



COLORADO
Department of Public
Health & Environment

Colorado Immunization Information System

**HL7 Version 2.5.1 Implementation Guide
Version 1.9**

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Change History

Published/Revised Date	Version #	Author	Section/Revision Description
9/10/2014	1.0	CIIS	Draft for initial implementation
1/12/2015	1.1	CIIS	Final version completed
1/23/2015	1.2	CIIS	Updates after CDC review
2/2/2015	1.3	CIIS	Updates to CVX Code Set table
2/18/2015	1.3	CIIS	Professional Suffix changed to RE
3/12/2015	1.3	CIIS	Updated comment for RXA-11
3/19/2015	1.3	CIIS	Added ORC-17 to Field Location Summary section
4/20/2015	1.3	CIIS	Add NS and PO to Body Site code set
5/4/2015	1.4	CIIS	Added insurance segment information
5/18/2015	1.4	CIIS	Minor corrections
6/7/2015	1.4	CIIS	Added IN1 Segment
6/15/2015	1.5	CIIS	Changed Address, Phone, and Mother to RE; Added code tables
6/22/2015	1.5	CIIS	Race and Ethnicity values are from CDCREC code set; Updates to CVX and MVX Code Set table; Added IN1 segment specification
8/18/2015	1.5	CIIS	Minor corrections to examples and code tables
10/1/2015	1.6	CIIS	Updated CVX and MVX Code Set tables
11/29/2015	1.7	CIIS	Updated code sets for table HL70064 – Financial Class and PHVS_ImmunizationFundingSource_IIS
01/19/2016	1.8	CIIS	Remove 317 and CHIP from PHVS_ImmunizationFundingSource_IIS code set
04/11/2016	1.8	CIIS	Correction to table PHVS_ImmunizationFundingSource_IIS
4/27/2016	1.9	CIIS	Update CVX Code Set

Introduction

The Colorado Immunization Information System (CIIS) currently has the capability to receive and process electronic information in the following Health Level Seven (HL7) formats:

- Batch files and real-time messages formatted in HL7 Version 2.3.1
- Batch files and real-time messages formatted in HL7 Version 2.5.1

This implementation guide only addresses batch files formatted in HL7 Version 2.5.1.

The purpose of this document is to provide a concise guide to the HL7 2.5.1 messages accepted by CIIS, specifically Unsolicited Vaccination Record Updates (VXU messages). HL7 is a standard messaging protocol used to exchange data between health care data systems. Providers must follow these HL7 2.5.1 specifications to successfully meet Stage 1 and Stage 2 immunization registry reporting requirements (beginning January 2014).

This HL7 implementation guide describes the content and message mapping specifications for the set of data elements utilized to communicate information that meets the requirements for immunization reporting to the Colorado Department of Public Health and Environment (CDPHE). This version adopts the Centers for Disease Control and Prevention’s (CDC) HL7 Version 2.5.1: *Implementation Guide for Immunization Messaging Release 1.5*. The intended audiences for this document are healthcare providers, Electronic Health Record (EHR) vendors and other public health-related organizations interested in using HL7 for transmitting their data to Colorado’s immunization registry.

Additional information and relevant resources are available at the following websites:

Centers for Disease Control and Prevention (CDC):

<http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html>

Colorado Immunization Information System (CIIS):

<https://www.colorado.gov/pacific/cdphe/electronic-health-records>

Health Level 7 International (HL7):

<http://www.hl7.org/>

Definitions

Each HL7 segment consists of several fields that are separated by a pipe "|". A definition table is included in this document for each segment that might appear in a batch file of vaccination updates. See section “Segment Listings” on page 18. The Segment Listings specify how each segment is structured and contain the following columns:

Field	The ordinal position of the field in the message segment
Element Name	Name of Field
Data Type	Specify the format and type of data used. See <i>Appendix A</i> for the definitions of HL7 data types (page 41)

Usage	Field Usage: Required (R), Required But May Be Empty (RE), Conditional (C), Optional (O), Do Not Use (X)
Description/Comment	Description of field and additional usage comments
Code Set	Included lookup reference, when applicable

Each segment must be terminated by a carriage return. This carriage return is needed so that the HL7 messages are readable and printable, although the messages may appear somewhat cryptic due to the scarcity of white space.

HL7 Data Types

Each field has an HL7 data type. *Appendix A* found on page 41 of this document lists and defines the HL7 data types used by CIIS. The elemental data types *Numeric* (NM) and *String* (ST) consist of one value. Some data types, such as *Extended Person Name* (XPN), *Extended Address* (XAD) and *Extended Composite ID Number and Name* (XCN) are composites.

Field Usage Definitions

There are five different usage types used in these specifications for HL7 fields. **Please pay particular attention to the definitions below:**

Symbol	Definition	Operation Requirement
R	Required	Rows highlighted blue and marked required (R) must be submitted to CIIS with a non-empty value.
RE	Required if relevant data exist in source database	Rows highlighted yellow are required if information is available from the submitting database and the field is applicable (RE). <ul style="list-style-type: none"> CIIS strongly recommends the collection and submission of these data elements to ensure accurate patient and vaccination de-duplication and data quality in CIIS.
C	Conditional	Rows highlighted in violet are conditional (C), which means that a value is required if the field it is related to contains a specific value.
O	Optional	Non-highlighted rows are optional (O). Data may be sent if available from the submitting database, but CIIS may not process it.
X	Not supported in this guide	Rows highlighted in gray (X) are deprecated, and data should not be sent in this portion of the message.

VXU Message Segment Order

The HL7 VXU message is used for sending unsolicited client data and immunizations. This may be a record that is new or may be an update to an existing record. The following sections define each segment type that can appear in a VXU message, along with specific notes about the fields contained within each segment.

The following table lists the segments that are part of a VXU. A couple examples are listed below.

Segment	Cardinality	Usage	Comments
MSH	[1..1]	R	Every message begins with an MSH
PID	[1..1]	R	Every message has a PID segment.
[PD1]	[0..1]	RE	Every PID segment in the VXU may have one or less PD1 segment.
{[NK1]}	[0..*]	RE	Every PID segment in the VXU may have zero or more NK1 segments. See specific rules for inclusion in following sections.
{[Begin Patient Visit Group	[0..1]		CIIS does not currently utilize fields in the Patient Visit Group for HL7 version 2.5.1
PV1	[0..1]	O	Patient Visit.
PV2	[0..1]	O	Patient Visit Additional Details
End Patient Visit]}			
[Begin Insurance Group	[0..1]	O	The insurance group may not repeat.
IN1	[1..1]	R	
IN2	[0..1]		Not used by CIIS
IN3	[0..1]		Not used by CIIS
End Insurance Group]			
{[Begin Order Group	[0..*]	RE	Each VXU may have zero or more Order groups.
ORC	[1..1]	R	The Order Group in a VXU must have one ORC segment.
RXA	[1..1]	R	Each ORC segment in a VXU must have one RXA segment. Every RXA requires a preceding ORC segment
[RXR]	[0..1]	RE	Every RXA segment in a VXU may have zero or one RXR segment.
{[Begin Observation Group	[0..*]	RE	Each VXU may have zero or more Observation Groups.
OBX	[1..1]	R	

Segment	Cardinality	Usage	Comments
[NTE]	[0..1]	RE	Every OBX segment in a VXU may have zero or one NTE segment.
End Observation Group}}			
End Order Group}}			

VXU Example #1 (Message with only the required fields valued)

The example below of an unsolicited update of a vaccination record demonstrates a message with only the minimum number of required fields valued. This message provides all the National Immunization Program-required core data elements as well as the fields required by HL7 to form a correct, acceptable message.

Note: "<CR>" is used below to indicate where a carriage return would be inserted into the VXU. You should not have the characters "<CR>" in your actual VXU messages.

```
MSH|^~\&|ExampleEHR|123^ABC Clinic|
CIIS^2.16.840.1.114222.4.1.144.2.4^ISO|CDPHE^2.16.840.1.114222.4.1.144^ISO
|20100521001010||VXU^V04^VXU_V04|20090521CO50|P|2.5.1|||||||Z22^CDCPHINVS|123^ABC
Clinic|CIIS^2.16.840.1.114222.4.1.144.2.4^ISO <CR>
PID||| CO900009^^CHCO^MR~XXX-XX-1234^^SS
||KENNEDY^BILL^RONALD^JR^^L|BOUVIER^^^^M|20000607|M|FITZGERALD^FITZ|2106-
3^White^CDCREC|123 MAIN ST^APT
3B^Longmont^CO^80501^^M^MSACODE^MA034||^PRN^PH^^303^9521234~^NET^Internet^jfitz1
23@me.com||ENG^English^HL70296|||||2186-5^Not Hispanic or Latino^CDCREC||Y<CR>
NK1|1|KENNEDY^JACQUELINE^LEE^^L|MTH^MOTHER^HL70063|<CR>
ORC|OK|47415167^EPC|6751306^1.2.840.114350.19|||||20141111110535|ZZPCCCPNURSE^ZZT
EST^PC^CCP NURSE^|4207^DORIGHI^MATTHEW^P.^|9002101^^90021^^^CHERRY CREEK
PEDS|^303^7560101|||CHCO|GENERIC^GENERIC WORKSTATION^^|O|<CR>
RXA|0|1|20010607|20010607|08^HEPBEDIATRIC/ADOLESCENT^CVX^90744^HEPBEDIATRIC/AD
OLESCENT^C4|0.5|ML^millileters^UCUM||00^NEW IMMUNIZATION
RECORD^NIP001|1234567891^O'BRIAN^ROBERT^A^DR^^^^^NPI^^^^^^MD^|012-45^^ABC
Clinic^^^123 Oak |||MRK12345|20150401|MSD^MERCK^MVX|||CP|A|20140101<CR>
RXR|SC^SUBCUTANEOUS^HL70162|LA^LEFT ARM^HL7016<CR>
OBX|1|CE|64994-7^vaccine fund pgm elig cat^LN|1|V02^VFC eligible - Medicaid/Medicaid Managed
Care^HL70064|||||F|||20090531132511|||CVX40^per imm^CDCPHINVS|<CR>
OBX|2|CE|30956-7^vaccine type^LN|2|08^Hepatitis B^CVX|||||F||<CR>
OBX|3|TS|29768-9^DATE VACCINE INFORMATION STATEMENT
PUBLISHED^LN|2|19980605|||||F||<CR>
OBX|4|TS|29769-7^DATE VACCINE INFORMATION STATEMENT
PRESENTED^LN|2|20010607|||||F||<CR>
```

VXU Example #2 (Unsolicited update showing use of optional segments)

The example below of an unsolicited update of a vaccination record demonstrates the use of this message to update an entire immunization record and uses some of the optional segments in the message to provide additional information. For example, the PD1 segment records the medical home and states whether reminder/recall notices should be sent for this patient. An OBX segment reports that the patient is eligible for the Vaccines for Children (VFC) program and is a Medicaid patient. The effective date of his VFC and Medicaid status is May 31, 2009. The vaccine used for the immunization was purchased with Federal Funds. The final RXA and OBX indicate the patient previously had varicella disease.

