10148	PATIENT BUSINESS EMAIL IS MISSING.	Error	12024	PATIENT ID ASSIGNING AUTHORITY IS not A VALID NJIIS PROVIDER ID.	Warning
10149	NK1 HOME EMAIL IS MISSING.	Error	12025	PATIENT ID IDENTIFIER TYPE CODE HAS UNSUPPORTED VALUE.	Warning
10150	NK1 BUSINESS EMAIL IS MISSING.	Error	1001	Required segment missing	Error
10151	PATIENT HOME EMAIL FORMAT IS INVALID.	Error	1002	Required group missing	Error
10152	PATIENT BUSINESS EMAIL FORMAT IS INVALID.	Error	1005	Failed to parse embedded message	Error

Error Code	Error Description	Error Type	Err	or de	Error Description	Error Type
10153	NK1 HOME EMAIL FORMAT IS INVALID.	Error	1	006	Required field missing	Error
10154	NK1 BUSINESS EMAIL FORMAT IS INVALID.	Error	1	009	Extra data found after field	Error
10155	PATIENT HOME PHONE AREA CODE IS MISSING.	Error	1	010	Extra data found after composite	Error
10156	PATIENT BUSINESS PHONE AREA CODE IS MISSING.	Error	1	011	Specified field count does not match actual count	Error
10157	NK1 HOME PHONE AREA CODE IS MISSING.	Error	1	012	Field value does not match regular expression	Error
10158	NK1 BUSINESS PHONE AREA CODE IS MISSING.	Error	10	013	Field too long, truncated	Error
10159	PATIENT HOME PHONE AREA CODE IS INVALID.	Error	10	015	Invalid character(s) in field	Error
10160	PATIENT BUSINESS PHONE AREA CODE IS INVALID.	Error	10	016	Not enough messages	Error
10161	NK1 HOME PHONE AREA CODE IS INVALID.	Error	10	017	Too many messages	Error
10162	NK1 BUSINESS PHONE AREA CODE IS INVALID.	Error	10	018	Not enough repeats	Error
10163	PATIENT HOME PHONE LOCAL_NUMBER IS MISSING.	Error	10	019	Too many repeats	Error
10164	PATIENT BUSINESS PHONE LOCAL_NUMBER IS MISSING.	Error	10	020	Repeat separator not defined, only first will be output	Error
10165	NK1 HOME PHONE LOCAL_NUMBER IS MISSING.	Error	10	021	Only one item allowed in choice group	Error
10166	NK1 BUSINESS PHONE LOCAL_NUMBER IS MISSING.	Error	10	022	Extra data found after segment	Error
10167	PATIENT HOME PHONE LOCAL_NUMBER IS INVALID.	Error	10	023	Message Item Match-List failed to match correctly	Error
10168	PATIENT BUSINESS PHONE LOCAL_NUMBER IS INVALID.	Error	1	024	Paired Syntax Rule Violated	Error
10169	NK1 HOME PHONE LOCAL_NUMBER IS INVALID.	Error	10	025	Conditional Syntax Rule Violated	Error

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
10170	NK1 BUSINESS PHONE LOCAL_NUMBER IS INVALID.	Error	1026	Conditional List Syntax Rule Violated	Error
10171	PATIENT ADDRESS TYPE IS MISSING.	Error	1027	Required Syntax Rule Violated	Error
10172	NK1 ADDRESS TYPE IS MISSING.	Error	1028	Exclusive Syntax Rule Violated	Error
10173	PATIENT ADDRESS TYPE IS INVALID.	Warning	1029	Not enough message items in unordered group	Error
10174	NK1 ADDRESS TYPE IS INVALID.	Warning	1030	Too many message items in unordered group	Error
10175	PATIENT ADDRESS LINE1 IS MISSING.	Error	1031	Array has less than minimum items	Error
10176	NK1 ADDRESS LINE1 IS MISSING.	Error	1032	Array has more than maximum items	Error
10177	PATIENT ADDRESS CITY IS MISSING.	Error	1033	Array separator not defined, only the first will be output	Error
10178	NK1 ADDRESS CITY IS MISSING.	Error	1034	Field value violates validation regular expression	Error
10179	PATIENT ADDRESS STATE IS MISSING.	Error	1036	Required According to Situational Rule	Error
10180	NK1 ADDRESS STATE IS MISSING.	Error	1037	Specified field value does	Error
10181	PATIENT ADDRESS STATE IS INVALID.	Error	1038	Field not found in name/value pair segment	Error
10182	NK1 ADDRESS STATE IS INVALID.	Error	1039	No field name provided in name/value pair segment	Error
10183	PATIENT ADDRESS ZIP IS NULL.	Error	1040	Field did not match the 'else' advanced validation rule regular expression	Error
10184	NK1 ADDRESS ZIP IS NULL.	Error	1041	Field did not match regular expression for advanced validation rule	Error
10185	PATIENT ADDRESS ZIP IS INVALID.	Error	1042	Unknown embedded message found	Error
10186	NK1 ADDRESS ZIP IS INVALID.	Error	1045	Character not in allowable range	Error
10187	NK1 NAME TYPE CODE IS MISSING.	Warning	1051	Specified number of repeats in repeat counter	Error

Error Code	Error Description	Error Type	Error Code	Error Description	Error Type
				does not match actual number of repeats	
10188	NK1 NAME TYPE CODE IS INVALID.	Warning	1052	Repeat counter value was not an integer	Error
10189	NK1 LAST NAME IS MISSING.	Error			

# 9.1.35 CDC-DEFINED NIP001 – IMMUNIZATION INFORMATION SOURCE

This code is used in RXA-9.

Value	Description
00	New immunization record
01	Historical information - source unspecified
02	Historical information - from other provider
03	Historical information - from parent's written record
04	Historical information - from parent's recall
05	Historical information - from other registry
06	Historical information - from birth certificate
07	Historical information - from school record
08	Historical information - from public agency

# 9.1.36 CDC-DEFINED NIP002 – SUBSTANCE REFUSAL REASON

This code is used in the RXA-18

Value	Description	Comment
00	Parental decision	

Value	Description	Comment
01	Religious exemption	
02	Other	Must add text component of the CE field with description
03	Patient decision	

# 9.1.37 CDC-DEFINED NIP003 – OBSERVATION IDENTIFIERS

This code is used in OBX-3.

LOINC Code (Used in OBX-3)	Description	Correspon ding Data Type (Used in OBX-2)	Example Response or Code Table to use (Used in OBX-5)
64994-7	Vaccine funding program eligibility category	CE	HL70064 – Financial Class
30963-3	Immunization Funding Source	CE	PHVS_ImmunizationFundingSource _IIS
59784-9	Disease with presumed immunity	CE	PHVS_EvidenceOfImmunity_IIS
30945-0	Vaccination contraindication/precaution	CE	PHVS_VaccinationContraindication_ IIS
30946-8	Vaccination contraindication/precaution effective date	DT	YYYYMMDD
30944-3	Vaccination temporary contraindication/precaution expiration date	DT	YYYYMMDD
31044-1	Reaction	CE	PHVS_VaccinationReaction_IIS

# 9.1.38 CDC-DEFINED NIP003 – OBSERVATION IDENTIFIERS – REASON CODE RECOMMENDATIONS TABLE (OBX-3 - 30982-3)

This code is used in OBX-3.

Value	Description
ABOVE_AGE_MAY_COMPLETE	Above recommended age but may complete series.
BELOW_MINIMUM_AGE_HIGH_RISK_SERIES	Below minimum age for this high-risk series.
CLINICAL_PATIENT_DISCRETION	Clinical/Patient Discretion
COMPLETE	Completed vaccine series.
COMPLETE_HIGH_RISK	Series complete unless high risk.
DISEASE_DOCUMENTED	Disease Documented.
DUE_IN_FUTURE	Due in the Future.
DUE_NOW	Due Now.
HIGH_RISK	Recommended for high-risk groups.
NOT_SPECIFIED	Not Specified.
	In addition to the vaccine product recommended, there are other vaccine products possible.
PROOF_OF_IMMUNITY	Proof of Immunity.
SUPPLEMENTAL_TEXT	Supplemental Text provided in "original Text" attribute
TOO_OLD	Vaccine not recommended at this age.
TOO_OLD_HIGH_RISK	Vaccine not generally recommended at this age, unless high risk.
TOO_OLD_TO_INITIATE	Vaccine not recommended at this age; too old to initiate.
VAC_GROUP_NO_LONGER_REC	This vaccine group is no longer recommended.
NOT_SUPPORTED	The shots in the recommendation group were not evaluated.

# 9.1.39 CDC-DEFINED NIP003 – OBSERVATION IDENTIFIERS – REASON CODE EVALUATIONS (OBX-3 - 30982-3)

This code is used in OBX-3

Code Value	Description
ABOVE_MAX_AGE_VACCINE	This immunization event occurred after the specifiedmaximum age for this vaccine.
ABOVE_REC_AGE	The vaccine is administered above recommended age.
ABOVE_REC_AGE_SERIES	The vaccine is administered above the recommended age for this series.
BELOW_MINIMUM_AGE_FINAL_DOSE	This patient was below the minimum age for the final dose.
BELOW_MINIMUM_AGE_SERIES	This patient was below the minimum age for this dose.
BELOW_MINIMUM_AGE_VACCI NE	This immunization event occurred prior to the specified minimum age for this vaccine.
BELOW_MINIMUM_INTERVAL	This immunization event occurred prior to the specifiedminimum interval for this dose.
BELOW_MIN_INTERVAL_PCV_PPSV	This immunization event occurred prior to the specified minimum interval between PCV and PPSV doses.
BELOW_REC_AGE_SERIES	The vaccine is administered below the recommended age forthis series.
BOOSTER_ONLY	The vaccine administered is invalid as a primary shot; validonly as a booster dose.
D_AND_T_INVALID/P_VALID	The diphtheria and tetanus components are invalid due tominimum interval violation, pertussis component valid.
DISEASE_DOCUMENTED	Disease Documented.
DUPLICATE_SAME_DAY	This immunization event is a duplicate.
EXTRA_DOSE	The vaccine administered is an extra dose.
INSUFFICIENT_ANTIGEN	This vaccine contained insufficient antigen for the patient's age.
INVALID_AGE	Invalid Age.
MISSING_ANTIGEN	The vaccine administered is missing an antigen.

Code Value	Description
OUTSIDE_SEASON	This immunization event occurred was administered outside of the vaccine season.
OUTSIDE_FLU_VAC_SEASON	This immunization was administered outside of influenzavaccine season.
OUTSIDE_SERIES	Shot Administered Outside of Defined Routine Series
PRIOR_TO_DOB	This immunization event was recorded prior to the date of birth.
PROOF_OF_IMMUNITY	Proof of Immunity.
SELECT_ADJUVANT_PRODUCT_INTERVAL	This immunization event occurred prior to the specified minimum interval between adjuvant products.
SUPPLEMENTAL_TEXT	Supplemental text is available for this immunization event. (Note: Supplemental text is populated in the "originalText" attribute)
TOO_EARLY_LIVE_VIRUS	This immunization event occurred prior to the specified minimum interval for a live vaccine dose.
VACCINE_NOT_MEMBER_OF_SERIES	The vaccine is not a part of this series; therefore, it will not be counted towards completion of this series.
WAITING_FOR_EVALUATION	Waiting for Evaluation
WRONG_GENDER	Wrong Gender
VACCINE_NOT_SUPPORTED	The vaccine administered is not supported by the ICE service.
VACCINE_NOT_LICENSED_FOR_MALES	The vaccine administered is not licensed for males.
VACCINE_NOT_ALLOWED	The vaccine administered is not allowed.
VACCINE_NOT_ALLOWED_FOR_THIS_DOSE	The vaccine administered is not allowed for this dose.
VACCINE_NOT_COUNTED_BASED_ON_ MOST_RECENT_VACCINE_GIVEN	The vaccine will not be counted based on the most recent vaccine given. (Most recent vaccine given determines which series is applied.)
VACCINE_NOT_PART_OF_THIS_SERIES	The vaccine is not a part of this series; therefore, it will not be counted towards completion of this series.

# 9.1.40 CDC-DEFINED NIP003 – OBSERVATION IDENTIFIERS – REASON CODE IMMUNIZATION SERIES NAME (OBX-3 - 59780-7)

This code is used in OBX-3.

Code Value	Description
100	Hep B Vaccine Group
810	Hep A Vaccine Group
200	DTP Vaccine Group
300	Hib Vaccine Group
400	Polio Vaccine Group
500	MMR Vaccine Group
600	Varicella Vaccine Group
620	Zoster Vaccine Group
750	Pneumococcal Vaccine Group
800	Influenza
820	Rotavirus Vaccine Group
830	Meningococcal Vaccine Group
835	Meningococcal B Vaccine Group
840	Human Papillomavirus Vaccine Group
890	H1N1 Influenza
999	"Other" Vaccine Group
850	COVID Vaccine Group

# 9.1.41 CDC-DEFINED NIP003 – OBSERVATION IDENTIFIERS – REASON CODE STATUS IN IMMUNIZATION SERIES TABLE (OBX-3 - 59783-1)

This code is used in OBX-3.

Code Value	Description
RECOMMENDED	Recommended
CONDITIONAL	Conditionally Recommended
FUTURE_RECOMMENDED	Recommended in the Future
NOT_RECOMMENDED	Not Recommended
RECOMMENDATION_NOT_AVAILABLE	Recommendation Not Available ( <i>e.g.</i> - ICE did not forecast for unsupported vaccine)

# 9.1.42 VALUE SET NAME – VACCINATION CONTRAINDICATIONS

These codes are used in OBX-5.

