WEB IZ

WebIZ Immunization Information System
HL7 2.5.1 Release 1.5
Local Implementation Guide

Document Version 5.1

July 2019

ENVISION
TECHNOLOGY PARTNERS

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Change Log

The following table captures the progression of this document over time.

Version	Date	Description	Author
1.0	06/26/2012	Initial version of document	Ray Seggelke
1.1	3/11/2013	Updates made during implementation and to match 13.2 upgrade release.	Nichole Lambrecht
1.2	5/14/2013	Updates made during implementation and to match 13.5 upgrade release.	Nichole Lambrecht
1.3	11/4/2013	Updates made during implementation to match 13.8 upgrade release.	Nichole Lambrecht
1.4	3/13/2014	Updates made to reflect updates since the 13.8 release.	Claire Murchie
1.5	4/18/2014	Clarify text for ORC3, ORC10	Claire Murchie
1.6	6/02/2014	More corrections to clarify intent and reflect updates to match the 13.8.3 release	Claire Murchie
1.7	7/24/2014	Updates made to reflect the v14.4 release	Claire Murchie
1.8	9/18/2014	Updates made to reflect the v14.8 release	Nichole Lambrecht, Kevin Snow, Claire Murchie
1.9	10/24/2014	Updates made after IG review with Rob Savage.	Kevin Snow
2.0	12/10/2014	Updates made to reflect the v14.11 release	Claire Murchie
2.1	02/24/2015	Updates to new company standard	Nicole Bumgardner
2.2	07/09/2015	Updates to LOINC table	Nicole Bumgardner
3.0	09/23/2015	Updates made to reflect the v15.7 release (updates are highlighted)	Lucía Lapaz
3.1	1/13/2016	Update the length of MSH-10 field and added New Mexico to the document	Claire Murchie
3.2	2/15/2016	Added an example on how to delete a vaccination from a patient	Claire Murchie
3.3	4/8/2016	Typo correction	Claire Murchie
3.4	06/14/2016	Updates to support the revised HL7 engine in the v16.4 release which includes more of the Release 1.5 components, support for NDCs, revised error handling and ZSA segments, custom ACK codes , MU3 support	Claire Murchie
3.5	6/30/2016	Added the values from the CDC addendum to the Funding Source and Financial Class tables in the Apendiz	Claire Murchie
3.6	8/8/2016	Updated acceptable Contraindication codes	Lucía Lapaz
3.7	9/25/2016	Fixed typos	Claire Murchie
3.8	12/2/2016	Updated usage for PID-1, MSH-21, RXA-10	Lucía Lapaz

3.9	3/31/2017	Updates since December 2016	Claire Murchie
4.0	8/22/2017	Updates since the 3.9 version of this document highlighted in green	Claire Murchie
4.1	05/29/2018	Updates to include Connecticut	Claire Murchie
5.1	07/10/2019	Updates from 18.7 to current	Hannah Ensley

Definitions

This guide is leveraged by the following jurisdictions. Throughout the guide, there are references to the following abbreviations and associations.

Jurisdictions

Arkansas
Commonwealth of the Northern Mariana Islands
Connecticut
Delaware
Guam
Kansas
Kentucky
Philadelphia
Nevada
New Mexico
Palau
San Antonio

Name of the Immunization Information System

Arkansas – AR WebIZ
Commonwealth of the Northern Mariana Islands – CNMI WebIZ
Connecticut – CT WiZ
Delaware – DelVAX
Guam – GU WebIZ
Kansas – KS WebIZ
Kentucky – KYIR
Philadelphia – KIDS Plus
Nevada – NV WebIZ
New Mexico – NMSIIS
Palau – Palau WebIZ
San Antonio – SAIRS

Two-Character Jurisdiction IDs

Arkansas - AR
Commonwealth of the Northern Mariana Islands - MP
Connecticut – CT
Delaware – DE
Guam – GU
Kansas – KS
Kentucky – KY
Philadelphia – PH
Nevada – NV
New Mexico – NM
Palau – PU
San Antonio – SA

Immunization Information System Facility Codes

Arkansas – AR0000
Commonwealth of the Northern Mariana Islands – MP0000
Connecticut – CT0000
Delaware – DE0000
Guam – GU0000
Kansas – KS0000
Kentucky – KY0000
Philadelphia – PH0000
Nevada – NV0000
New Mexico - NMSIIS
Palau – PU0000
San Antonio – SA0000

DISCLAIMER: The CDC has published a template document for a Local Implementation Guide. This document is heavily based on the CDC's Local Implementation Guide for HL7 2.5.1 Immunization Messaging, version 1.5. Much of the format and content of this document is based on the material found in the CDC's document including updates from the CDC Release 1.5 release.

Overview

Introduction

There are numerous providers across the jurisdiction served by the Immunization Information System (IIS) who administer immunizations to patients and desire to report this information to the IIS. In some cases, the provider may be a direct entry provider and will use the standard user interface to interact with the system. In other cases, these providers already have full-featured electronic systems (e.g., Electronic Medical Record systems, Clinic Management Systems, etc.), and they desire to exchange electronic messages with the IIS.

In order for different health information systems to exchange data, the structure and content of the data to be exchanged must be standardized. To this end, the Centers for Disease Control (CDC) has completed a series of efforts related to defining a standard approach for exchanging immunization-related data.

Three controlling documents define how the Immunization Information System HL7 Interface will behave. Figure 1 shows the hierarchy of documents, each refining and constraining the HL7 Standard.

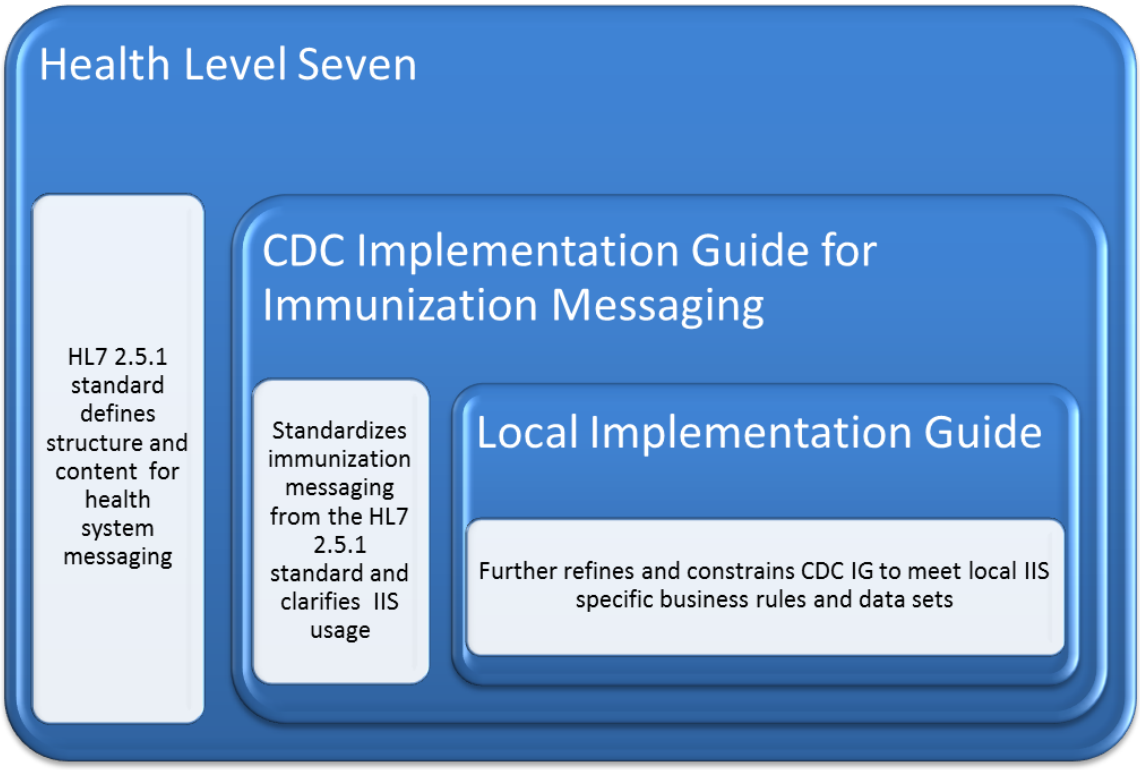

Figure 1: HL7 Controlling Document Hierarchy

The first document is the HL7 2.5.1 standard developed by Health Level Seven, a not-for-profit 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 http://www.hl7.org.

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

The third document is this document. It captures the applicable implementation decisions and defines what the Immunization Information System will and will not accept in an HL7 message. This document has been written in accordance with the standards set in the first two documents. It highlights 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 the local usage specification. This should prove highly useful to implementers of external systems by allowing them to accurately compare the CDC IG with this local implementation guide.

Note: This document includes tables and code sets values for a select set of fields. The complete set of standard code Value Sets are maintained in the PHIN VADS for use in Public Health. The main purpose of PHIN VADS is to distribute vocabulary subsets needed in Public Health. The latest version of value sets referenced in this Implementation Guide can be obtained from PHIN VADS at (http://phinvads.cdc.gov). Search using keyword "immunization". Please note that the PHIN VADS value sets are the source of truth for use in Meaningful Use testing. *Please refer to PHIN VADS for any Value Set defined in the tables below that begin with HL70000 through HL79999.*

Intended Audience

This Local IG is intended for technical groups from EMR (Electronic Medical Record) systems, EHR (Electronic Health Record) systems, other state-level systems, etc., that will exchange HL7 messages with WebIZ.

The reader of this Local IG should have a solid HL7 foundation and be fluent 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.

Scope

It is helpful to view the IIS as a repository of information. The typical approach is for external systems to use the HL7 interface to submit requests to the Immunization Information System. The HL7 interface supports the following scenarios/interactions between the IIS and an external system:

- The external system submits a query message to the IIS. The IIS will process the request and respond as appropriate, including:
    - Returning the relevant demographic information and immunization history for the matching individual. The results will also include any vaccine recommendations for the patient (based on their current history) and any adverse reaction data.
    - Returning a list of patient records that match the incoming query (along with additional demographic data to allow the requesting system to submit a more detailed query)
    - Returning an acknowledgement of the query if no matching patient records were found
    - Returning a warning/error that occurred during the messaging process
- The external system submits an update message to the IIS. The IIS will process the message and respond as appropriate, returning an acknowledgement of the incoming message along with any errors that occurred during the messaging process.

- An end user submits a batch file containing multiple update messages. The IIS will process this file during non-peak hours and will prepare a results file containing the acknowledgement information (including any errors) for each message in the batch file.
- An end user submits a request for the IIS to generate a file containing the complete demographic information and immunization history for all patients matching the incoming request. The IIS will process this request during non-peak hours and prepares the batch file containing the appropriate messages.

At this time, the Immunization Information System (IIS) will not initiate the exchange of information with another system via HL7 messaging. It will only respond to requests submitted by external systems.

Organization and Flow

This Local IG mirrors the organization and flow of the CDC IG. This chapter of this guide defines the high-level use cases supported by the Immunization Information System (IIS). The subsequent chapters define how the Immunization Information System (IIS) implements those use cases. Finally, this guide has appendices for the code tables and example messages.

It is important to note this guide adheres to the CDC IG on several key aspects including:

- Data type specifications from CDC IG have not been redefined and usage has not been changed
- Standardized vocabulary is supported as specified in the CDC IG
- To the extent possible, data sets and business rules adhere to the CDC IG

In cases where differences exist between this guide and the CDC IG, the differences are clearly defined in the appropriate sections of this guide.

Meaningful Use Stage 3

The IIS has implemented several enhancements to support Meaningful Use Stage 3. In this version of the HL7 engine, the IIS supports:

- The ability to process a vaccination using only the NDC code
- Release 1.5 compliant ACK messages
- Release 1.5 compliant RSP messages (with the exception of evaluated history)
- MSH-22 and MSH-23 fields

NDC Support Details

Historically the IIS only accepted CVX codes in the RXA segment for administered and historical vaccinations. In this version of the HL7 engine, if NDC and CVX codes are sent in the RXA segment for administered vaccinations, the IIS leverages the CVX provided. If the NDC code for an administered vaccination is sent in the RXA segment without a CVX, the HL7 engine maps the NDC value to the correct CVX code. The IIS still encourages the sender to continue to leverage CVX codes wherever possible.

The IIS internally leverages the CVX to do all matching as multiple NDCs will map to a single CVX code. Here is an example:

- Fluvirin with NDC 66521-0118-02 by Novartis Vaccines and Diagnostics Limited points to CVX 140
- FLUARIX with NDC 58160-0883-52 by GlaxoSmithKline Biologicals SA points to CVX 140

RSP Messages - Evaluated History Details

The IIS will return the forecast and evaluated history in a RSP message. The IIS fully supports the most current CDC CDSi logic and specifications in the HL7 engine.

Actors, Goals, and Messaging Transactions

Chapter 2 of the CDC IG defines actors (entities) that may be involved in sending or receiving immunization-related messages. It describes what actors are and how use cases (goals) can be associated to those actors. Finally, it associates specific HL7 messages with these use cases.

There are nine use cases defined in Chapter 2 of the CDC IG. Table 2-1 lists each of them and if/how they are implemented within the Immunization Information System.

USE CASE TITLE	GOAL	SUPPORTED BY Immunization Information System
Send Immunization History	To send an immunization history for an individual client from one system to another. In addition to EHR-S and IIS, other systems such as vital records systems or billing systems could use this message to send immunization histories.	The Immunization Information System only supports this via an outgoing batch file. (Refer to the "Return Immunization History" for additional related information.)
Receive Immunization History	To receive an unsolicited immunization history. It may be an update or a new record.	The Immunization Information System will accept this type of message from any external system (assuming they are able to successfully authenticate).
Request Immunization History	To request an immunization history from another system.	At this time, the Immunization Information System does not send this type of message to another system.
Return Immunization History	To return an immunization history to another system.	The Immunization Information System will send the immunization history for a patient as a response to an incoming query (if the query results in a match to a single patient record). The Immunization Information System will not send out this as an unsolicited message. It must be requested by the external system.
Accept Requested History	To accept an immunization history in response to a query for an immunization history from another system.	At this time, the Immunization Information System does not request immunization history, so it does not accept this type of message. Refer to "Return Immunization History" for additional related information.

USE CASE TITLE	GOAL	SUPPORTED BY Immunization Information System
Send Demographic Data	To send demographic data about a person. It may be an update or a new record.	The Immunization Information System will send the demographic data for a patient as a response to an incoming query (if the query results in a match to a single patient record). At this time, the Immunization Information System will not send out this as an unsolicited message. It must be requested by the external system.
Accept Demographic Data	To accept demographic data about a person. It may be an update or a new record.	The Immunization Information System will accept this type of message from any external system (assuming they are able to successfully authenticate).
Acknowledge Receipt	To acknowledge receipt of a message. This can be an immunization history, request for immunization history, demographic update, observation report or request for personal id. It may indicate success or failure. It may include error messages.	The Immunization Information System will send this type of message as a response to any incoming request.
Report Error	To send error messages related to submitted messages. These errors could result of rejection of message or parts of message.	The Immunization Information System will send this type of message as a response to any incoming request when a warning or hard error occurs during processing.

Table 2-1: CDC IG Use Cases mapped to The Immunization Information System

HL7 Messaging Infrastructure

The CDC IG contains basic descriptions of terms and definitions that are used in both the CDC IG and this guide. To avoid potentially ambiguous situations, the majority of the terms and definitions will not be redefined in this guide.

A key attribute to HL7 fields, components, and sub-components is the Usage Code. These attributes are generically referred to as elements. Table 3-1 defines the Usage Codes contained in this implementation guide.

USAGE CODE	INTERPRETATION	NOTES
R	Required	A conforming sending application shall populate all "R" elements with a non-empty value. A conforming receiving application shall process or <u>not use</u> the information conveyed by required elements. A conforming receiving application: - Must ***not*** raise an error due to the presence of a required element - May raise an error due to the absence of a required element.
RE	Required but may be Empty	The element may be missing from the message, but it must be sent by the sending application if there is relevant data. A conforming sending application should be capable of providing all "RE" elements. - If it knows the required values for the element, then it must send that element. Furthermore, the values in the field must be formatted correctly. - If it does not know the required values, then that element will be omitted. A conforming receiving application is expected to process or not use data contained in the element, but must be able to successfully process the message if the element is omitted (i.e., no error message should be generated because the element is missing).

USAGE CODE	INTERPRETATION	NOTES
C	Conditional	This usage has an associated condition predicate. This predicate is an attribute within the message. If the predicate is satisfied: - A conforming sending application must always send the element. - A conforming receiving application must process or not use data in the element. - It may raise an error if the element is not present. - Furthermore, the values in the field must be formatted correctly. If the predicate is ***not*** satisfied: o A conforming sending application must not send the element. o A conforming receiving application must not raise an error if the condition predicate is false and the element is not present. o It may raise an error if the element IS present.

CE	Conditional but may be Empty	This usage has an associated condition predicate. This predicate is an attribute within the message.
		
		If the predicate is satisfied:
		
		- A conforming sending application should be capable of providing all "CE" elements (when the predicate is true).
		  o If it knows the required values for the element, then it must send that element. Furthermore, the values in the field must be formatted correctly.
		  o If it does not know the required values, then that element will be omitted.
		- A conforming receiving application is expected to process or <u>not use</u> data contained in the element, but must be able to successfully process the message if the element is omitted (i.e., no error message should be generated because the element is missing).
		
		If the predicate is ***not*** satisfied:
		
		- A conforming sending application shall ***not*** populate the element.
		- A conforming receiving application may raise an application error if the element is present.

USAGE CODE	INTERPRETATION	NOTES
O	Optional	This element may be present if specified in local profile. Local partners may develop profiles that support use of this element. In the absence of a profile, a conforming sending application will ***not*** send the element. A conforming receiving application will not load the element if it is sent, unless local profile specifies otherwise. It may raise a warning if it receives an invalid optional element or if the values in the field are formatted incorrectly.
X	Not Supported	The element is ***not*** supported. A conforming sending application should ***not*** send this element. A conforming receiving application should not use this element if present. It may raise a warning if it receives an unsupported element or if the values in the field are formatted incorrectly. Any profile based on this Guide should ***not*** specify use of an element that is not supported in this Guide.

Table 3-1: Usage Code Definitions

The Immunization Information System will evaluate all data in a message sent regardless of whether the data is used by the Immunization Information System or not. As a result, any non-NULL data provided in a message must be formatted correctly to avoid errors or warnings.

For example, the OBX segment, field 17, is a CE data type that is not loaded by the Immunization Information System. If a non-NULL value is provided in this field, it must be a valid triplicate to avoid triggering a warning message from the Immunization Information System.

Please note that character encoding has been switched from ASCII to UTF-8 in order to properly support international names. Previously, a special character would be translated to a “?” in the field.

HL7 Data Types

The CDC IG contains clearly defined HL7 data types that are the building blocks of an HL7 message. Similar to the terms and definitions found in the HL7 Messaging Infrastructure section above, this guide will avoid potentially ambiguous situations and not attempt to redefine an already clearly defined section. This guide will adhere to Chapter 4 of the CDC IG.

Segments and Message Details

This chapter contains the specifications for each segment used. It indicates which fields are supported or required and describes any constraints on these fields.

HL7 2.5.1 Message Segments

Table 5-1: HL7 2.5.1 Message Segments Table 5-1lists each of the message segments contained in the Immunization-related HL7 2.5.1 messages along with an indication of if/how the Immunization Information System supports each segment.

SEGMENT	DEFINITION	MESSAGE USAGE	CDC IG USAGE	Immunization Information System USAGE	NOTES
BHS (Batch Header Segment)	The Batch Header Segment wraps a group of 1 or more messages. These may be a mixture of acceptable message types. This segment is not required for real-time messaging. That is, a stream of messages may be sent without a BHS. A system may choose to require BHS for all groups of messages, but should specify this requirement in a local implementation Guide.	Any	Optional	Optional. Not required for batch messages submitted to the Immunization Information System. *Note: Unless prior approval is received, batches should only be uploaded through the Immunization Information System user interface and not submitted through the web service.*	Used at the beginning of any batch of messages.
BTS (Batch Trailer Segment)	The BTS segment defines the end of a batch. It is required if the message has a matching BHS.	Any	Required if message starts with BHS	Required if message starts with BHS	Used to mark the end of any batch of messages. If the batch of messages starts with a BHS, then this segment is required.

SEGMENT	DEFINITION	MESSAGE USAGE	CDC IG USAGE	Immunization Information System USAGE	NOTES
ERR (Error Segment)	The error segment reports information about errors in processing the message. The segment may repeat. Each error will have its' own ERR segment.	ACK, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	Used to return information about errors.
EVN (Event Segment)	The EVN segment is used to communicate necessary trigger event information to receiving applications. Valid event types for all chapters are contained in HL7 Table 0003 - Event Type	ADT	Required for ADT message.	Not supported	Used to convey event trigger information.
FHS (File Header Segment)	The file header segment may be used to group one or more batches of messages. This is a purely optional segment, even if batches are sent. Its' use is not anticipated for use in real-time transactions. Any system that anticipates its use should specify this in a local implementation Guide	Any	Optional	Optional. Not required for batch messages submitted to the Immunization Information System. *Note: Unless prior approval is received, batches should only be uploaded through the Immunization Information System user interface and not submitted through the web service.*	Used to mark the beginning of a file of batches.