MSH^~\&|ExampleEHR|123^ABC Clinic|
CIIS^2.16.840.1.114222.4.1.144.2.4^ISO|CDPHE^2.16.840.1.114222.4.1.144^ISO
|20100521001010||VXU^V04^VXU_V04|20090521CO50|P|2.5.1|||||Z22^CDCPHINVS|123^ABC
Clinic|CIIS^2.16.840.1.114222.4.1.144.2.4^ISO <CR>
PID||| CO900009^^^CHCO^MR~XXX-XX-1234^^^SS
||KENNEDY^BILL^RONALD^JR^^L|BOUVIER^^^^^M|20000607|M|FITZGERALD^FITZ|2106-
3^White^CDCREC|123 MAIN ST^APT
3B^Longmont^CO^80501^^M^MSACODE^MA034||^PRN^PH^^303^9521234~^NET^Internet^jfitz123@
me.com|ENG^English^HL70296|||||2186-5^Not Hispanic or Latino^ CDCREC||Y<CR>
PD1|||||03^REMINDER/RECALL - NO CALLS^HL70215|Y|19900607||A|19900607|19900607|<CR>
NK1|1|KENNEDY^JACQUELINE^LEE|MTH^MOTHER^HL70063|||||6725^^^SS|<CR>
NK1|2|KENNEDY^JOHN^FITZGERALD|FTH^FATHER^HL70063|||||6618^^^SS|<CR>
RXA|0|1|19900607|19900607|08^HEPB-PEDIATRIC/ADOLESCENT^CVX^90744^HEPBPEPATRIC/
ADOLESCENT^C4|.5|ML^millileters^UCUM|||03^HISTORICAL INFORMATION - FROM
PARENT'SWRITTEN RECORD^NIP0001|||||CP|A|<CR>
ORC|RE||540754H3715|||||1234567891^O'BRIAN^ROBERT^A^DR^^^^^UPIN^^^^^MD^ |^^ABC
Clinic^^^^123 Oak||<CR>
RXA|0|1|20010607|20010607|08^HEPBPEPATRIC/ADOLESCENT^CVX^90744^HEPBPEPATRIC/AD
OLESCENT^C4|0.5|ML^millileters^UCUM|||00^NEW IMMUNIZATION
RECORD^NIP001|1234567891^O'BRIAN^ROBERT^A^DR^^^^^UPIN^^^^^MD^|012-
45^^123^^123 Oak |||MRK12345|20150401|MSD^MERCK^MVX||CP|A|20140101|<CR>
RXR|SC^SUBCUTANEOUS^HL70162|LA^LEFT ARM^HL7016|<CR>
OBX|1|CE|64994-7^vaccine fund pgm elig cat^LN|1|V02^VFC eligible - Medicaid/Medicaid Managed
Care^HL70064|||||F||20090531132511||CVX40^per imm^CDCPHINVS|<CR>
OBX|2|CE|30963-3^Vaccine purchased with^LN|1|VXC1^Federal funds^CDCPHINVS|||||F|<CR>
OBX|3|CE|30956-7^vaccine type^LN|2|08^Hepatitis B^CVX|||||F|<CR>
OBX|4|TS|29768-9^DATE VACCINE INFORMATION STATEMENT
PUBLISHED^LN|2|19980605|||||F|<CR>
OBX|5|TS|29769-7^DATE VACCINE INFORMATION STATEMENT
PRESENTED^LN|2|20010607|||||F|<CR>
ORC||540754H3714|||||1234567891^O'BRIAN^ROBERT^A^DR^^^^^OEI|012-45^^ABC
Clinic^^^^123 Oak||<CR>
RXA|0|1|20010607|20010607|998^NO IZ^CVX||||01^HISTORICAL SOURCE
UNKNOWN^NIP001|||||CP|A|20140101|<CR>
OBX|1|CE|59784-9^Disease with presumed immunity^LN|1|38907003^varicella (chicken pox)
(disorder)^SCT|||||F|<CR>

Common Problem Segments

In working with various provider offices and EHR vendors on electronic HL7 interfaces to the immunization registry, CIIS has noticed some common “problem” segments listed in the table below.

The cause of these observed difficulties is two-fold. Some interfaces are not configured with the templates needed to pull these data fields from the EHR, and some provider offices are either not entering these values into their EHR or entering these values into the wrong data fields in their EHR (thus preventing the interface from grabbing the correct data). **We ask you to pay particular attention to these common problem segments when developing your messages.** Note: Resolving these issues may necessitate additional EHR-related training for provider offices.

Segment	Description/Comment
PID-3	<p>Social Security Number (SSN): Full SSN should not be sent. CIIS can only accept the last four (4) digits of the SSN, or a masked version only showing the last four (4) digits.</p> <p>Examples of masked SSN: XXX-XX-1234; XXXXX1234; 1234; 999-99-9999; 000-00-0000.</p>
NK1	<p>Next of Kin information, specifically indicating Mother, Father, or Guardian (in field NK1-3) for patients under 19</p> <ul style="list-style-type: none"> Including mother’s name in the NK1 segment, along with the proper relationship code in NK1-3, is extremely valuable to the CIIS patient matching process.
RXA-9	<p>Immunization Information Source that specifies whether an immunization was administered by the clinic or entered historically for the patient</p> <ul style="list-style-type: none"> For systems unable to populate RXA-9, CIIS uses the presence of a lot number in the HL7 message to determine whether the service was administered at the facility indicated in RXA-11.
RXA-20	<p>Completion Status – see Code Set HL70322 Completion Status (page 69)</p> <ul style="list-style-type: none"> If empty, the assumed value is CP (Complete).
RXA-21	<p>Vaccination Action Code – see Code Set HL70323 Action Code (page 69)</p> <ul style="list-style-type: none"> This field provides a method of correcting vaccination information previously transmitted to CIIS, either by updating incorrect or missing information (code U) or by deleting the vaccination altogether (code D) If empty, the assumed value is A (Add New).
OBX	<p>Vaccine Program Eligibility – see Code Set HL70064 Vaccine Program Eligibility (page 87)</p> <ul style="list-style-type: none"> Capturing and transmitting the VFC eligibility status of the patient is extremely important in helping to determine a patient’s eligibility for this program as well as assisting Colorado VFC providers in the completion of their annual benchmarking reports and dose-level accountability. CIIS requires this information for VFC participating providers for all patients under 19 years old.

Segment	Description/Comment
	Note: An example is provided in the OBX Segment Listing on page 39.
OBX	<p>Vaccine Funding Source – see Code Set PHVS_ImmunizationFundingSource_IIS – Vaccine Funding Source (page 88)</p> <ul style="list-style-type: none"> Including the vaccine funding source in the OBX-5 segment for each administered vaccine helps both public and private clinics manage their vaccine inventory. <p>Note: An example is provided in the OBX Segment Listing on page 39.</p>
OBX	<p>Vaccine Information Statement (VIS) date and date given to the patient are required.</p> <ul style="list-style-type: none"> There are three things that need to be recorded for documenting VIS: <ul style="list-style-type: none"> The vaccine to which the VIS refers. The edition date of the VIS. The date the VIS was shared with the patient or parent. If RXA-9.1 is valued “00” and RXA-5.1 is valued with a CVX code from table PHVS_VISVaccines_IIS then for each vaccine information statement there SHALL be: <ul style="list-style-type: none"> An OBX segment with OBX-3.1 valued “69764-9” (Global Document Type Identifier (GDTI) bar code) and an OBX with OBX-3.1 valued “29769-7” (presentation /delivery date) associated. All three OBXs shall have the same value in OBX-4. Or, an OBX segment with OBX-3.1 valued “30956-7” (vaccine type) and an OBX segment with OBX-3.1 valued “29768-9” (version date) and an OBX with OBX-3.1 valued “29769-7” (presentation /delivery date) associated. All three OBXs shall have the same value in OBX-4. <p>Note: Examples are provided in the OBX Segment Listing on page 39.</p>

Processing of Unsolicited VXU Messages

Given the definition of the VXU message, it is possible to construct a properly formatted message that contains information regarding a patient but does not contain any record of vaccines having been administered to the patient. If CIIS receives this type of message, one of two scenarios will apply:

- If the patient already exists in CIIS, then demographic information in the VXU message will be used to update blank or unknown fields in the client’s CIIS record. Since the date of modifications to the demographics is unknown, any data elements that are not blank or unknown will not be updated in CIIS at this time.
- If the patient does not exist in CIIS, then demographic information in the VXU message will be used to create a new client record in CIIS.

For VXUs with one or more vaccination events (RXAs) included, CIIS will then review the data included in the VXU message.

- If the patient does not exist in CIIS, then demographic information in the VXU message will be used to create a new client record in CIIS

- If the patient already exists in CIIS, then patient demographic data in the message will be used to update the relevant fields in CIIS that are blank or unknown. The date of the most recent vaccination sent in the VXU will be used to determine if the patient's address and phone number should be updated. Certain situations will cause incoming patients to be manually reviewed by CIIS staff where names and birth date may be updated.
- If the vaccination does not exist in the registry, then CIIS will add the vaccination to the patient's record.
- If the vaccination has an administration date before the patient's date of birth, then the vaccination will not be added to the client's CIIS record.
- If CIIS already has a vaccination on the same date within the same vaccine group, then an algorithm will be used to determine whether the incoming data will override the existing data (e.g., data from a provider will supersede data from a health maintenance organization/insurance plan).