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
VXC30	allergy (anaphylactic) to proteins of rodent or neural origin	allergy (anaphylactic) to proteins of rodent or neural origin	CDCPHINVS
VXC17	allergy (anaphylactic) to 2- phenoxyethanol	allergy (anaphylactic) to 2- phenoxyethanol	CDCPHINVS
402306009	Allergy to aluminum (disorder)	allergy (anaphylactic) to alum	SCT
VXC18	allergy to baker's yeast (anaphylactic)	allergy to baker's yeast (anaphylactic)	CDCPHINVS
91930004	Allergy to eggs (disorder)	allergy to egg ingestion (anaphylactic)	SCT
VXC20	allergy to previous dose of this vaccine or to any of its unlisted vaccine components (anaphylactic)	allergy to previous dose of this vaccine or to any of its unlisted vaccine components (anaphylactic)	CDCPHINVS
VXC19	allergy to thimerosal (anaphylactic)	allergy to thimerosal (anaphylactic)	CDCPHINVS

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
27624003	Chronic disease (disorder)	chronic illness (e.g., chronic gastrointestinal disease)	SCT
VXC24	current acute illness, moderate to severe (with or without fever) (e.g., diarrhea, otitis media, vomiting)	current acute illness, moderate to severe (with or without fever) (e.g., diarrhea, otitis media, vomiting)	CDCPHINVS
VXC23	current fever with moderate-to- severe illness	current fever with moderate-to- severe illness	CDCPHINVS
VXC22	encephalopathy within 7 days of previous dose of DTP or DTaP	encephalopathy within 7 days of previous dose of DTP or DTaP	CDCPHINVS
294847001	Gelatin allergy (disorder)	allergy to gelatin (anaphylactic)	SCT
161461006	History of - purpura (situation)	thrombocytopenic purpura (history)	SCT
VXC25	History of Arthus hypersensitivity reaction to a tetanus-containing vaccine administered < 10 yrs previously	History of Arthus hypersensitivity reaction to a tetanus- containing vaccine administered < 10 yrs previously	CDCPHINVS
VXC27	immunodeficiency due to any cause, including HIV (hematologic and solid tumors, congenital immunodeficiency, long- term immunosuppressive therapy, including steroids)	immunodeficiency due to any cause, including HIV (hematologic and solid tumors, congenital immunodeficiency, long-term immunosuppressive therapy, including steroids)	CDCPHINVS
300916003	Latex allergy (disorder)	allergy (anaphylactic) to latex	SCT
294468006	Neomycin allergy (disorder)	allergy to neomycin (anaphylactic)	SCT
77386006	Patient currently pregnant (finding)	pregnancy (in recipient)	SCT
294530006	Polymyxin B allergy (disorder)	allergy (anaphylactic) to polymycin B	SCT
VXC21	Previous history of intussusception	Previous history of intussusception	CDCPHINVS
294466005	Streptomycin allergy (disorder)	allergy to streptomycin (anaphylactic)	SCT

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
302215000	Thrombocytopenic disorder (disorder)	thrombocytopenia	SCT
VXC26	underlying unstable, evolving neurologic disorders, (including seizure disorders, cerebral palsy, and developmental delay)	underlying unstable, evolving neurologic disorders, (including seizure disorders, cerebral palsy, and developmental delay)	CDCPHINVS

# 9.1.43 VALUE SET NAME – HISTORY OF DISEASE AS EVIDENCE OF IMMUNITY

These codes are used in OBX-5.

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
398102009	Acute poliomyelitis (disorder)	History of polio infection.	SCT
409498004	Anthrax (disorder)	History of anthrax infection.	SCT
397428000	Diphtheria (disorder)	History of diphteria infection.	SCT
18624000	Disease due to Rotavirus (disorder)	History of rotavirus infection.	SCT
91428005	Haemophilus influenzae infection (disorder)	History of HIB infection.	SCT
240532009	Human papilloma virus infection (disorder)	History of HPV infection.	SCT
6142004	Influenza (disorder)	History of influenza infection.	SCT
52947006	Japanese encephalitis virus disease (disorder)	History of Japanese encephalitis infection.	SCT
14189004	Measles (disorder)	History of measles infection.	SCT
23511006	Meningococcal infectious disease (disorder)	History of meningococcal infection.	SCT

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
36989005	Mumps (disorder)	History of mumps infection.	SCT
27836007	Pertussis (disorder)	History of pertussis infection.	SCT
16814004	Pneumococcal infectious disease (disorder)	History of pneumococcal infection.	SCT
14168008	Rabies (disorder)	History of rabies infection.	SCT
36653000	Rubella (disorder)	History of rubella infection.	SCT
76902006	Tetanus (disorder)	History of tetanus infection.	SCT
66071002	Type B viral hepatitis (disorder)	History of Hepatitis B infection.	SCT
4834000	Typhoid fever (disorder)	History of typhoid infection.	SCT
111852003	Vaccinia (disorder)	History of vaccinia infection.	SCT
38907003	Varicella (disorder)	History of Varicella infection.	SCT
40468003	Viral hepatitis, type A (disorder)	History of Hepatitis A infection.	SCT
16541001	Yellow fever (disorder)	History of yellow fever infection.	SCT

# 9.1.44 VALUE SET NAME – VACCINATION REACTION

These codes are used in OBX-5.

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
39579001	Anaphylaxis (disorder)	Anaphylaxis	SCT

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
81308009	Disorder of brain (disorder)	Encephalopathy	SCT
VXC9	Persistent, inconsolable crying lasting > 3 hours within 48 hours of dose	persistent, inconsolable crying lasting > 3 hours within 48 hours of dose	CDCPHINVS
VXC10	Collapse or shock-like state within 48 hours of dose	collapse or shock-like state within 48 hours of dose	CDCPHINVS
VXC11	Convulsions (fits, seizures) within 72 hours of dose	convulsions (fits, seizures) within 72 hours of dose	CDCPHINVS
VXC12	Fever of >40.5C (105F) within 48 hours of dose	fever of >40.5C (105F) within 48 hours of dose	CDCPHINVS
VXC13	Guillain-Barre syndrome (GBS) within 6 weeks of dose	Guillain-Barre syndrome (GBS) within 6 weeks of dose	CDCPHINVS
VXC14	Rash within 14 days of dose	Rash within 14 days of dose	CDCPHINVS
VXC15	Intussusception within 30 days of dose	Intussusception within 30 days of dose	CDCPHINVS

# 9.1.45 VALUE SET NAME – FUNDING ELIGIBILITY OBSERVATION METHOD

These codes are used in OBX-17 for 64994-7.

Concept Code	Concept Name	HL7 Table 0396 Code
VXC40	Eligibility captured at the immunization level	CDCPHINVS
VXC41	Eligibility captured at the visit level	CDCPHINVS

## 9.1.46 VALUE SET NAME – IMMUNIZATION FUNDING SOURCE

These codes are used in OBX-5 for 30963-3.

Concept Code	Concept Name	Definition	HL7 Table 0396 Code
РНС70	Private	Vaccine stock used was privately funded. (Financial codes: V01 - Not VFC eligible, NJIIS01 - Not Available)	CDCPHINVS
VXC51	Public VFC	Vaccine stock used was publicly funded by the VFC program (Financial codes: V02 - VFC eligible-Medicaid/Medicaid Managed Care, V03 - VFC eligible- Uninsured, V04 - VFC eligible-American Indian/Alaskan Native, V05 - VFC eligible-Federally Qualified Health Center Patient (under-insured), V07 - VFC eligibility-Local-specific eligibility)	CDCPHINVS
VXC52	Public non-VFC	Vaccine stock used was publicly funded by a non-VFC program (Financial codes: V23 - 317 Funds, V25 - STATE FUNDED PROGRAM, V98 - FEDERAL NOT VFC, NJIISO2 - Grantee-State)	CDCPHINVS

# 10 APPENDIX B: UNSOLICITED VACCINE RECORD UPDATE (VXU/ACK)

## **10.1 EXAMPLE MESSAGES**

# 10.1.1 EXAMPLE 1 (ADD DOSE VFC PATIENT)

This example VXU message is for a patient (existing in NJIIS) who was born on April 1, 2012 and not part of a multiple birth. This message includes three reported immunizations, one historical (Hep B) and two new (Varicella and MMR). The patient has Medicaid/Medicaid- Managed Care and is eligible for a VFC Lot for the two newly administered immunizations.

#### VXU MESSAGE:

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||VXU^V04^VXU\_V04|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z22^CDCPHINVS|414|NJDOH PID|1||11030547^^^NJIIS^SR||VXUEXAMPLEONEFAMILYNAME^VXUEXAMPLEONEGIVENNAME^VXUEX AMPLEONEMIDDLENAME^^^^L|MOTHERSMAIDENFAMILYNAME^MOTHERSMAIDENGIVENNAME^MOT HERSMAIDENMIDDLENAME^^^^M|20120401|M||2106-3^WHITE^CDCREC|25 S STOCKTON ST^^TRENTON^NJ^08608^H||^PRN^PH^^123^4567890|^WPN^CP^^321^4567890|ENG^ENGLISH^ HL70296||||||2186-5^NOT HISPANIC^CDCREC||N PD1||||||02^REMINDER/RECALL - ANY METHOD^HL70215 NK1|1|KINFAMILYNAME^KINGIVENNAME^KINMIDDLENAME^^^L|MTH^MOTHER^HL70063|25 S STOCKTON ST^^TRENTON^NJ^08608^H|^PRN^CP^^123^4567890 ORC|RE|123456789^NJDOH|123456^414||||||123123^ENTEREDBYFAMILYNAME^ENTEREDBYGIVEN NAME^ENTEREDBYMIDDLENAME^^^^L|1234512345^ORDERINGPROVIDERFAMILYNAME^ORDERIN GPROVIDERGIVENNAME^ORDERINGPROVIDERMIDDLENAME^^^^NPI^L^^^NPI||||414^FACILITY^HL7 0362

RXA|0|1|20120402|20120402|08^HEPATITIS B VACCINE, PEDIATRIC OR PEDIATRIC/ADOLESCENT DOSAGE^CVX|0.5|ML^MILLILITER^UCUM||01^HISTORICAL INFORMATION - SOURCE

UNSPECIFIED^NIP001||^^^|||C5779AA|20221002|SKB^GLAXOSMITHKLINE^MVX|||CP|A|||||| RXR|IM^INTRAMUSCULAR^HL70162|LD^LEFT DELTOID^HL70163

ORC|RE|123456780^NJDOH|123456^414|||||123123^ENTEREDBYFAMILYNAME^ENTEREDBYGIVEN NAME^ENTEREDBYMIDDLENAME^^^^^L|1234512345^ORDERINGPROVIDERFAMILYNAME^ORDERIN GPROVIDERGIVENNAME^ORDERINGPROVIDERMIDDLENAME^^^^NPI^L^^^NPI||||414^FACILITY^HL7 0362

RXA|0|1|20130401|20130401|21^VARICELLA VIRUS

VACCINE^CVX | 0.5 | ML^MILLILITER^UCUM | | 00^NEW IMMUNIZATION

RECORD^NIP001|123456^PROVIDERFAMILYNAME^PROVIDERGIVENNAME^PROVIDERMIDDLENAME^^^ ^^^L|^^^414||||J008521|20201002|MSD^MERCK AND CO., INC.^MVX|||CP|A||||||

RXR | IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163

OBX|1|CE|64994-7^VACCINE FUND PGM ELIG CAT^LN|1|V02^VFC ELIGIBLE-MEDICAID, MEDICAID MANAGED CARE, AND NJ FAMILYCARE PLAN A^HL70064||||||F|||20130401|||VXC40^PER IMMUNIZATION^CDCPHINVS

ORC|RE|123456781^NJDOH|123456^414||||||123123^ENTEREDBYFAMILYNAME^ENTEREDBYGIVEN NAME^ENTEREDBYMIDDLENAME^^^^^L|1234512345^ORDERINGPROVIDERFAMILYNAME^ORDERIN GPROVIDERGIVENNAME^ORDERINGPROVIDERMIDDLENAME^^^^NPI^L^^^NPI||||414^FACILITY^HL7 0362

RXA|0|1|20130401|20130401|03^MEASLES, MUMPS AND RUBELLA VIRUS VACCINE^CVX|0.5|ML^MILLILITER^UCUM||00^NEW IMMUNIZATION

RECORD^NIP001|123456^PROVIDERFAMILYNAME^PROVIDEGIVENNAME^PROVIDEMIDDLENAME^^^^^ ^L|^^^414||||H012133|20201002|MSD^MERCK AND CO., INC.^MVX|||CP|A||||||

RXR | IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163

OBX|1|CE|64994-7^VACCINE FUND PGM ELIG CAT^LN|1|V02^VFC ELIGIBLE-MEDICAID, MEDICAID MANAGED CARE, AND NJ FAMILYCARE PLAN A^HL70064|||||F|||20130401|||VXC40^ ELIGIBILITY CAPTURED AT THE IMMUNIZATION LEVEL^CDCPHINVS

## ACK MESSAGE:

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520142742-0400||ACK^V04^ACK|20220427104625-11030461|T|2.5.1|1||NE|NE|||||Z23^CDCPHINVS MSA|AA|20220427104625-11030461

ERR|||0^Message accepted^HL70357|I||NJIIS\_REGISTRY\_ID|11030547

# 10.1.2 EXAMPLE 2 (ADD DOSE AND ADD 317 PATIENT)

This example VXU message is for a patient who was born on December 31, 1997 and is a twin (i.e., a part of a multiple birth). This message includes one newly reported immunization (HPV). This patient is not an existing patient in NJIIS. The patient has Medicaid/Medicaid-Managed Care and is eligible for a federally funded 317 Lot for the newly administered immunization.