SEGMENT	DEFINITION	MESSAGE USAGE	CDC IG USAGE	Immunization Information System USAGE	NOTES
FTS (File Trailer Segment)	The FTS segment defines the end of a file of batches. It is only used when the FHS segment is used.	Any	Required to terminate a file of batches. (Matches FHS)	Required to terminate a file of batches. (Matches FHS)	Used to mark the end of a file of batches. If a file of batches has an FHS at the beginning, then this segment is required.
IN1-3 (Insurance Segment)	The IN1-IN3 segments contain insurance policy coverage information necessary to produce properly prorated and patient and insurance bills.	VXU	Optional	Not Supported	This segment is not anticipated for use in immunization messages, but may be specified for local use.
MSA (Message Acknowledgement Segment)	This segment is included in the query response (RSP) and acknowledgment (ACK) messages. It contains information used to identify the receiver's acknowledgement response to an identified prior message.	RSP, ACK	Ability to create and process is required for conformant systems	Supports the ability to create and process messages with this segment.	
MSH (Message Segment Header)	The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.	All	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	This begins every message and includes information about the type of message, how to process it, and by whom it was created

SEGMENT	DEFINITION	MESSAGE USAGE	CDC IG USAGE	Immunization Information System USAGE	NOTES
NK1 (Next of Kin Segment)	The NK1 segment contains information about the patient's next of kin or other related parties. Any associated parties may be identified.	VXU, ADT, RSP	Ability to create and process is required for conformant systems	Supports the ability to create and process messages with this segment.	Used to carry information about the next of kin for a client.
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.	VXU, ADT, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	Used to carry a note related to the parent segment.
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 and an answer.	ADT, VXU, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	Used to report one atomic part of an observation.

SEGMENT	DEFINITION	MESSAGE USAGE	CDC IG USAGE	Immunization Information System USAGE	NOTES
ORC (Order Request Segment)	The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). While not all immunizations recorded in an immunization message are able to be associated with an order, each RXA must be associated with one ORC, based on HL7 2.5.1 standard.	VXU, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	Used to give information about a group of one or more orders (typically RXA).
PD1 (Patient Demographic Segment)	The patient additional demographic segment contains demographic information that is likely to change about the patient. In immunization messages, this is information about the need to protect the client's information, how they should be part of reminder efforts and their current status in the IIS.	VXU, RSP, ADT	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	Used to give information about a patient. A primary use in immunization messages is to give information about privacy and whether contact is allowed.

SEGMENT	DEFINITION	MESSAGE USAGE	CDC IG USAGE	Immunization Information System USAGE	NOTES
PID (Patient Identifier Segment)	This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change. Used by all applications as the primary means of communicating patient identification information frequently.	VXU, ADT, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	Used to carry information about the patient/client.
PV1 (Patient Visit Segment)	This segment contains information related to a specific visit.	VXU, ADT, RSP	Optional	Supports the ability to create and process messages with this segment.	Contains funding program eligibility status at the patient level. Use OBX for documenting the funding program eligibility status at the immunization level.
QAK (Query Acknowledgement Segment)	The QAK segment contains information sent with responses to a query.	RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	
QPD	Query parameter definition	QBP, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	

SEGMENT	DEFINITION	MESSAGE USAGE	CDC IG USAGE	Immunization Information System USAGE	NOTES
RCP	Response control parameter segment	QBP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	
RXA	Pharmacy/Treatment Administration Segment	VXU, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	
RXR	Pharmacy/Treatment Route Segment	VXU, RSP	Ability to create and process is required for conformant systems.	Supports the ability to create and process messages with this segment.	
ZSA (Error Segment)	The custom error segment reports additional information about errors in processing the message.	ACK, RSP	Optional	Supports the ability to create and process messages with this segment.	Used to return additional information about errors.

Table 5-1: HL7 2.5.1 Message Segments

BHS – Batch Header Segment

The Immunization Information System is capable of processing messages batch VXU messages from an external system. (No other message types may be submitted in batch.) The use of a BHS is optional for these batches.

Note: Unless prior approval is received, batches should only be uploaded through the Immunization Information System user interface and not submitted through the web service.

Table 5-2 lists the fields that are part of the BHS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	1	ST	[1..1]	[1..1]		Batch Field Separator	R	R	The BHS.1 field shall be |
2	3	ST	[1..1]	[1..1]		Batch Encoding Characters	R	R	The BHS.2 field shall be ^~\&
3		HD	[0..1]	[0..1]		Batch Sending Application	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
4		HD	[0..1]	[0..1]		Batch Sending Facility	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
5		HD	[0..1]	[0..1]		Batch Receiving Application	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
6		HD	[0..1]	[0..1]		Batch Receiving Facility	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
7		TS	[0..1]	[0..1]		Batch Creation Date/Time	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
8	40	ST	[0..1]	[0..1]		Batch Security	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
9	20	ST	[0..1]	[0..1]		Batch Name/ID/Type	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
10	80	ST	[0..1]	[0..1]		Batch Comment	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
11	20	ST	[0..1]	[0..1]		Batch Control ID	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.
12	20	ST	[0..1]	[0..1]		Reference Batch Control ID	O	O	The Immunization Information System will not load this field if it is included in the BHS segment.

Table 5-2: BHS (Batch Header) Segment Definition

BTS – Batch Trailer Segment

The Immunization Information System is capable of processing messages batch VXU messages from an external system. (No other message types may be submitted in batch.) The use of a BTS is only expected when the batch has an accompanying BHS segment.

Note: Unless prior approval is received, batches should only be uploaded through the Immunization Information System user interface and not submitted through the web service.

Table 5-3 lists the fields that are part of the BTS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	10	ST	[0..1]	[0..1]		Batch Message Count	O	O	The Immunization Information System will not load this field if it is included in the BTS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
2	80	ST	[0..1]	[0..1]		Batch Comment	O	O	The Immunization Information System will not load this field if it is included in the BTS segment.
3	100	NM	[0..1]	[0..1]		Batch Totals	O	O	The Immunization Information System will not load this field if it is included in the BTS segment.

Table 5-3: BTS (Batch Trailer) Segment Definition

DSC – Continuation Pointer Segment

This segment is not supported by this HL7 interface.

ERR – Error Segment

Table 5-4 lists the fields that are part of the ERR segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1		ELD	[0..0]	[0..0]		Error Code and Location	X	X	Not supported for Version 2.5 and above
2	18	ERL	[0..1]	[0..1]		Error Location	RE	RE	This Guide does not support repeat of this field. It assumes that each error will be contained in one ERR segment. If the same error occurs more than once, there will be on ERR for each. If an error involves the entire message (e.g., the message is not parse-able) then location has no meaning. In this case, the field is left empty.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
3		CWE	[1..1]	[1..1]	0357	HL7 Error Code	R	R	
4	2	ID	[1..1]	[1..1]	0516	Severity	R	R	
5		CWE	[0..1]	[0..0]	0533	Application Error Code	O	X	The Immunization Information System will not populate this field in any outgoing messages with an ERR segment.
6	80	ST	[0..1]	[0..1]		Application Error Parameter	O	X	The Immunization Information System will not populate this field in any outgoing messages with an ERR segment.
7	2048	TX	[0..1]	[0..0]		Diagnostic Information	O	X	The Immunization Information System will populate this field with the full error warning message when ERR-8 exceeds 250 characters.
8	250	TX	[0..1]	[0..0]		User Message	O	X	The Immunization Information System will indicate the specific error or warning message in this field.
9	20	IS	[0..1]	[0..0]	0517	Inform Person Indicator	O	X	The Immunization Information System will not populate this field in any outgoing messages with an ERR segment.
10		CWE	[0..1]	[0..0]	0518	Override Type	O	X	The Immunization Information System will not populate this field in any outgoing messages with an ERR segment.
11		CWE	[0..1]	[0..0]	0519	Override Reason Code	O	X	The Immunization Information System will not populate this field in any outgoing messages with an ERR segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
12		XTN	[0..1]	[0..0]		Help Desk Contact Point	O	X	The Immunization Information System will not populate this field in any outgoing messages with an ERR segment.

Table 5-4: ERR (Error) Segment Definition

EVN – Event Type Segment

This segment is not supported by this HL7 interface.

FHS – File Header Segment

The Immunization Information System is capable of processing messages batch VXU messages from an external system. (No other message types may be submitted in batch.) The use of a FHS is optional for these batches.

Note: Unless prior approval is received, batches should only be uploaded through the Immunization Information System user interface and not submitted through the web service.

Table 5-5 lists the fields that are part of the FHS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	1	ST	[1..1]	[1..1]		File Field Separator	R	R	The FHS.1 field shall be |
2	4	ST	[1..1]	[1..1]		File Encoding Characters	R	R	The FHS.2 field shall be ^~\&
3		HD	[0..1]	[0..1]		File Sending Application	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
4		HD	[0..1]	[0..1]		File Sending Facility	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.
5		HD	[0..1]	[0..1]		File Receiving Application	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.
6		HD	[0..1]	[0..1]		File Receiving Facility	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.
7		TS	[0..1]	[0..1]		File Creation Date/Time	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.
8	40	ST	[0..1]	[0..1]		File Security	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.
9	20	ST	[0..1]	[0..1]		File Name/ID	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.
10	80	ST	[0..1]	[0..1]		File Header Comment	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.
11	20	ST	[0..1]	[0..1]		File Control ID	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
12	20	ST	[0..1]	[0..1]		Reference File Control ID	O	O	The Immunization Information System will not load this field if it is included in the FHS segment.

Table 5-5: FHS (File Header) Segment Definition

FTS – File Trailer Segment

The Immunization Information System is capable of processing messages batch VXU messages from an external system. (No other message types may be submitted in batch.) The use of a FTS is only expected when the batch has an accompanying FHS segment.

Note: Unless prior approval is received, batches should only be uploaded through the Immunization Information System user interface and not submitted through the web service.

Table 5-6 lists the fields that are part of the FTS segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	10	NM	[0..1]	[0..1]		File Batch Count	O	O	The Immunization Information System will not load this field if it is included in the FTS segment.
2	80	ST	[0..1]	[0..1]		File Trailer Comment	O	O	The Immunization Information System will not load this field if it is included in the FTS segment.

Table 5-6: FTS (File Trailer) Segment Definition

GT1 – Guarantor Segment

This segment is not supported by this HL7 interface.

IN1 – Insurance Segment

This segment is not supported by this HL7 interface.

IN2 – Insurance Segment

This segment is not supported by this HL7 interface.

IN3 – Insurance Segment

This segment is not supported by this HL7 interface.

MSA – Message Acknowledgement Segment

Table 5-7 lists the fields that are part of the MSA segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	2	ID	[1..1]	[1..1]	0008	Acknowledgement	R	R	The Immunization Information System only supports the Original Mode.
2	199	ST	[1..1]	[1..1]		Message Control ID	R	R	The Immunization Information System will populate this field with the contents of the MSH-10 of the incoming message.
3	80	ST	[0..1]	[0..0]		Text Message (Deprecated)	X	X	The Immunization Information System will not populate this field in any outgoing messages with an MSA segment.
4	15	NM	[0..1]	[0..0]		Expected Sequence Number	O	X	The Immunization Information System will not populate this field in any outgoing messages with an MSA segment.
5			[0..1]	[0..0]		Removed	O	X	The Immunization Information System will not populate this field in any outgoing messages with an MSA segment.
6		CE	[0..0]	[0..0]	0357	Error Condition (Deprecated)	X	X	The Immunization Information System will not populate this field in any outgoing messages with an MSA segment.

Table 5-7: MSA (Message Acknowledgement) Segment Definition

MSH – Message Header Segment

Table 5-8 lists the fields that are part of the MSH segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	1	ST	[1..1]	[1..1]		Field Separator	R	R	The MSH-1 field shall be | For incoming messages, any other values in this field will result in the message being rejected.
2	4	ST	[1..1]	[1..1]		Encoding Characters	R	R	The MSH-2 field shall be ^~\& For incoming messages, any other values in this field will result in the message being rejected.
3	20	HD	[0..1]	[0..1]	0361	Sending Application	RE	RE	The Immunization Information System <u>will not</u> load the value supplied in this field when processing the incoming message. If a value is supplied, it must be the correct data type, length and/or valid code. The Immunization Information System will include the IIS Name and identifier in this field for all outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
4		HD	[0..1]	[1..1]	0362	Sending Facility	RE	R	Contact the Immunization Information System Help Desk for assistance in obtaining a Sending Facility code. For an incoming message, an active valid facility (other than The Immunization Information System's Facility code) must be provided or the message will be rejected. If the incoming message is a QBP, the facility must have permission to query the system or the message will be rejected. If the incoming message is a VXU, the facility must have permission to update the system or the message will be rejected. *In other words, the facility must exist, be active, and have permission or the message will be rejected.* The Immunization Information System will include the IIS Facility Code as the value in this field for all outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
5		HD	[0..1]	[0..1]		Receiving Application	RE	RE	The Immunization Information System will not load the value supplied in this field when processing the incoming message. If a value is supplied, it must be the correct data type, length and/or valid code. The Immunization Information System will always set this to the value in the "Sending Application" field from the corresponding QBP message for outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
6		HD	[0..1]	[1..1]	0362	Receiving Facility	RE	RE	The Immunization Information System requires a valid Receiving Facility code in every incoming message. Any message not containing a valid value will be rejected. **Since the IIS covers the *Jurisdiction*, the only appropriate Receiving Facility codes are:** For Arkansas: **AR0000** For Commonwealth of the Northern Mariana Islands: **MP0000** For Connecticut: **CT0000** For Delaware: **DE0000** For Guam: **GU0000** For Kansas: **KS0000** For Kentucky: **KY0000** For Philadelphia: **PH0000** For Nevada: **NV0000** For New Mexico: **NMSIIS** For Palau: **PU0000** For San Antonio: **SA0000** The Immunization Information System will set this to the value in the "Sending Facility" field from the corresponding incoming message for the outgoing messages. If the corresponding message was unable to be loaded due to parsing errors or the username did not authenticate then this field will be populated with the IIS Facility Code.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
7		TS	[1..1]	[1..1]		Date/Time Of Message	R	R	The Immunization Information System requires the incoming message to contain the degree of precision to at least the minute. The DTM format is: Year – YYYY Month – MM Day – DD Hour – HH Minute – MM Second – SS Millisecond – mmm GMT offset - +ZZZZ or -ZZZZ (Format Example: YYYYMMDDHHMMSSmmm+ZZZZ) Minimum Precision Example: 20140319121705 If an invalid value (i.e., improperly formatted or in the future) is supplied in an incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. The Immunization Information System will always set this to the system date/time the message was created for outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
8	40	ST	[0..1]	[0..0]		Security	O	X	The Immunization Information System will not load this field if it is included in the MSH segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing message.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
9	15	MSG	[1..1]	[1..1]		Message Type	R	R	The Immunization Information System will accept the following message types: - VXU - QBP VXU Conformance Statement: IZ-17: MSH-9 (Message Type) SHALL contain the constant value “VXU^VO4^VXU_V04” QBP Conformance Statement: IZ-18: MSH-9 (Message Type) SHALL contain the constant value “QBP^Q11^QBP_Q11” Any other value in this field will result in the incoming message being rejected. The Immunization Information System will return messages of the following message types: - RSP^K11^RSP_K11 - ACK^V04^ACK

10	199	ST	[1..1]	[1..1]		Message Control ID	R	R	For incoming messages, the value should be unique within the scope of the sending facility and sending application, and the date (YYYYMMDD) portion of the message date. If this field is missing, the incoming message will be rejected. For outgoing messages, the Immunization Information System will always put a value of YYYYMMDDQQ999999 in this field. This value can be interpreted as: - YYYYMMDD = current system date when response was created - **QQ = 2 character abbreviation for the *Jurisdiction*** Arkansas - AR Commonwealth of the Northern Mariana Islands - MP Connecticut – CT Delaware - DE Guam - GU Kansas - KS Kentucky - KY Philadelphia - PH Nevada – NV New Mexico - NM Palau - PU San Antonio - SA - 999999 = sequential number assigned to each HL7 message sent In addition, the Immunization Information System will populate the MSA-2 field of any response message with the value in

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									this field supplied by the sending application in the incoming message.
11	3	PT	[1..1]	[1..1]	0103	Processing ID	R	R	Any incoming message not containing a valid value in the first component will be rejected. The value in this field must be must be formatted correctly. For outgoing messages, the Immunization Information System will populate this field as follows: - "P" will be in the first component of this field when the message is being processed by the production system. - "T" will be in the first component of this field when the message is being processed by a test/training/QA system. - The second component will always be empty

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
12		VID	[1..1]	[1..1]		Version ID	R	R	Any incoming message being processed through the Immunization Information System interface supported by this IG must specify 2.5.1 as the version. All other values will cause the message to be rejected. All response messages will specify 2.5.1 as the version. If you would like to utilize the HL7 2.3.1 interface for the Immunization Information System, contact the Help Desk for the necessary information.
13	15	NM	[0..1]	[0..0]		Sequence Number	O	X	The Immunization Information System will not load this field if it is included in the MSH segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
14	180	ST	[0..1]	[0..0]		Continuation Pointer	O	X	The Immunization Information System will not load this field if it is included in the MSH segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages.
15	2	ID	[0..1]	[0..1]	0155	Accept Acknowledgement Type	RE	RE	The Immunization Information System will not load any value supplied in this field in an incoming message and will process it using the original acknowledgement mode (i.e., an acknowledgement will be returned to the external system once the incoming message has been processed). If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. All outgoing messages will contain 'NE' (Never) in this field.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
16	2	ID	[0..1]	[0..1]	0155	Application Acknowledgment Type	RE	RE	The Immunization Information System will not load any value supplied in this field in an incoming message and will process it using the original acknowledgement mode (i.e., an acknowledgement will be returned to the external system once the incoming message has been processed). If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. All outgoing messages will contain 'AL' (always) in this field. (The Immunization Information System does not process any responses to messages it sends.)
17	3	ID	[0..1]	[0..0]	0399	Country Code	O	X	The Immunization Information System expects all incoming messages will originate in the USA or a related territory. It will not load any value supplied in this field. If supplied, the value must be USA. This field will be left empty for all outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
18	16	ID	[0..1]	[0..0]	0211	Character Set	O	X	The Immunization Information System expects all incoming messages will use the ASCII character set. It will not load any value supplied in this field and will process the message using the ASCII character set. This field will be left empty for all outgoing messages.
19		CE	[0..1]	[0..0]		Principal Language Of Message	O	X	The Immunization Information System expects all messages will use English as the principal language. It will not load any other value in this field and will process the message without using alternate character sets. This field will be left empty for all outgoing messages.
20	20	ID	[0..1]	[0..0]	0356	Alternate Character Set Handling Scheme	O	X	The Immunization Information System expects all messages to not use character switching. It will not load any other value in this field and will process the message without using alternate character sets. This field will be left empty for all outgoing messages.

21		EI	[0..*]	[0..1]		Message Profile Identifier	R	R	The Immunization Information System expects the following values for all incoming messages: - Z22^CDCPHPHINVS for all incoming VXU messages - Z34^CDCPHINVS or Z44^CDCPHINVS for incoming QBP messages - Value is <u>not used</u> for all other incoming message types and will be processed without applying a message profile. All outgoing response messages to VXU messages will be coded as follows: - Z23^CDCPHINVS will be used for all RSP messages to a Z22^DCPHINVS VXU message All outgoing response messages to QBP messages will be coded as follows: - Z33^CDCPHINVS will be used for all RSP messages containing no match - Z32^CDCPHINVS will be used for all RSP messages containing a single patient record with full immunization history - Z31^CDCPHINVS will be used for all RSP messages containing one or more lower confidence matching records - Z42^CDCPHINVS will be used for all RSP Z44 evaluations and forecast messages containing a single patient record

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									Empty for all other outgoing message types.

22		XON	[0..1]	[0..1]		Responsible Sending Organization	RE	RE	This is a new field with 2.5.1 release 1.5 and pre-adopts the Version 2.7.1 MSH segment. Note: In order to avoid rejected messages this field CAN be left blank (NULL). Contact the Immunization Information System Help Desk for assistance in obtaining permission to send on behalf of other facilities via this field. A valid facility code should be specified in the MSH-22.1(OrganizationName) field. Please note: Usage of this field is conditional per sending facility code. The Immunization Information System can specify if the facility: 1) can optionally send data on behalf of other facilities, 2) is required to use this field when sending on behalf of other facilities, or 3) cannot send on behalf of other facilities. When a facility cannot send data on behalf of another facility, if a facility code is sent in MSH-22 the whole message will be rejected. When a facility has the option to send data on behalf of another facility, if a facility code is sent in MSH-22 then it will be used when possible to assign vaccination clinic and ownership of patient. If that field is null or is invalid, a

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									warning will be returned but the message will continue to process/load. When the facility must send data on behalf of another facility, then this field must be populated with a valid (active) facility code in the MSH-22 field. If the MSH-22.1 is null or is invalid, an error will be returned.

23		XON	[0..1]	[0..1]		Responsible Receiving Organization	RE	RE	This is a new field with 2.5.1 release 1.5 and pre-adopts the Version 2.7.1 MSH segment. Note: In order to avoid rejected messages this field CAN be left blank (NULL). If this field is provided in an incoming message, the Immunization Information System requires a valid Receiving Facility code. Any message containing a non-NULL invalid value will be rejected. **Since the Immunization Information covers the *Jurisdiction*, the only appropriate Receiving Facility codes are:** For Arkansas: **AR0000** For Commonwealth of the Northern Mariana Islands: **MP0000** For Connecticut: **CT0000** For Delaware: **DE0000** For Guam: **GU0000** For Kansas: **KS0000** For Kentucky: **KY0000** For Philadelphia: **PH0000** For Nevada: **NV0000** For New Mexico: **NMSIIS** For Palau: **PU0000** For San Antonio: **SA0000** The Immunization Information System will set this to the value in the "Sending Facility" field from the corresponding message for outgoing messages. If the corresponding incoming message was unable to be loaded due to parsing errors

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									or the username did not authenticate then this field will not be populated.
24		HD				Sending Network Address	O	X	This is a new field with 2.5.1 release 1.5 and pre-adopts the Version 2.7.1 MSH segment. The Immunization Information System will not load this field if it is included in the MSH segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. This field will be left empty for all outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
25		HD				Receiving Network Address	O	X	This is a new field with 2.5.1 release 1.5 and pre-adopts the Version 2.7.1 MSH segment. The Immunization Information System will not load this field if it is included in the MSH segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. This field will be left empty for all outgoing messages.