CIIS File Transmission Options

Provider offices that will be sending ongoing HL7 batch files to CIIS will be required to establish a login to the CIIS secure FTP (sFTP) server in order to successfully and securely transmit their batch files to the registry. The preferred sFTP client is Cute FTP Professional.

https://www.colorado.gov/pacific/sites/default/files/PW_CIIS-Interface-Connectivity-Information.pdf

Field Locations Summary

This is short list of the fields important to CIIS within the VXU messages.

This section indicates the data elements which should be included when building a VXU message to interface with CIIS. Pay special attention to the fields highlighted blue (Required), yellow (Required but May be Empty) and purple (Conditional).

An indication of the degree to which a field should be included in the VXU message is indicated in the Usage column. The segment and field location is listed to the right of each field for reference. A more detailed description of each segment follows in the section “Segment Listings” on page 18.

Usage: R = Required, RE = Required if relevant data exists in source database, C = Conditional, O = Optional

Field Name	Usage	Description/Comments	HL7 Field
Sending Application	R	Instance name of the EHR product where the data originated.	MSH-3
Sending Facility	R	CIIS assigned value indicating the facility/organization sending the message.	MSH-4
Receiving Application	R	Always CIIS^2.16.840.1.114222.4.1.144.2.4^ISO.	MSH-5
Receiving Facility	R	Always CDPHE^2.16.840.1.114222.4.1.144^ISO.	MSH-6
Date/Time of Message	R	Date and time message was created/transmitted.	MSH-7
Message Type	R	Always “VXU^V04^VXU_V04” for unsolicited updates.	MSH-9
Message Control ID	R	Unique ID for message – Site Code + Date/Time Stamp.	MSH-10
Version ID	R	Always “2.5.1”.	MSH-12
Message Profile Identifier	R	Always “Z22^CDCPHINVS	MSH-21
Patient Identifier List/Patient ID	R	Client unique identifier. CIIS uses the first number listed in PID-3 as the unique client identifier.	PID-3
Last Name	R	Client’s last name.	PID-5.1
First Name	R	Client’s first name.	PID-5.2
Middle Name	RE	Client’s middle name.	PID-5.3
Suffix	O	Client’s name suffix.	PID-5.4
Date of Birth	R	Client’s date of birth (YYYYMMDD).	PID-7

Field Name	Usage	Description/Comments	HL7 Field
Gender	R	Client's gender – see Code Set HL70001 – Sex (page 57).	PID-8
Patient Status	RE	Client's Active/Inactive status with the sending site – see Code Set HL70441 – Immunization Registry Status (page 63).	PID-1-16
Social Security Number	RE	Last four (4) digits only or masked to only show the last four (4) digits. Do not send the complete SSN.	PID-3
Street Address	RE	Client's street address.	PID-11.1
Apt #	RE	Other designator.	PID-11.2
City	RE	Client's city.	PID-11.3
State	RE	Client's state.	PID-11.4
Zip Code	RE	Client's zip code.	PID-11.5
County	RE	Client's county.	PID-11.9 / PID-12
Phone Number	RE	Client's phone number (area code in component 6, and local number in component 7).	PID-13
Email Address	RE	Client's email address. (Separate repetition from phone—separated by ~.)	PID-13.4
Race	RE	Client's Race – see Code Set CDCREC/HL70005 – Race (page 57).	PID-10
Ethnicity	RE	Client's Ethnicity – see Code Set CDCREC/HL70189 – Ethnicity (page 58).	PID-22
Multiple	RE	Indicator that client is part of a multiple birth – see Code Set HL70136 – Yes/No (page 95).	PID-24
Birth Order	C	A number indicating the client's birth order if PID-24 is "Y".	PID-25
Mother's Maiden Name	RE	Client's mother's maiden name.	PID-6
Mother's Last Name	C	Client's mother's last name – Required if relevant data exists only for clients < 18 years old.	NK1-2.1
Mother's First Name	C	Client's mother's first name – Required if relevant data exists only for clients < 18 years old.	NK1-2.2
Mother's Middle Name	O	Client's mother's middle name.	NK1-2.3
Father's Last Name	RE	Client's father's last name.	NK1-2.1
Father's First Name	RE	Client's father's first name.	NK1-2.2
Father's Middle Name	O	Client's father's middle name.	NK1-2.3

Field Name	Usage	Description/Comments	HL7 Field
Deceased	RE	If PID-30 is valued "Y" – see <i>Code Set HL70136 - Yes/No (page 95)</i> .	PID-30
Date of Death	C	Client's date of death.	PID-29
Insurance Type	O	Type of Insurance.	IN1-2
Vaccine Program Eligibility	C	Indicates the client's eligibility in state and federally subsidized vaccine programs. If the sending organization participates in the federally funded Vaccines For Children (VFC) program with the State of Colorado, then the VFC eligibility status of patient must be present for all patients under the age of 19 – see Code Set HL70064 – Vaccine Program Eligibility (page 87).	Indicate 64994-7 in OBX-3 and enter eligibility in OBX-5
Filler Order Number	R	Unique number identifying each vaccination event. This value is essential in properly communicating changes and deletions of previously sent vaccinations.	ORC-3
Entering Organization	RE	Organization/Practice that entered the immunization. Important in communicating the origin of historically entered immunizations.	ORC-17
Vaccine Funding Source	RE	Source of payment for vaccine – This value is sent in an OBX segment following the RXA segment – see <i>Code Set PHVS_ImmunizationFundingSource_IIS – Vaccine Funding Source (page 88)</i> .	Indicate 30963-3 in OBX-3 and enter funding source in OBX-5
Vaccination Code	R	CVX code required.	RXA-5.1
Vaccination Short Description	R	Description of the vaccination.	RXA-5.2
Vaccination Code Set	R	First repetition should be the vaccine CVX code, with the code set as "CVX".	RXA-5.3
Vaccine Given Date	R	Date vaccination given (YYYYMMDD).	RXA-3
Injection Route	RE	Injection Route – see <i>Code Set HL70162 - Route of Administration (page 64)</i> .	RXR-1
Injection Site	RE	Injection site – see <i>Code Set HL70163 – Administrative Body Site (page 64)</i> .	RXR-2
Dosage	C	Vaccination dosage – Required if RXA-9 is 00.	RXA-6
Expiration Date	C	Vaccine Expiration Date – Required if RXA-9 is 00.	RXA-16
Immunization Information Source	R	Source of Vaccination Information – see <i>Code Set NIP001 – Immunization Information Source (page 86)</i> .	RXA-9
Administering Provider	C	Name, Title/Degree, and ID of Administering Provider.	RXA-10

Field Name	Usage	Description/Comments	HL7 Field
Prescribing Provider	RE	Name, Title/Degree, and ID of Prescribing Provider.	ORC-12
Administered at-Location	C	Administered at-location – Required if RXA-9 is 00.	RXA-11
Vaccine Lot Number	C	Vaccination lot number – Required if RXA-9 is 00.	RXA-15
Vaccine NDC Code	O	Vaccine National Drug Code (NDC) http://www2a.cdc.gov/vaccines/IIS/IISStandards/vaccines.asp?rpt=ndc This value should follow the Vaccination CVX CE value with a tilde (~) separating the two values.	RXA-5
Vaccine Manufacturer	C	Vaccination manufacturer – see <i>HL70227 – Manufacturer (page 66)</i> – Required if RXA-9 is 00.	RXA-17
Completion Status	C	See code set <i>HL70322 – Completion Status (page 69)</i> – Required if RXA-9 is 00.	RXA-20
Action Code	C	See code set <i>HL70323 – Completion Status (page 69)</i> – Required if RXA-9 is 00.	RXA-21
VIS version date and date given to patient	C	Vaccination Information Statement (VIS) version date and the date the VIS was given to the patient. Included using two OBX segments. See examples listed following the Segment Listing for OBX – Required if RXA-9 is 00.	Indicate observation identifier in OBX-3 and enter observation value in OBX-5
Contraindication, Precaution, Immunity	RE	<i>Indicates that the observation is a contraindication – see Code Set PHVS_VaccinationContraindication_IIS– Contraindications (page 88), Precautions and PHVS_HistoryOfDiseaseAsEvidenceOfImmunity_IIS – Immunities (page 90), and PHVS_SerologicalEvidenceOfImmunity_IIS – Immunities (page 91).</i>	Indicate observation identifier in OBX-3 and enter observation value in OBX-5
Reaction	RE	<i>Indicates that the observation is an adverse reaction – see Code Set PHVS_VaccinationReaction_IIS - Reactions (page 89).</i>	Indicate 31044-1 in OBX-3 and enter contraindication in OBX-5

Segment Listings

Messages including BHS—Batch Header Segment, BTS—Batch Trailer Segment, FHS—File Header Segment, and FTS—File Trailer Segment segments will be accepted, but CIIS does not currently utilize the information in these segments when processing messages.

Note: The following segments are listed in order they appear in the VXU message.

Note: A description of the various data types indicated follow the Segment Listings in *Appendix A - Data Types* (page 41).

MSH - Message Header Segment

The MSH is used to define the intent, source, destination, and some specifics of the syntax of a message.