#### VXU MESSAGE:

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||VXU^V04^VXU\_V04|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z22^CDCPHINVS|414|NJDOH PID|1|12345^^^414^MR|VXUEXAMPLETWOFAMILYNAME^VXUEXAMPLETWOGIVENNAME^VXUEXA MPLETWOMIDDLENAME^^^^L|MOTHERSMAIDENFAMILYNAME^MOTHERSMAIDENGIVENNAME^MOTH ERSMAIDENMIDDLENAME^^^^M|19971231|M||2106-3^WHITE^CDCREC|25 S STOCKTON ST^^TRENTON^NJ^08608^^H||^PRN^PH^^123^4567890|^WPN^CP^^321^4567890|ENG^ENGLISH^ HL70296||||||2186-5^NON HISPANIC^CDCREC||Y|1 PD1||||||||02^REMINDER/RECALL - ANY METHOD^HL70215|N|20090105 NK1|1|KINFAMILYNAME^KINGIVENNAME^KINMIDDLENAME^^^^L|MTH^MOTHER^HL70063|25 S STOCKTON ST^^TRENTON^NJ^08608^^H|^PRN^CP^^^123^4567890 ORC|RE|123456780^NJDOH|123456^414|||||123123^ENTEREDBYFAMILYNAME^ENTEREDBYGIVEN NAME^ENTEREDBYMIDDLENAME^^^^^L|1234512345^ORDERINGPROVIDERFAMILYNAME^ORDERIN GPROVIDERGIVENNAME^ORDERINGPROVIDERMIDDLENAME^^^^NPI^L^^^NPI ||||414^FACILITY^HL7 0362 RXA|0|1|20090105|20090105|62^HUMAN PAPILLOMA VIRUS VACCINE, QUADRIVALENT^CVX | 0.5 | ML^MILLILITER^UCUM | | 00^NEW IMMUNIZATION RECORD^NIP001|123456^PROVIDERFAMILYNAME^PROVIDERGIVENNAME^PROVIDERMIDDLENAME^^^ ^^^L|^^^414||||K009482|20171002|MSD^MERCK AND CO., INC.^MVX|||CP|A|||||| RXR | IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163 OBX11CE164994-7^VACCINE FUND PGM ELIG CAT^LN11V23^317 ELIGIBLE^HL70064|||||F|||20130401|||VXC40^ELIGIBILITY CAPTURED AT THE IMMUNIZATION

LEVEL^CDCPHINVS

#### ACK MESSAGE

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520142816-0400||ACK^V04^ACK|20220427104625-11030461|T|2.5.1|1||NE|NE|||||Z23^CDCPHINVS MSA|AA|20220427104625-11030461 ERR|||0^Message accepted^HL70357|I||NJIIS\_REGISTRY\_ID|11030548

# 10.1.3 EXAMPLE 3 (ADD EVIDENCE OF IMMUNITY OBSERVATION AND NO DOSE)

This example VXU message is for a patient who was born on September 29, 2010 and not part of a multiple birth. This message is an example of disease with presumed immunity; therefore, the vaccine was not administered.

#### VXU MESSAGE:

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||VXU^V04^VXU\_V04|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z22^CDCPHINVS|414|NJDOH PID|1||67890^^^414^MR||VXUEXAMPLETHREEFAMILYNAME^VXUEXAMPLETHREEGIVENNAME^VXUE XAMPLETHREEMIDDLENAME^^^^L|MOTHERSMAIDENFAMILYNAME^MOTHERSMAIDENGIVENNAME^M OTHERSMAIDENMIDDLENAME^^^^M|20100929|M||2106-3^WHITE^CDCREC|25 S STOCKTON ST^^TRENTON^NJ^08608^H||^PRN^PH^^123^4567890|^WPN^CP^^321^4567890|ENG^ENGLISH^ HL70296||||||2186-5^NOT HISPANIC^CDCREC||N NK1|1|KINFAMILYNAME^KINGIVENNAME^KINMIDDLENAME^^^L|MTH^MOTHER^HL70063|25 S STOCKTON ST^^TRENTON^NJ^08608^H|^PRN^CP^^123^4567890 ORC|RE|9999^NJDOH|123456^414||||||123123^ENTEREDBYFAMILYNAME^ENTEREDBYGIVENNAME ^ENTEREDBYMIDDLENAME^^^^L|||||414^FACILITY^HL70362 RXA|0|1|20120105|20120105|998^NO VACCINE ADMINISTERED^CVX|999|||||||||NA|A|||||| OBX|1|CE|59784-9^Disease with presumed immunity^LN|1|398102009^Acute poliomyelitis (disorder)^SCT|||||F||20120105

#### ACK MESSAGE:

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520142849-0400||ACK^V04^ACK|20220427104625-11030461|T|2.5.1|1||NE|NE|||||Z23^CDCPHINVS MSA|AA|20220427104625-11030461 ERR|||0^Message accepted^HL70357|I||NJIIS\_REGISTRY\_ID|11030541

# 11 APPENDIX C: QUERY FOR VACCINATION RECORD (QBP/RSP)

#### **11.1 EXAMPLE MESSAGES**

## 11.1.1 EXAMPLE 1 (SINGLE PATIENT MATCH)

This example QBP message is for a patient who was born on December 31, 2009. The provider requested the return response limited to one record. The NJIIS IMS responded with one exact match found details for the patient in QAK-2 segment as OK, along with the available immunization details including ORC, RXA and RXR segments.

#### **QBP MESSAGE:**

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||QBP^Q11^QBP\_Q11|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z34^CDCPHINVS|414|NJDOH QPD|Z34^Request Immunization History^CDCPHINVS|123456789|67890^^414^MR|QBPEXAMPLEONEFAMILYNAME^QBPEXAMPLEONE GIVENNAME^QBPEXAMPLEONEMIDDLENAME^^^L||20091231|M|25 S STOCKTON ST^^TRENTON^NJ^08608^H RCP||10^RD^HL70126

#### **RSP MESSAGE:**

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520141805-0400||RSP^K11^RSP\_K11|20220427104625-11030461|T|2.5.1|||NE|NE|||||Z32^CDCPHINVS MSA|AA|20220427104625-11030461 QAK | 123456789 | OK | Z34 ^ Request Immunization History ^ CDCPHINVS QPD Z34^Request Immunization History^CDCPHINVS|123456789|67890^^^414^MR|QBPEXAMPLEONEFAMILYNAME^QBPEXAMPLEONE GIVENNAME^QBPEXAMPLEONEMIDDLENAME^^^^L|20091231|M|25 S STOCKTON ST^^TRENTON^NJ^08608^^H PID|1|11030545^^^NJIIS^SR|QBPEXAMPLEONEFAMILYNAME^QBPEXAMPLEONEGIVENNAME^QBPEX AMPLEONEMIDDLENAME^^^^L|MOTHERSMAIDENFAMILYNAME^^^^^M|20091231|M||2106-3^WHITE^HL70005 | 25 S STOCKTON ST^^TRENTON^NJ^08608^^H||~^PRN^PH^^^123^4567890|~^WPN^CP^^^321^4567890|ENG^ENGLIS H^HL70296||||||2186-5^NON HISPANIC^HL70189 ORC|RE||100957994^NJIIS RXA|0|1|20130401||03^Measles, mumps and rubella^CVX|999|||00^Administered^NIP001|||||H012133|20201031|MSD^MERCK AND CO., INC.^MVX111CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163 OBX|||30963-3|||||||

## 11.1.2 EXAMPLE 2 (PATIENT MATCH FOUND WITH NO DOSES)

This example QBP message is for a patient who was born on September 29, 2010. The provider requested the return response limited to one record. The NJIIS IMS responded with one exact match found details for the patient in QAK-2 segment as OK, and no dose information is displayed.

#### **QBP MESSAGE:**

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||QBP^Q11^QBP\_Q11|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z34^CDCPHINVS|414|NJDOH QPD|Z34^Request Immunization History^CDCPHINVS|123456789|67890^^^414^MR|QBPEXAMPLETWOFAMILYNAME^QBPEXAMPLETW OGIVENNAME^QBPEXAMPLETWOMIDDLENAME^^^L||20100929|M|25 S STOCKTON ST^^TRENTON^NJ^08608^H RCP||10^RD^HL70126

#### **RSP MESSAGE:**

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520141930-0400||RSP^K11^RSP\_K11|20220427104625-11030461|T|2.5.1|||NE|NE|||||Z32^CDCPHINVS MSA|AA|20220427104625-11030461 ERR|||0^Message accepted^HL70357||||Immunization history is not available. QAK|123456789|OK|Z34^Request Immunization History^CDCPHINVS QPD|Z34^Request Immunization History^CDCPHINVS|123456789|67890^^414^MR|QBPEXAMPLETWOFAMILYNAME^QBPEXAMPLETW
OGIVENNAME^QBPEXAMPLETWOMIDDLENAME^^^^L|20100929|M|25 S STOCKTON ST^^TRENTON^NJ^08608^^H

PID|1||11030542^^^NJIIS^SR||QBPEXAMPLETWOFAMILYNAME^QBPEXAMPLETWOGIVENNAME^QBPE XAMPLETWOMIDDLENAME^^^L|MOTHERSMAIDENFAMILYNAME^^^^M|20100929|M||2106-3^WHITE^HL70005|25 S STOCKTON

ST^^TRENTON^NJ^08608^^H||~^PRN^PH^^123^4567890|~^WPN^CP^^321^4567890|ENG^ENGLIS H^HL70296||||||2186-5^NON HISPANIC^HL70189

## 11.1.3 EXAMPLE 3 (NO PATIENT MATCH FOUND)

This example QBP message is for a patient who was born on September 29, 2012. The provider requested the return response limited to one record. The NJIIS IMS responded with no match details for the patient in QAK-2 segment as NF.

#### **QBP MESSAGE:**

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||QBP^Q11^QBP\_Q11|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z34^CDCPHINVS|414|NJDOH QPD|Z34^Request Immunization History^CDCPHINVS|123456789|67890^^414^MR|QBPEXAMPLETHREEFAMILYNAME^QBPEXAMPLET HREEGIVENNAME^QBPEXAMPLETHREEMIDDLENAME^^^L|20120929|M|25 S STOCKTON ST^^TRENTON^NJ^08608^H RCP|I|10^RD^HL70126

#### **RSP MESSAGE:**

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520142059-0400||RSP^K11^RSP\_K11|20220427104625-11030461|T|2.5.1|||NE|NE|||||Z33^CDCPHINVS MSA|AA|20220427104625-11030461 QAK|123456789|NF|Z34^Request Immunization History^CDCPHINVS QPD|Z34^Request Immunization History^CDCPHINVS|123456789|67890^^414^MR|QBPEXAMPLETHREEFAMILYNAME^QBPEXAMPLET HREEGIVENNAME^QBPEXAMPLETHREEMIDDLENAME^^^L|20120929|M|25 S STOCKTON ST^^TRENTON^NJ^08608^H

## 11.1.4 EXAMPLE 4 (MULTIPLE MATCH FOUND)

This example QBP message is for a patient who was born on September 29, 2013. The provider requested the return response limited to two records. The NJIIS IMS responded with multiple matches found for the patient in QAK-2 segment as TM. Two patients are listed with PID segments, with same gender and date of birth, and their unique NJIIS ID's 11030543 and 11030544.

#### **QBP** MESSAGE

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||QBP^Q11^QBP\_Q11|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z34^CDCPHINVS|414|NJDOH

QPD|Z34^Request Immunization History^CDCPHINVS|123456789|67890^^^414^MR|QBPEXAMPLEFOURFAMILYNAME^QBPEXAMPLEFO URGIVENNAME^QBPEXAMPLEFOURMIDDLENAME^^^^L|20130929|M|25 S STOCKTON ST^^TRENTON^NJ^08608^H RCP|I|2^RD^HL70126

### **RSP MESSAGE**

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520142126-0400||RSP^K11^RSP\_K11|20220427104625-11030461|T|2.5.1||NE|NE|||||Z31^CDCPHINVS MSA|AA|20220427104625-11030461 QAK|123456789|TM|Z34^Request Immunization History^CDCPHINVS QPD|Z34^Request Immunization History^CDCPHINVS|123456789|67890^^^414^MR|QBPEXAMPLEFOURFAMILYNAME^QBPEXAMPLEFO URGIVENNAME^QBPEXAMPLEFOURMIDDLENAME^^^L|20130929|M|25 S STOCKTON ST^TRENTON^NJ^08608^H PID|1||11030543^^^NJIIS^SR||QBPEXAMPLEFOURFAMILYNAME^QBPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURMIDDLENAME^^^L|MOTHERSMAIDENFAMILYNAME^^AMPLEFOURGIVENNAME^QBP EXAMPLEFOURMIDDLENAME^^^L|MOTHERSMAIDENFAMILYNAME^^A321^4567890|ENG^ENGLIS H^HL70296||||||2186-5^NON HISPANIC^HL70189 PID|2||11030544^^^NJIIS^SR||QBPEXAMPLEFOURFAMILYNAME^QBPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURMIDDLENAME^^^L|MOTHERSMAIDENFAMILYNAME^QBPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURMIDDLENAME^^AAL|MOTHERSMAIDENFAMILYNAME^QBPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURGIVENNAME^QBPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURGIVENNAME^QBPEXAMPLEFOURFAMILYNAME^A2BPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURMIDDLENAME^^AAL|MOTHERSMAIDENFAMILYNAME^ABPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURGIVENNAME^QBPEXAMPLEFOURFAMILYNAME^ABPEXAMPLEFOURGIVENNAME^QBP EXAMPLEFOURMIDDLENAME^^AAL|MOTHERSMAIDENFAMILYNAME^AAAAMPLEFOURGIVENNAME^QBP

3^WHITE^HL70005|25 S STOCKTON

ST^^TRENTON^NJ^08608^^H||~^PRN^PH^^123^4567890|~^WPN^CP^^321^4567890|ENG^ENGLIS H^HL70296||||||2186-5^NON HISPANIC^HL70189

## 11.1.5 EXAMPLE 5 (EVALUATED HISTORY AND FORECAST MESSAGE)

This example QBP message is for a patient who was born on December 31, 2009. The provider requested complete evaluated history and forecasting details for this patient. NJIIS responded with one exact match found details for the patient, which included the complete evaluated history and forecasting details.