Table 5-8: MSH (Message Header) Segment Definition

NK1 – Next of Kin Segment

NK1 entries are processed into WebIZ as Patient Contacts. Table 5-9 lists the fields that are part of the NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	4	SI	[1..1]	[1..1]		Set ID – NK1	R	R	This field should be a sequence of occurrences. So the first occurrence would be 1 then the second 2, etc.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
2		XPN	[1..*]	[1..2]		Name	R	R	The incoming message only accepts the legal name type code “L”. Mother’s Maiden Name should be passed in via PID-6. If the type code is left blank it will be defaulted to legal name. For outgoing messages, the contact’s name will be included with a type of ‘L’. No additional names will be included.
3		CE	[1..1]	[1..1]	0063	Relationship	R	R	The Immunization Information System expects values mapped in the “Emergency Contact Type” codes and will process this data in the contacts relationship field for patient demographics. Example: |MTH^Mother^HL70063|

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
4		XAD	[0..*]	[0..*]		Address	RE	RE	The Immunization Information System does not track addresses for patient contacts. It will not load all values in this field in incoming messages. If a value is supplied, it must be the correct data type (BDL, BR, N, C, H, L, M, P), length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. For outgoing messages, this field will always be empty.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
5		XTN	[0..*]	[0..2]		Phone Number	RE	RE	The Immunization Information System will only process Telecommunication Code Types of PRN, ORN, EMR (as of the v16.9 release of the IIS), and WPN for NK1 segments in incoming messages. All other types will not be used. For an explanation of the PRN, ORN, EMR, and WPN Telecommunication Code Types, please refer to PHIN VADS for value set HL70201. Examples: - PRN: ^PRN^PH^^^864^1309701 - ORN: ^ORN^CP^^^555^2352222 If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. For outgoing messages, the following types will be included (when non-NULL) in the Immunization Information System (as available): PRN, WPN, EMR, ORN.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
6		XTN	[0..*]	[0..1]		Business Phone Number	O	O	If the WPN phone number type is not sent in NK1-5 in the incoming message, then it can optionally be included here. Examples: - WPN: ^WPN^PH^^^545^5666666^2222 If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. This field will be empty in all outgoing messages.
7		CE	[0..1]	[0..0]	0131	Contact Role	O	X	The Immunization Information System <u>will not</u> load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
8	8	DT	[0..1]	[0..0]		Start Date	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
9	8	DT	[0..1]	[0..0]		End Date	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
10	60	ST	[0..1]	[0..0]		Next of Kin / Associated Parties Job Title	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
11		JCC	[0..1]	[0..0]	0327/ 0328	Next of Kin / Associated Parties Job Code/Class	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
12		CX	[0..1]	[0..0]		Next of Kin / Associated Parties Employee Number	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
13		XON	[0..1]	[0..0]		Organization Name - NK1	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
14		CE	[0..1]	[0..0]	0002	Marital Status	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
15	1	IS	[0..1]	[0..0]	0001	Administrative Sex	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
16		TS	[0..1]	[0..0]		Date/Time of Birth	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
17	2	IS	[0..1]	[0..0]	0223	Living Dependency	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
18	2	IS	[0..1]	[0..0]	0009	Ambulatory Status	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
19		CE	[0..1]	[0..0]	0171	Citizenship	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
20		CE	[0..1]	[0..0]	ISO0639	Primary Language	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
21	2	IS	[0..1]	[0..0]	0220	Living Arrangement	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
22		CE	[0..1]	[0..0]	0215	Publicity Code	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
23	1	ID	[0..1]	[0..0]	0136	Protection Indicator	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
24	2	IS	[0..1]	[0..0]	0231	Student Indicator	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
25		CE	[0..1]	[0..0]	0006	Religion	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
26		XPN	[0..1]	[0..0]		Mother's Maiden Name	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
27		CE	[0..1]	[0..0]	0212	Nationality	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
28		CE	[0..1]	[0..0]	CDCREC	Ethnic Group	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
29		CE	[0..1]	[0..1]	0222	Contact Reason	O	O	The Immunization Information System will accept a locally-defined value of "PR" (Primary) and RR (Reminder Recall) in this field in an incoming message. Both values can be used to indicate that this contact should be marked as the Primary Contact in the IIS. (Any other contacts marked as Primary will no longer have this designation.) All other values will not be used in this field. For outgoing messages, if a contact is marked in the IIS as being the Primary Contact, 'PR' will be included in this field. Otherwise, the field will be empty.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
30		XPN	[0..1]	[0..0]		Contact Person's Name	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
31		XTN	[0..1]	[0..0]		Contact Person's Telephone Number	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
32		XAD	[0..1]	[0..0]		Contact Person's Address	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
33		CX	[0..1]	[0..0]		Next of Kin/Associated Party's Identifiers	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
34	2	IS	[0..1]	[0..0]	0311	Job Status	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
35		CE	[0..1]	[0..0]	0005	Race	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
36	2	IS	[0..1]	[0..0]	0295	Handicap	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
37	16	ST	[0..1]	[0..0]		Contact Person Social Security Number	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
38		ST	[0..1]	[0..0]		Next of Kin Birth Place	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.
39	2	IS	[0..1]	[0..0]	0099	VIP Indicator	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

Table 5-9: NK (Next of Kin) Segment Definition

NTE – Note Segment

Table 5-10 lists the fields that are part of the NTE segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	4	SI	[0..1]	[0..1]		Set ID – NTE	O	O	
2	8	ID	[0..1]	[0..0]	0105	Source of Comment	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
3		FT	[1..1]	[1..1]		Comment	R	R	The Immunization Information System will only include a NTE segment in an outgoing message whenever there is an OBX segment containing an indication of an adverse reaction (in which case it will contain the appropriate reaction). The Immunization Information System will load any comments here into the comments field on the Vaccination details screen.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
4		CE	[0..1]	[0..0]	0364	Comment Type	O	X	The Immunization Information System will not load this field if it is included in the NK1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a NK1 segment.

Table 5-10: NTE (Note) Segment Definition

OBX – Observation Result Segment

Table 5-11 lists the fields that are part of the OBX segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	4	SI	[1..1]	[1..1]		Set ID – OBX	R	R	This field contains the sequence number (i.e. 1, 2, 3).
2	2	ID	[1..1]	[1..1]	0125	Value Type	R	R	The specific type indicated must match with the value specified in OBX-3 CE, NM, ST, DT, ID or TS

3		CE	[1..1]	[1..1]	NIP003	Observation Identifier	R	R	This indicates what this observation refers to. It poses the question that is answered by OBX-5. Please note, this field is critically important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. Decrementing inventory is dependent upon a matched pair of OBX-3 and OBX-5 fields that provide the funding program eligibility AND the funding source of the vaccination. Appendix A lists the LOINC codes recognized by the Immunization Information System. OBX segments with any other LOINC codes values will not be used. Example: |64994-7^Vaccine funding program eligibility category^LN The Immunization Information System will include any data (with indicated LOINC codes) in outgoing messages (as identified in Appendix A). Appendix B provides examples of how to send the VIS in OBX-3 field. The Immunization Information system now

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									supports sending single, multi-antigen, via barcode and CVX.
4	20	ST	[1..1]	[1..1]		Observation Sub-ID	RE	RE	

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
5		varies1	[1..1]	[1..1]		Observation Value	R	R	This is the observation value and answers the question posed by OBX-3 Example: |V02^Is enrolled in Medicaid^HL70064| Please note, this field is critically important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. Decrementing inventory is dependent upon a matched pair of OBX-3 and OBX-5 fields that provide the funding program eligibility AND the funding source of the vaccination. Note: If the incoming message does not include the OBX-3 and OBX-5 indication for VFC Eligibility for an administered vaccination, the IIS will leverage Patient VFC Eligibility information provided in PV1-20 at the vaccine level. If the incoming message contains an OBX-3 but fails to provide the matching OBX-5, the Immunization Information System will return a warning but will continue to process the incoming message.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
6		CE	[0..1]	[0..1]	UCUM	Units	CE	CE	The Immunization Information System will not load any value specified in this field in incoming messages. For outgoing messages, this field will always be empty.
7	60	ST	[0..1]	[0..0]		References Range	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

[1] The length of the observation field is variable, depending upon value type. See *OBX-2 value type*.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
8	5	IS	[0..1]	[0..0]	0078	Abnormal Flags	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
9	5	NM	[0..1]	[0..0]		Probability	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
10	2	ID	[0..1]	[0..0]	0080	Nature of Abnormal Test	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
11	1	ID	[1..1]	[1..1]	0085	Observation Result Status	R	R	The Immunization Information System will not load any value specified in this field in an incoming message and will process all segments with a value of 'F'. For outgoing messages, this field will be populated with a value of 'F'.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
12		TS	[0..1]	[0..0]		Effective Date of Reference Range Values	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
13	20	ST	[0..1]	[0..0]		User Defined Access Checks	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
14		TS	[1..1]	[1..1]		Date/Time of the Observation	RE	RE	The Immunization Information System will not load any value specified in this field in an incoming message. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. For outgoing messages, this field will be populated with a value when The Immunization Information System is populating an OBX for any associated VFC code.
15		CE	[0..1]	[0..0]		Producer's Reference	O	X	The Immunization Information System <u>will not</u> load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
16		XCN	[0..1]	[0..0]		Responsible Observer	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
17		CE	[0..1]	[0..0]		Observation Method	O	X	The Immunization Information System will accept a VXC40 or VXC41 in this field in an incoming message if the OBX 3.1 has a value of 64994-7. All other non-null values in this field will generate a warning. Example: |**VXC40**^PER IMMUNIZATION^CDCPHINVS| For outgoing messages, if the OBX-3.1 is 64994-7, this field will be populated with a VXC40. Example: |**VXC40**^PER IMMUNIZATION^CDCPHINVS|

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
18		EI	[0..1]	[0..0]		Equipment Instance Identifier	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
19		TS	[0..1]	[0..0]		Date/Time of the Analysis	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
20			[0..1]	[0..0]		Reserved for harmonization with V2.6	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
21			[0..1]	[0..0]		Reserved for harmonization with V2.6	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
22			[0..1]	[0..0]		Reserved for harmonization with V2.6	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
23		XON	[0..1]	[0..0]		Performing Organization Name	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
24		XAD	[0..1]	[0..0]		Performing Organization Address	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.
25		XCN	[0..1]	[0..0]		Performing Organization Medical Director	O	X	The Immunization Information System will not load this field if it is included in the OBX segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an OBX segment.

Table 5-11: OBX (Observation Result) Segment Definition

ORC – Order Request Segment

Table 5-12 lists the fields that are part of the ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	2	ID	[1..1]		0119	Order Control	R	R	Please refer to the value set HL70119.
2		EI	[0..1]	[0..1]		Placer Order Number	RE	RE	The Immunization Information System does not track the Placer Order Number. It will not load all values in this field in incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. For outgoing messages, this field will always be empty.

3		EI	[1..1]	[1..1]		Filler Order Number	R	R	The identifier included in the incoming message will be stored off in the database with this vaccination. It will not be visible on the direct entry user interface. This is the unique identifier of the sending system in a given transaction. Use of this foreign key will allow the initiating system to accurately identify a previously sent immunization record and facilitate the accurate update or deletion of that record. The length of the ORC-3 field can be up to 199 characters. While the ORC-3 value is stored, a user must delete and correct the record in WebIZ. In the case where a historic immunization is being recorded, the sending system shall assign an identifier as if the immunization was administered by a provider associated with the sending system. In the case where the RXA is conveying information about an immunization which was not given (e.g. refusal) the filler order number will be 9999. Example: |123456| For outgoing messages, the internal patient vaccination ID is included in this field. Example: |107421**^WEBIZ**|

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
4		EI	[0..1]	[0..0]		Placer Group Number	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
5	2	ID	[0..1]	[0..0]	0038	Order Status	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
6	1	ID	[0..1]	[0..0]	0121	Response Flag	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
7		TQ	[0..0]	[0..0]		Quantity/Timing	X	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
8		EIP	[0..1]	[0..0]		Parent	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
9		TS	[0..1]	[0..0]		Date/Time of Transaction	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
10		XCN	[0..1]	[0..1]		Entered By	RE	RE	The Immunization Information System does not track the person who enters an order. It will not load any value in this field in an incoming message. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. This field will always be empty for an outgoing message.
11		XCN	[0..1]	[0..0]		Verified By	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

12		XCN	[0..1]	[0..1]		Ordering Provider	RE	RE	This shall be the provider ordering the immunization. The validation of the value provided is conditional based on the facility code settings in the Immunization Information System. The Immunization Information System will interpret the Unique ID (first component) of this field in the incoming message as the person's NPI (National Provider Identifier), MD (Medical License Number), and/or PRN. If an IDNumber is provided and the Identifier Type Code is set to NPI in this field, the NPI is matched to a user within the Immunization Information System associated with this clinic. This user will be indicated in the Administered By field for the immunization. If a NPI is supplied and a match cannot be found, the Immunization Information System will return a warning but will continue to process the incoming message and will enter the prefix, name, and the suffix into the vaccination comments field. If an IDNumber is provided and the Identifier Type Code is set to MD in this field, the MDI is matched to a user within the Immunization Information System associated with this clinic. This user will be indicated in the Administered By field for the immunization. If a MD is supplied and a match cannot be found, the Immunization Information System will

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									return a warning but will continue to process the incoming message and will enter the prefix, name, and the suffix into the vaccination comments field. If an IDNumber is provided and the Identifier Type Code is set to PRN, the Immunization Information System will process the incoming message and will enter the PRN prefix, name, and the suffix into the vaccination comments field. For outgoing messages, the Immunization Information System will include the NPI as the Unique ID in this field of the person who prescribed the vaccine (if available). Example: **0123456789^LASTNAME^FIRSTNAME^^^^^^NPI^L^^^NPI**

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
Field 13		PL	[0..1]	[0..0]		Enterer's Location	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
14		XTN	[0..1]	[0..0]		Call Back Phone Number	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
15		TS	[0..1]	[0..0]		Order Effective Date/Time	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
16		CE	[0..1]	[0..0]		Order Control Code Reason	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
17		CE	[0..1]	[0..0]		Entering Organization	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
18		CE	[0..1]	[0..0]		Entering Device	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
19		XCN	[0..1]	[0..0]		Action By	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
20		CE	[0..1]	[0..0]	0339	Advanced Beneficiary Notice Code	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
21		XON	[0..1]	[0..0]		Ordering Facility Name	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
22		XAD	[0..1]	[0..0]		Ordering Facility Address	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
23		XTN	[0..1]	[0..0]		Ordering Facility Phone Number	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
24		XAD	[0..1]	[0..0]		Ordering Provider Address	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
25		CWE	[0..1]	[0..0]		Order Status Modifier	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
26		CWE	[0..1]	[0..0]	0552	Advanced Beneficiary Notice Override Reason	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
27		TS	[0..1]	[0..0]		Filler's Expected Availability Date/Time	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
28		CWE	[0..1]	[0..0]	0177	Confidentiality Code	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
29		CWE	[0..1]	[0..0]	0482	Order Type	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.
30		CNE	[0..1]	[0..0]	0483	Enterer Authorization Mode	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
31		CWE	[0..1]	[0..0]		Parent Universal Service Identifier	O	X	The Immunization Information System will not load this field if it is included in the ORC segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with an ORC segment.

Table 5-12: ORC (Order Request)) Segment Definition

PD1 – Patient Demographic Segment

Table 5-13 lists the fields that are part of the PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	2	IS	[0..1]	[0..0]	0223	Living Dependency	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
2	2	IS	[0..1]	[0..0]	0220	Living Arrangement	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
3	250	XON	[0..1]	[0..0]		Patient Primary Facility	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
4	250	XCN	[0..1]	[0..0]		Patient Primary Care Provider Name & ID No.	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
5	2	IS	[0..1]	[0..0]	0231	Student Indicator	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
6	2	IS	[0..1]	[0..0]	0295	Handicap	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
7	2	IS	[0..1]	[0..0]	0315	Living Will Code	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
8	2	IS	[0..1]	[0..0]	0316	Organ Donor Code	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
9	1	ID	[0..1]	[0..0]	0136	Separate Bill	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
10	250	CX	[0..1]	[0..0]		Duplicate Patient	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
11	250	CE	[0..1]	[0..1]	0215	Publicity Code	RE	RE	The Immunization Information System will not load the value supplied in this field when processing the incoming message. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will leave this field empty for outgoing messages.

12	1	ID	[0..1]	[0..1]	0136	Protection Indicator	RE	RE	▪ If the value provided is Y, this means, Yes, protect the data (do not share data) then the Immunization Information System will not load anything about that message (demographic or immunization data). An informational message will be returned in the ERR segment: "The PD1-12 (ProtectionIndicator) has been set, the contents of this message will not be loaded." ▪ For Philadelphia and New Mexico only, if Y is provided in this field, the data will still be loaded to the IIS. An informational message will be returned in the ERR segment: "The PD1-12 (ProtectionIndicator) has been set, the contents of this message will still be loaded. Please contact the IIS if you wish to opt out the patient." ▪ If the value provided is N, this means, No, it is not necessary to protect the data from other clinicians (Sharing is ok). If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. This field will be empty in all outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
13	8	DT	[0..1]	[0..1]		Protection Indicator Effective Date	CE	CE	If the protection indicator is valued (PD1-12), then this field should be valued. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not load the data in this field if it is included in the PD1 segment of any incoming messages (i.e. it is not loaded into the system). While this field is not used by the Immunization Information System if a non-NULL value is provided in this field, it must be formatted correctly. This field will be empty in all outgoing messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
14	250	XON	[0..1]	[0..0]		Place of Worship	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
15	250	CE	[0..1]	[0..0]	0435	Advance Directive Code	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
16	1	IS	[0..1]	[0..1]	0441	IIS Status	RE	RE	If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. For outgoing messages, only Immunization Program enrollment status from The Immunization Information System will be included. Program enrollment data for other programs will not be included.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
17	8	DT	[0..1]	[0..1]		Immunization Information Status Effective Date	CE	CE	If the IIS status field (PD1-16) is filled, then this should be valued. The Immunization Information System will interpret the value in an incoming message as follows: - For a status of A, the date will be interpreted as the date the patient was opened in the Immunization Program. - For a status of I, L, or M, the date will be interpreted as the date the patient was closed out of the Immunization Program. If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. The Immunization Information System will populate this field in outgoing messages as follows: - For a status of A, the date included will be the date the person was opened in the Immunization program. - For a status of I, L, or M, the date included will be the date the person was closed out of the Immunization program.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
18	8	DT	[0..1]	[0..1]		Publicity Code Effective Date	CE	CE	If the publicity code (PD1-11) field is filled then this field should be valued. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will leave this field empty for outgoing messages.
19	5	IS	[0..1]	[0..0]	0140	Military Branch	O	X	The Immunization Information System <u>will not load</u> this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
20	2	IS	[0..1]	[0..0]	0141	Military Rank/Grade	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.
21	3	IS	[0..1]	[0..0]	0142	Military Status	O	X	The Immunization Information System will not load this field if it is included in the PD1 segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PD1 segment.

Table 5-13: PD1 (Patient Demographic) Segment Definition

PID – Patient Identifier Segment

Table 5-14 lists the fields that are part of the PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	4	SI	[0..1]	[0..1]		Set ID - PID	R	R	
2		CX	[0..0]	[0..0]		Patient ID	X	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

3		CX	[1..*]	[1..*]	0203	Patient Identifier List	R	R	Refer to Appendix A for a detailed list of the Identifier Types accepted in incoming messages. For outgoing messages, the only identifier types that will be included (when a non-NULL value exists in the IIS) are: MA, MC, MR, LR, and SR. Please note if the length of the identifier exceeds 15 characters, the identifier value will not be included in the message. Please note: In the case of a jurisdictional IIS communicating with the state IIS in their jurisdiction, the Immunization Information System accepts/sends LR (Local IIS) when the facility code identifier type is set to be a LR. The Immunization Information System can now accept MR ids from an Authorized Authority (i.e. HIE, HUB, or another state IIS) that is not the administering immunization provider. To utilize this feature, if an MR ids is included in the PID-3 field then the MSH-22 field needs to identify the actual immunization provider for that MR id by sending that immunization provider's HL7 facility code assigned by the Immunization Information System. If The Immunization Information System recognizes the HL7 facility code sent in the MSH-22 field, then the MR id provided in PID-3 will be mapped to

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									the patient as the Local ID for the facility identified in MSH-22.
4		CX	[0..0]	[0..0]		Alternate Patient ID - 00106	X	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
5		XPN	[1..*]	[1..*]		Patient Name	R	R	The first repetition should be the patient's Legal Name. (In the case that this record contains an Identifier Type of 'BR' in PID-3, then this field will also be loaded into the patient's Birth Record name fields.) Up to one alias name may also be specified in this field. Examples: |BELL^TINKER^^^^^L~BELL^JASER^^^^^A| Note that in order to update the Birth Record name the Birth Record ID must be sent in the update. When the Birth Record ID is passed in it will try to populate the legal name into the Birth Record Name, if no legal name is passed in it will use the Birth Record Name passed in. No other name types should be submitted via this field. For outgoing messages, the patient's full name as it is entered in the IIS will be included as a type 'L'. The field will be repeated to include the patient's alias name with a type 'A' (when a non-NULL value is known in the IIS).