MSH Segment (Required Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Field Separator	ST	R	The character to be used as the field separator for the rest of the message. The recommended value is (pipe).	
2	Encoding Characters	ST	R	Four characters in the following order: component separator, repetition separator, escape character, and subcomponent separator. The recommended values are ^~\&	
3	Sending Application	HD	RE	Instance name of the EHR product where the data originated	HL70361
4	Sending Facility	HD	R	This field contains an indication of the sending facility. CIIS will assign the value that should be in this field	CIIS Assigned Code
5	Receiving Application	HD	R	Always CIIS^2.16.840.1.114222.4.1.144.2.4^ISO	
6	Receiving Facility	HD	R	Always CDPHE^2.16.840.1.114222.4.1.144^ISO	
7	Date/Time of Message	TS	R	Time stamp (TS) data type must be in the format: YYYY[MM[DD[HHMM[SS[.S[S[S[S]]]]]]][+/-ZZZ]^<degree of precision>	
8	Security	ST	O	CIIS disregards.	
9	Message Type	MSG	R	Always "VXU^V04^VXU_V04" for unsolicited updates.	
10	Message Control ID	ST	R	Unique ID for message – Site Code + Date/Time Stamp	
11	Processing ID	PT	R	Values: D – Debugging P – Production	

MSH Segment (Required Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
				T – Training In most cases, use P.	
12	Version ID	VID	R	HL7 version number. Always 2.5.1	
13	Sequence Number	NM	O	CIIS disregards.	
14	Continuation Pointer	ST	O	CIIS disregards.	
15	Accept Acknowledgement Type	ID	R	This field indicates whether enhanced acknowledgments are requested. Values: AL – Always or <Null>	
21	Message Profile Identifier	EI	R	Always Z22^CDCPHINVS	
22	Sending Responsible Party	XON	RE		
23	Receiving Responsible Party	XON	RE		
<p>Example:</p> <pre>MSH ^~\& Allscripts CMC CIIS^2.16.840.1.114222.4.1.144.2.4^ISO CDPHE^2.16.840.1.114222.4.1.144^ISO 200905211245 VXU^V04^VXU_V04 200905211245 T 2.5.1 AL Z22^CDCPHINVS CMC CIIS^2.16.840.1.114222.4.1.144.2.4^ISO<CR></pre>					

PID – Patient Identification

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

PID Segment (Required Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Set ID - PID	SI	C	If MSH-21 is valued "Z31^cdcphinvs"	
2	Patient ID	CX	X	CIIS disregards. This field is for backward-compatibility only.	
3	Patient Identifier List	CX	R	This field contains the list of identifiers (one or more) used by immunization registries and their participants to uniquely identify a patient (e.g., medical record number, billing number, birth registry, national unique individual identifier, etc.). CIIS will use the first value in the list as the Patient ID. If at all possible, complete Social Security Numbers (SSN) should not be included in this field. If SSN is included, it should be masked to the last four (4) digits only. Examples of masked SSN: XXX-XX-1234; XXXXX1234; 1234; 999-99-9999; 000-00-0000.	User-Defined
4	Alternate Patient ID – PID	CX	X	This field is for backward-compatibility only.	
5	Patient Name	XPN	R	The first repetition shall contain the legal name. The name type for the first name listed should be L – Legal. Multiple given names or initials are separated by spaces.	
6	Mother's Maiden Name	XPN	RE	Only last name and name type are required. Set name type code to "M" for maiden name usage.	
7	Date/Time of Birth	TS	R	This field contains the patient's date and (if applicable) time of birth. If not present, the HHMM portion will default to 0000.	
8	Administrative Sex	IS	R	This field contains the patient's gender.	HL70001
9	Patient Alias	XPN	X		
10	Race	CE	RE	This field identifies the patient's race. This field is allowed to repeat, so several races may be reported for one patient.	CDCREC/HL7 0005
11	Patient Address	XAD	RE	This field lists the mailing address of the patient. Multiple addresses for the same person may be sent in the following sequence: the primary mailing address must be sent first in the sequence; if the mailing address is not sent, then a repeat delimiter must be sent in the first sequence. If there is only one repetition of this field and an address type is not given, it is assumed to be the primary mailing address.	

PID Segment (Required Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
12	County	IS	X	County belongs in the address field.	
13	Phone Number-Home	XTN	RE	The patient's personal phone numbers. All personal phone numbers for the patient are sent in this sequence. The first sequence is considered the primary number. If the primary number is not sent, then a repeat delimiter is sent in the first sequence. Note: Component 4 of the XTN type allows for the communication of the patient's email address. The email address is sent in a separate repetition from phone numbers. Only one item is allowed per repetition. For phone numbers, use component 6 for the area code (3 digits) and component 7 for the local number (6 digits)	
14	Phone Number-Work	XTN	O		
15	Primary Language	CE	O	Patient's primary language. Refer to Code Set HL70296 - Language (ISO 639) for suggested values (page 62).	HL70296
16	Marital Status	CE	O	CIIS disregards.	
17	Religion	CE	O	CIIS disregards.	
18	Patient Account Number	CX	X	Note: CIIS uses the first Patient Identifier in PID-3 as the unique patient identifier for the sending facility in CIIS.	
19	SSN Number-Patient	ST	X		
20	Driver's License Number-Patient	DLN	X	CIIS disregards.	
21	Mother's Identifier	CX	X		
22	Ethnicity	CE	RE		CDCREC/HL7 0189
23	Birth Place	ST	O		
24	Multiple Birth Indicator	ID	RE	The acceptable values are Y and N. If the status is undetermined, then field shall be empty.	HL70136
25	Birth Order	NM	C	If PID-24 (Multiple Birth Indicator) is valued "Y" This field contains a number indicating the person's birth order, with 1 for the first child born and 2 for the second.	

PID Segment (Required Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
26	Citizenship	CE	O	CIIS disregards.	
27	Veterans Military Status	CE	O	CIIS disregards.	
28	Nationality	CE	O	CIIS disregards.	
29	Patient Death Date and Time	TS	C	If PID-30 (patient death date) is valued "Y"	
30	Patient Death Indicator	ID	RE	This field indicates whether or not the patient is deceased.	HL70136
33	Last Update Date	TS	O		

Example:
PID||CO900009^^CHCO^MR~XXX-XX-1234^^^SS||KENNEDY^BILL^RONALD^JR^^L|BOUVIER^^^M|20000607|M|FITZGERALD^FITZ|2106-3^White^CDCREC|123 MAIN ST^APT 3B^Longmont^CO^80501^^M^MSACODE^MA034||^PRN^PH^^303^9521234~^NET^Internet^jfitz123@me.com||ENG^English^HL70296|||||2186-5^Not Hispanic or Latino^ CDCREC||Y|
<CR>

PD1 - Patient Additional Demographic

The Patient Additional Demographic segment contains demographic information that is more likely to change about the patient.

Note: CIIS only uses Fields 11 and 16 in this segment.

PD1 Segment (Optional)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
11	Publicity Code	CE	O	Refers to how a person wishes to be contacted in a reminder or recall situation.	HL70215
16	Immunization Registry Status	IS	O	This field indicates the client's status with the provider sending the records. If no value is present, client status is set to Active.	HL70441
<p>Example:</p> <p>PD1 03^REMINDER/RECALL - NO CALLS^HL70215 Y 19900607 A 19900607 19900607 <CR></p>					

NK1- Next of Kin/Associated Parties Segment

The Next of Kin/Associated Parties segment contains information about the patient's next of kin and other associated or related parties. It is allowed to repeat, providing information about multiple related parties. CIIS Requirement: **An NK1 segment should be included for patients under 19 years of age to indicate Mother, Father, Parent, or Guardian.**

NK1 Segment (Optional Segment - Include when available for patients < 18 years of age)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Set ID-NK1	SI	R	The Set ID field numbers the repetitions of the segment within its association with the PID. For the first occurrence of the segment, the sequence number shall be one, for the second occurrence, the sequence number shall be two, etc.	
2	Name	XPN	R	This field gives the name of the next of kin or associated party. Multiple names for the same person are allowed, but the legal name must be sent in the first sequence. If the legal name is not sent, then the repeat delimiter must be sent in the first sequence.	
3	Relationship	CE	R	This field defines the personal relationship of the next of kin to the patient in the preceding PID. <i>Code Set HL70063 - Relationship</i> gives suggested values (page 57).	HL70063

NK1 Segment (Optional Segment - Include when available for patients < 18 years of age)

Field	Element Name	Data Type	Usage	Description/Comment	Code Set
4	Address	XAD	O	This field lists the mailing address of the next of kin/associated party. Multiple addresses for the same person may be sent in the following sequence: the primary mailing address must be sent first in the sequence; if the mailing address is not sent, then a repeat delimiter must be sent in the first sequence. If there is only one repetition of this field and an address type is not given, it is assumed to be the primary mailing address.	
5	Phone Number	XTN	O	The next of kin/associated party's personal phone numbers. All personal phone numbers for the next of kin/associated party are sent in this sequence. The first sequence is considered the primary number. If the primary number is not sent, then a repeat delimiter is sent in the first sequence.	
6	Business Phone Number	XTN	O		
7	Contact Role	CE	O		
8	Start Date	DT	O		
9	End Date	DT	O		
10	Next of Kin/AP Job Title	ST	O		
11	Next of Kin/AP Job Code/Class	JCC	O		
12	Next of Kin/AP Employee Number	CX	O		
13	Organization Name-NK1	XON	O		
14	Marital Status	CE	O		
15	Administrative Sex	IS	O		
16	Date/Time of Birth	TS	O		
17	Living Dependency	IS	O		
18	Ambulatory Status	IS	O		

NK1 Segment (Optional Segment - Include when available for patients < 18 years of age)

Field	Element Name	Data Type	Usage	Description/Comment	Code Set
19	Citizenship	CE	O		
20	Primary Language	CE	O		
21	Living Arrangement	IS	O		
22	Publicity Code	CE	O		
23	Protection Indicator	ID	O		
24	Student Indicator	IS	O		
25	Religion	CE	O		
26	Mother's Maiden Name	XPN	O		
27	Nationality	CE	O		
28	Ethnic Group	CE	O		
29	Contact Reason	CE	O		
30	Contact Person's Name	XPN	O		
31	Contact Person's Telephone Number	XTN	O		
32	Contact Person's Address	XAD	O		
33	Next of Kin/AP's Identifiers	CX	O		
34	Job Status	IS	O		
35	Race	CE	O		
36	Handicap	IS	O		

NK1 Segment (Optional Segment - Include when available for patients < 18 years of age)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
37	Contact Person Social Security #	ST	O		
<p>Example:</p> <p>These example segments provide the masked Social Security Numbers of the patient's parents:</p> <p>NK1 1 KENNEDY^JACQUELINE^LEE MTH^MOTHER^HL70063 6725^^^SS <CR></p> <p>NK1 2 KENNEDY^JOHN^FITZGERALD FTH^FATHER^HL70063 6618^^^SS <CR></p>					

IN1 – Insurance Segment

The Insurance Segment is used to communicate the current insurance for the patient at the time of the visit that triggered the VXU message. This is an optional segment.

Note: Only current insurance data should be sent. Historical insurance information should not be sent.