#### **QBP MESSAGE:**

MSH|^~\&|NJIIS|414|NJIIS|NJDOH|20220427104625-0500||QBP^Q11^QBP\_Q11|20220427104625-11030461|T|2.5.1|||ER|AL|||||Z44^CDCPHINVS|414|NJDOH QPD|Z44^Request Immunization History^CDCPHINVS|123456789|67890^^414^MR|QBPEXAMPLEFIVEFAMILYNAME^QBPEXAMPLEFIVE GIVENNAME^QBPEXAMPLEFIVEMIDDLENAME^^^L||20091231|M|25 S STOCKTON ST^^TRENTON^NJ^08608^H RCP|I|10^RD^HL70126

#### **RSP MESSAGE:**

MSH|^~\&|NJIIS|NJDOH|NJIIS|414|20220520142529-0400||RSP^K11^RSP\_K11|20220427104625-11030461|T|2.5.1|||NE|NE|||||Z42^CDCPHINVS

MSA|AA|20220427104625-11030461

QAK | 123456789 | OK | Z44^Request Immunization History and Forecast^CDCPHINVS

QPD Z44^Request Evaluated History and

Forecast^CDCPHINVS|123456789|67890^^^414^MR|QBPEXAMPLEFIVEFAMILYNAME^QBPEXAMPLEFIV EGIVENNAME^QBPEXAMPLEFIVEMIDDLENAME^^^^L|20091231|M|25 S STOCKTON

ST^^TRENTON^NJ^08608^^H

PID|1||11030546^^^NJIIS^SR||QBPEXAMPLEFIVEFAMILYNAME^QBPEXAMPLEFIVEGIVENNAME^QBPEX AMPLEFIVEMIDDLENAME^^^^L|MOTHERSMAIDENFAMILYNAME^^^^M|20091231|M||2106-

3^WHITE^HL70005|25 S STOCKTON

ST^^TRENTON^NJ^08608^^H||~^PRN^PH^^123^4567890|~^WPN^CP^^321^4567890|ENG^ENGLIS H^HL70296||||||2186-5^NON HISPANIC^HL70189

ORC|RE||100957995^NJIIS

RXA |0|1|20130401||03^Measles, mumps and

rubella^CVX|999|||00^Administered^NIP001|||||H012133|20201031|MSD^MERCK AND CO., INC.^MVX|||CP

RXR|C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162|LD^LEFT DELTOID^HL70163 OBX|1|CE|30956-7^Vaccine Type^LN|5|3^MMR^CVX|||||F

OBX/2/CE/59779-9^Immunization Schedule used^LN/5/VXC16^ACIP^CDCPHINVS/////F

OBX|3|CE|59780-7^Immunization Series name^LN|5|500^MMR Vaccine Group^L||||||F

OBX 4 NM 30973-2 dose number in series NN 5 1 NA HL70353 11 F

OBX 5 ID 59781-5 dose validity LN 5 Y III F

ORC|RE||9999^NJIIS

RXA|0|1|20220520142529|20220520142529|998^no vaccine admin^CVX|999||||||||||||||NA OBX|6|CE|30956-7^Vaccine Type^LN|14|137^HPV^CVX||||||F

OBX 0 CE 50950-7 Valcine TyperLiv 14 137 MPV CVX 1111 F

OBX|7|CE|59779-9^Immunization Schedule used^LN|14|VXC16^ACIP^CDCPHINVS||||||F OBX|8|CE|59780-7^Immunization Series name^LN|14|840^Human Papillomavirus Vaccine

Group^L|||||F

OBX 9 DT 30980-7^Date next dose recommended^LN 14 20201231 || || || F

OBX100DT30981-5^Earliest date to give^LN1420181231

OBX111DT59778-1^Date dose is overdue^LN1420230127111F

OBX 12 CE 59783-1^Status in immunization

series^LN|14|RECOMMENDED^RECOMMENDED^L||||||F

OBX 13 CE 30982-3^Reason applied by forecast logic to project this

vaccine^LN|14|DUE\_NOW^DUE\_NOW^L|||||F

OBX|14|CE|30956-7^Vaccine Type^LN|1|45^Hep B^CVX||||||F

OBX 15 CE 59779-9^Immunization Schedule used^LN 1 VXC16^ACIP^CDCPHINVS | | | | | F

OBX 16 CE 59780-7^Immunization Series name^LN 1 100^Hep B Vaccine Group^L | | | | F

OBX 17 | DT | 30980-7^Date next dose recommended^LN | 1 | 20100301 | | | | | | F

OBX 18 DT 30981-5^Earliest date to give^LN 1 20100128 || || || F

OBX|19|DT|59778-1^Date dose is overdue^LN|1|20100427||||||F

OBX 20 CE 59783-1^Status in immunization series LN 1 RECOMMENDED RECOMMENDED L

OBX|21|CE|30982-3^Reason applied by forecast logic to project this

vaccine^LN|1|DUE\_NOW^DUE\_NOW^L|||||F

OBX|22|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 23 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F OBX 24 CE 59780-7^Immunization Series name^LN 2 200^DTP Vaccine Group^L | | | | | F OBX 25 DT 30980-7^Date next dose recommended^LN 2 20161231 || || || F OBX|26|DT|30981-5^Earliest date to give^LN|2|20161231||||||F OBX|27|DT|59778-1^Date dose is overdue^LN|2|20161231||||||F OBX 28 CE 59783-1^Status in immunization series^LN 2 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 29 CE 30982-3^Reason applied by forecast logic to project this vaccine^LN|2|DUE\_NOW^DUE\_NOW^L|||||F OBX|30|CE|30956-7^Vaccine Type^LN|3|17^HIB^CVX||||||F OBX 31 CE 59779-9^Immunization Schedule used^LN 3 VXC16^ACIP^CDCPHINVS | | | | | F OBX 32 CE 59780-7^Immunization Series name^LN 3 300^Hib Vaccine Group ^L || || F OBX 33 CE 59783-1^Status in immunization series^LN 3 CONDITIONAL^CONDITIONAL^L || || F OBX 34 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|3|HIGH\_RISK^HIGH\_RISK^L|||||F OBX|35|CE|30956-7^Vaccine Type^LN|4|89^Polio^CVX||||||F OBX|36|CE|59779-9^Immunization Schedule used^LN|4|VXC16^ACIP^CDCPHINVS||||||F OBX|37|CE|59780-7^Immunization Series name^LN|4|400^Polio Vaccine Group^L||||||F OBX|38|DT|30980-7^Date next dose recommended^LN|4|20100301||||||F OBX|39|DT|30981-5^Earliest date to give^LN|4|20100211||||||F OBX 40 DT 59778-1^Date dose is overdue^LN 4 20100427 || || F OBX 41 CE 59783-1^Status in immunization series^LN 4 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 42 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|4|DUE\_NOW^DUE\_NOW^L|||||F OBX|43|CE|30956-7^Vaccine Type^LN|8|152^Pneumo^CVX||||||F OBX 44 CE 59779-9^Immunization Schedule used LN 8 VXC16^ACIP^CDCPHINVS IIIIF OBX|45|CE|59780-7^Immunization Series name^LN|8|750^Pneumococcal Vaccine Group^L|||||F OBX 46 CE 59783-1 Status in immunization series LN 8 CONDITIONAL CONDITIONAL L | | | | | F OBX 47 CE 30982-3^Reason applied by forecast logic to project this vaccine^LN|8|HIGH\_RISK^HIGH\_RISK^L|||||F OBX 48 CE 30956-7 Vaccine Type LN 5 03 MMR CVX || || F OBX 49 CE 59779-9^Immunization Schedule used^LN 5 VXC16^ACIP^CDCPHINVS | | | | | F OBX 50 CE 59780-7^Immunization Series name^LN 5 500^MMR Vaccine Group^L || || F OBX 51 DT 30980-7^Date next dose recommended^LN 5 20131231 || || F OBX|52|DT|30981-5^Earliest date to give^LN|5|20130429||||||F OBX 53 DT 59778-1^Date dose is overdue^LN 5 20170127 || || F OBX 54 CE 59783-1^Status in immunization series^LN 5 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 55 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|5|DUE\_NOW^DUE\_NOW^L|||||F OBX|56|CE|30956-7^Vaccine Type^LN|6|21^Var^CVX||||||F OBX 57 CE 59779-9^Immunization Schedule used^LN 6 VXC16^ACIP^CDCPHINVS | | | | | F OBX 58 CE 59780-7^Immunization Series name^LN 6 600^Varicella Vaccine Group^L | | | | F OBX 59 DT 30980-7^Date next dose recommended^LN 6 20130429 || || F OBX|60|DT|30981-5^Earliest date to give^LN|6|20130429||||||F OBX 61 DT 59778-1^Date dose is overdue^LN 6 20130429 | | | | | F OBX 62 CE 59783-1^Status in immunization series LN 6 RECOMMENDED RECOMMENDED L | | | | F

OBX 63 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|6|DUE\_NOW^DUE\_NOW^L|||||F OBX 64 CE 30956-7 Vaccine Type LN 11 85 Hep A CVX || || F OBX 65 CE 59779-9^Immunization Schedule used^LN 11 VXC16^ACIP^CDCPHINVS || || || F OBX 66 CE 59780-7^ Immunization Series name^LN 11 810^ Hep A Vaccine Group^L | | | | | F OBX|67|DT|30980-7^Date next dose recommended^LN|11|20101231||||||F OBX 68 DT 30981-5^Earliest date to give^LN 11 20101231 || || || F OBX | 69 | DT | 59778-1^Date dose is overdue^LN | 11 | 20120127 | | | | | | F OBX|70|CE|59783-1^Status in immunization series^LN|11|RECOMMENDED^RECOMMENDED^L|||||F OBX 71 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|11|DUE\_NOW^DUE\_NOW^L|||||F OBX 72 CE 30956-7^Vaccine Type^LN 10 88^Flu^CVX || || || F OBX 73 CE 59779-9^Immunization Schedule used^LN 10 VXC16^ACIP^CDCPHINVS || || F OBX 74 CE 59780-7^Immunization Series name^LN 10 800^Influenza^L | | | | | F OBX | 75 | DT | 30980-7^Date next dose recommended^LN | 10 | 20210701 | | | | | | F OBX | 76 | DT | 30981-5^Earliest date to give^LN | 10 | 20210701 | | | | | | F OBX 77 CE 59783-1 Status in immunization series^LN10RECOMMENDED^RECOMMENDED^L OBX|78|CE|30982-3^Reason applied by forecast logic to project this vaccine^LN|10|DUE\_NOW^DUE\_NOW^L|||||F OBX 79 CE 30956-7 Vaccine Type LN 12 122 Rotavirus CVX III F OBX 80 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS || || F OBX 81 CE 59780-7^Immunization Series name^LN 2820^Rotavirus Vaccine Group^L | | | | | F OBX 82 CE 59783-1^Status in immunization series^LN|12|NOT\_RECOMMENDED^NOT\_RECOMMENDED^L|||||F OBX 83 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|12|TOO\_OLD\_TO\_INITIATE^TOO\_OLD\_TO\_INITIATE^L|||||F OBX|84|CE|30956-7^Vaccine Type^LN|13|108^Meningo^CVX||||||F OBX 85 CE 59779-9^Immunization Schedule used^LN 3 VXC16^ACIP^CDCPHINVS || || F OBX 86 CE 59780-7^Immunization Series name^LN 3830^Meningococcal^L | | | | | F OBX|87|DT|30980-7^Date next dose recommended^LN|13|20201231||||||F OBX | 88 | DT | 30981-5^Earliest date to give^LN | 13 | 20201231 | | | | | | F OBX 89 DT 59778-1^Date dose is overdue^LN 13 20230127 || || || F OBX 90 CE 59783-1^Status in immunization series^LN13RECOMMENDED^RECOMMENDED^L|||||F OBX 91 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|13|DUE NOW^DUE NOW^L|||||F OBX|92|CE|30956-7^Vaccine Type^LN|7|188^Zoster^CVX||||||F OBX 93 CE 59779-9^Immunization Schedule used^LN 7 VXC16^ACIP^CDCPHINVS || || || F OBX|94|CE|59780-7^Immunization Series name^LN|7|620^Zoster Vaccine Group^L||||||F OBX 95 DT 30980-7^Date next dose recommended^LN 7 20591231 || || F OBX|96|DT|30981-5^Earliest date to give^LN|7|20591231||||||F OBX 97 CE 59783-1^Status in immunization series^LN|7|FUTURE\_RECOMMENDED^FUTURE\_RECOMMENDED^L|||||F OBX | 98 | CE | 30982-3^Reason applied by forecast logic to project this vaccine^LN|7|DUE IN FUTURE^DUE IN FUTURE^L|||||F

OBX |99|CE|30956-7^Vaccine Type^LN|21|164^Meningo B^CVX||||||F OBX|100|CE|59779-9^Immunization Schedule used^LN|21|VXC16^ACIP^CDCPHINVS|||||F OBX|101|CE|59780-7^Immunization Series name^LN|21|835^Meningococcal B Vaccine Group^L|||||F OBX|102|CE|59783-1^Status in immunization series^LN|21|CONDITIONAL^CONDITIONAL^L|||||F OBX|103|CE|30982-3^Reason applied by forecast logic to project this vaccine^LN|21|HIGH\_RISK^HIGH\_RISK^L|||||F OBX|104|CE|30956-7^Vaccine Type^LN|26|213^COVID^CVX|||||F OBX|105|CE|59779-9^Immunization Schedule used^LN|26|VXC16^ACIP^CDCPHINVS|||||F OBX|106|CE|59780-7^Immunization Series name^LN|26|850^COVID-19 Vaccine Group^L|||||F OBX|107|DT|30980-7^Date next dose recommended^LN|26|20220520|||||F OBX|108|CE|59783-1^Status in immunization series^LN|26|RECOMMENDED^RECOMMENDED^L|||||F

## **12 APPENDIX D: WEB SERVICE**

The NJIIS IMS Web Service is a synchronous secure web service that provides a standard mechanism for the transfer of information between NJIIS and HL7 data exchange partners. Data can be exchanged electronically using HL7 version 2.5.1 standard.

NJIIS provides two different schemas for implementing IMS Web Service. Webservice providers are free to choose either the nationally specified CDC schema or the NJIIS schema

#### 12.1.1 Web Service Connectivity Information

Use the following URL to consume the IMS Web Service in the Test environment.

CDC Schema: https://onb.njiis.nj.gov/ims/iisService.wsdl

Use the following URL to consume the IMS Web Service in the Production environment.