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
6		XPN	[0..1]	[0..1]		Mother's Maiden Name	RE	RE	The Immunization Information System expects the Name Type component to be "M" if any value is supplied in the incoming message. Example: |FAIRY^^^^^^M| For outgoing messages, patient's mother's maiden name will be included with a type 'M' (when a non-NULL value is known in the IIS).
7		TS	[1..1]	[1..1]		Date/Time of Birth	R	R	Must have month, day and year components. (format YYYYMMDD) Example: 20140319 An invalid value in this field in an incoming message will result in the message being rejected.
8	1	IS	[0..1]	[0..1]	0001	Administrative Sex	RE	RE	If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
9		XPN	[0..0]	[0..0]		Patient Alias	X	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
10		CE	[0..*]	[0..5]	0005	Race	RE	RE	The Immunization Information System only recognizes the first triplet with the valid value set. The second triplet of the CE data type for race is not used. Example: |2106-3^White^CDCREC| Only the first 5 instances of this field in an incoming message will be retained in the Immunization Information System. Any additional instances will not be used. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. Example: |1002-5^American Indian or Alaskan Native^CDCREC~2028-9^Asian^CDCREC~2106-3^White^CDCREC| Outgoing messages will include the first triplet data as available.

11		XAD	[0..*]	[0..*]		Patient Address	RE	RE	The first repetition in an incoming message should be the primary mailing address. Multiple addresses for the same person may be sent in the following sequence: The primary mailing address must be sent first in the sequence (for backward compatibility); if the mailing address is not sent, then a repeat delimiter must be sent in the first sequence. Example: |123 HAPPY ST, UNIT #2^^Topeka^KS^66614^USA^M^^SN~123 HAPPY ST, UNIT #2^^Topeka^KS^66614^USA^P^^SN| If a birth address is sent, the incoming birth address, “N”, will override the existing address if the incoming birth address contains the city and state. The IIS will return an AE message back when the birth address supplied is incomplete and/or an informational message if the incoming message does not have the appropriate permission to override the data. Example: 123 HAPPY ST, UNIT #2^^Topeka^KS^66614^USA^M ~1001 S Jepson^^Topeka^KS^66614^USA^N If an invalid address is supplied, the Immunization Information System will

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									return a warning but will continue to process the incoming message. The Immunization Information System only supports the following address types: (BDL, BR, N, C, H, L, M, P). If an invalid or unsupported address is supplied, the Immunization Information System will return a warning but will continue to process the incoming message. For outgoing messages, the first instance of the field will be used to include the Mailing address (with a type of 'M'). The field will be repeated to include the Physical address when available (with a type of 'P').
12	4	IS	[0..0]	[0..0]	0289	County Code	X	X	County belongs in address field. See the Appendix for User Defined 0296 codes.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
13		XTN	[0..*]	[0..*]		Phone Number - Home	RE	RE	The first instance in an incoming message shall be the primary phone number. Only one item is allowed per repetition. Examples: |^PRN^PH^^^219^7521555~ ^ORN^CP^^^156^1161511~ ^ASN^PH^^^654^9894986~ ^BPN^PH^^^549^4979746~ ^NET^X.400^TINKERBELL@JOYLAND.COM | If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. For outgoing messages, the following types will be included (when non-NULL in the IIS): PRN, WPN, ORN, ASM, BPN, and NET.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
14		XTN	[0..*]	[0..1]		Phone Number - Business	O	O	If the WPN phone number type is not sent in PID-13 of the incoming message, then it can optionally be included here. Examples: ^WPN^PH^^^654^9494634 If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. This field will be empty in all outgoing messages.
15		CE	[0..1]	[0..1]	HL70296 or ISO639 or ISO 639-2	Primary Language	O	O	If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. Example: |CHI^Chinese^HL70296|

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
16		CE	[0..1]	[0..0]	0002	Marital Status	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.
17		CE	[0..1]	[0..0]	0006	Religion	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
18		CX	[0..1]	[0..0]		Patient Account Number	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.
19	16	ST	[0..0]	[0..0]		SSN Number - Patient	X	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
20		DLN	[0..0]	[0..0]		Driver's License Number - Patient	X	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.
21		CX	[0..0]	[0..0]		Mother's Identifier	X	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
22		CE	[0..1]	[0..1]	CDCREC	Ethnic Group	RE	RE	The Immunization Information System only recognizes the first triplet with the valid value set. The second triplet of the CE data type for ethnicity is not used. Example: |2186-5^Not Hispanic or Latino^CDCREC| If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. Please note: The coding table is no longer HL70189; however, it will still be accepted so that HL7 2.3.1 versions will still work. Outgoing messages will include the first triplet data as available.
23	60	ST	[0..1]	[0..1]		Birth Place	O	O	Any value supplied in the incoming message should be the standard text name of the birth facility and will be loaded into the Birth Facility field on the Patient Demographics screen. For outgoing messages, the value will be populated with the Birth Facility Name when available.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
24	1	ID	[0..1]	[0..1]	0136	Multiple Birth Indicator	RE	RE	The acceptable values are Y and N. If the status is undetermined, then field shall be empty. If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message.
25	2	NM	[0..1]	[0..1]		Birth Order	CE	CE	If Multiple Birth Indicator (PID-24) is populated with Y, then this field should contain the number indicating the person's birth order, with 1 for the first child born, 2 for the second, etc. If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
26		CE	[0..1]	[0..0]	0171	Citizenship	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.
27		CE	[0..1]	[0..0]	0172	Veterans Military Status	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
28		CE	[0..1]	[0..0]	0212	Nationality	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
29		TS	[0..1]	[0..1]		Patient Death Date and Time	RE	RE	The Immunization Information System will only use the date portion of any value specified in this field in an incoming message. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. Patients will NOT be flagged as deceased if PID-30 is set to N or is empty (even if PID-29 contains a valid date). Patients will NOT be flagged as deceased if PID-29 is empty (even if PID-30 is set to Y). Patients will NOT be flagged as deceased if date of death is prior to date of birth. Patients will NOT be flagged as deceased if date of death is in the future. Patients will only be flagged as deceased if PID-29 is a valid date AND PID-30 is set to Y. For outgoing messages, only the date portion of the field will be populated (when available).

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
30	1	ID	[0..1]	[0..1]	0136	Patient Death Indicator	CE	CE	If patient death date (PID-29) is populated, then this field should be populated. If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message.
31	1	ID	[0..1]	[0..0]	0136	Identity Unknown Indicator	O	X	The Immunization Information System <u>will not</u> load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
32	20	IS	[0..1]	[0..0]	0445	Identity Reliability Code	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
33		TS	[0..1]	[0..1]		Last Update Date/Time	O	O	If this field is specified in the incoming message, the information contained in this segment will only be used to update the patient's demographic record if the value specified in this field is after the most recent modification date for the matching record in the Immunization Information System. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. For outgoing messages, this field will be populated with the date/time that the primary patient demographic record was last updated in the Immunization Information System.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
34		HD	[0..1]	[0..0]		Last Update Facility	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.
35		CE	[0..1]	[0..0]	0446	Species Code	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
36		CE	[0..1]	[0..0]	0447	Breed Code	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.
37	80	ST	[0..1]	[0..0]		Strain	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
38		CE	[0..1]	[0..0]	0429	Production Class Code	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.
39		CWE	[0..1]	[0..0]	0171	Tribal Citizenship	O	X	The Immunization Information System will not load this field if it is included in the PID segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a PID segment.

Table 5-14: PID (Patient Identifier) Segment Definition

PV1 – Patient Visit Segment

Table 5-15 lists the fields that are part of the PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	4	SI		[0..1]		Set ID - PID		RE	
2	1	IS		[1..1]	0004	Patient Class		R	For incoming messages, the Immunization Information System will not load any value in this field and will treat all records as type "R". For outgoing messages, the Immunization Information System will always set this field to a value of 'R'.
3	80	PL		[0..0]		Assigned Patient Location		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
4	2	IS		[0..0]	0007	Admission Type		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
5	20	CX		[0..0]		Readmit Number		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
6	80	PL		[0..0]		Prior Patient Location		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
7	60	XCN		[0..0]	0010	Attending Doctor		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
8	60	XCN		[0..0]	0010	Referring Doctor		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
9	60	XCN		[0..0]	0010	Consulting Doctor		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
10	3	IS		[0..0]	0069	Hospital Service		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
11	80	PL		[0..0]		Temporary Location		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
12	2	IS		[0..0]	0087	Readmit Test Indicator		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
13	2	IS		[0..0]	0092	Readmission Indicator		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
14	3	IS		[0..0]	0023	Admit Source		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
15	2	IS		[0..0]	0009	Ambulatory Status		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
16	2	IS		[0..0]	0099	VIP Indicator		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
17	60	XCN		[0..0]	0010	Admitting Doctor		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
18	2	IS		[0..0]	0018	Patient Type		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
19	20	CX		[0..0]		Visit Number		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
20	50	FC		[0..1]	0064	Financial Class		O	The Immunization Information System will populate this data in the patient VFC eligibility field on the demographics screen. Example: `PV1|1|R||||||||||||||||||V01` If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. Please note: The CDC IG 2.5.1 (vs 1.5) guide has deprecated the use of PV1-20 to document patient eligibility and instead says to use the OBX segment (OBX-3 and OBX-5) to record the vaccine eligibility. The Immunization Information System will continue to process data in PV1-20 however will be needing to migrate people to use OBX-3 and OBX-5 in the future. When possible, begin using the OBX-3 and OBX-5 fields to document this eligibility. For outgoing messages, this field will be set to the patient's current VFC Eligibility (if known).

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
21	2	IS		[0..0]	0032	Charge Price Indicator		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
22	2	IS		[0..0]	0045	Courtesy Code		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
23	2	IS		[0..0]	0046	Credit Rating		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
24	2	IS		[0..0]	0044	Contract Code		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
25	8	DT		[0..0]		Contract Effective Date		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
26	12	NM		[0..0]		Contract Amount		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
27	3	NM		[0..0]		Contract Period		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
28	2	IS		[0..0]	0073	Interest Code		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
29	1	IS		[0..0]	0110	Transfer to Bad Debt Code		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
30	8	DT		[0..0]		Transfer to Bad Debt Date		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
31	10	IS		[0..0]	0021	Bad Debt Agency Code		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
32	12	NM		[0..0]		Bad Debt Transfer Amount		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
33	12	NM		[0..0]		Bad Debt Recovery Amount		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
34	1	IS		[0..0]	0111	Delete Account Indicator		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
35	8	DT		[0..0]		Delete Account Date		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
36	3	IS		[0..0]	0112	Discharge Disposition		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
37	25	CM		[0..0]	0113	Discharged to Location		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
38	80	CE		[0..0]	0114	Diet Type		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
39	2	IS		[0..0]	0115	Servicing Facility		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
40	1	IS		[0..0]	0116	Bed Status		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
41	2	IS		[0..0]	0117	Account Status		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
42	80	PL		[0..0]		Pending Location		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
43	80	PL		[0..0]		Prior Temporary Location		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
44	26	TS		[0..0]		Admit Date/Time		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
45	26	TS		[0..0]		Discharge Date/Time		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
46	12	NM		[0..0]		Current Patient Balance		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
47	12	NM		[0..0]		Total Charges		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
48	12	NM		[0..0]		Total Adjustments		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
49	12	NM		[0..0]		Total Payments		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
50	20	CX		[0..0]	0203	Alternate Visit ID		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization System will not populate this field in any outgoing messages with a PV1 segment.
51	1	IS		[0..0]	0326	Visit Indicator		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.
52	60	XCN		[0..0]	0010	Other Healthcare Provider		X	The Immunization Information System will not load this field if it is included in the PV1 segment of any incoming messages. The Immunization Information System will not populate this field in any outgoing messages with a PV1 segment.

Table 5-15: PV1 (Patient Visit) Segment Definition

PV2 – Patient Visit Segment

This segment is not supported by this HL7 interface.

QAK – Query Acknowledgement Segment

Table 5-16 lists the fields that are part of the QAK segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	32	ST	[1..1]	[1..1]		Query Tag	R	R	The Immunization Information System will populate this field with the contents of the QPD-2 field sent in the incoming message.
2	2	ID	[0..1]	[1..1]	0208	Query Response Status	RE	R	The Immunization Information System will always populate this field with a valid value indicating the result of processing the message.
3		CE	[0..1]	[0..1]	0471	Message Query Name	R	O	The Immunization Information System will populate this field with the contents of the QPD-1 field sent in the incoming message.
4	10	NM	[0..1]	[0..0]		Hit Count	O	X	The Immunization Information System will not populate this field in any outgoing messages with a QAK segment.
5	10	NM	[0..1]	[0..0]		This payload	O	X	The Immunization Information System will not populate this field in any outgoing messages with a QAK segment.
6	10	NM	[0..1]	[0..0]		Hits remaining	O	X	The Immunization Information System will not populate this field in any outgoing messages with a QAK segment.

Table 5-16: QAK (Query Acknowledgement) Segment Definition

QPD – Query Parameter Definition

Table 5-17 lists the fields that are part of the QPD segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1		CE	[1..1]	[1..1]	0471	Message Query Name	R	R	The Immunization Information System requires all incoming QBP messages to specify the value **'Z34^Request Immunization History^HL70471'** or **Z44^Request Evaluated History and Forecast^HL70471' i**n this field. Any other values will cause the message to be rejected.
2	32	ST	[1..1]	[1..1]		Query Tag	R	R	Generated by the initiating system. The Immunization Information System not use any value supplied in this field when processing the incoming message.
– Begin QPD Input Parameter Specifications *NOTE: Refer to the referenced fields in the PID segment for additional information on the indicated values.*									
3		CX				Patient List	RE	RE	PID-3: Patient Identifier List
4		XPN				Patient Name	RE	R	PID-5: Patient Name
5		XPN				Patient Mother Maiden Name	RE	RE	PID-6: Mother's Maiden Name
6		TS				Patient Date of Birth	RE	RE	PID-7: Patient Date of Birth
7		IS				Patient Sex	RE	RE	PID-8: Patient Sex

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
8		XAD				Patient Address	RE	RE	PID-11: Patient Address – this field is not used in the search. The Immunization Information System only supports the following address types: (BDL, BR, N, C, H, L, M, P). If an invalid or unsupported address is supplied, the Immunization Information System will return a warning but will continue to process the incoming message. Address type O will result in a severity of (I) informational.
9		XTN				Patient Home Phone	RE	RE	PID-13: Patient Home Phone – this field is not used in the search
10		ID				Patient Multiple Birth Indicator	RE	RE	PID-24: Patient Multiple Birth Indicator – this field is not used in the search
11		NM				Patient Birth Order	RE	RE	PID-25: Patient Birth Order – this field is not used in the search
12		TS				Client Last Updated Date	RE	RE	The Immunization Information System will not use any value in this field and will not use it to refine the search results.
13		HD				Client Last Update Facility	RE	RE	The Immunization Information System will not use any value in this field and will not use it to refine the search results.
– End QPD Input Parameter Specifications									

Table 5-17: QPD (Query Parameter Definition) Segment Definition

RCP – Response Control Parameter Segment

Table 5-18 lists the fields that are part of the RCP segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	1	ID	[0..1]	[0..1]	0091	Query Priority	O	O	The Immunization Information System will not load any value supplied in this field in an incoming message and will process it as if the value of 'I' was supplied.
2		CQ	[0..1]	[0..1]	0126	Quantity Limited Request	O	O	The Immunization Information System requires the unit for this to always be 'RD'. Any value without a unit of 'RD' will be treated as invalid. An empty or invalid value will be treated as if no limit was submitted. The Immunization Information System will return up to 25 records or the value indicated in this field, whichever is less.
3		CE	[0..1]	[0..1]	0394	Response Modality	O	O	The Immunization Information System will not load any value supplied in this field in an incoming message and will process it as if the value of 'R' was supplied.
4		TS	[0..1]	[0..0]		Execution and Delivery Time	O	X	The Immunization Information System will not load this field if it is included in the RSP segment of any incoming messages.
5	1	ID	[0..1]	[0..0]	0395	Modify Indicator	O	X	The Immunization Information System will not load this field if it is included in the RSP segment of any incoming messages.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
6		SRT	[0..1]	[0..0]		Sort-by Field	O	X	The Immunization Information System will not load this field if it is included in the RSP segment of any incoming messages.
7		ID	[0..*]	[0..0]		Segment group inclusion	O	X	The Immunization Information System will not load this field if it is included in the RSP segment of any incoming messages.

Table 5-18: RCP (Response Control Parameter)

RXA – Pharmacy/Treatment Administration Segment

Table 5-19 lists the fields that are part of the RXA segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1	4	NM	[1..1]	[1..1]		Give Sub-ID Counter	R	R	Constrain to 0 (zero)

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
2	4	NM	[1..1]	[1..1]		Administration Sub-ID Counter	R	R	Constrain to 1 for Administered or Refused Please note per the updated CDC IG 2.5.1 (vs 1.5) the definition of this field has changed. 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 should not be used for indicating dose number, which belongs in an OBX. Note that the previous Implementation Guide suggested that this be used for indicating dose number. This use is no longer supported. As a result, any message generated from the IIS will display a “1” in this field. Previously, the IIS defaulted to a value of 999.
3		TS	[1..1]	[1..1]		Date/Time Start of Administration	R	R	The Immunization Information System will only use the date portion of the value in this field in an incoming message. For outgoing messages, only the date portion of this field will have a value.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
4		TS	[0..1]	[0..1]		Date/Time End of Administration	RE	RE	The Immunization Information System will not load any value in this field in the incoming message and will only use the date in RXA-3. For outgoing messages, this field will be populated with the same value that appears in RXA-3.

5		CE	[1..1]	[1..1]	0292	Administered Code	R	R	The Immunization Information System requires that one of the triplets in the incoming message contain the NDC or CVX code and will use the NDC or CVX code to identify the vaccine administered. If a NDC or CVX code is not included, then the incoming message will throw a warning but process what information it can (i.e., patient demographic data). The IIS will first look for a CVX code and if none are found, the NDC value will be leveraged. Support for NDC codes is currently restricted to cases where the NDC value for the unit of sale is the same as the NDC value for the unit of use. (Support for a NDC cross walk between the unit of sale and the unit of user will be added to a future release of the Immunization Information System.) Please note, this field is critically important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. For Philadelphia only: In RXA-5, added the value "PHIS" to the code set for Name of Coding System so WebIZ will no longer generate a warning message for PA-SIIS generated messages. (WebIZ still loads

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									vaccines off the CVX value set but will now accept the PHIS name of the coding system from PA-SIIS without generating a warning.) For administered vaccinations where an NDC value is available for the patient vaccination, the NDC will be returned along with the CVX code.
6	20	NM	[1..1]	[1..1]		Administered Amount	R	R	If administered amount is not recorded, unknown, or refused, use 999. Do not use a zero for an unknown amount. Please note, this field is important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. For outgoing messages, if the vaccine is refused, a value of 999 will be included in this field.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
7		CE	[0..1]	[0..1]		Administered Units	CE	CE	If RXA-6 field is populated by any value except 999 then RXA-7 is required. The Immunization Information System expects a value of "**mL^^UCUM"** in this field in incoming messages indicating the administered amount is measured in milliliters. Any other values will generate a warning but the RXA will still be loaded if all other appropriate conditions are met. For outgoing messages, this field will always be populated with ""**mL^^UCUM"**.
8		CE	[0..1]	[0..0]		Administered Dosage Form	O	X	The Immunization Information System <u>will not</u> load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

9		CE	[0..*]	[0..1]	NIP 0001	Administration Notes	RE	RE	The Immunization Information System will interpret this field as an indication of the source of this record. To indicate the source of the record, the IIS expects the following values: For administered doses: - |00^NEW IMMUNIZATION RECORD^NIP001| For all historical doses: - |01^HISTORICAL INFORMATION - SOURCE UNSPECIFIED^NIP001| - |02^ HISTORICAL INFORMATION - from other provider^NIP001| - |03^ HISTORICAL INFORMATION - from parent's written record^NIP001| - |04^ HISTORICAL INFORMATION - from parent's recall^NIP001| - |05^ HISTORICAL INFORMATION - from other registry^NIP001| - |06^ HISTORICAL INFORMATION - from birth certificate^NIP001| - |07^ HISTORICAL INFORMATION - from school record^NIP001| - |08^ HISTORICAL INFORMATION - from public agency^NIP001| If a NULL value is provided in this field in the incoming message, the new immunization record will be set to historical (01). Please note, this field is critically important to accurately decrementing

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. For outgoing messages, any vaccines marked as administered will be sent as |00^ NEW IMMUNIZATION RECORD^NIP001| and any historical (regardless of how it came in) will go out as |01^HISTORICAL INFORMATION - SOURCE UNSPECIFIED^NIP001|. As specified by the CDC HL7 documentation only the first 199 comment characters will be used.

10		XCN	[0..1]	[0..1]		Administering Provider	C(RE/O)	C(RE/O)	This shall be the provider who administered the immunization. It is expected to be empty if the immunization record is transcribed from a historical record. The Immunization Information System will interpret the Unique ID (first component) of this field in the incoming message as the person's NPI (National Provider Identifier), MD (Medical License Number), and/or PRN. If an IDNumber is provided and the Identifier Type Code is set to NPI in this field, the NPI is matched to a user within the Immunization Information System associated with this clinic. This user will be indicated in the Administered By field for the immunization. If a NPI is supplied and a match cannot be found, the Immunization Information System will return a warning but will continue to process the incoming message and will enter the prefix, name, and the s fix into the vaccination comments field. If an IDNumber is provided and the Identifier Type Code is set to MD in this field, the MDI is matched to a user within the Immunization Information System associated with this clinic. This user will be indicated in the Administered By field for the immunization. If a MD is supplied and a match cannot be found, the

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									Immunization Information System will return a warning but will continue to process the incoming message and will enter the prefix, name, and the suffix into the vaccination comments field. If an IDNumber is provided and the Identifier Type Code is set to PRN, the Immunization Information System will process the incoming message and will enter the PRN prefix, name, and the suffix into the vaccination comments field. For outgoing messages, the Immunization Information System will include the NPI as the Unique ID in this field of the person who administered the immunization (if available).