IN1 Segment (Optional)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Set ID-IN1	SI	R		
2	Insurance Plan ID	CE	R		HL70072
3	Insurance Company ID	CX	R		
4	Insurance Company Name	XON	O		
5	Insurance Company Address	XAD	O		
6	Insurance Company Contact Person	XPN	O		
7	Insurance Company Phone Number	XTN	O		
8	Group Number	ST	O		

IN1 Segment (Optional)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
9	Group Name	XON	O		
10	Insured's Group Emp ID	CX	O		
11	Insured's Group Emp Name	XON	O		
12	Plan Effective Date	DT	O		
13	Plan Expiration Date	DT	O		
14	Authorization Information	AUI	O		
15	Plan Type	IS	R		HL70086
16	Name of Insured	XPN	O		
17	Insured's Relationship to Patient	CE	O		HL70063
18	Insured's Date of Birth	TS	O		
19	Insured's Address	XAD	O		
20	Assignment of Benefits	IS	O		HL70135
21	Coordination of Benefits	IS	O		HL70173
22	Coordination of Ben. Priority	ST	O		
23	Notice of Admission Flag	ID	O		HL70136
24	Notice of Admission Date	DT	O		
25	Report of Eligibility Flag	ID	O		HL70136

IN1 Segment (Optional)

Field	Element Name	Data Type	Usage	Description/Comment	Code Set
26	Report of Eligibility Date	DT	O		
27	Release Information Code	IS	O		HL70093
28	Pre-Admit Cert (PAC)	ST	O		
29	Verification Date/Time	TS	RE	Precision shall be at least to the day. [YYYYMMDD]	
30	Verification By	XCN	O		
31	Type of Agreement Code	IS	O		HL70098
32	Billing Status	IS	O		HL70022
33	Lifetime Reserve Days	NM	O		
34	Delay Before L.R. Day	NM	O		
35	Company Plan Code	IS	O		HL70042
36	Policy Number	ST	O		
37	Policy Deductible	CP	O		
38	Policy Limit – Amount	CP	X		
39	Policy Limit – Days	NM	O		
40	Room Rate – Semi-Private	CP	X		
41	Room Rate – Private	CP	X		
42	Insured's Employment Status	CE	O		HL70066
43	Insured's Administrative Sex	IS	O		HL70001

IN1 Segment (Optional)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
44	Insured's Employer's Address	XAD	O		
45	Verification Status	ST	O		
46	Prior Insurance Plan ID	IS	O		HL70072
47	Coverage Type	IS	O		HL70309
48	Handicap	IS	O		HL70295
49	Insured's ID Number	CX	O		
50	Signature Code	IS	O		HL70535
51	Signature Code Date	DT	O		
52	Insured's Birth Place	ST	O		
53	VIP Indicator	IS	O		HL70099

ORC - Common Order Segment

The Common Order Segment 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, with a unique value in field ORC-3 (Filler Order Number) for that RXA**, based on the HL7 2.5.1 standard.

ORC Segment (Required Segment)					
Each RXA needs to be preceded by ORC Segment					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Order Control	ID	R	Always "RE".	
2	Place Order Number	EI	RE		
3	Filler Order Number	EI	R	Unique identifier for each vaccination event.	
4	Placer Group Number	EI	O		
5	Order Status	ID	O		
6	Response Flag	ID	O		
7	Quantity/Timing	TQ	X		
8	Parent	XPN	O		
9	Date/Time of Transaction	TS	O		
10	Entered By	XCN	RE	This is the person that entered this immunization record into the sending system.	
11	Verified By	XCN	O		
12	Ordering Provider	XCN	RE	This is the provider ordering the immunization. Not required if immunization in the following RXA segment are historical (RXA-9 = 01-08).	
13	Enterer's Location	PL	RE	Not required if immunization in the following RXA segment are historical (RXA-9 = 01-08).	
14	Call Back Phone Number	XTN	O		
15	Order Effective Date/Time	TS	O		
16	Order Control Code	CE	O		

ORC Segment (Required Segment)
Each RXA needs to be preceded by ORC Segment

Field	Element Name	Data Type	Usage	Description/Comment	Code Set
	Reason				
17	Entering Organization	CE	RE	This is the provider organization that entered this record/order.	
18	Entering Device	CE	O		
19	Action By	XCN	O		
20	Advanced Beneficiary Notice Code	CE	O		
21	Ordering Facility Name	XON	O		
22	Ordering Facility Address	XAD	O		
23	Ordering Facility Phone Number	XTN	O		
24	Ordering Provider Address	XAD	O		
25	Order Status	CE	O		
26	Advanced Beneficiary Notice Override Reason	CE	O		
27	Filler's Expected Availability Date/Time	CE	O		
28	Confidentiality Code	CE	O		
29	Order Type	CE	O		
30	Enterer Authorization Mode	CE	O		
31	Parent Universal Service Identifier	CE	O		

ORC Segment (Required Segment)
Each RXA needs to be preceded by ORC Segment

Field	Element Name	Data Type	Usage	Description/Comment	Code Set
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Example:

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ORC|RE|47415167^EPC|6751306^1.2.840.114350.19|||||201411111110535|ZZPCCCPNURSE^ZZTEST^PC^CCP
NURSE^||4207^DORIGHI^MATTHEW^P.^|9002101^^90021^^^CHERRY CREEK PEDS|^^^303^7560101|||CHCO|GENERIC^GENERIC
WORKSTATION^^||||||||O|
  
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RXA – Pharmacy Administration

The RXA segment carries pharmacy administration data. This segment is a child of an ORC segment, which is a repeating segment in the VXU messages. Because ORC are allowed to repeat, an unlimited number of vaccinations may be included in a message.

Each RXA must be preceded by an ORC segment.

RXA Segment (Required Segment)					
Each RXA needs to be associated with an ORC Segment					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Give Sub-ID Counter	NM	R	For immunization registries, this field's value should always be zero.	
2	Administration Sub-ID Counter	NM	R	Always 1 as there can only be one RXA for each ORC segment.	
3	Date/Time Start of Administration	TS	R	This field records when the administration is started. CIIS uses this field to record the vaccination date.	
4	Date/Time End of Administration	TS	O	Where administration continues over some time, the end date/time may be recorded. For typical vaccines, the end of administration is the same as the start of administration given in <i>RXA-3 date/time start of administration</i> , so the RXA-3 date is repeated in RXA-4. CIIS uses RXA-3 as the administration date.	
5	Administered Code	CE	R	The immunization record of the particular vaccine administered. Format: <Identifier>^<Text>^<Name of coding system> Ex: 01^diphtheria tetanus toxoids and pertussis vaccine^CVX *CVX is required* Do not use "Unspecified" CVX codes for administered vaccinations (RXA-9 = 00).	CVX
6	Administered Amount	NM	C	Required for administered vaccinations (RXA-9 = 00). This field records the amount of pharmaceutical administered. The units are expressed in the next field, RXA-7. Values of "999" will be ignored.	
7	Administered Units	CE	C	Required for administered vaccinations (RXA-9 = 00). The preferred unit of measure for this field is "mL."	UCUM
8	Administered Dosage Form	CE	O		
9	Administration Notes	CE	R	CIIS uses the first component of this field to indicate the source of information for this immunization record or, more generically, whether the immunization being reported has just been administered (new) or came from other records (historical). Refer to <i>Code Set NIP001 - Immunization Information Source</i> for these codes (page 86). Free text notes from the provider administering the medication may follow the	NIP001

RXA Segment (Required Segment)					
Each RXA needs to be associated with an ORC Segment					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
				Immunization Information Source preceded by a tilde (~). If coded, requires a user-defined table. If free text, place a null in the first component and the text in the second, e.g., ^this is a free text administration note .	
10	Administering Provider	XCN	C	This field is intended to contain the name and provider ID of the person physically administering the vaccine. This person (the “vaccinator”) should be listed first. Required if relevant data exists for administered vaccinations (RXA-9 = 00). <ul style="list-style-type: none"> Use ORC-12 to communicate the ordering (or prescribing) provider. 	
11	Administered-At Location	LA2	C	CIIS assigned facility code, in component 4, and address of facility, in component 9, where vaccine was administered, if applicable. Component 4 is required if for administered vaccinations (RXA-9 = 00).	
12	Administered Per (Time Unit)	ST	O		
13	Administered Strength	NM	O		
14	Administered Strength Units	CE	O		
15	Vaccine Lot Number	ST	C	This field records the lot number of the vaccine administered. Required for administered vaccinations (RXA-9 = 00). The NDC code can also be added to this field and should follow the vaccination lot number with a tilde (~) separating the two values.	
16	Vaccine Expiration Date	TS	C	Required for administered vaccinations (RXA-9 = 00).	
17	Vaccine Manufacturer Name	CE	C	This field records the manufacturer of the vaccine administered. Required for administered vaccinations (RXA-9 = 00). For purposes of transmission of immunization data to immunization registries, the MVX codes from the <i>Code Set HL70227 - Manufacturers of vaccines</i> (page 66) should be used.	HL7027
18	Vaccine Refusal Reason	CE	C	When applicable, this field records the reason the patient refused the vaccine. Any entry in the field indicates that the patient did not take the vaccine. The vaccine that was offered should be recorded in RXA-5, with the number 0 recorded for the dose number in RXA-2. See discussion at RXA-4.8.14.20 below. *Do not record contraindications and immunities in this field. They should be recorded in OBX segments.*	NIP002

RXA Segment (Required Segment)					
Each RXA needs to be associated with an ORC Segment					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
19	Indication	CE	O		
20	Completion Status	ID	RE	If empty, the assumed value is CP (Complete).	HL70322
21	Action Code-RXA	ID	RE	Status of record. This field provides a method of communicating whether a vaccination is new (code A) or correcting vaccination information previously transmitted to CIIS, either by updating incorrect or missing information (code U) or by deleting the vaccination altogether (code D). If empty, the assumed value is A (Add New).	HL70323
22	System Entry Date/Time	TS	RE		
23	Administered Drug Strength Volume	NM	O		
24	Administered Drug Strength Volume Units	CWE	O		
25	Administered Barcode Identifier	CWE	O		
26	Pharmacy Order Type	ID	O		

Example:
RXA|0|1|20140815|20140815|94^MMRV^CVX|0.5|mL^Milliliters^UCUM||00^New immunization record^NIP001|10007^GARCIA^Deanna^^DR^^^^^^NPI^^^^^^MD^^^DENVER PEDIATRICS&^^^^137 Denver East Pkwy^Lakewood^CO^80401^USA^B||||K006771|20151107|MSD^Merck and Co., Inc.^MVX|||CP|A|20140815 <CR>

RXR – Pharmacy/Treatment Route Segment

The Pharmacy/Treatment Route segment contains the alternative combination of route, site, administration device, and administration method that are prescribed as they apply to a particular order.