CDC Schema: <a href="https://njiis.nj.gov/ims/iisService">https://njiis.nj.gov/ims/iisService</a>

NJIIS Schema: <u>https://njiis.nj.gov/ims/service</u> (Existing Facilities ONLY - retiring – 01/01/2025)

#### 12.1.2 CDC SCHEMA OPERATIONS

The IMS Web Service – CDC Schema is a collection of two separate operations.

#### **CONNECTIVITYTEST**

The purpose of this operation is to test connectivity. It allows the HL7 data exchange partner to verify

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their connectivity to IMS HL7 Web Service and get their access level. The access level for each HL7 data exchange partner will be setup when the facility enrolls with NJIIS to use IMS Web Service.

# Content-type should be

application/soap+xml;charset=UTF-8;action="urn:cdc:iisb:2011:connectivityTest"

#### Sample Soap Envelope - Request

<soap:Envelope xmIns:soap="http://www.w3.org/2003/05/soap-envelope" xmIns:urn="urn:cdc:iisb:2011"> <soap:Header/> <soap:Body> <urn:connectivityTest> <urn:echoBack>Testing</urn:echoBack> </urn:connectivityTest> </soap:Body> </soap:Envelope>

#### Sample Soap Envelope - Response

<soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <urn:connectivityTestResponse xmlns:urn="urn:cdc:iisb:2011"> <urn:return>Testing</urn:return> </urn:connectivityTestResponse> </soapenv:Body> </soapenv:Envelope>

#### SUBMITSINGLEMESSAGE

This operation should be used for

- Submitting a HL7 2.5.1 VXU\_V04 (Unsolicited Vaccine Record Update) message and receiving an ACK (Acknowledge) message in response.
- Submitting a HL7 2.5.1 QBP\_Q11 (Query by Parameter) message and receiving an RSP\_K11 (Query Response) message in response.

Content-type should be application/soap+xml;charset=UTF-8;action="urn:cdc:iisb:2011:submitSingleMessage"

#### Sample Soap Envelope - VXU

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:urn="urn:cdc:iisb:2011"> <soap:Header/> <soap:Body> <urn:submitSingleMessage> <urn:username> YOUR\_WEB\_SERVICE\_ACCOUNT\_ID </urn:username>

<urn:password> YOUR\_WEB\_SERVICE\_ACCOUNT\_KEY </urn:password>

<urn:facilityID> YOUR\_NJIIS\_PROVIDER\_ID </urn:facilityID>

<urn:hl7Message> MSH | ^~\& | AIRA | 414 | NJIIS | NJDOH | 201509170826301000-

0500||VXU^V04^VXU\_V04|QJF- I.02.05899.e3|T|2.5.1|||NE|AL|||||Z22^CDCPHINVS PID|1||QJF-

I.01.14377^^^414^MR||Tester^Medea^Eudoc^^^^L|Benton^Aparna^^^^M|20110924|F||2028-9^Asian^HL70005|30 Bayberry Road^APT

#11^PRINCETON^NJ^08540^USA^L||^PRN^PH^^810^6609940~^NET^X.400^aparna.tulsa@madeupe mailaddress.com|^WPN^PH^^810^6609940|eng^English^HL70296||||||2135-2^Hispanic or Latino^HL70189||N|1||||N|

PD1||||||||02^Reminder/recall - any method^HL70215|N|20150917|||A|20150917|20150917| NK1|1|Cass^Aparna^Eudocie^^^^L|MTH^Mother^HL70063|30 Bayberry Road^APT

#11^PRINCETON^NJ^08540^USA^L|^PRN^PH^^^810^6609940|^WPN^PH^^810^6609940| PV1|1|R|

ORC|RE||Z84I28952.1^AIRA||||||3730141746^Gillespie^Lailie^Luciana^^^^CNS^L^^NPI||3500958 938^Metcalfe^ Kalonice^Tivona^^^^CMS^L^^NPI|||||^Franklin Pediatrics - Cass^HL70362| RXA|0|1|20120917|20120917|141^Influenza^CVX|0.25|mL^milliliters^UCUM||00^Administered^NIP

001|192283093

9^Wotherspoon^Hont^Okan^^^CMS^L^^NPI|^^^414||||Z8623GP|20160917|NOV^Novartis^MVX| ||CP|A|20150917082945-0500| RXR|IM^^HL70162|LA^^HL70163|

OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible -Medicaid/Medicaid Managed Care^HL70064|||||F||20150917|||VXC40^Eligibility captured at the immunization level^CDCPHINVS| OBX|2|CE|30956-7^Vaccine Type^LN|2|88^Inactivated Flu^CVX|||||F|

OBX|3|TS|29768-9^Date vaccine information statement published^LN|2|20120702||||||F| OBX|4|TS|29769-7^Date vaccine information statement presented^LN|2|20120917||||||F| ORC|RE||Z84I28952.2^AIRA|

RXA|0|1|20130415|20130415|141^Influenza^CVX|999|||01^Historical^NIP001||^^414||||||||CP |A| OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible -Medicaid/Medicaid Managed Care^HL70064|||||F|||20150917|||VXC40^Eligibility captured at the immunization level^CDCPHINVS|

NTE | 1 | | VFC Eligible |

ORC|RE||Z84I28952.3^AIRA||||||3730141746^Gillespie^Lailie^Luciana^^^^CMS^L^^^NPI||350095 8938^Metcalfe^ Kalonice^Tivona^^^^CMS^L^^^NPI|||||^Franklin Pediatrics - Cass^HL70362| RXA|0|1|20150917||94^MMRV^CVX|0.5|mL^milliliters^UCUM||00^Administered^NIP001||^^^414|| ||Q3110HZ|20 160917|MSD^Merck and Co^MVX|||CP|A|

RXR|SC^^HL70162|RA^^HL70163|

OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible -Medicaid/Medicaid Managed Care^HL70064|||||F||20150917|||VXC40^Eligibility captured at the immunization level^CDCPHINVS| OBX|2|CE|30956-7^Vaccine Type^LN|2|94^MMRV^CVX|||||F| OBX|3|TS|29768-9^Date vaccine information statement published^LN|2|20100521|||||F| OBX|4|TS|29769-7^Date vaccine information statementpresented^LN|2|20150917|||||F|

</urn:hl7Message>

</urn:submitSingleMessage>

</soap:Body>

</soap:Envelope>

### Sample Soap Envelope - ACK

<soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <urn:submitSingleMessageResponse xmlns:urn="urn:cdc:iisb:2011"> <urn:return>MSH|^~\&|NJIIS|NJDOH|AIRA|414|20201015123146-0400||ACK^V04^ACK|QJF-I.02.05899.e3|T|2.5.1|1||NE|NE|||||Z23^CDCPHINVS MSA|AA|QJF-I.02.05899.e3 ERR|||0^Message accepted^HL70357|I||NJIIS\_REGISTRY\_ID|5268562</urn:return> </urn:submitSingleMessageResponse> </soapenv:Body> </soapenv:Envelope>

### Sample Soap Envelope – QBP

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:urn="urn:cdc:iisb:2011"> <soap:Header/> <soap:Body> <urn:submitSingleMessage> <urn:username> YOUR WEB SERVICE ACCOUNT ID </urn:username> <urn:password>YOUR\_WEB\_SERVICE\_ACCOUNT\_KEY </urn:password> <urn:facilityID> YOUR\_NJIIS\_PROVIDER\_ID </urn:facilityID> <urn:hl7Message>MSH|^~\&|My EHR1.5|414|NJIIS|NJDOH|20180410081752||QBP^Q11^QBP\_Q11|1001|T|2.5.1|||NE|AL|||||Z44^C DCPHINVS QPD Z44^Request Immunization History^CDCPHINVS|QT216990|2548431^^^414^MR|Test^Brian^^^^L|20050101|M|12 Test Street^^Jersey City^NJ^07306^USA^H|^PRN^PH^^609^5551212|N| RCP||3|</urn:hl7Message> </urn:submitSingleMessage> </soap:Body> </soap:Envelope>

#### Sample Soap Envelope – RSP

<soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <urn:submitSingleMessageResponse xmlns:urn="urn:cdc:iisb:2011"> <urn:return>MSH|^~\&|NJIIS|NJDOH|My EHR1.5|414|20210409161043-0400||RSP^K11^RSP\_K11|1001|T|2.5.1|||NE|NE|||||Z42^CDCPHINVS MSA|AA|1001 QAK|QT216990|OK|Z44^Request Immunization History and Forecast^CDCPHINVS QPD|Z44^Request Evaluated History and Forecast^CDCPHINVS|QT216990|2548431^^414^MR|Test^Brian^^^^L||20050101|M|12 Test

vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F

RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163 OBX 17 CE 30956-7 Vaccine Type LN 2 107 DTP CVX || || F

OBX 18 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS || || F OBX19/CE59780-7^Immunization Series name^LN2200^DTP Vaccine Group^L1111/F

LABORATORIES, INC.^MVX|||CP

RXA|0|1|20170802||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^7934||||YK999|20170928|AD^ADAMS

ORC|RE||60711351^NJIIS

OBX 20 NM 30973-2^dose number in series^LN 2 3 NA^^HL70353 || || F

OBX 22 CE 30982-3 Reason applied by forecast logic to project this

OBX|21|ID|59781-5^dose validity^LN|2|N|||||F

OBX 16 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F

OBX|15|ID|59781-5^dose validity^LN|2|N|||||F

OBX|14|NM|30973-2^dose number in series^LN|2|3|NA^^HL70353|||||F

OBX13/CE59780-7^Immunization Series name^LN2200^DTP Vaccine Group^L||||||F

OBX 11 CE 30956-7 Vaccine Type LN 2 107 DTP CVX || || F OBX 12 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F

PRODUCTS CORPORATION^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LT^LEFT THIGH^HL70163

ORC|RE||60086951^NJIIS RXA|0|1|20170609||106^Diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens^CVX|999|||00^Administered^NIP001||^^^10036||||AB7890|20170630|BPC^BERNA

OBX|10|ID|59781-5^dose validity^LN|2|Y|||||F

OBX|9|NM|30973-2^dose number in series^LN|2|2|NA^^HL70353|||||F

OBX|8|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F

OBX 7 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F

OBX 6 CE 30956-7 Vaccine Type LN 2 107 DTP CVX | | | | | F

CORPORATION^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | RT^RIGHT THIGH^HL70163

RXA|0|1|20170310||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11408|||AB789||ALP^ALPHA THERAPEUTIC

ORC|RE||59298354^NJIIS

OBX|5|ID|59781-5^dose validity^LN|2|Y|||||F

OBX|4|NM|30973-2^dose number in series^LN|2|1|NA^^HL70353|||||F

OBX|3|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F

OBX|2|CE|59779-9^Immunization Schedule used^LN|2|VXC16^ACIP^CDCPHINVS||||||F

OBX11CE30956-7^Vaccine Type^LN2107^DTP^CVX111F

INC.^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | RT^RIGHT THIGH^HL70163

ORC|RE||58517003^NJIIS RXA|0|1|20170202||106^Diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens^CVX|999|||00^Administered^NIP001||^^7259||||YK999|20170228|NVX^NOVAVAX,

ROAD^^JERSEY^NJ^12345^^H||||^^

Street^^Jersey City^NJ^07306^USA^H|^PRN^PH^^609^5551212|N PID|1||4239418^^^NJIIS^SR||TEST^BRIAN^^^^L||20050101|M||2106-3^WHITE^HL70005|MG

NJIIS Interface Management System HL7 Version 2.5.1 Local Implementation Guide: Immunization Messaging

ORC|RE||61936809^NJIIS RXA|0|1|20171010||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^8217||||XYZ123|20171104|AKR^AKORN, INC^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LA^LEFT UPPER ARM^HL70163 OBX|23|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 24 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F OBX|25|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F OBX 26 NM 30973-2^dose number in series^LN 23 NA^^HL70353 || || F OBX|27|ID|59781-5^dose validity^LN|2|N|||||F OBX 28 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||62905649^NJIIS RXA|0|1|20171204||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11701||||AB789|20171230|ALP^ALPHA THERAPEUTIC CORPORATION^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LT^LEFT THIGH^HL70163 OBX|29|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 30 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F OBX|31|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F OBX|32|NM|30973-2^dose number in series^LN|2|3|NA^^HL70353|||||F OBX|33|ID|59781-5^dose validity^LN|2|N|||||F OBX 34 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||64129246^NJIIS RXA|0|1|20180316||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11408||||XYZ123|20180331|AD^ADAMS LABORATORIES, INC.^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163 OBX|35|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 36 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS || || || F OBX|37|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L|||||F OBX|38|NM|30973-2^dose number in series^LN|2|3|NA^^HL70353|||||F OBX|39|ID|59781-5^dose validity^LN|2|N|||||F OBX 40 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||65750925^NJIIS RXA|0|1|20180814||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11408||||YK9999|20180831|ALP^ALPHA THERAPEUTIC CORPORATION^MVX|||CP RXR|C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162|LA^LEFT UPPER ARM^HL70163 OBX|41|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 42 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F OBX 43 CE 59780-7^Immunization Series name^LN 2200^DTP Vaccine Group^L || || F OBX 44 NM 30973-2^dose number in series^LN 2 3 NA^^HL70353 || || F OBX 45 ID 59781-5^dose validity^LN 2 N || || F OBX 46 CE 30982-3 Reason applied by forecast logic to project this

vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||9999^NJIIS RXA|0|1|20210409161043|20210409161043|998^no vaccine admin^CVX|999|||||||||||||NA OBX 47 CE 30956-7 Vaccine Type LN 14 37 HPV CVX || || F OBX 48 CE 59779-9^Immunization Schedule used^LN 4 VXC16^ACIP^CDCPHINVS || || F OBX|49|CE|59780-7^Immunization Series name^LN|14|840^Human Papillomavirus Vaccine Group^L|||||F OBX|50|DT|30980-7^Date next dose recommended^LN|14|20160101||||||F OBX|51|DT|30981-5^Earliest date to give^LN|14|20140101||||||F OBX|52|DT|59778-1^Date dose is overdue^LN|14|20191231||||||F OBX 53 CE 59783-1^Status in immunization series^LN|14|RECOMMENDED^RECOMMENDED^L|||||F OBX|54|CE|30982-3^Reason applied by forecast logic to project this vaccine^LN|14|DUE\_NOW^DUE\_NOW^L|||||F OBX|55|CE|30956-7^Vaccine Type^LN|1|45^Hep B^CVX||||||F OBX 56 CE 59779-9^Immunization Schedule used^LN 1 VXC16^ACIP^CDCPHINVS || || || F OBX|57|CE|59780-7^Immunization Series name^LN|1|100^Hep B Vaccine Group^L|||||F OBX | 58 | DT | 30980-7^Date next dose recommended^LN | 1 | 20050301 | | | | | | F OBX 59 DT 30981-5^Earliest date to give^LN 1 20050129 || || || F OBX 60 | DT 59778-1^Date dose is overdue^LN 1 20050428 | | | | | F OBX[61|CE[59783-1^Status in immunization series^LN11|RECOMMENDED^RECOMMENDED^L||||||F OBX 62 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|1|DUE\_NOW^DUE\_NOW^L|||||F OBX 63 CE 30956-7 Vaccine Type LN 2 107 DTP CVX || || F OBX 64 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS || || || F OBX 65 CE 59780-7^Immunization Series name^LN 2200^DTP Vaccine Group^L || || F OBX 66 DT 30980-7^Date next dose recommended LN 2 20190214 || || F OBX 67 DT 30981-5^Earliest date to give^LN 2 20190214 || || || F OBX | 68 | DT | 59778-1^Date dose is overdue^LN | 2 | 20190214 | | | | | | F OBX 69 CE 59783-1^Status in immunization series^LN 2 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 70 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|DUE\_NOW^DUE\_NOW^L|||||F OBX|71|CE|30956-7^Vaccine Type^LN|3|17^HIB^CVX||||||F OBX 72 CE 59779-9^Immunization Schedule used^LN 3 VXC16^ACIP^CDCPHINVS | | | | | F OBX 73 CE 59780-7^Immunization Series name^LN 3 300^Hib Vaccine Group ^L | | | | | F OBX 74 CE 59783-1 Status in immunization series LN 3 CONDITIONAL CONDITIONAL L | | | | | F OBX 75 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|3|HIGH RISK^HIGH RISK^L|||||F OBX 76 CE 30956-7 Vaccine Type LN 4 89 Polio CVX | | | | | F OBX 77 CE 59779-9^Immunization Schedule used^LN 4 VXC16^ACIP^CDCPHINVS | | | | | F OBX 78 CE 59780-7^ Immunization Series name^LN 4 400^Polio Vaccine Group^L | | | | | F OBX | 79 | DT | 30980-7^Date next dose recommended^LN | 4 | 20050301 | | | | | | F OBX|80|DT|30981-5^Earliest date to give^LN|4|20050212||||||F OBX 81 | DT 59778-1^Date dose is overdue^LN 4 20050428 | | | | | F OBX 82 CE 59783-1^Status in immunization series^LN 4 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 83 CE 30982-3^Reason applied by forecast logic to project this vaccine^LN|4|DUE NOW^DUE NOW^L|||||F

OBX|84|CE|30956-7^Vaccine Type^LN|8|152^Pneumo^CVX||||||F OBX 85 CE 59779-9^Immunization Schedule used^LN 8 VXC16^ACIP^CDCPHINVS || || || F OBX 86 CE 59780-7^Immunization Series name^LN 8 750^Pneumococcal Vaccine Group^L | | | | F OBX 87 CE 59783-1^Status in immunization series^LN 8 CONDITIONAL^CONDITIONAL^L || || F OBX 88 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|8|HIGH\_RISK^HIGH\_RISK^L|||||F OBX 89 CE 30956-7 Vaccine Type LN 5 03 MMR CVX || || F OBX 90 CE 59779-9^Immunization Schedule used^LN 5 VXC16^ACIP^CDCPHINVS || || F OBX/91/CE/59780-7^Immunization Series name^LN/5/500^MMR Vaccine Group^L/////F OBX 92 DT 30980-7^Date next dose recommended^LN 5 20060101 || || || F OBX 93 DT 30981-5^Earliest date to give^LN 5 20060101 || || || F OBX|94|DT|59778-1^Date dose is overdue^LN|5|20060528||||||F OBX 95 CE 59783-1 Status in immunization series LN 5 RECOMMENDED RECOMMENDED L | | | | | F OBX 96 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|5|DUE\_NOW^DUE\_NOW^L|||||F OBX|97|CE|30956-7^Vaccine Type^LN|6|21^Var^CVX||||||F OBX 98 CE 59779-9^Immunization Schedule used^LN 6 VXC16^ACIP^CDCPHINVS | | | | | F OBX 99 CE 59780-7^Immunization Series name^LN 6 600^Varicella Vaccine Group^L | | | | | F OBX 100 | DT 30980-7^Date next dose recommended^LN 6 20060101 | | | | | F OBX|101|DT|30981-5^Earliest date to give^LN|6|20060101||||||F OBX 102 DT 59778-1^Date dose is overdue^LN 6 20060528 || || || F OBX 103 CE 59783-1^Status in immunization series^LN|6|RECOMMENDED^RECOMMENDED^L|||||F OBX 104 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|6|DUE\_NOW^DUE\_NOW^L|||||F OBX 105 CE 30956-7 Vaccine Type LN 11 85 Hep A CVX || || F OBX 106 CE 59779-9^Immunization Schedule used^LN 11 VXC16^ACIP^CDCPHINVS ||||||F OBX 107 CE 59780-7^Immunization Series name^LN 11 810^Hep A Vaccine Group^L | | | | | F OBX 108 DT 30980-7^Date next dose recommended^LN 11 20060101 || || || F OBX 109 DT 30981-5^Earliest date to give^LN 11 20060101 || || || F OBX|110|DT|59778-1^Date dose is overdue^LN|11|20070128||||||F OBX 111 CE 59783-1^Status in immunization series^LN|11|RECOMMENDED^RECOMMENDED^L|||||F OBX 112 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|11|DUE\_NOW^DUE\_NOW^L|||||F OBX 113 CE 30956-7 Vaccine Type LN 10 88 Flu CVX || || F OBX 114 CE 59779-9^Immunization Schedule used^LN 10 VXC16^ACIP^CDCPHINVS ||||||F OBX 115 CE 59780-7^Immunization Series name^LN 10 800^Influenza^L | | | | | F OBX 116 DT 30980-7^Date next dose recommended^LN 10 20200701 || || || F OBX 117 | DT | 30981-5^Earliest date to give^LN 10 | 20200701 | | | | | | F OBX | 118 | CE | 59783-1^Status in immunization series^LN|10|RECOMMENDED^RECOMMENDED^L|||||F OBX|119|CE|30982-3^Reason applied by forecast logic to project this vaccine^LN|10|DUE\_NOW^DUE\_NOW^L|||||F OBX 120 CE 30956-7 Vaccine Type LN 12 122 Rotavirus CVX III F OBX 121 CE 59779-9^Immunization Schedule used^LN 12 VXC16^ACIP^CDCPHINVS || || F OBX 122 CE 59780-7^Immunization Series name^LN 12 820^Rotavirus Vaccine Group^L | | | | | F

OBX|123|CE|59783-1^Status in immunization series^LN|12|not RECOMMENDED^not RECOMMENDED^L||||||F OBX 124 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|12|TOO OLD TO INITIATE^TOO OLD TO INITIATE^L||||||F OBX 125 CE 30956-7 Vaccine Type LN 13 108 Meningo CVX || || F OBX 126 CE 59779-9^Immunization Schedule used^LN 13 VXC16^ACIP^CDCPHINVS || || || F OBX 127 CE 59780-7^Immunization Series name^LN 13 830^Meningococcal^L | | | | | F OBX 128 DT 30980-7^Date next dose recommended^LN 13 20160101 || || || F OBX|129|DT|30981-5^Earliest date to give^LN|13|20160101||||||F OBX|130|DT|59778-1^Date dose is overdue^LN|13|20180128||||||F OBX 131 CE 59783-1^Status in immunization series^LN 13 RECOMMENDED^RECOMMENDED^L || || || F OBX 132 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|13|DUE\_NOW^DUE\_NOW^L|||||F OBX 133 CE 30956-7 Vaccine Type LN 7 188 Zoster CVX | | | | | F OBX134/CE159779-9^Immunization Schedule used^LN17/VXC16^ACIP^CDCPHINVS1111/F OBX1351CE159780-7^Immunization Series name^LN171620^Zoster Vaccine Group^L1111F OBX 136 DT 30980-7^Date next dose recommended LN 7 20550101 || || F OBX 137 DT 30981-5^Earliest date to give^LN 7 20550101 || || || F OBX 138 CE 59783-1^Status in immunization series^LN|7|FUTURE\_RECOMMENDED^FUTURE\_RECOMMENDED^L|||||F OBX 139 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|7|DUE\_IN\_FUTURE^DUE\_IN\_FUTURE^L|||||F OBX|140|CE|30956-7^Vaccine Type^LN|21|164^Meningo B^CVX||||||F OBX 141 CE 59779-9^Immunization Schedule used^LN 21 VXC16^ACIP^CDCPHINVS | | | | | F OBX 142 CE 59780-7^Immunization Series name^LN 21 835^Meningococcal B Vaccine Group^L|||||F OBX 143 CE 59783-1^Status in immunization series^LN 21 CONDITIONAL^CONDITIONAL^L | | | | | F OBX 144 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|21|HIGH\_RISK^HIGH\_RISK^L|||||F</urn:return> </urn:submitSingleMessageResponse> </soapenv:Body> </soapenv:Envelope>

#### Sample Soap Envelope - Fault Request

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:urn="urn:cdc:iisb:2011"> <soap:Header/> <soap:Body> <urn:submitSingleMessage> <urn:username> YOUR\_WEB\_SERVICE\_ACCOUNT\_ID </urn:username> <urn:password> INVALID\_ WEB\_SERVICE\_ACCOUNT\_KEY </urn:password> <urn:facilityID> YOUR NJIIS PROVIDER ID </urn:facilityID> <urn:hI7Message>MSH|^~\&|My EHR 1.0|414|NJIIS|NJDOH|20130410081752||QBP^Q11^QBP\_Q11|987654322|T|2.5.1|||NE|AL|||||Z44^ CDCPHINVS| QPD|Z44^Request Immunization History^CDCPHINVS|QT216990|0000088163^^414^MR|TESTLAST^TESTFIRST ^^^^L|20160405|M|175 Washington Rd^^Princeton^NJ^08540^L|^PRN^PH^^609^5551212|Y|1| RCP||3| </urn:hl7Message> </urn:submitSingleMessage> </soap:Body> </soap:Envelope>

#### Sample Soap Envelope – Fault Response

<soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <soapenv:Fault> <soapenv:Code> <soapenv:Value>soapenv:Sender</soapenv:Value> <soapenv:Subcode> <soapenv:Value>Receiver</soapenv:Value> </soapenv:Subcode> </soapenv:Code> <soapenv:Reason> <soapenv:Text xml:lang="en-US">AUTH\_INTFC\_REQUEST FAILED. INVALID PASSWORD/FACILITY KEY</soapenv:Text> </soapenv:Reason> <soapenv:Node>node uri</soapenv:Node> <soapenv:Detail>MSH|^~\&|My EHR 1.0|414|NJIIS|NJDOH|20130410081752||QBP^Q11^QBP\_Q11|987654322|T|2.5.1|||NE|AL|||||Z44^ CDCPHINVS QPD Z44^Request Immunization History^CDCPHINVS|QT216990|0000088163^^414^MR|TESTLAST^TESTFIRST^^^^L|20160405|M|1 75 Washington Rd^^Princeton^NJ^08540^^L|^PRN^PH^^^609^5551212|Y|1| RCP||3|</soapenv:Detail> </soapenv:Fault> </soapenv:Body> </soapenv:Envelope>

## 12.1.3 NJIIS SCHEMA OPERATIONS

The IMS Web Service – NJIIS Schema is a collection of three separate operations.

#### PING

The purpose of this operation is to test connectivity. It allows the HL7 data exchange partner to verify their connectivity to IMS HL7 Web Service and get their access level. The access level for each HL7 data exchange partner will be setup when the facility enrolls with NJIIS to use IMS Web Service.

#### Content-type should be

NJIIS Interface Management System HL7 Version 2.5.1 Local Implementation Guide: Immunization Messaging

application/soap+xml;charset=UTF-8;action=http://njiis.nj.gov/ims/service/ping

#### Sample Soap Envelope - Request

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:req="http://njiis.njdoh.gov/ims/service/schema/ping/request"> <soap:Header/> <soap:Body> <req:NJIIS IMSPingRequest> <req:RequestHeader> <req:FacilityID> YOUR FACILITY ID </req:FacilityID> <req:FacilityKey> YOUR\_FACILITY\_KEY </req:FacilityKey> </reg:ReguestHeader> <req:PingRequest> <reg:NJIISProviderID> YOUR NJIIS PROVIDER ID </reg:NJIISProviderID> <req:EchoRequest>Testing</req:EchoRequest> </req:PingRequest> </req:NJIIS IMSPingRequest> </soap:Body> </soap:Envelope>

#### Sample Soap Envelope - Response

soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <res:NJIIS IMSPingResponse xmIns:res="http://njiis.njdoh.gov/ims/service/schema/ping/response"> <res:ResponseHeader> <res:ServiceStatus> <res:StatusCode>200</res:StatusCode> <res:StatusMessage>Success</res:StatusMessage> </res:ServiceStatus> </res:ResponseHeader> <res:PingResponse> <res:EchoReply>Testing</res:EchoReply> <res:Annotation> <res:Note>Authorization is not performed for ping requests</res:Note> </res:Annotation> </res:PingResponse> </res:NJIIS IMSPingResponse> </soapenv:Body> </soapenv:Envelope>

#### **SUBMITPATIENTIMMINFO**

This operation should be used for submitting a HL7 2.5.1 VXU\_V04 (Unsolicited Vaccine Record Update) message and receiving an ACK (Acknowledge) message in response.