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
11		LA2	[0..1]	[0..1]		Administered-at Location	RE	RE	For incoming messages, the Immunization Information System has been updated to accept HL7 Facility Codes (in component 4 of this field) to identify the administering immunization provider if it is different than the sending facility code (MSH-4) in the case of HIE, Hubs, etc. Please note, this field is critically important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. For outgoing messages, this field will be populated with the relevant data from the Clinic associated to the immunization in the Immunization Information System. If the clinic is “PR”, then this field will be empty.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
12	20	ST	[0..1]	[0..0]		Administered Per (Time Unit)	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.
13	20	NM	[0..1]	[0..0]		Administered Strength	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
14		CE	[0..1]	[0..0]		Administered Strength Units	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
15	20	ST	[0..*]	[0..1]		Substance Lot Number	RE	CE	The Immunization Information System will interpret any value included in this field in an incoming message as the lot number for the vaccine. No parsing or other manipulation will be performed on this value before storing it in the IIS. Please note, this field is critically important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. Substance Lot Number is conditionally required if the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA". This rule has been added to ensure messages contain the needed data to successfully decrement inventory.
16		TS	[0..1]	[0..1]		Substance Expiration Date	CE	CE	If the lot number is populated, this field should be valued. The Immunization Information System will only use the date portion of the value in this field. If an invalid date is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
17		CE	[0..*]	[0..1]	0227	Substance Manufacturer Name	RE	RE	The Immunization Information System requires that any value included in this field in the incoming message be a valid MVX code. If an invalid MVX is supplied, the Immunization Information System will return a warning but will continue to process the incoming message. Please note, this field is critically important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. The Immunization Information System will populate this field in outgoing messages with a RXA segment. Example: |MSD^Merck and Co. Inc.^**MVX|**

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
18		CE	[0..*]	[0..1]	NIP 0002	Substance/Treatment Refusal Reason	C	C	If the Completion status is RE, then this shall be populated. If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. Please note: if an incoming message contains a vaccine refusal reason and an adverse reaction for the same vaccination, the adverse reaction will not be populated in the IIS. Please note: if an incoming message contains a vaccine refusal reason and an administered new vaccination at the same time, the Immunization Information System will return a warning but will continue to process the incoming message. Vaccine refusals are captured as notes on the patient record.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
19		CE	[0..1]	[0..0]		Indication	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

20	2	ID	[0..1]	[0..1]	0322	Completion Status	RE	RE	If this field is not populated, it is assumed to be CP or complete. If the Refusal reason is populated, this field shall be set to RE. If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. Acceptable values in the incoming message are: CP for (Complete) Vaccine PA for (Partially Administered) Vaccine NA for (Not Administered) Vaccine RE for Refused Vaccine Please note, this field is critically important to accurately decrementing inventory in the IIS for administered vaccinations. As a result, the Immunization Information System requests that all incoming messages carefully populate this field. The Immunization Information System will not store vaccination information for vaccines marked as NA (Not Administered). For outgoing messages, the Immunization Information System will include CP for all

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
									administered and historical vaccinations, and RE for any refused vaccines.
E notT i21	2	ID	[0..1]		0323	Action Code - RXA	RE		Refer to the text following this table for additional information on how incoming immunizations are matched (or not) to existing immunizations for a patient.
22		TS	[0..1]	[0..0]		System Entry Date/Time	O	X	If vaccination date cannot be found (RXA-3) the system will try to use the date from this field. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.
23	5	NM	[0..1]	[0..0]		Administered Drug Strength Volume	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
24		CWE	[0..1]	[0..0]		Administered Drug Strength Volume Units	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.
25		CWE	[0..1]	[0..0]		Administered Barcode Identifier	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
26	1	ID	[0..1]	[0..0]	0480	Pharmacy Order Type	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

Table 5-19: RXA (Pharmacy/Treatment Administration) Segment Definition

RXR – Pharmacy/Treatment Route Segment

Table 5-20 lists the fields that are part of the RXR segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
1		CE	[1..1]	[1..1]	NCIT and 0162	Route	R	R	If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. The first part of the triplet contains the NCIT coding system values and the second triplet contains the HL70162 values. Example: C28161^Intramuscular^HL70162^IM^Intramuscular^HL70162
2		CWE	[0..1]	[0..1]	0163	Administration Site	RE	RE	If an invalid value is supplied in the incoming message, the Immunization Information System will return a warning but will continue to process the incoming message. Example: LD^Left Deltoid^HL70163

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
3		CE	[0..1]	[0..0]	0164	Administration Device	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.
4		CE	[0..1]	[0..0]	0165	Administration Method	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Value Set	Element Name	CDC IG Usage	IIS Usage	Constraint
5		CE	[0..1]	[0..0]		Routing Instruction	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.
6		CWE	[0..1]	[0..0]	0495	Administration Site Modifier	O	X	The Immunization Information System will not load this field if it is included in the RXA segment of any incoming messages. If a value is supplied, it must be the correct data type, length and/or valid code. If an invalid value is supplied, the Immunization Information System may return a warning but will continue to process the incoming message. The Immunization Information System will not populate this field in any outgoing messages with a RXA segment.

Table 5-20: RXR (Pharmacy/Treatment Route) Segment Definition

SFT – Software Segment

This segment is not supported by this HL7 interface.

TQ1 – Timing/Quality Segment

This segment is not supported by this HL7 interface.

TQ2 – Timing/Quality Segment

This segment is not supported by this HL7 interface.

Messages for Transmitting Immunization Information

This chapter describes each of the messages used to accomplish the use cases described in Chapter 2. These messages are built from the segments described in Chapter 5, Segments and Message Details. The Segments are built using the Data Types specified in Chapter 4. Readers are referred to these chapters for specifics on these components. Issues related to segments and fields that are message specific will be addressed in this chapter.

Table 6-1 defines the message types supported by the Immunization Information System.

MESSAGE	PURPOSE	RELATED MESSAGES	ASSOCIATED PROFILES	SUPPORTED BY IIS?
VXU	Send Immunization History	ACK		The Immunization Information System accepts incoming VXU messages from an external system. The Immunization Information System only sends this type of message via an outgoing batch file.
QBP	Request Immunization History and Request Person Id	RSP	Z34^CDCPHINVS	The Immunization Information System accepts incoming QBP messages from an external system. OID support is available so that if the system parameter is set to yes for "HL7 – OID ENABLED" the facility code or OID can be loaded into MSH – 4, MSH – 6, RXA – 11.4 The Immunization Information System does not support sending this type of message to an external system.

MESSAGE	PURPOSE	RELATED MESSAGES	ASSOCIATED PROFILES	SUPPORTED BY IIS?
RSP	Respond to Request for Immunization Record and Respond to Request for Person Id	QBP	Z31^CDCPHINVS Z32^CDCPHINVS Z33^CDCPHINVS Z42^CDCPHINVS	The Immunization Information System sends this type of message in response to an incoming QBP. OID is returned in MSH-4, MSH-6 and RXA-11 if OID is available. The Immunization Information System does not accept this type of message from an external system.
ACK	Send Message Acknowledgement	VXU, ADT, QBP		The Immunization Information System sends this type of message in response to incoming messages. The Immunization Information System does not accept this type of message from an external system.
ADT	Send Person Demographic Data	ACK		Not Supported

Table 6-1: Supported Messages

VXU – Send Immunization History

The only way for the Immunization Information System to be able to make available a patient's immunization history is for providers who are physically administering the immunizations to notify the IIS in a timely fashion of each vaccination they have administered. This immunization information is then consolidated with similar information from other providers to produce the full vaccination record for a person.

Providers desiring to submit vaccination information to the Immunization Information System will use the VXU message. The IIS will respond with an ACK message indicating the success or failure of the update. In the case of failure, this message will include the applicable error message.

Table 6-2 lists the segments and the proper order of the segments that are part of a VXU message.

Segment	CDC IG Cardinality	IIS Cardinality	CDC IG Usage	IIS Usage	Comment
MSH	[1..1]	[1..1]	R	R	Every message begins with an MSH.
[{SFT }]	[0..*]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.
PID	[1..1]	[1..1]	R	R	Every VXU has one PID segment.
PD1	[0..1]	[0..1]	RE	RE	Every PID segment in VXU may have one or less PD1 segment
NK1	[0..*]	[0..*]	RE	RE	The PID segment in a VXU may have zero or more NK1 segments.
PV1	[0..1]	[0..1]	RE	RE	The PID segment in a VXU may have zero or one PV1 segment. Subsequent messages regarding the same patient/client may have a different PV1 segment.
PV2	[0..1]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.

Segment	CDC IG Cardinality	IIS Cardinality	CDC IG Usage	IIS Usage	Comment
GT1	[0..1]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.
IN1	[0..1]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.
IN2	[0..1]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.
IN3	[0..1]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.
Begin Order Group					Each VXU may have zero or more Order groups

Segment	CDC IG Cardinality	IIS Cardinality	CDC IG Usage	IIS Usage	Comment
ORC	[1..1]	[1..*]	RE	RE	The PID segment in a VXU may have one or more ORC segments.
TQ1	[0..1]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.
TQ2	[0..1]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing VXU messages. The segment will not be used if included in any incoming VXU messages.
RXA	[1..1]	[1..1]	R	R	Each ORC segment in a VXU must have one RXA segment. Every RXA requires an ORC segment.
RXR	[0..1]	[0..1]	RE	RE	Every RXA segment in a VXU may have zero or one RXR segments.
OBX	[0..*]	[0..*]	RE	RE	Every RXA segment in a VXU may have zero or more OBX segments.
NTE	[0..1]	[0..1]	RE	RE	Every OBX segment in a VXU may have zero or one NTE segment.
End Order Group					

Table 6-2: VXU (Send Immunization History) Message Definition

The CDC IG contains a diagram that illustrates the relationships of the segments. Note that in order for a segment to be present in a message, it must be associated with any parent segments. For example, the NTE segment can only be included in a message as a sub-segment to an OBX. Further, the OBX can only

be present as a child of an RXA. Finally, a segment that is required and a child of another segment must be present if the parent is present. If the parent is not present, it is NOT permitted.

Additional Business Rules for Incoming VXU messages

VXU Patient Matching/Update Algorithm

The IIS will attempt to match the patient in the VXU message with a patient record in the IIS using the following guidelines.

1. If specific ID numbers are supplied in the incoming, the following rules are applied in the order specified.
    a. If a State IIS ID is supplied and the associated record is not marked for deletion in the IIS, then the matching record (based on patient ID) must also have one of the following matches exactly to be updated: First Name, Last Name, or DOB.
    b. If a Birth Record ID is supplied and the associated record is not marked for deletion in the IIS, then the matching record (based only on this ID) will be updated regardless of anything else in the message.
    c. If no matches are found or if multiple non-deleted matches are found, then continue processing with step 2.
2. If no State or Birth Record ID is supplied in the incoming message, the following guidelines will be applied:
    a. The IIS will attempt to find a matching record as follows:
        i. First name matches patient's first name, last name matches patient's last name OR First name matches patient's birth record first name, and last name matches patient's birth record last name.
        ii. Alias switching.
        iii. The DOB supplied matches the patient's DOB. (Patient's without a DOB in the IIS cannot be matched to an incoming VXU message except through the State IIS ID parameter.)
    b. If more than one record exists in the set of potential matching records when first and last name match then the following filters will be applied in the order indicated until either only a single record remains or until applying the filter would result in no matches remaining:
        i. SSN (for those IISs that do not store a SSN, bypass this step)
        ii. MCI number: For Delaware only
        iii. Gender
        iv. Medical Record Number
        v. Middle Name/Initial
        vi. Patient's Alias Name
        vii. Mother's Maiden Name
        viii. Mother's First and Last Name
        ix. Birth State
        x. Fathers First and Last Name
    c. If a single record remains in the set of potential matching records, it will be updated.
3. If step 2a resulted in no matches found, the IIS will attempt a less restrictive search by applying all of the following criteria:
    a. One of the following is true:

        i. First name matches patient's first name, last name matches patient's birth record last name, AND DOB match.
        ii. First name matches patient's birth record first name, last name matches patient's last name, AND DOB match.
        iii. First name matches patient's birth record first name, last name matches patient's birth record last name, AND DOB match.
    b. If step 3a results in only a single matching record then that record will be updated, otherwise continue with the having one of the following as true:
        i. First name matches patient's first name, last name matches patient's alias last name, AND DOB match.
        ii. First name matches patient's alias first name, last name matches patient's last name, AND DOB match.
        iii. First name matches patient's alias first name, last name matches patient's alias last name, AND DOB match.
    c. If step 3b results in only a single matching record then that record will be updated.
4. If all other attempts at a match failed, then
    a. check if both the first name and last name are phonetically the same with the same DOB. If so, then at least one other identifying criteria must match exactly (registry id, medical record number, SSN, birth certificate id, MCI, insurance numbers, phone numbers, email, addresses, etc.)
    b. If above fails as well, we will take it one step farther and use SOUNDEX. However, SOUNDEX is not as accurate. So, when using SOUNDEX, at least two other identifying criteria must match exactly (registry id, medical record number, SSN, birth certificate id, MCI, insurance numbers, phone numbers, email, addresses, etc.)
5. If multiple records or no records remain in the set of potential matching records, the patient in the incoming VXU message will be added to the IIS as a new record.
    a. This may lead to a duplicate record being created in the IIS. When this occurs, the deduplication features of the IIS can be used to combine the records into a single instance again.

For any update request, if there is a matching record that is marked for deletion in the IIS, it will not be considered as a potential matching record.

It is important to realize that by providing the ability to accept specific identifiers and using them as the primary search criteria, a provider will have the mechanism for updating any demographic information about a patient. This allows them to correct mistakes in key fields used to identify a patient (e.g., name, DOB, etc.), but it also allows them to cause significant issues in the system if they do not pass identifiers accurately.

(NOTE: The above description is not intended to imply anything regarding about the technical design of the queries used to locate matching records in the IIS. The goal is only to describe the general concept of how the searches will work.)

VXU Vaccine Matching/Update Algorithm

In addition to patient matching, once a patient has been matched then the vaccination history needs to be compared from what the update message contains to what is already in the Immunization Information System. For the incoming VXU message, each vaccination is reviewed according to if it is

marked as administered or historical and if there is another vaccine on the same date in the same vaccine group. When a Historical IZ comes in, the system will look for a “New” IZ with the same CVX code. If the Historical IZ is within the number of days (set in the system parameter) plus or minus from the “New” vaccination date, the Historical IZ will not populate WebIZ. There is a weighted approach to determine if a historic and an administered vaccine really are the same thing. The historic is the first to enter the system then the administered will take ownership of the vaccine. If the administered was in the system first then the historical shouldn't change anything in the immunization.

Please note, historically the IIS only accepted CVX codes in the RXA segment. In this version of the HL7 engine, if NDC and CVX codes are sent in a message, the IIS leverages the CVX provided. If the NDC unit of use code is sent in the RXA segment without a CVX, the HL7 engine maps the NDC value to the correct CVX code.

The IIS internally leverages the CVX to do all matching as multiple NDCs will map to a single CVX code. As a result, the business rules below refer to CVX codes.

Below are the guidelines used to determine when vaccinations should be added, updated, or <u>not updated</u>:

1) If the vaccine in the incoming VXU is marked as administered (field RXA-9 = 00^NEW IMMUNIZATION RECORD^NIP001) then the system checks the existing record in the IIS to see if there are other vaccines in the system with the same CVX and same date.
    a. If there is another vaccine with the same CVX on the same date then the vaccine in the IIS is updated with any vaccination detail information that is blank (the incoming record will not overwrite information only update any data that is missing).
    b. If there is not another vaccine with the same CVX on the same date then the vaccine is added new to the patient record.
    c. An administered immunization update for existing historical immunization can change existing values. An administered immunization update for existing administered immunization can change existing values.

2) If the vaccine in the incoming VXU is marked as historical (field RXA-9 = values 01-through 08 then the system checks the existing record in the IIS to see if there are other vaccines in the system with the same CVX and same date.
    a. If there is another vaccine with the same CVX on the same date that is also marked as historical then the vaccine in the IIS is updated with any vaccination detail information that is blank (the incoming record will not overwrite information only update any data that is missing).
    b. A historical immunization update for existing historical immunization can change existing values. A historical immunization update for existing administered immunization can fill in empty values. A historical immunization update for existing administered immunization CANNOT change existing values.
    c. If there is another vaccine in the same vaccine group on the same date that is marked as administered then the incoming vaccine record will not be imported and a warning message will be returned.
    d. If there is another vaccine in the same vaccine group on the same date that is marked as historical then the incoming vaccine record will be added new to the patient record.

e. If there is NOT another vaccine in the same vaccine group on the same date then the vaccine is added new to the patient record.
f. New comments will always append to the existing comments. If the comments passed in already exist they will not be appended.
g. There are 3 possible outcomes for delete:
    i. Success: Immunization was found and since you have permission to delete the record was deleted
    ii. No Permission: Immunization was found but you do not have permission to delete so the record remained
    iii. Not Found: Immunization was not found.

Note: For clients that do not allow TB vaccines to be stored/exchanged then a warning message will be returned for any RXA messages with a CVX that resides in the TB group that the vaccine was not imported.

In addition, some clients have custom data quality clean up jobs (nightly/monthly) based on their specific rules that may delete potential duplicate vaccinations after they have been imported.

PID-3 (PatientIdentifierList) and MSH-22.

On both updates (VXU) and queries (QBP) the Immunization Information System will only return or update patient identifiers for facilities associated with the message.

Query Example #1:

MSH-4 (SendingFacility): MYLOCALIIS
MSH-6 (RecievingFacility): MYStateIIS
Then the PID-3(PatientIdentifierList) will be returned as:
99445566^^^MYStateIIS^SR~987633^^^MYLOCALIIS^LR

Query Example #2:

MSH-4 (SendingFacility): MYLOCALIIS
MSH-6 (RecievingFacility): MYStateIIS
MSH-22 (ResponsibleSendingOrganization): MYEHR
Then the PID-3(PatientIdentifierList) will be returned as:
123456^^^MYEHR^MR~99445566^^^MYStateIIS^SR~987633^^^MYLOCALIIS^LR

Update Example #1:

MSH-4 (SendingFacility): MYLOCALIIS
MSH-6 (RecievingFacility): MYStateIIS
MSH-22 (ResponsibleSendingOrganization): MYEHR
PID-3 (PatientIdentifierList):
123456^^^MYEHR^MR~99445566^^^MYStateIIS^SR~987633^^^MYLOCALIIS^LR

Then the following will be saved:

123456 for MYEHR
99445566 for MYStatsIIS
987633 for MYLOCALIIS

Update Example #1:

MSH-4 (SendingFacility): MYLOCALIIS
MSH-6 (RecievingFacility): MYStateIIS
PID-3 (PatientIdentifierList):
123456^^^MYEHR^MR~99445566^^^MYStateIIS^SR~987633^^^MYLOCALIIS^LR
Then

123456 for MYEHR **will NOT be saved**
99445566 for MYStatsIIS will be saved
987633 for MYLOCALIIS will be saved

Please ensure that the correct identifier type codes are used in PID-3.

Update Example #3:

MSH-4 (SendingFacility): MYLOCALIIS
MSH-6 (RecievingFacility): MYStateIIS
PID-3 (PatientIdentifierList):
123456^^^MYEHR^SR~99445566^^^MYStateIIS^SR~987633^^^MYLOCALIIS^SR

Then the Immunization Information System will not know what the Sender meant.

Sender should ensure that:

- Only 1 of each Identifier Type Code is included in the Patient Identifier List.
- Identifier Type Codes are associated properly. For example, an EHR must supply their identifier as MR and not SR, etc.

Identifying the Administering Clinic for the Vaccine

The Immunization Information System will use the following steps to identify which facility will be indicated as the administering location when the vaccine is marked as ADMINISTERED.

1. First check RXA-11.4.1 (Administered At Location. Facility. Namespace ID).
    a. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will be indicated as the administering clinic as long as the associated clinic is marked in the Immunization Information System as a clinic that 'gives immunizations'.
2. If the field RXA-11.4.1 is null or cannot be mapped then the Immunization Information System will check the MSH-22 field.
    a. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will be indicated as the administering clinic as long as the associated clinic is marked in the Immunization Information System as a clinic that 'gives immunizations'.

    b. If the field MSH-22 cannot be mapped then the message will return a warning message but will continue on to Step 2c.
    c. If the field MSH-22 is null then the Immunization Information System will check the MSH-4 field.
        i. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will be indicated as the administering clinic as long as the associated clinic is marked in the Immunization Information System as a clinic that 'gives immunizations'.
    d. If the field MSH-4 is associated to a clinic that is marked as 'does not perform immunizations' then the Immunization Information System will set the administering clinic as "PR" (Patient Record).
3. If the vaccine is indicated to be HISTORICAL then the Immunization Information System will check RXA-11 to see if it can be mapped.
    a. If so it will use that associated clinic as the clinic code.
    b. If it cannot be mapped then the clinic will be set as "PR" (Patient Record).