RXR Segment (Conditional)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Route	CE	C	Required for administered vaccinations (RXA-9 = 00). This field is the route of administration (e.g., intramuscular, oral, etc.).	HL70162
2	Administration Site	CE	C	Required if relevant data exists for administered vaccinations (RXA-9 = 00). This field contains the site of the administration route (e.g., left arm, right leg).	HL70163
3	Administration Device	CE	O		
4	Administration Method	CE	O		
5	Routing Instruction	CE	O		
6	Administration Site Modifier	CE	O		

Example:
RXR|IM^INTRAMUSCULAR^HL70162|LA^LEFT ARM^HL70163|
This RXR segment shows that a vaccine was administered intramuscularly in the patient's left arm.

OBX – Observation/Result Segment

The Observation/Result segment has many uses. It carries observations about the object of its parent segment. In VXU, this segment is associated with the RXA or immunization record.

The basic format is a question (OBX-3) and an answer (OBX-5).

OBX Segment (Optional Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Set ID-OBX	SI	R		
2	Value Type	ID	R	Data type for value in OBX-5.	
3	Observation Identifier	CE	R	This indicates what this observation refers to. It poses the question that is answered by OBX-5.	NIP003
4	Observation Sub-ID	ST	R	Positive number used to group related observations.	
5	Observation Value	varies	R	This is the observation value and answers the question posed by OBX-3.	Varies
6	Units	CE	C	If OBX-2 (Value Type) is valued "NM" or "SN." Note: If there is not a unit of measure available while the Condition Predicated is true, then the value "NA" shall be used in CE.1 and "HL70353" in CE.3.	UCUM
7	Reference Ranges	ST	O		
8	Abnormal Flags	IS	O		
9	Probability	NM	O		
10	Nature of Abnormal Test	ID	O		
11	Observe Result Status	ID	R	Always "F" (Final). Do not send observations with any other status.	
12	Effective Date of Reference Range Values	TS	O		
13	User Defined Access Checks	ST	O		
14	Date/Time of the Observation	TS	RE		
15	Producer's ID	CE	O		

OBX Segment (Optional Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
16	Responsible Observer	XCN	O		
17	Observation Method	CE	C	If OBX-3.1 is "64994-7." "64994-7" is a LOINC meaning "funding program eligibility." This field is used to distinguish between eligibility that is captured at the visit level versus the immunization event level.	CDCPHINVS
18	Equipment Instance Identifier	EI	O		
19	Date/Time of Analysis	TS	O		

OBX Segment (Optional Segment)

Field	Element Name	Data Type	Usage	Description/Comment	Code Set
-------	--------------	-----------	-------	---------------------	----------

Examples:

Contraindication Precaution

OBX|1|CE|30945-0^Vaccination contraindication/precaution^LN|1| 91930004^Allergy to eggs (disorder)^SCT|||||F|<CR>

Disease with Presumed Immunity

OBX|1|CE|59784-9^Disease with presumed immunity^LN|1|38907003^varicella (chicken pox) (disorder)^SCT|||||F|<CR>

Adverse Reaction

OBX|1|CE|30948-4^VACCINATION ADVERSE EVENT AND TREATMENT, IF ANY^LN|1| 39579001^ANAPHYLAXIS ^CDCPHINVS
|||||F|<CR>

Vaccine Program Eligibility (Use for VFC eligibility)

OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^VFC eligible - Medicaid/Medicaid Managed
Care^HL70064|||||F||20090531132511||CVX40^per imm^CDCPHINVS <CR>

Vaccine Funding Source

OBX|1|CE|30963-3^Vaccine purchased with^LN|1|VXC1^Federal funds^CDCPHINVS|||||F|<CR>

VIS Date using Global Document Type Identifier (GDTI) VIS bar codes:

OBX|1|CE| 69764-9^document type^LN|1|253088698300012711120420^MMR^cdcgs1vis|||||F||20091010<CR>

VIS Date and Given Date (For Single Antigen Vaccination)

RXA|0|1|20140528||08^HEPB^CVX|0.5| ML^milliliters^UCUM||00^NEW IMMUNIZATION
RECORD^NIP001|1234567891^O'BRIAN^ROBERT^A^^DR^MD|26601^^26600^^^GME FAMILY MED|||
W22532806||SKB^GlaxoSmithKline^MVX||CP|A

OBX |1|CE|30956-7^vaccine type^LN|1|08^Hepatitis B^CVX|||||F|

OBX |2|TS|29768-9^VIS Publication Date^LN|1|20120202|||||F||20140528

OBX |3|TS|29769-7^VIS Presentation Date^LN|1|20140528|||||F||20140528

OBX Segment (Optional Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
VIS Date and Given Date (For Combination Antigen Vaccination)					
RXA 0 1 20140528 51^HEPB / HIB-HEPATITIS B HIB COMBINED VACCINE IM^CVX 0.5 ML^millileters^UCUM 00^NEW IMMUNIZATION RECORD^NIP001 1234567891^O'BRIAN^ROBERT^A^^DR^MD 26601^^26600^^^GME FAMILY MED W22532806 SKB^GlaxoSmithKline^MVX CP A					
OBX 1 CE 30956-7^vaccine type^LN 1 08^Hepatitis B^CVX F					
OBX 2 TS 29768-9^VIS Publication Date^LN 1 20120202 F 20140528					
OBX 3 TS 29769-7^VIS Presentation Date^LN 1 20140528 F 20140528					
OBX 4 CE 30956-7^vaccine type^LN 2 48^HIB^CVX F					
OBX 5 TS 29768-9^VIS Publication Date^LN 2 20140204 F 20140528					
OBX 6 TS 29769-7^VIS Presentation Date^LN 2 20140528 F 20140528					

NTE – Notes and Comments

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

NTE Segment Optional Segment)					
Field	Element Name	Data Type	Usage	Description/Comment	Code Set
1	Set ID-NTE	SI	O		
2	Source of Comment	ID	O		
3	Comment	FT	R		
4	Comment Type	CE	O		

Example:
NTE|||PATIENT DEVELOPED HIGH FEVER APPROX 3 HRS AFTER VACCINE INJECTION|<CR>

Appendix A – HL7 Data Types

CE - Coded Element

This data type transmits codes and the text associated with the code.

Coded Element (CE)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Identifier	ST	R			Identifying Code
2	Text	ST	RE			Human readable text that may be used to review segment content
3	Name of Coding System	ID	R		HL70396	Value set identifier
4	Alternate Identifier	ST	O			Alternate Identifying Code
5	Alternate Text	ST	C	If CE-4 (Alternate Identifier) is valued		Human readable text
6	Name of Alternate Coding System	ID	C	If CE-4 (Alternate Identifier) is valued	HL70396	Value set identifier

Example from PID-10 Race:
|2106-3^White^CDCREC|

CX – Extended Composite ID with Check Digit

This data type is used for specifying an identifier with its associated administrative detail.

Extended Composite ID with Check Digit (CX)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	ID Number	ST	R			Value of Identifier
2	Check Digit	ST	O			
3	Check Digit Scheme	ID	C	If CX.2 (check digit) is valued		

Extended Composite ID with Check Digit (CX)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
4	Assigning Authority	HD	RE			Authority who assigned the ID Number
5	Identifier Type Code	ID	R		HL70203	Value set identifier
6	Assigning Facility	HD	O			
7	Effective Date	DT	O			
8	Expiration Date	DT	O			
9	Assigning Jurisdiction	CWE	O			
10	Assigning Agency or Department	CWE	O			
Example from PID-3 Patient Identifier List: 1234567^^CHCO^MR						

DTM - Date/Time

The number of characters populated (excluding the time zone specification) specifies the precision.

Date/Time (DTM)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Date/Time					
Example: 20150115						

Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]

Thus:

- Eight are used to specify a precision of "day."
- The first ten are used to specify a precision of "hour."
- The first twelve are used to specify a precision of "minute."
- The first fourteen are used to specify a precision of "second."
- The first sixteen are used to specify a precision of "one tenth of a second."

- The first nineteen are used to specify a precision of "one ten thousandths of a second." When the time zone is not included, it is presumed to be the time zone of the sender.

EI – Entity Identifier

The entity identifier defines a given entity within a specified series of identifiers.

Entity Identifier (EI)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Entity Identifier	ST	R			
2	Namespace ID	IS	C	If EI.3 (Universal ID) is not valued		
3	Universal ID	ST	C	If EI.2 (Namespace ID) is not valued		If populated EI.3 (Universal Id), it shall be valued with an ISO-compliant OID.
4	Universal ID Type	ID	C	If EI.3 (Universal ID) is valued; Always ISO		

Example from MSH-21 profile identifier:
|Z34^CDCPHINVS|

ERL – Error Location

This data type identifies the segment and its constituent where an error has occurred.

Extended Composite ID with Check Digit (CX)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Segment ID	ST	R			The 3-character name for the segment (i.e. PID)
2	Segment Sequence	NM	R			
3	Field Position	NM	C	If ERL.4 is valued		This should not be populated if the error refers to the whole segment
4	Field Repetition	NM	C	If ERL.5 is valued		
5	Component Number	NM	C	If ERL.6 is valued		Should be populated ONLY when a particular component caused the error
6	Sub-Component Number	NM	RE			Should be populated ONLY when a particular sub-component caused the error

HD - Hierarchic Designator

HD identifies an (administrative or system or application or other) entity that has responsibility for managing or assigning a defined set of instance identifiers (such as placer or filler number, patient identifiers, provider identifiers, etc.). This entity could be a particular health care application such as a registration system that assigns patient identifiers, a governmental entity such as a licensing authority that assigns professional identifiers or drivers' license numbers, or a facility where such identifiers are assigned.

Hierarchic Designator (HD)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Namespace ID	IS	C	If HD.2 (Universal ID) is not valued		
2	Universal ID	ST	C	If HD.1 (Namespace ID) is not valued		If populated EI.3 (Universal Id), it shall be valued with an ISO-compliant OID.
3	Universal ID Type	ID	C	If HD.2 (Universal ID) is valued; Always ISO		

Example from MSH-5 Receiving facility:
|CIIS^2.16.840.1.114222.4.1.144.2.4^ISO|

**Note that when HD is a sub-component of another data type, the Sub-component Separator (&) is used to separate the subcomponents rather than the component separator (^).