# Content-type should be application/soap+xml;charset=UTF-8;action=<u>http://njiis.nj.gov/ims/service/submitPatientImmInfo</u>

#### Sample Soap Envelope – VXU

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:req="http://njiis.njdoh.gov/ims/service/schema/hl7/put/request"> <soap:Header/> <soap:Body> <req:NJIIS IMSPutRequest> <req:RequestHeader> <reg:FacilityID> YOUR FACILITY ID </reg:FacilityID> <req:FacilityKey> YOUR\_FACILITY\_KEY </req:FacilityKey> </reg:RequestHeader> <req:PutRequest> <reg:NJIISProviderID> YOUR NJIIS PROVIDER ID </reg:NJIISProviderID> <req:HL7MessageVersion>2.5.1</req:HL7MessageVersion> <req:RequestHL7Message>MSH|^~\&|AIRA|414|NJIIS|NJDOH|20150917082630-0500||VXU^V04^VXU\_V04|QJF-PID111QJF-I.02.05899^^^414^MR1Test^Cap^Sal^^^LTestarrison^Pat^^^^M20110929F12106-3^White^HL70005|30 Bayberry Road^APT #11^PRINCETON^NJ^08540^USA^M~125 " Honeyflower Drive^APT #11^Yardville^NJ^08620^USA^L~55 Truman Avenue^APT #11^PRINCETON^NJ^08540^USA^P~24 Test PI^APT #148^Testtown^MI^48999^USA^C~110 College Rd^^PRINCETON^NJ^08540^USA^H||^PRN^PH^^999^2222222~^NET^X.400^test.cal@hotmail.com|^ WPN^PH^^999^222222 2|spa^Spanish^HL70296||||||2186-5^not Hispanic or Latino^HL70189||N|1||||N| PD1|||||||||02^Reminder/recall - any method^HL70215|N|20150917|||A|20150917|20150917| NK1|1|Tester^Pat^Sal^^^L|MTH^Mother^HL70063|24 Test Pl^APT #148^Testtown^MI^48999^USA^P|^PRN^PH^^^999^3333333|^WPN^PH^^^999^4444444| NK1|2|Tester^Greg^S^^^L|FTH^Father^HL70063|24 Test PI^APT #148^Testtown^MI^48999^USA^P|^PRN^PH^^^999^3333333|^WPN^PH^^^999^4444444| PV1|1|R| ORC|RE||Z84I28952.1^AIRA||||||3730141746^Gillespie^Lailie^Luciana^^^^CNS^L^^NPI||3500958 938^Metcalfe^Kalonice^ Tivona^^^^CMS^L^^^NPI|||||^Franklin Pediatrics - Cass^HL70362| RXA|0|1|20120917|20120917|141^Influenza^CVX|0.25|mL^milliliters^UCUM||00^Administered^NIP 001|1922830939^Wother spoon^Hont^Okan^^^^CMS^L^^^NPI|^^^414||||Z8623GP|20160917|NOV^Novartis^MVX|||CP|A|2 0150917082945-0500| RXR|IM^^HL70162|LA^^HL70163| OBX11CE164994-7^Vaccine funding program eligibility category^LN11V02^VFC eligible -Medicaid/Medicaid Managed Care^HL70064||||||F|||20150917|||VXC40^Eligibility captured at the immunization level^CDCPHINVS| OBX|2|CE|30956-7^Vaccine Type^LN|2|141^Inactivated Flu^CVX|||||F| OBX|3|TS|29768-9^Date vaccine information statement published^LN|2|20120702||||||F| OBX 4 TS 29769-7^Date vaccine information statementpresented LN 2 20120917 || || F ORC|RE||Z84I28952.2^AIRA|

RXA|0|1|20130415|20130415|141^Influenza^CVX|999|||01^Historical^NIP001||^^^414||||||||CP |A| OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible -Medicaid/Medicaid Managed Care^HL70064|||||F||20150917|||VXC40^Eligibility captured at the immunization level^CDCPHINVS|

#### NTE 1 | VFC Eligible

ORC|RE||Z84I28952.3^AIRA|||||||3730141746^Gillespie^Lailie^Luciana^^^^CMS^L^^NPI||350095 8938^Metcalfe^Kalonice^ Tivona^^^^CMS^L^^NPI|||||^Franklin Pediatrics - Cass^HL70362| RXA|0|1|20150917||94^MMRV^CVX|0.5|mL^milliliters^UCUM||00^Administered^NIP001||^^414|| ||Q3110HZ|20160917| MSD^Merck and Co^MVX|||CP|A|

RXR|SC^^HL70162|RA^^HL70163|

OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible -Medicaid/Medicaid Managed Care^HL70064|||||F||20150917|||VXC40^Eligibility captured at the immunization level^CDCPHINVS| OBX|2|CE|30956-7^Vaccine Type^LN|2|94^MMRV^CVX|||||F| OBX|3|TS|29768-9^Date vaccine information statement published^LN|2|20100521|||||F| OBX|4|TS|29769-7^Date vaccine information statement presented^LN|2|20150917|||||F| </req:RequestHL7Message> </req:PutRequest> </req:NJIIS IMSPutRequest> </soap:Body>

</soap:Envelope>

#### Sample Soap Envelope – ACK

<soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <res:NJIIS IMSPutResponse xmlns:res="http://njiis.njdoh.gov/ims/service/schema/hl7/put/response"> <res:ResponseHeader> <res:ServiceStatus> <res:StatusCode>200</res:StatusCode> <res:StatusMessage>Success</res:StatusMessage> </res:ServiceStatus> </res:ResponseHeader> <res:PutResponse> <res:TransactionID>PUTX44264935X20201015T142023499</res:TransactionID> <res:HL7MessageVersion>2.5.1</res:HL7MessageVersion> <res:ResponseHL7Message>MSH | ^~\& |NJIIS | NJDOH | AIRA | 414 | 20201015142024-0400||ACK^V04^ACK|QJF-1.02.05899.e3|T|2.5.1|1||NE|NE|||||Z23^CDCPHINVS MSA|AA|QJF-I.02.05899.e3 ERR|||0^Message accepted^HL70357|I||NJIIS\_REGISTRY\_ID|5263695</res:ResponseHL7Message> </res:PutResponse> </res:NJIIS IMSPutResponse> </soapenv:Body> </soapenv:Envelope>

#### **GETPATIENTIMMINFO**

This operation should be used for submitting a HL7 2.5.1 QBP\_Q11 (Query by Parameter) message and receiving an RSP\_K11 (Query Response) message in response.

# Content-type should be application/soap+xml;charset=UTF-8;action=http://njiis.nj.gov/ims/service/getPatientImmInfo

#### Sample Soap Envelope – QBP

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:req="http://njiis.njdoh.gov/ims/service/schema/hl7/get/request"> <soap:Header/> <soap:Body> <reg:NJIIS IMSGetRequest> <req:RequestHeader> <req:FacilityID> YOUR FACILITY ID </req:FacilityID> <req:FacilityKey> YOUR\_FACILITY\_KEY </req:FacilityKey> </reg:RequestHeader> <reg:GetReguest> <reg:NJIISProviderID> YOUR NJIIS PROVIDER ID </reg:NJIISProviderID> <req:HL7MessageVersion>2.5.1</req:HL7MessageVersion> <req:RequestHL7Message>  $MSH|^{\ }\ My$ EHR1.5|414|NJIIS|NJDOH|20180410081752||QBP^Q11^QBP\_Q11|1001|T|2.5.1|||NE|AL|||||Z44^C **DCPHINVS** QPD Z44^Request Immunization History^CDCPHINVS|QT216990|2548431^^^414^MR|Test^Brian^^^^L|20050101|M|12 Test Street^^Jersey City^NJ^07306^USA^H|^PRN^PH^^609^5551212|N| RCP||3| </req:RequestHL7Message></req:NJIIS IMSGetRequest> </soap:Body> </soap:Envelope>

#### Sample Soap Envelope – RSP

<soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <res:NJIIS IMSGetResponse xmlns:res="http://njiis.njdoh.gov/ims/service/schema/hl7/get/response"> <res:ResponseHeader> <res:ServiceStatus> <res:StatusCode>200</res:StatusCode> <res:StatusMessage>Success</res:StatusMessage> </res:ServiceStatus> </res:ResponseHeader> <res:GetResponse> <res:TransactionID>GETX44264937X20201015T152242544</res:TransactionID>

pertussis^CVX|999|||00^Administered^NIP001||^^^7934||||YK999|20170928|AD^ADAMS LABORATORIES, INC.^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163

RXA|0|1|20170802||20^Diphtheria, tetanus, toxoids and acellular

OBX 16 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||60711351^NJIIS

OBX 15 ID 59781-5^dose validity^LN 2 N || || F

OBX 14 NM 30973-2^dose number in series^LN 2 3 NA^^HL70353 | | | | F

OBX12/CE159779-9^Immunization Schedule used^LN12/VXC16^ACIP^CDCPHINVS1111/F OBX13/CE59780-7^Immunization Series name^LN2200^DTP Vaccine Group^L111/F

OBX 11 CE 30956-7 Vaccine Type LN 2 107 DTP CVX || || F

PRODUCTS CORPORATION^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LT^LEFT THIGH^HL70163

ORC|RE||60086951^NJIIS RXA|0|1|20170609||106^Diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens^CVX|999|||00^Administered^NIP001||^^^10036||||AB7890|20170630|BPC^BERNA

OBX 10 ID 59781-5^dose validity^LN 2 Y || || F

OBX|9|NM|30973-2^dose number in series^LN|2|2|NA^^HL70353|||||F

OBX 8 CE 59780-7^Immunization Series name^LN 2 200^DTP Vaccine Group^L | | | | | F

OBX 7 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F

OBX|6|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F

CORPORATION^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | RT^RIGHT THIGH^HL70163

RXA|0|1|20170310||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11408|||AB789||ALP^ALPHA THERAPEUTIC

ORC|RE||59298354^NJIIS

OBX|5|ID|59781-5^dose validity^LN|2|Y|||||F

OBX|4|NM|30973-2^dose number in series^LN|2|1|NA^^HL70353|||||F

OBX|3|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F

OBX|2|CE|59779-9^Immunization Schedule used^LN|2|VXC16^ACIP^CDCPHINVS||||||F

OBX11CE30956-7^Vaccine Type^LN2107^DTP^CVX111F

INC.^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | RT^RIGHT THIGH^HL70163

RXA|0|1|20170202||106^Diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens^CVX|999|||00^Administered^NIP001||^^^7259||||YK999|20170228|NVX^NOVAVAX,

ORC|RE||58517003^NJIIS

ROAD^^JERSEY^NJ^12345^^H||||^^

<res:HL7MessageVersion>2.5.1</res:HL7MessageVersion>

Street^^Jersey City^NJ^07306^USA^H|^PRN^PH^^609^5551212|N PID|1||4239418^^^NJIIS^SR||TEST^BRIAN^^^^L||20050101|M||2106-3^WHITE^HL70005|MG

Forecast^CDCPHINVS|QT216990|2548431^^414^MR|Test^Brian^^^1|20050101|M|12 Test

QPD Z44^Request Evaluated History and

QAK|QT216990|OK|Z44^Request Immunization History and Forecast^CDCPHINVS

MSA|AA|1001

<res:ResponseHL7Message>MSH|^~\&|NJIIS|NJDOH|My EHR1.5|414|20210409162343-0400||RSP^K11^RSP\_K11|1001|T|2.5.1|||NE|NE|||||Z42^CDCPHINVS

OBX 17 CE 30956-7 Vaccine Type LN 2 107 DTP CVX || || F OBX 18 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F OBX19/CE59780-7^Immunization Series name^LN2200^DTP Vaccine Group^L||||||F OBX|20|NM|30973-2^dose number in series^LN|2|3|NA^^HL70353|||||F OBX|21|ID|59781-5^dose validity^LN|2|N|||||F OBX 22 CE 30982-3^Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||61936809^NJIIS RXA|0|1|20171010||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^8217||||XYZ123|20171104|AKR^AKORN, INC^MVX111CP RXR|C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162|LA^LEFT UPPER ARM^HL70163 OBX|23|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 24 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F OBX|25|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F OBX 26 NM 30973-2^dose number in series^LN 2 3 NA^^HL70353 | | | | F OBX 27 ID 59781-5^dose validity^LN 2 N || || F OBX 28 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW MINIMUM INTERVAL^L|||||F ORC|RE||62905649^NJIIS RXA|0|1|20171204||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11701|||AB789|20171230|ALP^ALPHA THERAPEUTIC CORPORATION^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LT^LEFT THIGH^HL70163 OBX 29 CE 30956-7 Vaccine Type LN 2 107 DTP CVX || || F OBX 30 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS || || F OBX|31|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F OBX|32|NM|30973-2^dose number in series^LN|2|3|NA^^HL70353|||||F OBX|33|ID|59781-5^dose validity^LN|2|N|||||F OBX|34|CE|30982-3^Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||64129246^NJIIS RXA|0|1|20180316||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11408||||XYZ123|20180331|AD^ADAMS LABORATORIES, INC.^MVX|||CP RXR | C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162 | LD^LEFT DELTOID^HL70163 OBX|35|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 36 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS | | | | | F OBX|37|CE|59780-7^Immunization Series name^LN|2|200^DTP Vaccine Group^L||||||F OBX 38 NM 30973-2^dose number in series^LN 23 NA^^HL70353 || || F OBX|39|ID|59781-5^dose validity^LN|2|N|||||F OBX 40 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE||65750925^NJIIS RXA|0|1|20180814||20^Diphtheria, tetanus, toxoids and acellular pertussis^CVX|999|||00^Administered^NIP001||^^^11408||||YK9999|20180831|ALP^ALPHA THERAPEUTIC CORPORATION^MVX|||CP