Decrementing Inventory

The IIS needs values in several vaccination fields to support the goal to accurately decrement inventory in 2017. At a minimum, data needs to be provided in the following fields for **administered** vaccinations:

- RXA-5 AdministeredCode needs to contain either a NDC/CVX value
- RXA-6 AdministeredAmount needs to contain a valid dose amount
- RXA-9 AdministrationNotes needs to be marked as 00
- RXA-11 AdministeredAtLocation needs to map to a FacilityID where the inventory resides
- RXA-15 SubstanceLotNumber needs to reflect the lot number on the vial, not the box
- RXA-17 SubstanceManufacturerName needs a valid name
- RXA-20 CompletionStatus needs to be a CP or PA to indicate the vaccine was given
- OBX-3/OBX-5 matched pair with eligibility
- OBX-3/OBX-5 matched pair with a funding source provided

In some cases, these fields are not considered required per the CDC guidelines. Regardless, the IIS will return warning and error messages for administered when these fields are empty as the IIS needs those values to support decrementing inventory. The severity of the error messaging will depend on if the HL7 facility is marked as participating in electronic inventory decrementing. For those HL7 facilities not participating in electronic inventory decrementing, the severity will be a warning. For those HL7 facilities participating in electronic inventory decrementing, the severity will be an error.

In 2017, the IIS will return more robust error messaging with every subsequent release in support of decrementing inventory.

Identifying the Patient's Default Clinic

As of the v16.9 release, the Immunization Information System allows the IIS Manager to designate at the HL7 facility level the following three ownership options for a patient:

- Always Take Ownership – if checked, the patient will be assigned to this clinic if the administered vaccination is the most recent vaccination in the patient's record
- Take Ownership Based on Vaccine Group – if checked, the patient will be assigned to this clinic if the administered vaccination is in the designated vaccine group and is the most recent vaccination in the patient's record
- Do not take ownership – if checked, the patient will not be assigned to this clinic

When clinic ownership is changed for a patient, the vaccination date is used as the effective date. If a new patient is created via a HL7 message and the facility is set to "DO NOT TAKE OWNERSHIP" the patient gets assigned to the PR (Parental Record) clinic. If the facility is set to be able to take ownership then ownership should go to the clinic assigned to the facility.

The behavior of the immunization Information System will depend on the settings for a HL7 facility code.

1. If the HL7 messages contains ANY administered vaccinations then the Immunization Information System will use the following steps to identify which clinic to associate to the patient as the default clinic.
    a. First check RXA-11.4.1 (Administered At Location. Facility. Namespace ID).
        i. If the field contains a valid HL7 facility code (i.e. the Immunization information System recognizable) then that associated clinic will be indicated as the administering clinic based on the ownership rules for that HL7 facility code.
    b. If the field RXA-11.4.1 is null or cannot be mapped then the Immunization Information System will check the MSH-22 field.
        i. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will be indicated as the owning clinic (based on the ownership rules for that HL7 facility code.
    c. If the field MSH-22 is null or cannot be mapped then the Immunization Information System will check the MSH-4 field.
        i. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will be indicated as the administering clinic based on the ownership rules for that HL7 facility code.
2. If the HL7 message contains ONLY historical vaccinations AND the Patient Status has been indicated to be ACTIVE then the system will check the RXA-11 for a valid HL7 facility code.
    a. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will take ownership of the patient based on the ownership rules for that HL7 facility code.
        i. If the field RXA-11 is null or cannot be mapped then the patients' default clinic in the Immunization Information System does not change (for existing patients).

Prior to the v16.9 release, the Immunization Information System will use the following steps to identify which default clinic should be assigned to the patient.

2. If the HL7 messages contains ANY administered vaccinations then the Immunization Information System will use the following steps to identify which clinic to associate to the patient as the default clinic.
    a. First check RXA-11.4.1 (Administered At Location. Facility. Namespace ID).
        i. If the field contains a valid HL7 facility code (i.e. the Immunization information System recognizable) then that associated clinic will be indicated as the

administering clinic (ignoring if the associated clinic is marked in the Immunization Information System as a clinic that 'gives immunizations').

b. If the field RXA-11.4.1 is null or cannot be mapped then the Immunization Information System will check the MSH-22 field.
    i. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will be indicated as the owning clinic (ignoring if the associated clinic is marked in the Immunization Information System as a clinic that 'gives immunizations').

c. If the field MSH-22 is null or cannot be mapped then the Immunization Information System will check the MSH-4 field.
    i. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will be indicated as the administering clinic (ignoring if the associated clinic is marked in the Immunization Information System as a clinic that 'gives immunizations'). Note: The Sending Facility, MSH-4, should be then considered the owning clinic.

3. If the HL7 message contains ONLY historical vaccinations AND the Patient Status has been indicated to be ACTIVE then the system will check the RXA-11 for a valid HL7 facility code.
    a. If the field contains a valid HL7 facility code (i.e. the Immunization Information System recognizable) then that associated clinic will take ownership of the patient (ignoring if the associated clinic is marked in the Immunization Information System as a clinic that 'gives immunizations').
        i. If the field RXA-11 is null or cannot be mapped then the patients' default clinic in the Immunization Information System does not change (for existing patients).

Regardless of the release, if the HL7 message contains ONLY historical vaccinations AND the Patient Status has been indicated to be INACTIVE then the patients' default clinic does not change (for existing patients).

Identifying the Appropriate Audit Information

The audit information (created by and last updated by) will be updated from the user that is associated to the facility code sent in field MSH-4.

ACK – Acknowledging a Message

The ACK returns an acknowledgement to the sending system. This may indicate errors in processing.

Table 6-3 lists the segments and the proper order of the segments that are part of an ACK message.

Segment	CDC IG Cardinality	IIS Cardinality	CDC IG Usage	IIS Usage	Comment
MSH	[1..1]	[1..1]	R	R	Every message begins with an MSH.

Segment	CDC IG Cardinality	IIS Cardinality	CDC IG Usage	IIS Usage	Comment
[{SFT}]	(0..1)	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be included in any outgoing ACK messages.
MSA	(1..1)	[1..1]	R	R	
[{ERR}]	(0..*)		RE	RE	Include if there are errors.
[{ZSA}]	(1..1)		O	RE	New informational segment provided.

Table 6-3: ACK (Acknowledging a Message) Message Definition

2.5.1 Acknowledgement Codes

With the adoption of the 2.5.1 Release 1.5 definitions of the AR, AE, and AA ACK codes, the IIS can no longer assume that an AA response message represents a perfectly formatted message. Furthermore, the situations in which an AR per the 2.5.1 1.5 Release definition can occur will very rarely occur. Due to the new definitions, message senders can anticipate that messages sent in the past that returned with an AE ACK response may now return as an AA ACK message.

ZSA Segments

The IIS now supports additional custom acknowledgement codes in the ZSA segment that provide greater visibility to the quality of the message. These additional custom acknowledgement codes are returned to the message sender in the ZSA segment of the ACK message **if** the IIS has enabled the functionality for the sender.

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Element Name	CDC IG Usage	IIS Usage	Constraint
1		CE	[1..1]	[1..1]	Custom Acknowledgement Code	O	R	The ZSA-1.1 field shall be an AA, AE, AR, AF, AW, or AI. See the definition below. The ZSA-1.2 field provides additional text explaining the ZSA-1.1 code.
2		CX	[0..1]	[0..1]	Message Identifier List	O	O	The ZSA-2.1 contains the message identifier

SEQ	LEN	Data Type	CDC IG Cardinality	IIS Cardinality	Element Name	CDC IG Usage	IIS Usage	Constraint
3		CX	[0..1]	[0..1]	Patient Identifier List	O	O	The ZSA-3.1 contains the patient identifier
4		CX	[0..1]	[0..1]	Actions Performed List	O	O	The ZSA-4.1 contains the actions performed list

The IIS does not expect the sender to consume this new segment. Most parsers will skip processing the segment. If the ZSA segment creates an issue for the sender, The IIS can turn off the ZSA segment.

If the ZSA segment is turned on for the sender, the ACK message will contain the following additional information in the ACK message (in order of severity):

- AA Application Accept – Good message with no problems. Mirrors the definition of AA in HL70008
- AI Application Information - One or more ERR segments returned with at most a severity of I for Information
- AW Application Warning – One or more ERR segments returned with at most a severity of W for Warning
- AE Application Error – One or more ERR segments returned with at most a severity of E for Error
- AF Application Fail – Message Failed to execute. This occurs for critical errors which prevent the message from being able to execute. For example, missing patient name, missing/invalid DOB, etc.
- AR Application Reject - this mirrors the definition of AR in HL70008.

Examples of Error Messages:

If a facility does not have permission to query the IIS, the ACK message will contain the following text: ***U****nable to process this message: Query permission disabled for the facility XXXXXX.*

If a facility does not have permissions to update the IIS, the ACK message will contain the following text: *Unable to process this message: Update permission disabled for the facility XXXXXX.*

If the MSH-4 facility code has been inactivated or is invalid, the ACK message will contain the following text: *Invalid value: XXXXXX. Reason: No matching Facility found.*

If the OBX-3 field contains a non-null value and the OBX-5 field is null, the ACK message will contain the following text: OBX-5(Observation Value): Missing required value.

QBP – Query for Immunization History

The Immunization Information System supports the QBP Profile from the CDC IG. Under this profile, the incoming QBP message to request an immunization history is defined as outlined in Table 6-4.

Segment	CDC IG Cardinality	IIS Cardinality	CDC IG Usage	IIS Usage	Comment
MSH	[1..1]	[1..1]	R	R	Every message begins with an MSH.
[{SFT }]	[0..*]	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be used if included in any incoming VXU messages.
QPD	[1..1]	[1..1]	R	R	
RCP	Response Control Parameters	[1..1]	R	R	The Query Profile will list the segments that are expected to be returned in response to this query.
[DSC]	Continuation Pointer	[0..0]	O	X	Not supported by the Immunization Information System. The segment will not be used if included in any incoming VXU messages.

Table 6-4: QBP (Query for Immunization History) Message Definition

QBP Patient Matching Algorithm

Based on the identifying information provided, the IIS will attempt to locate any and all matching patient records using the guidelines below. (The description below is not intended to imply anything regarding the technical design of the queries used to locate matching records. The goal is only to describe the general concept of how the searches will work.)

1. The IIS will look for a record where there is an exact match by applying all of the following criteria:
    a. First and Last name supplied match the patient's name, the patient's alias name, or the patient's birth record name in the IIS.
    b. The Date of Birth supplied (if any) matches the patient's DOB in the IIS. (Records with no DOB in the IIS would not be returned in this step of the search.)
2. If step 1 resulted in a single match, then the search is completed and the result is returned via a RSP message.
3. If step 1 resulted in multiple matches, the following filters will be applied in the order indicated until either a single record remains or until applying the filter would result in no matches remaining:
    a. SSN
    b. State IIS ID
    c. Requesting Application's Medical Record Number

    d. Gender
    e. Mother's Maiden Name
    f. Birth State
    g. Mother's First/Last Name
    h. Medicaid Number
    i. Medicare Number
    j. Cell phone
    k. Email address
    l. Physical address
    m. Mailing address
4. If one or more records remain in the result set after step 3, then the results are returned via the RSP message as appropriate.
5. If step 1 resulted in no matches found, the IIS will attempt a less restrictive search by applying all of the following criteria:
    a. One of the following is true:
        i. The Last name supplied matches the patient's last name or alias last name and the First name supplied is similar to the patient's first name or alias first name.
        ii. The First name supplied matches the patient's first name or alias first name and the Last name supplied is similar to the patient's last name or alias last name.
        iii. The Last name supplied matches the patient's birth record last name and the First name supplied is similar to the patient's birth record first name.
        iv. The First name supplied matches the patient's birth record first name and the Last name supplied is similar to the patient's birth record last name.
    b. The Middle name supplied (if any) is similar to the patient's middle name, patient's first middle initial, alias middle name, or birth record middle name or the patient's middle name field is empty in the IIS.
    c. The DOB supplied (if any) matches the patient's DOB or the patient's DOB is empty in the IIS.
    d. For those IISs that do not store a SSN, bypass this step. Otherwise, the SSN supplied (if any) matches the patient's SSN or the patient's SSN is empty in the IIS.
6. If step 5 results in no records or a single record matching, the IIS will respond with a RSP message indicating no records were found. (Because a looser matching algorithm was applied, a single record match cannot be assumed to be an exact match without human intervention. Therefore, matching records will not be returned unless at least two potential matches are found.)
7. If step 5 results in multiple matches being found, all of the following filters will be applied. If the filter is a patient identifier (a, b ,g ,h ,i, or j), the filter can reduce the match to a single record. If the filter is not a patient identifier (c, d, e, or f), the filter can reduce until either only two records remain or until applying the filter would result in less than two matches remaining:
    a. State IIS ID
    b. Requesting Application's Medical Record Number
    c. Gender
    d. Mother's Maiden Name
    e. Birth State
    f. Mother's First/Last Name
    g. Medicaid Number
    h. Medicare Number
    i. Cell phone

j. Email
k. Physical address
l. Mailing address

For any search, if there is a matching record that is marked for deletion in the IIS or who has opted out, it will not be returned as part of the search results. The response of the IIS depends on

The IIS will always respond with the appropriate message type as follows:

- If no matching records are found, a RSP message with query response status code of NF message will be returned.
- If a single matching record is found, a RSP message with a query response status code of OK message will be returned.
- If multiple matching records are found, a RSP message with a query response status code of OK message will be returned.
- If too many matches are found, a RSP message with a query response status code of TM message will be returned.
- The TM (too many) message will also be returned if the value in RCP-2, (QuantityLimitedRequest) is less than the number of matches found.
- If a significant issue is found in the incoming message that would prevent an effective search from being accomplished, a RSP message with a query response status code of AE message will be returned with additional details about the error encountered.

(NOTE: The above description is not intended to imply anything regarding about the technical design of the queries used to locate matching records in the IIS. The goal is only to describe the general concept of how the searches will work.)

The IIS can specify at the facility code level the maximum quantity of records that can be returned in a query response. The default value is set to 10 in the IIS for a facility code. If this value is set to a smaller maximum value, the value will determine the maximum value than can be put in RCP-2 (QuantityLimitedRequest). This is a feature that has been added to accommodate more restricted matching when responding to queries from an HIE/HUB where only one match can be returned.

The IIS can specify at the facility code level that stricter patient matching on queries should be applied. This is a feature that allows the IIS to leverage a specific facility that has stricter HL7 query matching rules and a different facility that has looser matching to aid in finding patients. For now, this value will default to false for everyone. This is a feature that has been added to accommodate more restricted matching when responding to queries from an HIE/HUB where only one match can be returned.

FOR THE ONC PILOT PROJECT ONLY: The IIS supports state registries sending messages to another state registry when the IIS has specified at the facility code level that the patient identifier should be switched to a medical record when initiating a request. This flag exists because a state registry sending to another state registry can't both use the same identifier type. This flag will control the behavior of how the IIS identifies itself to the other IIS. When this flag is set, the IIS will send the message and identify the outgoing message as a MR and the other IIS as the SR and when the response is sent back by the other IIS, the response will be converted back to our SR and their MR. This flag is a workaround since very few message senders leverage the Assigning Authority properly. The flag will default to false for all facility codes until needed in the future to support state to state registry data exchange. Please note, if

one of the IIS exchanging information is not a state registry, this flip in not needed. An example where the flip isn't needed is Philadelphia (LR) and Delaware (SR).

RSP – Respond to Request for Information

As outlined in the CDC IG, the response to the incoming query will vary based on the results of the query. Table 6-5 outlines these possible options.

Outcome of Query	Response Message
No match found	Response indicates that message was successfully processed and that no patients matched the criteria that were supplied in the QBP message.
Exactly one high confidence match found	Response includes a complete immunization history as specified below.
At least one lower confidence match is found, but no more than the maximum number allowed	Response returns one PID with associated PD1 and NK1 segments for each potential match. No immunization history is returned.
More than the maximum number of matches allowed is found	Response indicates that the message was successfully processed, but that too many potential matches were found. The maximum number allowed is the lower of the maximum number requested and the maximum number that the receiving system will return. Maximum allowed number of matches is a variable that is assigned by the IIS to the facility.
Message is not well formed and has fatal errors.	Response indicates that the message was not successfully processed and may indicate errors.

Table 6-5: Possible Responses to QBP Message

In the event that a single high confidence match is found, Table 6-6 outlines the grammar used in the RSP message. This is referred to as the **Z32^CDCPHINVS** profile.

Segment	Cardinality	HL7 Optionality	Comment
MSH	[1..1]	R	The MSH will indicate which query is being responded to and what Query Profile it was based on.
MSA	[1..1]	R	
[ERR]	[0..1]	O	If errors exist, then this segment is populated
QAK	[1..1]	R	

Segment	Cardinality	HL7 Optionality	Comment
QPD	[1..1]	R	This segment echoes the Query Parameter Definition Segment sent in the requesting query.
[{	[0..1]	O	– Response Group Begin If a query errors out or if no matching patient is found, then the segments in the Response Group will not be returned.
[{	[0..*]	O	– Patient Identifier Group Begin
PID	[1..n]	R	
[PD1]	[0..1]	RE	
[{NK1}]	[1..*]	RE	
}]			– Patient Identifier Group End
[	[0..1]	O	– Immunization History Group Begin
[PV1]	[0..0]	X	
[IN1]	[0..0]	X	Not supported
[{	[0..*]	RE	– Order Group Begin
ORC	[1..1]	R	Required if client has immunization records (RXA). There is one ORC for each RXA.
			– Pharmacy Administration Group Begin
RXA	[1..1]	R	

Segment	Cardinality	HL7 Optionality	Comment
[RXR]	[0..1]	RE	Special rule: If there is both a site and a route, the RXR is returned, if there is just a route and no site, an RXR is returned, but if there is only a site and no route then NO RXR is returned. Per AIRA Data Validation Guide BR 119 (Route and Site should not contradict each other for a given Vaccine Type and Patient's age) - HL7 will return the following warning if this rule is violated: RXR-1 (Route) and RXR-2 (AdministrationSite) contradict each other for the given Vaccine Type in RXA-5 (AdministeredCode) and Patient's age on RXA-3 (DateTimeStartOfAdministration) when RXA-20 (CompletionStatus) is valued "CP" or "PA" and RXA-21 (ActionCode) is not valued "D". Please see BR-119 in the AIRA Data Validation Guide.
[{	[0..*]	RE	– Observation Group Begin
OBX	[1..1]	R	
[NTE]	[0..1]	RE	
}]			– Observation Group End
			– Pharmacy Administration Group End
}]			– Order Group End
]			– Immunization History Group End
}]			– Response Group End

Table 6-6: RSP (Return an Immunization History) Message Definition

In the event that a one or more lower-confidence matches are found, Table 6-7 outlines the grammar used in the RSP message. This is referred to as the **Z31^CDCPHINVS** profile.

Segment	Cardinality	HL7 Optionality	Comment
MSH	[1..1]	R	The MSH will indicate which query is being responded to and what Query Profile it was based on.
MSA	[1..1]	R	
[ERR]	[0..1]	O	If errors exist, then this segment is populated
QAK	[1..1]	R	
QPD	[1..1]	R	This segment echoes the Query Parameter Definition Segment sent in the requesting query.
[{	[0..1]	O	– Response Group Begin If a query errors out or if no matching patient is found, then the segments in the Response Group will not be returned.
[{	[0..*]	O	– Patient Identifier Group Begin *Note: One Patient Identifier Group will be included for each patient matching the results.*
PID	[1..1]	R	
[PD1]	[0..1]	RE	
[{NK1}]	[0..*]	RE	
}]			– Patient Identifier Group End
[	[0..0]	X	– Immunization History Group Begin *NOTE: None of the segments in this group will be returned in this situation.*
[PV1]	[0..1]	O	
[IN1]	[0..0]	X	Not supported
[{	[0..*]	RE	– Order Group Begin

Segment	Cardinality	HL7 Optionality	Comment
ORC	[1..1]	R	Required if client has immunization records (RXA). There is one ORC for each RXA.
			– Pharmacy Administration Group Begin
RXA	[1..1]	R	
[RXR]	[0..1]	RE	
[{	[0..*]	RE	– Observation Group Begin
OBX	[1..1]	R	
[NTE]	[0..1]	RE	
}]			– Observation Group End
			– Pharmacy Administration Group End
}]			– Order Group End
]			– Immunization History Group End
}]			– Response Group End

Table 6-7: RSP (Return a List of Candidates) Message Definition

ADT – Admission Discharge Treatment

The ADT message is not supported by the Immunization Information System.

Message Logging

All incoming messages are logged within the Immunization Information System database, as well as the outgoing response to each message. Users with the necessary permissions have access to screens within the HL7 Management module to review/search these logs. Specifically, HL7 logging tables are visible via the Operations Hyperlink on the message analyzer screen. These logs can be used to understand why duplicate vaccination events were consolidated using some of the rules from the 2017 MIROW Consolidating Demographic Records and Vaccination Event Records guide.

Appendix A: Code Tables

Code Tables in this local Implementation Guide follow the same order, layout, and format of the Code Tables in the CDC IG. Only Code Tables that are different than the CDC IG are listed in this appendix.

Note: The Immunization Information System looks up the code values below from the database (i.e. reading of the respective code tables in the system) rather than having required the specific codes listed below. It is up to the jurisdiction to decide which code set to use and enter those values (associated to the appropriate value) in the code tables. There are several code sets that differ between HL7 v2.3.1 and HL7 v2.5.1 and the Immunization Information System only contains a field for one value so the jurisdiction will make the determination of what code set to go with.

For convenience, the standard HL7 v2.5.1 code values have been inserted below. However, due to the Immunization Information System looking up values from the database, each jurisdiction is responsible for updating this section with the values they use in their code tables prior to releasing to EMR/EHR systems.

User Defined Table 0001 – Sex

The Immunization Information System supports the Sex/Gender codes listed in Table 9-1. Used in PID-8, NK1-15.

Value	Description	Comment
F	Female	
M	Male	
U	Unknown/Undifferentiated	No assertion is made about the gender of the person.

Table 9-1: Supported Values for User Defined Table 0001 - Sex

User Defined Table 0005 – Race

The Immunization Information System supports the Race codes listed in Table 9-2. Used in PID-10, NK1-35.