ID - Coded Value for HL7 Defined Tables

This data type is used for coded values from an HL7 table. The value of such a field follows the formatting rules for an ST field except that it is drawn from a table of legal values. There shall be an HL7 table number associated with ID data types. Examples of ID fields include religion and gender. This data type should be used only for HL7 tables. The reverse is not true, since in some circumstances, it is more appropriate to use the CE data type for HL7 tables.

Coded Value for HL7-Defined Tables (ID)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Coded Value from HL7-defined Tables					

IS - Coded Value for User-Defined Tables

This data type is used for codes from User-Defined Tables. The value of such a field follows the formatting rules for an ST field except that it is drawn from a site-defined (or user-defined) table of legal values. There shall be an HL7 table number associated with IS data types. This data type should be used only for user-defined tables. The reverse is not true, since in some circumstances, it is more appropriate to use the CE data type for user-defined tables.

Coded Value for User-Defined Tables (IS)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Coded Value from User-defined Tables					

LA2 – Location with Address Variation 2

Specifies a location and its address.

Location with Address Variation 2 (LA2)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Point of Care	IS	O			This represents the location within a facility that the service was provided. This is not the clinic site where an event occurred.
2	Room	IS	O			
3	Bed	IS	O			
4	Facility	HD	R			This represents the location that the service was provided. For example the clinic. CIIS prefers submitters to use CIIS assigned clinic codes for this field. Contact CIIS for these value(s).
5	Building	IS	O			
6	Patient Location Type	IS	O			
7	Building	IS	O			

Location with Address Variation 2 (LA2)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
8	Floor	IS	O			
9	Street Address	ST	O			
10	Other Designation	ST	O			
11	City	ST	O			
12	State	ST	O			
13	Zip	ST	O			
14	Country	ID	O			
15	Address Type	ID	O		HL70190	
16	Other Geographic Designation	ST	O			

Example from RXA-11 indicating the CIIS administering facility/clinic code of BRP :
|^B^BRP^123 Oak St|

MSG – Message Type

This field contains the message type, trigger event, and the message structure ID for the message.

Note: The third component was not required in version 2.3.1. It is now required in version 2.5.1.

Message Type (MSG)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Message Code	ID	R		HL70076	Always VXU
2	Trigger Event	ID	R		HL70003	Always V04
3	Message Structure	ID	R		HL70354	Always VXU_V04

Message Type (MSG)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
Example from MSH-9 Message Type: VXU^V04^VXU_V04						

NM – Numeric

A number represented as a series of ASCII numeric characters consisting of an optional leading sign (+ or -), the digits and an optional decimal point. In the absence of a sign, the number is assumed to be positive. If there is no decimal point, the number is assumed to be an integer.

Numeric (NM)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Numeric		R			
Example: 999						

PT – Processing Type

This data type indicates whether to process a message as defined in HL7 Application (level 7) Processing rules.

Processing Type (PT)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Processing ID	ID	R		HL70103	A value that defines whether the message is intended for a production, training, or debugging system.
2	Processing Mode	ID	O			

SAD - Street Address

This data type specifies an entity's street address and associated detail.

Street Address (SAD)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Street or Mailing Address	ST	R			

Street Address (SAD)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
2	Street Name	ST	O			
3	Dwelling Number	ST	O			

SI – Sequence ID

A non-negative integer in the form of a NM field. The uses of this data type are defined in the Segment Listings (see page 18) defining the segments and messages in which it appears.

Sequence ID (SI)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Sequence ID					

ST - String Data

String data is left-justified with trailing blanks optional. Any displayable (printable) ACSII characters (hexadecimal values between 20 and 7E, inclusive, or ASCII decimal values between 32 and 126), except the defined escape characters and defined delimiter characters.

Sting (ST)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	String Data					

Example:

|almost any data at all|

TS – Time Stamp

This is specific point in time and the same as the DTM field type except precision must be at least to the day.

Time Stamp (TS)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Time	DTM	R			
The DTM component of the Time Stamp has the following constraints:						
	YYYY		R			

Time Stamp (TS)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
	MM		R			
	DD		R			
	HH		O			
	MM		O			
	[SS[.S[S[S[S]]]]]		O			
	+/-ZZZZ		O			
Example: 20150115						

VID – Version ID

This specifies the HL7 version. Only “2.5.1” will be accepted.

Version ID (VID)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Version ID	ID	R			Always 2.5.1
2	Internationalization Code	CE	O			
3	International Version ID	CE	O			

XAD - Extended Address

This data type specifies the address of a person, place or organization plus associated information.

Extended Address (XAD)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Street Address	SAD	RE			
2	Other Designation	ST	RE			
3	City	ST	RE			
4	State	ST	RE			Two character USPS codes, for example: AL, AK, CO
5	Zip	ST	RE			
6	Country	ID	RE			Empty defaults to USA
7	Address Type	ID	R		HL70190	
8	Other Geographic Designation	ST	O			
9	County/Parish Code	IS	O			
10	Census Tract	IS	O			
11	Address Representation Code	ID	O			
12	Address Validity Range	DR	X			
13	Effective Date	TS	O			
14	Expiration Date	TS	O			

Extended Address (XAD)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
Example: 123 MAIN ST^APT 3B^Longmont^CO^80501^^M^^						

XCN – Extended Composite ID Number and Name

This data type identifies a person using a unique ID and name. The ID is associated with an entity such as an organization, which assigns the ID. This data type is used where there is a need to specify the ID number and name of a person.

Extended Composite ID Number and Name for Persons (XCN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	ID Number	ST	C	If XCN.2.1 (Family Name) and XCN.3 (Given name) are not valued		Identifying Code
2	Family Name	FN	RE			Last name
3	Given Name	ST	RE			First name
4	Second and Further Given Names or Initials Thereof	ST	RE			
5	Suffix (e.g., JR or III)	ST	O			
6	Prefix (e.g, DR)	ST	O			
7	Degree (e.g., MD)	IS	X			Use Professional Suffix in sequence 21
8	Source Table	IS	O			
9	Assigning Authority	HD	C	If the XCN.1 (ID Number) is valued		Note that the subcomponent separator is & when HD is a component of another data type.
10	Name Type Code	ID	RE		HL70200	
11	Identifier Check Digit	ST	O			
12	Check Digit Scheme	ID	C	If XCN.11 (Check Digit Identifier) is valued		

Extended Composite ID Number and Name for Persons (XCN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
13	Identifier Type Code	ID	O			
14	Assigning Facility	HD	O			
15	Name Representation Code	ID	O			
16f	Name Context	CE	O			
17	Name Validity Range	DR	X			
18	Name Assembly Order	ID	X			
19	Effective Date	TS	O			
20	Expiration Date	TS	O			
21	Professional Suffix	ST	RE			
22	Assigning Jurisdiction	CWE	O			
23	Assigning Agency or Department	CWE	O			
<p>Example: 1234567891^O^BRIAN^ROBERT^A^DR^~~~~~UPIN^~~~~~MD^ </p>						

XPN - Extended Person Name

This is used for representing a person's name.

Extended Person Name (XPN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Family Name	FN	R			Last name
2	Given Name	ST	R			First name
3	Second and Further Given Names or Initials Thereof	ST	RE			
4	Suffix (e.g., JR or III)	ST	O			
5	Prefix (e.g, DR)	ST	O			
6	Degree (e.g., MD)	IS	X			Use Professional Suffix in sequence 14
7	Name Type Code	ID	RE		HL70200	
8	Name Representation Code	ID	O			
9	Name Context	CE	O			
10	Name Validity Range	DR	X			
11	Name Assembly Order	ID	X			
12	Effective Date	TS	O			
13	Expiration Date	TS	O			
14	Professional Suffix	ST	RE			

Extended Person Name (XPN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
Example: Smith^John^J^MDR^L^M^M^M^M^PHD						

XPN_M - Extended Person Name – Maiden Name

This is used for representing a mother's maiden name.

Extended Person Name (XPN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Family Name	FN	R			Last name
2	Given Name	ST	RE			First name
3	Second and Further Given Names or Initials Thereof	ST	O			
4	Suffix (e.g., JR or III)	ST	O			
5	Prefix (e.g, DR)	ST	O			
6	Degree (e.g., MD)	IS	X			Use Professional Suffix in sequence 14
7	Name Type Code	ID	R		HL70200	Always "M"
8	Name Representation Code	ID	O			
9	Name Context	CE	O			
10	Name Validity Range	DR	X			
11	Name Assembly Order	ID	X			
12	Effective Date	TS	O			

Extended Person Name (XPN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
13	Expiration Date	TS	O			
14	Professional Suffix	ST	O			
Example: Smith^MMMMM^M^MMMMM						

XTN - Extended Telecommunication Number

This contains the extended telephone number.

Extended Telecommunications Number (XTN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
1	Telephone Number	ST	X			
2	Telecommunication Use Code	ID	R		HL70201	
3	Telecommunication Equipment Type	ID	RE		HL70202	
4	Email Address	ST	C	If the XTN.2 (Telecommunications Use Code) is valued "NET"		
5	Country Code	NM	O			
6	Area/City Code	NM	C	If the XTN.2 (Telecommunications Use Code) is not valued "NET"		
7	Local Number	NM	C	If the XTN.2 (Telecommunications Use Code) is not valued "NET"		
8	Extension	NM	O			
9	Any Text	ST	O			
10	Extension Prefix	ST	O			
11	Speed Dial Code	ST	O			

Extended Telecommunications Number (XTN)						
SEQ	Component	Data Type	Usage	Conditional Predicate	Value	Comments
12	Unformatted Telephone Number	ST	O			
Example: ^PRN^PH^^720^6777777						

Appendix B – Code Sets

[Listed by category (Patient, Vaccination, Vaccination Observation, and Miscellaneous) and then alphabetically]

Patient Code Sets

HL70001 – Sex

[Reflects self-reported sex] (Use in PID-8, NK1-15)

Code	Description
F	Female
M	Male
U	Unknown

CDCREC /HL70005– Race

[These values are consistent with the OMB Notice of revised categories for collection of race and ethnicity data—the combined format. Examples for Black or African-American include “2054-5^Black or African-American ^CDCREC” or “2054-5^Black or African-American ^HL70005”, ,]] (Use in PID-10, NK1-35)

Code	Description
1002-5	American Indian or Alaska Native
2028-9	Asian
2054-5	Black or African-American
2076-8	Native Hawaiian or Other Pacific Islander
2106-3	White
2131-1	Other Race
<empty field>	Unknown/undetermined

HL70063 – Relationship

[Reflects relationship to patient] (Use in NK1-3, IN1-17)

Code	Description
BRO	Brother
CGV	Caregiver
CHD	Child
FCH	Foster child
FTH	Father

Code	Description
GRD	Guardian
GRP	Grandparent
MTH	Mother
OTH	Other
PAR	Parent
SCH	Stepchild
SEL	Self
SIB	Sibling
SIS	Sister
SPO	Spouse

HL70072 – Insurance Plan ID

The values in this value set are defined by CIIS.