RXR|C28161^INTRAMUSCULAR^NCIT^IM^INTRAMUSCULAR^HL70162|LA^LEFT UPPER ARM^HL70163 OBX|41|CE|30956-7^Vaccine Type^LN|2|107^DTP^CVX||||||F OBX 42 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS || || F OBX 43 CE 59780-7^Immunization Series name^LN 2 200^DTP Vaccine Group^L | | | | | F OBX 44 NM 30973-2^dose number in series^LN 23 NA^^HL70353 || || F OBX|45|ID|59781-5^dose validity^LN|2|N|||||F OBX 46 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|INVALID^BELOW\_MINIMUM\_INTERVAL^L|||||F ORC|RE|9999^NJIIS RXA|0|1|20210409162343|20210409162343|998^no vaccine admin^CVX|999||||||||||||||NA OBX|47|CE|30956-7^Vaccine Type^LN|14|137^HPV^CVX||||||F OBX|48|CE|59779-9^Immunization Schedule used^LN|14|VXC16^ACIP^CDCPHINVS||||||F OBX 49 CE 59780-7^Immunization Series name^LN 4840^Human Papillomavirus Vaccine Group^L|||||F OBX 50 | DT 30980-7^Date next dose recommended^LN 14 20160101 | | | | | | F OBX 51 DT 30981-5^Earliest date to give^LN 14 20140101 || || || F OBX 52 DT 59778-1^Date dose is overdue^LN 14 20191231 || || F OBX 53 CE 59783-1^Status in immunization series^LN|14|RECOMMENDED^RECOMMENDED^L|||||F OBX 54 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|14|DUE\_NOW^DUE\_NOW^L|||||F OBX|55|CE|30956-7^Vaccine Type^LN|1|45^Hep B^CVX||||||F OBX 56 CE 59779-9^Immunization Schedule used^LN 1 VXC16^ACIP^CDCPHINVS | | | | | F OBX[57]CE[59780-7^Immunization Series name^LN]1]100^Hep B Vaccine Group^L||||||F OBX | 58 | DT | 30980-7^Date next dose recommended^LN | 1 | 20050301 | | | | | | F OBX|59|DT|30981-5^Earliest date to give^LN|1|20050129||||||F OBX 60 DT 59778-1^Date dose is overdue^LN 1 20050428 || || F OBX 61 CE 59783-1^Status in immunization series^LN 1 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 62 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|1|DUE\_NOW^DUE\_NOW^L|||||F OBX 63 CE 30956-7 Vaccine Type LN 2 107 DTP CVX || || F OBX 64 CE 59779-9^Immunization Schedule used^LN 2 VXC16^ACIP^CDCPHINVS || || F OBX 65 CE 59780-7^Immunization Series name^LN 2200^DTP Vaccine Group^L || || F OBX|66|DT|30980-7^Date next dose recommended^LN|2|20190214||||||F OBX|67|DT|30981-5^Earliest date to give^LN|2|20190214||||||F OBX 68 DT 59778-1 Date dose is overdue LN 2 20190214 || || F OBX 69 CE 59783-1^Status in immunization series^LN 2 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 70 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|2|DUE\_NOW^DUE\_NOW^L|||||F OBX|71|CE|30956-7^Vaccine Type^LN|3|17^HIB^CVX||||||F OBX 72 CE 59779-9^Immunization Schedule used^LN 3 VXC16^ACIP^CDCPHINVS || || || F OBX 73 CE 59780-7^Immunization Series name^LN 3 300^Hib Vaccine Group ^L | | | | | F OBX 74 CE 59783-1 Status in immunization series LN 3 CONDITIONAL CONDITIONAL L | | | | | F OBX | 75 | CE | 30982-3^Reason applied by forecast logic to project this vaccine^LN|3|HIGH\_RISK^HIGH\_RISK^L|||||F OBX|76|CE|30956-7^Vaccine Type^LN|4|89^Polio^CVX||||||F OBX 77 CE 59779-9^Immunization Schedule used^LN 4 VXC16^ACIP^CDCPHINVS || || F

OBX | 78 | CE | 59780-7^Immunization Series name^LN | 4 | 400^Polio Vaccine Group^L | | | | | | F OBX | 79 | DT | 30980-7^Date next dose recommended^LN | 4 | 20050301 | | | | | | F OBX 80 DT 30981-5^Earliest date to give^LN 4 20050212 || || || F OBX|81|DT|59778-1^Date dose is overdue^LN|4|20050428||||||F OBX 82 CE 59783-1^Status in immunization series^LN 4 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 83 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|4|DUE NOW^DUE NOW^L|||||F OBX 84 CE 30956-7 Vaccine Type LN 8 152 Pneumo CVX IIIIF OBX 85 CE 59779-9^Immunization Schedule used LN 8 VXC16^ACIP^CDCPHINVS || || F OBX 86 CE 59780-7^Immunization Series name^LN 8 750^Pneumococcal Vaccine Group^L | | | | F OBX 87 CE 59783-1^Status in immunization series^LN 8 CONDITIONAL^CONDITIONAL^L || || F OBX 88 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|8|HIGH\_RISK^HIGH\_RISK^L|||||F OBX 89 CE 30956-7 Vaccine Type LN 5 03 MMR CVX || || F OBX 90 CE 59779-9^Immunization Schedule used^LN 5 VXC16^ACIP^CDCPHINVS || || || F OBX 91 CE 59780-7^ Immunization Series name^LN 5 500^MMR Vaccine Group^L | | | | | F OBX|92|DT|30980-7^Date next dose recommended^LN|5|20060101||||||F OBX 93 DT 30981-5^Earliest date to give^LN 5 20060101 || || || F OBX|94|DT|59778-1^Date dose is overdue^LN|5|20060528||||||F OBX 95 CE 59783-1^Status in immunization series^LN 5 RECOMMENDED^RECOMMENDED^L | | | | | F OBX 96 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|5|DUE\_NOW^DUE\_NOW^L|||||F OBX|97|CE|30956-7^Vaccine Type^LN|6|21^Var^CVX||||||F OBX 98 CE 59779-9^Immunization Schedule used^LN 6 VXC16^ACIP^CDCPHINVS | | | | | F OBX 99 CE 59780-7^Immunization Series name^LN 6 600^Varicella Vaccine Group^L | | | | | F OBX|100|DT|30980-7^Date next dose recommended^LN|6|20060101||||||F OBX 101 DT 30981-5^Earliest date to give^LN 6 20060101 || || || F OBX 102 | DT | 59778-1^Date dose is overdue^LN | 6 | 20060528 | | | | | | F OBX|103|CE|59783-1^Status in immunization series^LN|6|RECOMMENDED^RECOMMENDED^L|||||F OBX 104 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|6|DUE\_NOW^DUE\_NOW^L|||||F OBX|105|CE|30956-7^Vaccine Type^LN|11|85^Hep A^CVX||||||F OBX 106 CE 59779-9^Immunization Schedule used^LN 11 VXC16^ACIP^CDCPHINVS |||||F OBX 107 CE 59780-7^Immunization Series name^LN 11 810^Hep A Vaccine Group^L | | | | F OBX 108 DT 30980-7^Date next dose recommended^LN 11 20060101 || || || F OBX 109 DT 30981-5^Earliest date to give^LN 11 20060101 || || || F OBX|110|DT|59778-1^Date dose is overdue^LN|11|20070128||||||F OBX 111 CE 59783-1^Status in immunization series^LN|11|RECOMMENDED^RECOMMENDED^L|||||F OBX 112 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|11|DUE\_NOW^DUE\_NOW^L|||||F OBX 113 CE 30956-7 Vaccine Type LN 10 88 Flu CVX || || F OBX 114 CE 59779-9^Immunization Schedule used^LN 10 VXC16^ACIP^CDCPHINVS | | | | | F OBX 115 CE 59780-7^Immunization Series name^LN 10 800^Influenza^L || || F OBX|116|DT|30980-7^Date next dose recommended^LN|10|20200701||||||F OBX 117 DT 30981-5^Earliest date to give^LN 10 20200701 || || || F

OBX | 118 | CE | 59783-1^Status in immunization series^LN10RECOMMENDED^RECOMMENDED^L OBX 119 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|10|DUE NOW^DUE NOW^L|||||F OBX 120 CE 30956-7 Vaccine Type LN 12 122 Rotavirus CVX IIII F OBX 121 CE 59779-9^Immunization Schedule used^LN 12 VXC16^ACIP^CDCPHINVS || || F OBX 122 CE 59780-7^Immunization Series name^LN 12 820^Rotavirus Vaccine Group^L | | | | | F OBX|123|CE|59783-1^Status in immunization series^LN|12|not RECOMMENDED^not RECOMMENDED^L||||||F OBX 124 CE 30982-3^Reason applied by forecast logic to project this vaccine^LN|12|TOO OLD TO INITIATE^TOO OLD TO INITIATE^L||||||F OBX|125|CE|30956-7^Vaccine Type^LN|13|108^Meningo^CVX||||||F OBX 126 CE 59779-9^ Immunization Schedule used^LN 13 VXC16^ACIP^CDCPHINVS | | | | | F OBX 127 CE 59780-7^Immunization Series name^LN 13 830^Meningococcal^L | | | | | F OBX|128|DT|30980-7^Date next dose recommended^LN|13|20160101||||||F OBX 129 DT 30981-5^Earliest date to give^LN 13 20160101 || || || F OBX 130 | DT | 59778-1^Date dose is overdue^LN 13 | 20180128 | | | | | | F OBX 131 CE 59783-1^Status in immunization series^LN13RECOMMENDED^RECOMMENDED^L OBX 132 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|13|DUE NOW^DUE NOW^L|||||F OBX 133 CE 30956-7 Vaccine Type LN 7 188 Zoster CVX 111 F OBX 134 CE 59779-9^Immunization Schedule used^LN 7 VXC16^ACIP^CDCPHINVS | | | | | F OBX 135 CE 59780-7^Immunization Series name^LN 7620^Zoster Vaccine Group^L | | | | | F OBX 136 DT 30980-7^Date next dose recommended^LN 7 20550101 || || || F OBX 137 | DT | 30981-5^Earliest date to give^LN | 7 | 20550101 | | | | | | F OBX 138 CE 59783-1^Status in immunization series^LN|7|FUTURE RECOMMENDED^FUTURE RECOMMENDED^L||||||F OBX 139 CE 30982-3^Reason applied by forecast logic to project this vaccine^LN|7|DUE\_IN\_FUTURE^DUE\_IN\_FUTURE^L|||||F OBX 140 CE 30956-7 Vaccine Type LN 21 164 Meningo B CVX | | | | | F OBX 141 CE 59779-9^Immunization Schedule used^LN 21 VXC16^ACIP^CDCPHINVS | | | | | F OBX 142 CE 59780-7^Immunization Series name^LN 21 835^Meningococcal B Vaccine Group^L|||||F OBX 143 CE 59783-1^Status in immunization series^LN 21 CONDITIONAL^CONDITIONAL^L | | | | | F OBX 144 CE 30982-3 Reason applied by forecast logic to project this vaccine^LN|21|HIGH\_RISK^HIGH\_RISK^L|||||F</res:ResponseHL7Message> </res:GetResponse> </res:NJIIS IMSGetResponse> </soapenv:Body> </soapenv:Envelope>

#### Sample Soap Envelope – Fault Request

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope" xmlns:req="http://njiis.njdoh.gov/ims/service/schema/hl7/get/request"> <soap:Header/> <soap:Body> <reg:NJIIS IMSGetRequest> <req:RequestHeader> <reg:FacilityID> YOUR FACILITY ID </reg:FacilityID> <req:FacilityKey> INVALID\_FACILITY\_KEY </req:FacilityKey> </req:RequestHeader> <req:GetRequest> <req:NJIISProviderID> YOUR NJIIS PROVIDER ID </req:NJIISProviderID> <reg:HL7MessageVersion>2.5.1</reg:HL7MessageVersion> <req:RequestHL7Message> MSH | ^~ \& | My EHR 1.0|414|NJIIS|NJDOH|20130410081752||QBP^Q11^QBP\_Q11|987654321|T|2.5.1|||NE|AL|||||Z44^ CDCPHINVS QPD Z44^Request Immunization History^CDCPHINVS|QT216987|12345^^^414^MR|NJIISLAST^NJIISFIRST^^^^L|Testarrison^Pat^^^^ M|19360709|M|123 BEACH LA^^MANAHAWKIN^NJ^08050^^L|^PRN^PH^^^609^5551212|Y|1| RCP||3| </req:RequestHL7Message> </reg:GetRequest> </req:NJIIS IMSGetRequest> </soap:Body> </soap:Envelope>

#### Sample Soap Envelope - Fault Response

<soapenv:Envelope xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"> <soapenv:Body> <soapenv:Fault> <soapenv:Code> <soapenv:Value>soapenv:Sender</soapenv:Value> <soapenv:Subcode> <soapenv:Value>Receiver</soapenv:Value> </soapenv:Subcode> </soapenv:Code> <soapenv:Reason> <soapenv:Text xml:lang="en-US">AUTH INTFC REQUEST FAILED. INVALID PASSWORD/FACILITY KEY</soapenv:Text> </soapenv:Reason> <soapenv:Node>node uri</soapenv:Node> <soapenv:Detail>MSH|^~\&|My EHR 1.0|414|NJIIS|NJDOH|20130410081752||QBP^Q11^QBP\_Q11|987654321|T|2.5.1|||NE|AL|||||Z44^ CDCPHINVS QPD Z44^Request Immunization History^CDCPHINVS|QT216987|12345^^^414^MR|NJIISLAST^NJIISFIRST^^^^L|Testarrison^Pat^^^^ M|19360709|M|123 BEACH LA^^MANAHAWKIN^NJ^08050^^L|^PRN^PH^^^609^5551212|Y|1| RCP||3|</soapenv:Detail> </soapenv:Fault> </soapenv:Body>

NJIIS Interface Management System HL7 Version 2.5.1 Local Implementation Guide: Immunization Messaging

</soapenv:Envelope>