Value	Description	Comment
1002-5	American Indian or Alaska Native	
2028-9	Asian	
2076-8	Native Hawaiian or Other Pacific Islander	
2054-5	Black or African-American	
2106-3	White	

Value	Description	Comment
2131-1	Other Race	
<empty field>	Unknown/Undifferentiated	No assertion is made about the race of the person.

Table 9-2: Supported Values for User Defined Table 0001 - Sex

HL7 Defined Table 0008 – Acknowledgement Code

The Immunization Information System supports the Acknowledgement codes listed in Table 9-3.

Value	Description	Comment
AA	Original Mode: Application Accept *Enhanced mode not supported.*	Indicates the message was accepted and processed, and no errors or warnings were generated.
AE	Original Mode: Application Error *Enhanced mode not supported.*	Indicates the message was accepted and processed, but one or more errors or warnings were generated.
AR	Original Mode: Application Reject *Enhanced mode not supported.*	Indicates one or more significant errors occurred and the message was rejected (i.e., it was not processed by the IIS). This is reserved for one of four cases: Unsupported Message Type, Unsupported Event code, Unsupported Processing ID and/or Unable to process for reasons unrelated to format or content.
CA	Enhanced mode: Accept acknowledgement: Commit Accept	Not supported
CE	Enhanced mode: Accept acknowledgement: Commit Error	Not supported
CR	Enhanced mode: Accept acknowledgement: Commit Reject	Not supported

Table 9-3: Supported Values for HL7 Defined Table 0008 – Acknowledgement Code

User Defined Table 0063 – Relationship

The Immunization Information System supports the Relationship codes listed in Table 9-4. Use in NK1-3.

Value	Description	Comment
BRM	Birth Mother	Additional locally-defined value. Loaded into the Birth Mother fields on the Patient Demographics screen.
BRO	Brother	
CGV	Caregiver	
FCH	Foster Child	
FTH	Father	
GRD	Guardian	
GRP	Grandparent	
MTH	Mother	
OTH	Other	
PAR	Parent	
SCH	Stepchild	
SEL	Self	
SIB	Sibling	
SIS	Sister	
SPO	Spouse	

Table 9-4: Supported Values for User Defined Table 0063 – Relationship

User Defined Table 0064 – Financial Class

The Immunization Information System supports the Relationship codes listed in Table 9-5. Use in PV1-20 for patient VFC Eligibility and in OBX-5 for VFC Eligibility at the dose administered level (i.e., vaccine). The IIS prevents both vaccine- and patient-level financial eligibility from being set for patients who are not eligible for those categories based on their age. Please note, these are the recommended values from the CDC per the http://w ww.cdc.gov/vaccines/programs/iis/technical-guidance/downloads/hl7guide-addendum-7-2015.pdf

Value	Description	Comment
V00	VFC Eligibility not Determined/Unknown	
V01	Not VFC Eligible	Client does not qualify for VFC because they do not have one of the statuses below.

Value	Description	Comment
V02	VFC Eligible – Medicaid/Medicaid Managed Care	Client is currently on Medicaid or Medicaid managed care and < 19 years old and the vaccine administered is eligible for VFC funding.
V03	VFC Eligible – Uninsured	Client does not have private insurance coverage and < 19 years old and the vaccine administered is eligible for VFC Funding.
V04	VFC Eligible – American Indian/Alaskan Native	Client is a member of a federally recognized tribe and < 19 years old and the vaccine administered is eligible for VFC Funding.
V05	VFC Eligible – Federally Qualified Health Center Patient (under-insured)	Client has insurance that partially covers vaccines received on visit and so is eligible for VFC coverage at a Federally Qualified Health Center. The client must be receiving the immunizations at the FQHC and < 19 years old and the vaccine administered is eligible for VFC Funding.
V22	CHIP	Client is eligible for the CHIP program, a separate state health insurance that is NOT a Medicaid expansion program.
V23	317	Client is eligible to receive vaccines under the state/program immunization policy and the vaccine administered is eligible for 317 funding.
V24	Medicare	Client is enrolled in Medicare
V25	State specific code	Client is eligible for specific state vaccine program

Table 9-5: Supported Values for User Defined Table 0064 – Financial Class

HL7 Table 0162 – Route of Administration

The Immunization Information System supports the Route of Administration codes listed in Table 9-6. Support for the NCIT (National Cancer Institute Thesaurus) codes has been added. Use in RXR-1.

Clients should update their code table for body route to remove Intranasal (IN) and instead use Nasal (NS) per the CDC 2.5.1 v1.5 implementation guide.

HL7 Value	Description	NCIT Code
ID	Intradermal	C38238
IM	Intramuscular	C28161
NS	Nasal	C38284
IV	Intravenous	C38276
PO	Oral	C38288
OTH	Other/Miscellaneous	
SC	Subcutaneous	C38299
TD	Transdermal	C38305

Table 9-6: Supported Values for User Defined Table 0162 –Route of Administration

HL7 Table 0163 –Administrative Site

The Immunization Information System supports the Administrative Site codes listed in Table 9-7. Use in RXR-2.

Value	Description	Comment
LT	Left Thigh	
LA	Left Arm	
LD	Left Deltoid	
LG	Left Gluteus Medius	
LVL	Left Vastus Lateralis	
LLFA	Left Lower Forearm	
RA	Right Arm	
RT	Right Thigh	
RVL	Right Vastus Lateralis	
RG	Right Gluteus Medius	
RD	Right Deltoid	
RLFA	Right Lower Forearm	

Table 9-7: Supported Values for User Defined Table 0163 – Administrative Site

CDCREC –Ethnic Group

The Immunization Information System supports the Ethnicity codes listed in Table 9-8. Use in PID-22, NK1-28.

Value	Description	Comment
2135-2	Hispanic or Latino	
2186-5	Not Hispanic or Latino	
	Unknown	No 2.5.1 US ethnicity code described.

Table 9-8: Supported Values for User Defined Table – Ethnicity

HL7 Table 0190 – Address Type

The Immunization Information System supports the subset of Address Types listed in Table 9-9. Use in all XAD data types; including PID-11.

Value	Description	Comment
B	Firm/Business	Not supported
BA	Bad Address	Not supported
BDL	Birth Delivery Location	City and State portions will be loaded into the Birth City and Birth State fields
BR	Residence at Birth	Loaded as the Patient's Physical address
C	Current or Temporary	Loaded as the Patient's Mailing address
F	Country of Origin	Not supported
H	Home	Loaded as the Patient's Physical address
L	Legal	Loaded as the Patient's Mailing address
M	Mailing	Loaded as the Patient's Mailing address
N	Birth (nee)	City and State portions will be loaded into the Birth City and Birth State fields
O	Office	Not supported

Value	Description	Comment
P	Permanent	Loaded as the Patient's Physical address
RH	IIS Home	Not supported

Table 9-9: Supported Values for HL7 Table 0190 – Address Type

The following business rules apply to addresses sent in via the HL7 interface:

- Addresses will be parsed into a geo-coded address format (i.e., broken down into specific address components) prior to being saved in the Immunization Information System. It is possible that this will cause the address saved with the patient's record to be slightly different than the address passed in.
- The Immunization Information System expects the city value to be one of the values in the City dropdown if the address is within the ***Jurisdiction***. If the address is outside of the ***Jurisdiction***, any value will be accepted in the City field.
- The Immunization Information System expects there to be either 5 or 9 digits in the zip code component after the system removes all non-numeric characters (e.g., dash (-), forward slash (/), spaces, etc.). If supplied, the zip code suffix cannot be all 0000's as that is not a valid value. If a 9 digit zip is supplied, the format must be 99999-9999.
- If an invalid address is supplied, the Immunization Information System will return a warning but will continue to process the incoming message.

HL7 Table 0200 – Name Type

The Immunization Information System supports the subset of Name Types listed in Table 9-10. Use in PID-5, PID-6, PID-9.

Value	Description	Comment
A	Alias Name	Loaded into the Alias Name fields on the Patient Demographics screen.
B	Name at Birth	Not supported.
C	Adopted Name	Not supported.
D	Display Name	Not supported.
L	Legal Name	Loaded into the Patient Name fields on the Patient Demographics screen. (If the PID-3 field is type BR, then this value is also loaded into the Birth Name fields on the Patient Demographics screen.)

Value	Description	Comment
M	Maiden Name	Loaded into the Mother's Maiden Name field on the Patient Demographics screen.
P	Name of Partner/Spouse	Not supported.
U	Unspecified	Not supported.

Table 9-10: Supported Values for HL7 Table 0200 – Name Type

NOTE: Name values will be parsed by the Immunization Information System to ensure a standardized format prior to searching for or updating a patient's record. This may result in slight variations of names submitted versus names returned.

HL7 Table 0201 – Telecommunication Use Code

The Immunization Information System supports the Telecommunication Use Codes listed in Table 9-11. Use in PID-13, PID-14.

Value	Description	Comment
ASN	Answering Service Number	Loaded as the Message Phone
BPN	Beeper Number	Loaded as the Pager
EMR	Emergency Number	Not supported
NET	Network (email) address	Loaded as the Email Address
ORN	Other Residence Number	Loaded as the Cell Phone
PRN	Primary Residence Number	Loaded as the Home Phone
VHN	Vacation Home Number	Not supported
WPN	Work Number	Loaded as the Work Phone

Table 9-11: Supported Values for HL7 Table 0201 – Telecommunication Use Code

HL7 Table 0203 – Identifier Type

The Immunization Information System supports the subset of Identifier Types listed in Table 9-12. Use in all CX, XCN type codes; including PID-2, PID-3, PID-4, PID-18, PID-21, and RXA-10. Note: PI and AN are not supported in the PID segment.

Value	Description	Comment
BR	Birth IIS Number	Used to match to the patient's Birth Certificate ID field in the Immunization Information System. *NOTE: This identifier should only be used by Vital Records system submitting birth data to the IIS via HL7. Other external system types should **not use** this identifier type!*
MA	Patient's Medicaid Number	
MC	Patient's Medicare Number	
MD	Medical License Number	Used in RXA-10 to identify the healthcare provider that administered a vaccination. The Immunization Information System will look up the MD from the users table.
MR	Medical Record Number	Will be associated to the patient records in the Immunization Information System as a local identifier associated with the clinic tied to the Facility Code in the incoming message.
MCI	Master Client Index	For Delaware only.
NPI	National Provider Identifier	Used in RXA-10 to identify the healthcare provider that administered a vaccination. The Immunization Information System will look up the NPI from the users table.
SR	State IIS ID	The Patient ID associated to this patient in the Immunization Information System. The value must contain only numeric digits.
SS	Social Security Number	The value must contain exactly 9 digits after all dashes and non-numeric characters are removed.

Table 9-12: Supported Values for HL7 Table 0203 – Identifier Type

If an invalid value is received for an Identifier, the Immunization Information System will not load the value and attempt to continue processing the message. It will return the appropriate error message.

User-Defined Table 0227 – Manufacturer of Vaccines (Code = MVX)

Use in RXA-17. The CDC's National Center for Immunization and Respiratory Diseases (NCIRD) maintains the HL7 external code set MVX. http://www2a.cdc.gov/vaccines/IIS/IISStandards/vaccines.asp?rpt=mvx

User-defined Table 0289 - County/parish

Use in all XAD; including PID-11. A complete list of FIPS 6-4 county codes is available at https://phinvads.cdc.gov/vads/ViewValueSet.action?id=FA221794-C665-E811-98FD-0017A477041A

User-defined Table 0292 - Codes for Vaccines Administered (Code=CVX)

Use in RXA-5. New codes are added as needed; therefore, see the most current version of this code set at the CDC website: http://www2a.cdc.gov/vaccines/IIS/IISStandards/vaccines.asp?rpt=cvx

User-defined Table 0296 – Language

The Immunization Information System supports the Language Codes listed in Table 9-13. Use in PID-15. Note: This is not an exhaustive list. Refer to the following website for complete listing: http://phinvads.cdc.gov/vads/ViewValueSet.action?id=43D34BBC-617F-DD11-B38D-00188B398520#

Value	Description	Comment
ara	Arabic	
arm	Armenian	
cat	Catalan; Valencian	
chi	Chinese	
dan	Danish	
eng	English	
fre	French	
ger	German	
hat	Haitian; Haitian Creole	
heb	Hebrew	
hin	Hindi	
hmn	Hmong	
jpn	Japanese	
kor	Korean	

Value	Description	Comment
rus	Russian	
som	Somali	
spa	Spanish; Castilian	
vie	Vietnamese	

Table 9-13: Supported Values for HL7 Table 0296 - Language

HL7 Defined Table 0322 – Completion Status

The Immunization Information System supports the Completion Status codes listed in Table 9-14. Use in RXA-20.

Value	Description	Comment
CP	Complete	
RE	Refused	
NA	Not Administered	
PA	Partially Administered	

Table 9-14: Supported Values for HL7-Defined Table 0322 – Completion Status

HL7 Defined Table 0323 – Action Code

The Immunization Information System supports the Action Codes listed in Table 9-15. Use in RXA-21.

Value	Description	Comment
A	Add	

Value	Description	Comment
D	Delete	The Immunization Information System will only process a delete if the sending facility is the owning' clinic of the administered vaccination. If you send in: ORC|RE||9999^KS0000||||||||| RXA|0|1|19990101|19990101|08^Hep B, ped/adol^CVX|999||||||||||||||D| And it matches delete will occur and there will not be any info statements. If you send in a delete such as: ORC|RE||9999^KS0000||||||||| RXA|0|1|19990101|19990101|08^Hep B, ped/adol^CVX|999|||01^Historical^NIP001|||||||||||D| Then the delete will occur but you will see the following for the IZ-47 violation RXA-9 (AdministrationNotes[1]): Unrecognized/unsupported value: [01]. Expectation: value is empty when RXA-20 (CompletionStatus) is NOT valued "CP" or "PA".
U	Update	

Table 9-15: Supported Values for HL7-Defined Table 0323 – Action Code

User-Defined Table 0362 – Facility

The Immunization Information System requires a valid Sending Facility code in every HL7 message. Contact your Immunization Information System Help Desk for assistance in establishing a valid facility code.

Since the Immunization Information System covers the *Jurisdiction*, the only appropriate Receiving Facility codes are:

For Arkansas: **AR0000**
For Commonwealth of the Northern Mariana Islands: **MP0000**
For Connecticut: **CT0000**
For Delaware: **DE0000**
For Guam: **GU0000**
For Kansas: **KS0000**

For Kentucky: **KY0000**
For Philadelphia: **PH0000**
For Nevada: **NV0000**
For New Mexico: **NMSIIS**
For Palau: **PU0000**
For San Antonio: **SA0000**

HL7 Table 0396 – Substance Refusal Reason

The Immunization Information System supports the Substance Refusal Reason codes listed in Table 9-17. All vaccine refusals are captured as notes in the patient record. Use in RXA-18.

Value	Description	Comment
00	Parental Decision	
01	Religious Exemption	
02	Other	*Must add text component of the CE field with description.*
03	Patient Decision	

Table 9-16: Supported Values for CDC-Defined Table HL70396 – Substance Refusal Reason

User-Defined Table 0441 – Immunization Information Status

The Immunization Information System supports the Immunization Information Status listed in Table 9-16. Use in PD1-16.

Value	Description	Comment
A	Active	Patient will be marked as Open in the Immunization Program. (PD1-17 will be used to determine the Open date.)
I	Inactive – Unspecified	Patient will be marked as Closed in the Immunization Program. (PD1-17 will be used to determine the Close Date).
L	Inactive – Lost to Follow-Up (cannot contact)	Patient will be marked as Closed in the Immunization Program. (PD1-17 will be used to determine the Close Date).
M	Inactive – Moved or Gone Elsewhere (Transferred)	Patient will be marked as Closed in the Immunization Program. (PD1-17 will be used to determine the Close Date).

Value	Description	Comment
P	Inactive – Permanently Inactive (do not re-activate or add new entries to this record)	Patient will be marked as Closed in the Immunization Program. (PD1-17 will be used to determine the Close Date).
U	Unknown	No change will be made to the Patient's Immunization Program enrollment
WA*	WIC: Active	Patient will be marked as Open in the WIC Program. (PD1-17 will be used to determine the Open date.)
WI*	WIC: Inactive – Unspecified	Patient will be marked as Closed in the WIC Program. (PD1-17 will be used to determine the Close Date).
WL*	WIC: Inactive – Lost to Follow-Up (cannot contact)	Patient will be marked as Closed in the WIC Program. (PD1-17 will be used to determine the Close Date).
WM*	WIC: Inactive – Moved or Gone Elsewhere (Transferred)	Patient will be marked as Closed in the WIC Program. (PD1-17 will be used to determine the Close Date).

Table 9-17: Supported Values for User-Defined Table 0441 – Immunization Information Status

For Kansas only: The inclusion of two characters in this field is an intentional deviation from the HL7 standard in order to support a specific need for the state of Kansas. Because no WIC program enrollment information will be sent out by the IIS, it should not affect any system not sending WIC program enrollment data. All non-WIC systems in Kansas and all systems in other jurisdictions should not use these values.

CDC Defined NIP003 – Observation Identifiers (LOINC)

Value	Description	Comment
1648-5	TB Reaction Code	Measurement (mm) of TB reaction on the vaccination edit screen.
8339-4	Birth Weight	
29768-9	VIS Published Date	VIS Published Date on the vaccination edit screen.
29769-7	VIS Presented Date	VIS Presented Date on the vaccination edit screen.
30944-3	Precaution/Contraindication/Allergy/Risk Expiration Date	Allergy/Risk Expiration Date

Value	Description	Comment
30945-0	Vaccination contraindication/precaution	Corresponding observation value code table value set to use for OBX-5 is Value Set OID - 2.16.840.1.114222.4.11.3288 **Value Set Code: PHVS_VaccinationContraindication_IIS**
30946-8	Precaution/Contraindication/Allergy/Risk Effective Date	Allergy/Risk Effective Date
30948-4	Vaccination Adverse Reaction Event	Vaccine Adverse Reaction on the vaccination edit screen.
30952-6	Date and Time of Vaccinations	Date of vaccination on the vaccination edit screen. Time if the field is viewable.
30953-4	Vaccination Adverse Reaction Event Date and Time.	Vaccine Adverse Reaction date on the vaccination edit screen.
30956-7	Vaccine Type (Vaccine group or family)	
30963-3	Vaccine funding source	Corresponding observation value code table value set to use for OBX-5 is Value Set OID - 2.16.840.1.114222.4.11.3287 **Value Set Code: PHVS_ImmunizationFundingSource_IIS** .
30979-9	Vaccine due next	
30980-7	Vaccine date due next	
30981-5	Earliest date the dose should be given	
59777-3	Latest date next dose should be given	
59778-1	Date dose is overdue	

Value	Description	Comment
64994-7	Vaccine Funding Program Eligibility	VFC Eligibility on the vaccination edit screen. Corresponding observation value code table value set to use for OBX-5 is HL70064. If RXA-9.1 (Administration Note.code) is "00" then the message SHALL include an OBX segment associated with the RXA with OBX-3.1 shall equal "64994-7". This OBX will indicate the Patient Eligibility Category for Vaccine Funding Program.
69764-9	VIS Document Type	Type of VIS presented on the vaccination edit screen.

Table 9-18: Supported Values for CDC-Defined Table NIP003– Observation Identifiers

Value Set Name – Immunization Funding Source

The Immunization Information System supports the Immunization Funding Source codes listed in Table 9-19. Use in OBX-5 when OBX-3 has a value of 30963-3. The Immunization Information System will insert the data on the vaccination edit screen under funding source for the associated vaccine. Please note, these are the recommended values from the CDC per http://www.cdc.gov/vaccines/programs/iis/technical-guidance/downloads/hl7guide-addendum-7-2015.pdf

Value	Description	Comment
PHC70	Private	Vaccine stock used was privately funded
VXC50	Public	Vaccine stock used was publically funded
VXC51	Public VFC	Vaccine stock used was publically funded by the VFC program
VXC52	Public non-VFC	Vaccine stock used was publically funded by a non-VFC program

Table 9-19: Supported Values for Value Set Name – Immunization Funding Source

Additionally, OTH (Other) and UNK (Unknown) are valid funding source codes when:

- There is a Historical Immunization
- There is an Administered Immunization but the facility does not decrement inventory electronically

OTH (Other) and UNK (Unknown) are invalid funding source codes when:

- Administered Immunization and the facility is marked as decrements inventory electronically

Value Set Name – Vaccination Contraindications

The IIS supports the Vaccination Contraindication codes listed in Table 9-20. Use in OBX-5. Please note: the CDC Implementation Guide lists more contraindication codes than those listed here. However, only the codes listed here will be treated as true contraindications, i.e., the IIS will NOT recommend the associated vaccine(s). Any additional contraindications listed in the CDC guide will be treated as precautions and will not affect vaccine(s) forecasted for a patient.

Value	Description	Comment
04	Allergy to eggs	NIP004 is the coding system.
91930004	Allergy to eggs	SNOMED is the coding system.
22	Gastrointestinal Disease (chronic)	NIP004 is the coding system.
33	Healthcare provider verified history of or diagnosis of Varicella	NIP004 is the coding system.
38907003	Healthcare provider verified history of or diagnosis of Varicella	SNOMED is the coding system.
4740000	Healthcare provider verified history or diagnosis of Herpes Zoster	SNOMED is the coding system.
49723003	History of Intussusception	SNOMED is the coding system.
402306009	Hypersensitivity to alum	SNOMED is the coding system.
VXC17	Hypersensitivity to the preservative 2-phenoxyethanol	CDCPHINVS is the coding system.
03	Hypersensitivity to yeast	NIP004 is the coding system.
VXC18	Hypersensitivity to yeast	CDCPHINVS is the coding system.
24	Immunity: Diphtheria	NIP004 is the coding system.
25	Immunity: Haemophilus influenzae type B (Hib)	NIP004 is the coding system.
29	Immunity: Pertussis	NIP004 is the coding system.
30	Immunity: Poliovirus	NIP004 is the coding system.
32	Immunity: Tetanus	NIP004 is the coding system.
36	Known severe immunodeficiency	NIP004 is the coding system.
VXC27	Known severe immunodeficiency	CDCPHINVS is the coding system.
27	Laboratory Evidence of Immunity for Measles	NIP004 is the coding system.

Value	Description	Comment
371111005	Laboratory Evidence of Immunity for Measles	SNOMED is the coding system.
28	Laboratory Evidence of Immunity for Mumps	NIP004 is the coding system.
371112003	Laboratory Evidence of Immunity for Mumps	SNOMED is the coding system.
31	Laboratory Evidence of Immunity for Rubella	NIP004 is the coding system.
278968001	Laboratory Evidence of Immunity for Rubella	SNOMED is the coding system.
278971009	Laboratory Evidence of Immunity or confirmation of Hepatitis A Disease	SNOMED is the coding system.
26	Laboratory Evidence of Immunity or confirmation of Hepatitis B Disease	NIP004 is the coding system.
271511000	Laboratory Evidence of Immunity or confirmation of Hepatitis B Disease	SNOMED is the coding system.
371113008	Laboratory Evidence of Immunity or confirmation of Varicella Disease	SNOMED is the coding system.
16	Moderate or Severe Illness	NIP004 is the coding system.
21	Moderate to Severe Acute Illness (e.g. vomiting)	NIP004 is the coding system.
14	Moderate to Severe Diarrhea	NIP004 is the coding system.
38	Moderate to Severe Otitis Media (ear infection)	NIP004 is the coding system.
39	Pregnancy	NIP004 is the coding system.
77386006	Pregnancy	SNOMED is the coding system.
09	Prior DT (severe allergy to previous dose or component of vaccine)	NIP004 is the coding system.
11	Prior DT/DTAP/DTP - Collapse/shock	NIP004 is the coding system.
17	Prior DT/DTAP/DTP- T>=105f w/in 2 days	NIP004 is the coding system.
13	Prior DT/DTAP/DTP-3+ hrs crying in 2 d	NIP004 is the coding system.
18	Prior DT/DTAP/DTP-Guillain-Barre in 6w	NIP004 is the coding system.
12	Prior DT/DTAP/DTP-Seizures w/in 3 days	NIP004 is the coding system.
10	Prior Rabies (severe allergy to previous dose or component of this vaccine)	NIP004 is the coding system.
9	Prior Smallpox (severe allergy to previous dose or component of this vaccine)	NIP004 is the coding system.

Value	Description	Comment
VXC25	Prior Tetanus vaccine (History of Arthus type reaction)	CDCPHINVS is the coding system.
43	Prior Typhoid vaccine (severe reaction to previous dose of vaccine)	NIP004 is the coding system.
23	Recent or Simultaneous Administration of an Antibody-Containing Blood Product (Immune Globulin)	NIP004 is the coding system.
37	Severe (anaphylactic) allergy to latex	NIP004 is the coding system.
77386006	Severe (anaphylactic) allergy to latex	SNOMED is the coding system.
219085007	Severe allergic reaction after previous dose of Diphtheria	SNOMED is the coding system.
293126009	Severe allergic reaction after previous dose of Hepatitis A	SNOMED is the coding system.
293110008	Severe allergic reaction after previous dose of Hepatitis B	SNOMED is the coding system.
293127000	Severe allergic reaction after previous dose of Hib	SNOMED is the coding system.
429311000124103	Severe allergic reaction after previous dose of HPV	SNOMED is the coding system.
420113004	Severe allergic reaction after previous dose of Influenza	SNOMED is the coding system.
219096004	Severe allergic reaction after previous dose of Measles	SNOMED is the coding system.
219088009	Severe allergic reaction after previous dose of Meningococcal	SNOMED is the coding system.
293115003	Severe allergic reaction after previous dose of Pertussis	SNOMED is the coding system.
293116002	Severe allergic reaction after previous dose of Pneumococcal	SNOMED is the coding system.
293117006	Severe allergic reaction after previous dose of Polio	SNOMED is the coding system.
429301000124101	Severe allergic reaction after previous dose of Rotavirus	SNOMED is the coding system.
293119009	Severe allergic reaction after previous dose of Rubella	SNOMED is the coding system.
219084006	Severe allergic reaction after previous dose of Tetanus	SNOMED is the coding system.
293104008	Severe allergic reaction after previous dose of Varicella	SNOMED is the coding system.
293104008	Severe allergic reaction after previous dose of Zoster	SNOMED is the coding system.
05	Severe allergic reaction to gelatin	NIP004 is the coding system.
294847001	Severe allergic reaction to gelatin	SNOMED is the coding system.
06	Severe allergic reaction to neomycin	NIP004 is the coding system.

Value	Description	Comment
294468006	Severe allergic reaction to neomycin	SNOMED is the coding system.
294530006	Severe allergic reaction to polymyxin B	SNOMED is the coding system.
07	Severe allergic reaction to streptomycin	NIP004 is the coding system.
294466005	Severe allergic reaction to streptomycin	SNOMED is the coding system.
36	Substantial suppression of cellular immunity	NIP004 is the coding system.
398293003	Substantial suppression of cellular immunity	SNOMED is the coding system.
08	Thimerosol/Mercury Allergy (severe)	NIP004 is the coding system.
40	Thrombocytopenia	NIP004 is the coding system.
41	Thrombocytopenic purpura (history)	NIP004 is the coding system.
302215000	Thrombocytopenic purpura (history)	SNOMED is the coding system.
37	Underlying unstable, evolving neurologic disorders (including seizure disorders, cerebral palsy, and developmental delay)	NIP004 is the coding system.
VXC26	Underlying unstable, evolving neurologic disorders (including seizure disorders, cerebral palsy, and developmental delay)	CDCPHINVS is the coding system.

Table 9-20: Supported Values for Value Set Name – Vaccination Contraindications

Value Set Name – Vaccination Reaction

The IIS supports the Vaccination Reaction codes listed in Table 9-21. Use in OBX-5.

Value	Description	Comment
39579001	Anaphylactic Reaction	SNOMED is the coding system
293104008	Adverse reaction to vaccine component	SNOMED is the coding system
VXC12	Fever, 40.5+°C (105°F) < 48 hr	HL7 is the coding system
VXC10	Collapse / Shock < 48 hr	HL7 is the coding system
VXC11	Seizures < 3 days	HL7 is the coding system
VXC9	Crying for 3+ hrs, < 48 hr	HL7 is the coding system

Table 9-21: Supported Values for Value Set Name – Vaccination Reaction

Appendix B: Example VXU Messages

Vaccine refusal

The following is a sample RXA segment:

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|201401010000||VXU^V04^VXU_V04|XX99993
8854000000232|T|2.5.1|||NE|AL|
PID|||123456789^^^XX9999^SS||SIMPSON^BART^^^^^L||19990101000000
ORC|RE||9999^XX9999|
RXA|0|1|20091010|20091010|107^DTAP-NOS^CVX|999||||||||||00^Parental refusal^NIP002||RE
```

Vaccine not administered

The following is a sample RXA segment:

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|201401010000||VXU^V04^VXU_V04|XX99993
8854000000232|T|2.5.1|||NE|AL|
PID|||123456789^^^XX9999^SS||SIMPSON^BART^^^^^L||19990101
ORC|RE||9999^XX9999|
RXA|0|1|20110219|20110219|118^HPV, bivalent^CVX|999|||01^Historical information - source
unspecified^NIP001||||||||||NA|A
```

VIS examples

VIS for Single Antigen Vaccine by VIS Bar Code

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|201404010000||VXU^V04^VXU_V04|XX99993
8854000000232|T|2.5.1|||NE|AL|
PID|||123456789^^^XX9999^SS||SIMPSON^BART^^^^^L||20140101
ORC|RE||12345^XX9999
RXA|0|1|20140301|20140301|08^Hep B, ped/adol^CVX|999|||01^Historical information - source
unspecified^NIP001||PR^^^PR||||||||CP|A|20141120
OBX|1|CE|69764-9^Vaccine Information Statement Document
Type^LN|1|25308869830000591112020 2^Hepatitis B VIS^cdcgs1vis|||||F
OBX|2|DT|29769-7^Date Vaccine Information Statement Presented^LN|1|20140101|||||F
```

After executing the message the patient vaccination should have 1 VIS selected

VIS for Single Antigen Vaccine by CVX

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|201404010000||VXU^V04^VXU_V04|XX99993
8854000000232|T|2.5.1|||NE|AL|
PID|||123456789^^^XX9999^SS||SIMPSON^BART^^^^^L||20140101
ORC|RE||12345^XX9999
RXA|0|1|20140301|20140301|08^Hep B, ped/adol^CVX|999|||01^Historical information - source
unspecified^NIP001||PR^^^PR||||||||CP|A|20141120
OBX|1|CE|30956-7^Vaccine Type^LN|1|08^Hep B, ped/adol^CVX|||||F
OBX|2|DT|29768-9^Date Vaccine Information Statement Published^LN|1|20120202|||||F
OBX|3|DT|29769-7^Date Vaccine Information Statement Presented^LN|1|20140101|||||F
```

After executing the message, the patient vaccination should have 1 VIS selected.

VIS for Multi Antigen Vaccine by CVX

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|201404010000||VXU^V04^VXU_V04|XX99993
8854000000232|T|2.5.1|||NE|AL|
PID|||123456789^^^XX9999^SS||SIMPSON^BART^^^^^L||20140101
ORC|RE||12345^XX9999
RXA|0|1|20140301|20140301|110^DTaP-HepB-IPV (Pedia^CVX|999|||01^Historical information
- source unspecified^NIP001||PR^^^PR||||||||CP|A|20141203
OBX|1|CE|30956-7^Vaccine Type^LN|1|107^DTaP, UF^CVX||||||F
OBX|2|DT|29768-9^Date Vaccine Information Statement Published^LN|1|20070517||||||F
OBX|3|DT|29769-7^Date Vaccine Information Statement Presented^LN|1|20141203||||||F
OBX|4|CE|30956-7^Vaccine Type^LN|2|45^Hep B, UF^CVX||||||F
OBX|5|DT|29768-9^Date Vaccine Information Statement Published^LN|2|20120202||||||F
OBX|6|DT|29769-7^Date Vaccine Information Statement Presented^LN|2|20141203||||||F
OBX|7|CE|30956-7^Vaccine Type^LN|3|89^Polio, UF^CVX||||||F
OBX|8|DT|29768-9^Date Vaccine Information Statement Published^LN|3|20111108||||||F
OBX|9|DT|29769-7^Date Vaccine Information Statement Presented^LN|3|20141203||||||F
```

After executing the message the patient vaccination should have 3 VIS selected.

VIS for Multi Antigen Vaccine by VIS Bar Code

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|201404010000||VXU^V04^VXU_V04|XX99993
8854000000232|T|2.5.1|||NE|AL|
PID|||123456789^^^XX9999^SS||SIMPSON^BART^^^^^L||20140101
ORC|RE||12345^XX9999
RXA|0|1|20140301|20140301|110^DTaP-HepB-IPV (Pedia^CVX|999|||01^Historical information -
source unspecified^NIP001||PR^^^PR||||||||CP|A|20141203
OBX|1|CE|69764-9^Vaccine Information Statement Document
Type^LN|1|25308869830000351107051 7^DTaP VIS^cdcgs1vis||||||F
OBX|2|DT|29769-7^Date Vaccine Information Statement Presented^LN|1|20141203||||||F
OBX|3|CE|69764-9^Vaccine Information Statement Document
Type^LN|2|2530886983000059111202 02^Hepatitis B VIS^cdcgs1vis||||||F
OBX|4|DT|29769-7^Date Vaccine Information Statement Presented^LN|2|20141203||||||F
OBX|5|CE|69764-9^Vaccine Information Statement Document
Type^LN|3|2530886983000172111111 08^Polio VIS^cdcgs1vis||||||F
OBX|6|DT|29769-7^Date Vaccine Information Statement Presented^LN|3|20141203||||||F
```

After executing the message, the patient vaccination should have 3 VIS

Deleting a Vaccination

Below is a sample message showing the minimum segments that need to be contained in a delete immunization message. You can only delete an immunization that you first reported.

Here is the initial report of an immunization:

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|20160113151225||VXU^V04^VXU_V04|33376
80|P|2.5.1||||||||
PID|1||123456^^^^MR||SIMPSON^BART^^^^^L||20140912000000|M|||144 ANY
STREET^^CITY^ST^99999^^M||(555)555-
1234^PRN^^^^302^5551234||ENG^English^HL70296||||||||||||||
NK1|1|GRU^MR|GRD^Guardian^HL70063|144 ANY
STREET^^Newark^DE^19713^USA^H^^10003||||||||||||
ORC|RE||47620^DEA||||||^DOCTOR^JOHN^^MD||1234567890^DOCTOR^JOHN^^MD^^^^^^^^NPI
RXA|0|1|20150113150100|20150113150100|133^Pneumococcal conjugate vaccine, 13 valent,
IM^CVX^90670^Pneumococcal conjugate vaccine, 13 valent, IM^C4|0.5|mL^^UCUM||00^New
immunization
record^NIP001|^DOCTOR^JOHN^^MA|^^^XX9999||||M35761|20170531000000|PFR^Pfizer,
Inc^MVX||||A|20160113150100
RXR|IM^Intramuscular^HL70162|LT^Anterolateral Thigh (Left)^HL70163
OBX|1|TS|29768-9^Date Vaccine Information Statement
Published^LN|1|20130227||||||F|||20130227000000
OBX|2|TS|29769-7^Date Vaccine Information Statement
Presented^LN|1|20160113||||||F|||20150113000000
OBX|3|CE|30963-3^Vaccine funding source^LN||PHC70^Private
Funds^CDCPHINVS|||||F|||20160113
OBX|4|CE|64994-7^Vaccine funding program eligibility
category^LN||V01||||||F||||||VXC40^Eligibility captured at the immunization level^CDCPHINVS
```

Here is what you would need to submit to delete a vaccination from that patient:

```
MSH|^~\&|SendingOrg|XX9999|ReceivingOrg|XX0000|20160113151225||VXU^V04^VXU_V04|33376
801|P|2.5.1||||||||
PID|1||123456^^^^MR||SIMPSON^BART^^^^^L||20140912000000|M|||144 ANY
STREET^^CITY^ST^99999^^M||||||||||||||||||
ORC|RE||47620^DEA||||||
RXA|0|1|20150113150100|20150113150100|133^Pneumococcal conjugate vaccine, 13 valent,
IM^CVX^90670^Pneumococcal conjugate vaccine, 13 valent, IM^C4|0.5|mL^^UCUM||00^New
immunization record^NIP001||^^^XX9999|||||||||D|20160113150100
```

Appendix C: Example QBP Messages

Request Immunization History

For Bart Simpson, DOB: 01/01/1999 (QBP)

```
MSH|^~\&|SendingOrg|XX9999|WebIZ|XX0000|20060201000000||QBP^Q11^QBP_Q11|XX99993885
4000000232|T|2.5.1|||ER|AL||||Z34^CDCPHINVS
QPD|Z34^Request Immunization History^CDCPHINVS|querytag||SIMPSON^BART^^^^^L||19990101||
RCP|I|5^RD&records&HL70126|R^real-time^HL70394
```

Request evaluated history and forecast

For Bart Simpson, DOB: 01/01/1999 (QBP)

MSH|^~\&|SendingOrg|XX9999|WebIZ|XX0000|20060201000000||QBP^Q11^QBP_Q11|XX99993885
4000000232|T|2.5.1|||ER|AL||||Z44^CDCPHINVS
QPD|Z44^Request Evaluated History and
Forecast^CDCPHINVS|querytag||SIMPSON^BART^^^^^L||19990101||
RCP|I|5RD&records&HL70126|R^real-time^HL70394

The response to a forecast request, will include the following (if available):
30981-5 : Earliest date dose should be given
30980-7: Date next dose recommended
59777-3: Latest date next dose should be given
59778-1: Date dose is overdue

The responses now include the Series Status (OBX-3 is equal to 59783-1^Series Status^LN) for both Evaluations and for any doses not recommended to be given.

For Delaware ONLY: QBPs for the DHIN portal project

The sender only wants one patient matched and returned per query. There must be an exact match on Address Line 1, City, and State for a match to be returned. In this case, the query should only request one result (1RD). If the IIS finds more than one exact match, the query response will return a TM (too many). The queries above should look like the following:

For Bart Simpson, DOB: 01/01/1999 (QBP)

MSH|^~\&|SendingOrg|XX9999|WebIZ|XX0000|20060201000000||QBP^Q11^QBP_Q11|XX99993885
4000000232|T|2.5.1|||ER|AL||||Z34^CDCPHINVS
QPD|Z34^Request Immunization History^CDCPHINVS|querytag||SIMPSON^BART^^^^^L||19990101||
RCP|I|**1RD**&records&HL70126|R^real-time^HL70394

MSH|^~\&|SendingOrg|XX9999|WebIZ|XX0000|20060201000000||QBP^Q11^QBP_Q11|XX99993885
4000000232|T|2.5.1|||ER|AL||||Z44^CDCPHINVS
QPD|Z44^Request Evaluated History and
Forecast^CDCPHINVS|querytag||SIMPSON^BART^^^^^L||19990101||
RCP|I|**1RD**&records&HL70126|R^real-time^HL70394

Appendix D: AIRA Data Validation Guide Business Rules

BR – 101 (Vaccination Encounter Date must not be before the Patient Date of Birth)

HL7 will return the following error if this rule is violated:

- RXA-3 (DateTimeStartOfAdministration): must not be before PID-7 (DateTimeOfBirth) when RXA-21 (ActionCode) is not valued "D". Please see BR-101 in the AIRA Data Validation Guide.

BR – 103 (Vaccination Encounter Date must not be before the Patient Date of Birth)

BR-103 specifies vaccine encounter date must be before submission date. The vaccine submission date must not be in the future or before 01/01/1900**

HL7 will return the following error if this rule is violated:

- RXA-3 (DateTimeStartOfAdministration): must be less than or equal to (before or the same as) MSH-7 (DateTimeOfMessage) when RXA-21 (ActionCode) is not valued "D". Please see BR-103 in the AIRA Data Validation Guide.

BR – 114 (Vaccination Encounter Date should not be the same as the Patient Date of Birth unless it is on the list of vaccines recommended for administration on Date of Birth)

HL7 will return the following warning (historical vaccines) or error (administered vaccines) if this rule is violated:

- RXA-3 (DateTimeStartOfAdministration): should not be the same as PID-7 (DateTimeOfBirth) unless it is on the list of vaccines recommended for administration on the date of birth, e.g., HepB when RXA-20 (CompletionStatus) is valued "CP" or "PA" and RXA-21 (ActionCode) is not valued "D". Please see BR-114 in the AIRA Data Validation Guide.

BR – 118 (Vaccination Encounter Date should not be after the lot number expiration date)

HL7 will return the following warning if this rule is violated:

- RXA-3 (DateTimeStartOfAdministration): should not be after RXA-16 (SubstanceExpirationDate) when RXA-20 (CompletionStatus) is valued "CP" or "PA" and RXA-21 (ActionCode) is not valued "D". Please see BR-118 in the AIRA Data Validation Guide.

BR – 119 (Route and Site should not contradict each other for a given Vaccine Type and Patient's age)

Any combination of body site and body route that is not already setup as a valid combination within the Body Route Site Codes table will return a warning:

- RXR-1 (Route) and RXR-2 (AdministrationSite) contradict each other for the given Vaccine Type in RXA-5 (AdministeredCode) and Patient's age on RXA-3 (DateTimeStartOfAdministration) when RXA-20 (CompletionStatus) is valued "CP" or "PA" and RXA-21 (ActionCode) is not valued "D". Please see BR-119 in the AIRA Data Validation Guide

BR – 121 (Administered vaccinations coded with an “unspecified” CVX code(should have specific Vaccine Types)

HL7 will return the following warning if this rule is violated:

- RXA-5 (AdministeredCode): should not be valued with an “unspecified” vaccine when the first occurrence of RXA-9.1 is valued "00" and RXA-20 (CompletionStatus) is valued "CP" or "PA" and RXA-21 (ActionCode) is not valued "D". Please see BR-121 in the AIRA Data Validation Guide.

BR – 130 (Vaccine dose given before the minimum patient age or after the maximum patient age)

HL7 will return the following error if this rule is violated:

- RXA-3 (DateTimeStartOfAdministration): must be less than or equal to (before or the same as) MSH-7 (DateTimeOfMessage) when RXA-21 (ActionCode) is not valued "D". Please see BR-103 in the AIRA Data Validation Guide.

BR – 5602 (Use more specific information)

When matching vaccinations, multi-antigen is kept/preferred over single antigen. UF/NOS always carries the least weight. For example, a more specific vaccine product type administered (Hib-PRP-T) is selected over the more generic vaccine product type administered (Hib-unspecified).
An exception to the rule is if you are the creator/owner of the record. Then you are allowed to make changes as you are a confident data source for that record. For these cases you are likely sending in corrections to data that was not recorded correctly.

WEBIZ-740 (If RXA-5 consists of a CVX code and a NDC code then the two specified codes must share at least one vaccine group)

The following error will be returned if this rule is violated:

- ERR||RXA^1^5^1|999^ApplicationError^HL70357|E|2003^Conflicting Codes in a Field^HL70533^WEBIZ-740^Vaccination Not Added Due To Conflicting CVX and NDC values^L||NumericPath: RXA[1].5[1], NamePath: ORDER[0]/RXA/AdministeredCode, RuleId: , ApplicationErrorCode: WEBIZ-740|RXA-5 (AdministeredCode): Vaccination Not Added Due To Conflicting CVX and NDC values. Please verify you are passing in both the correct CVX and NDC for this immunization.