Code	Description
AET	Aetna
AIG	AIG Insurance
ALL	Alliance
ALL	Allstate
AME	American Family Insurance
APW	American Postal Workers
BAN	Banner Health
BCBS	Blue Cross & Blue Shield
CACC	Colorado Access
CAID	Medicaid
CHA	Champa
CHO	Colorado Health Op
CHP+	Child Health Plan Plus
CICP	CICP
CIG	Cigna
COV	Cover Colorado
DOC	Colorado Dept of Corrections
FIR	First Choice of the Rockies

GWH	Great-West Healthcare
HUM	Humana/Choicecare
IND	Indian Health Services
KAISER	Kaiser Permanente
MED	Medicare
MID	Midlands Choice
OTH	Other commercial
PAC	Pacificare
PLA	Pacific Life and Annuity
RMH	Rocky Mountain Health Plans
SLV	San Luis Valley HMO
STF	State Farm Insurance
TRI	Tricare
UHP	United Health Plan

HL70086 – Plan Type ID

The values in this value set are drawn from the Source of Payment Typology (PHVS_SourceOfPaymentTypology_PHDSC). New values may be added from that value set.

Code	Description
5	Private Insurance
2	Medicaid
1	Medicare
81	Self Pay

CDCREC/ HL70189 - Ethnicity

[These values are consistent with the OMB Notice of revised categories for collection of race and ethnicity data and with HL7's Version 2.4. CIIS prefers the use of the US Ethnicity Codes in the leftmost column. Examples for Hispanic or Latino include "2135-2^Hispanic or Latino^CDCREC" or "H^Hispanic or Latino^HL70189", ,] (Use in PID-22, NK1-28)

US Ethnicity Codes CDCREC	HL7 version 2.4 Ethnicity Codes	Description
2135-2	H	Hispanic or Latino

US Ethnicity Codes CDCREC	HL7 version 2.4 Ethnicity Codes	Description
2186-5	N	Not Hispanic or Latino
	U	Unknown

HL70203 - Identifier Type

(Use in all CX, XCN type codes; including PID-3, PID-18 and RXA-10)

Code	Description
OEI	Order Employee Number
REI	Recorder Employee Number
VEI	Vaccinator Employee Number
AN	Account Number
ANON	Anonymous Identifier
BR	Birth Registry Number
DL	Driver's License Number
DN	Doctor's Number
EI	Employee Number
EN	Employer Number
FI	Facility Identifier
GI	Guarantee Internal Identifier
GN	Guarantee External Identifier
LN	License Number
LR	Local Registry ID
MA	Medicaid Number
MC	Medicare Number
MR	Medical Record Number
MRT	Temporary Medical Record Number
NH	National Health Plan Identifier
NI	National Unique Individual Identifier
NPI	National Provider Identifier
PI	Patient Internal Identifier

Code	Description
PN	Person Number
PRN	Provider Number
PT	Patient External Identifier
RR	Railroad Retirement Number
RRI	Regional Registry ID
SL	State License
SN	Subscriber Number
SR	State Registry ID
SS	Social Security Number
U	Unspecified
UPIN	Medicare/CMS's Universal Physician ID Numbers
VEI	Vaccinator Employee Number
VN	Visit Number
WC	WIC Identifier
XX	Organization Identifier

HL70215 – Publicity Code

Values suggested by CDC. (Use in PID-11) (Note: CIIS only has the capability to track codes 01 and 06. Other codes will be mapped to one of those two values.)

Code	Description
01	No reminder/recall
02	Reminder/recall - any method
03	Reminder/recall - no calls
04	Reminder only - any method
05	Reminder only - no calls
06	Recall only - any method
07	Recall only - no calls
08	Reminder/recall - to provider
09	Reminder to provider
10	Only reminder to provider, no recall
11	Recall to provider
12	Only recall to provider, no reminder

HL70296 - Language

ISO 639 shall be used for language] (Use in PID-15). It is available from PHIN-VADS at:

<http://phinvads.cdc.gov/vads/ViewValueSet.action?id=43D34BBC-617F-DD11-B38D-00188B398520#>

Example codes are found in the table below, but use is not restricted to this list.

Code	Description
SGN	American Sign Language
AMH	Amharic
ARA	Arabic
ARM	Armenian
BEN	Bengali
BUR	Burmese
KM	Cambodian (KMER)
CHA	Chamorro
CHI	Chinese
HRV	Croatian
CZE	Czech
DUT	Dutch
ENG	English
FA	Farsi
FRE	French
GER	German
GRE	Greek
HIN	Hindi
HMN	Hmong
HUN	Hungarian
IND	Indonesian
ITA	Italian
JPN	Japanese
KAR	Karen
KOR	Korean
LAO	Laotian
NEP	Nepalese
NAI	North American Indian
OTH	Other
POL	Polish

POR	Portuguese
RUM	Romanian
RUS	Russian
SMO	Samoan
SRP	Serbian
SLO	Slovak
SOM	Somali
SPA	Spanish
SWA	Swahili
TGL	Tagalog
THA	THAI
TIR	Tigrinya
TON	Tongan
UKR	Ukrainian
UND	Undetermined
URD	Urdu
UNK	Unknown
VIE	Vietnamese
YID	Yiddish

HL70441 – Immunization Registry Status

(Similar to previous NIP-defined NIP006 – Patient registry status) (Use in PD1-16)

Code	Description
A	Active
I	Inactive - Unspecified
L	Inactive - Lost to follow-up (cannot contact)
M	Inactive - Moved or gone elsewhere (MOGE) (transferred)
P	Inactive - Permanently inactive (do not re-activate or add new entries to this record)
U	Unknown

Vaccination Code Sets

HL70004 – Patient Class

[Values suggested by HL7] (Use in PV1-2)

Code	Description
E	Emergency
I	Inpatient
O	Outpatient
P	Pre-admit
R	Recurring Patient
B	Obstetrics

HL70162 - Route of Administration

[Only selected values listed] (Use in RXR-1)

FDA NCI Thesaurus (NCIT)	Code	Description
C38238	ID	Intradermal
C28161	IM	Intramuscular
C38284	NS	Nasal
C38276	IV	Intravenous
	OTH	Other/Miscellaneous
C38288	PO	Oral
C38299	SC	Subcutaneous

HL70163 - Administrative Body Site

[Only selected values listed] (Use in RXR-2)

Code	Description
LA	Left Arm
LD	Left Deltoid
LG	Left Gluteus Medius
LT	Left Thigh
LLT	Left Lateral Thigh

LVL	Left Vastus Lateralis
LLFA	Left Lower Forearm
NS	Intranasal
PO	Oral
RA	Right Arm
RD	Right Deltoid
RG	Right Gluteus Medius
RT	Right Thigh
RLT	Right Lateral Thigh
RVL	Right Vastus Lateralis
RLFA	Right Lower Forearm

HL70227 - Manufacturers of Vaccines (MVX)

(Use in RXA-17) The table below includes both active and inactive manufacturers of vaccine in the U.S. Inactive MVX codes allow transmission of historical immunization records. Active MVX codes denote that the manufacturer is currently making vaccine for distribution in the U.S. This table is frequently updated and can also be found on the CDC website:

<http://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=mvx>

MVX Code	Manufacturer Name	Notes	Manufacturer Status
AB	Abbott Laboratories	Includes Ross Products Division, Solvay	Active
ACA	Acambis, Inc.	Acquired by Sanofi in Sept 2008	Inactive
AD	Adams Laboratories, Inc.		Active
AKR	Akorn, Inc.		Active
ALP	Alpha Therapeutic Corporation		Active
AR	Armour	Part of CSL	Inactive
AVB	Aventis Behring L.L.C.	Part of CSL	Inactive
AVI	Aviron	Acquired by MedImmune	Inactive
BA	Baxter Healthcare Corporation – inactive		Inactive
BAH	Baxter Healthcare Corporation	Includes Hyland Immuno, Immuno International AG, and North American Vaccine, Inc./acquired some assets from Alpha Therapeutics	Active
BAY	Bayer Corporation	Bayer Biologicals now owned by Talecris	Inactive
BP	Berna Products		Inactive
BPC	Berna Products Corporation	Includes Swiss Serum and Vaccine Institute Berne	Active
BRR	Barr Laboratories	Subsidiary of Teva Pharmaceuticals	Active
BTP	Biotest Pharmaceuticals Corporation	New owner of NABI HB as of Dec 2007, does NOT replace NABI Biopharmaceuticals in this code list.	Active
CEN	Centeon L.L.C.		Inactive
CHI	Chiron Corporation	Part of Novartis	Inactive
CMP	Celltech Medeva Pharmaceuticals	Part of Novartis	Inactive
CNJ	Cangene Corporation		Inactive
CON	Connaught	Acquired by Merieux	Inactive
CRU	Crucell	Acquired Berna, now a J&J company	Inactive
CSL	bioCSL	CSL Biotherapies renamed to bioCSL	Active
DVC	DynPort Vaccine Company, L.L.C.		Active

MVX Code	Manufacturer Name	Notes	Manufacturer Status
EVN	Evans Medical Limited	Part of Novartis	Inactive
GEO	GeoVax Labs, Inc.		Active
GRE	Greer Laboratories, Inc.		Active
GRF	Grifols		Active
IAG	Immuno International AG	Part of Baxter	Inactive
IDB	ID Biomedical		Active
IM	Merieux	Part of Sanofi	Inactive
INT	Intercell Biomedical		Active
IUS	Immuno-U.S., Inc.		Active
JHP	JHP Pharmaceutical		
JNJ	Johnson and Johnson	Acquired CRUCCELL which acquired Berna	Active
JPN	The Research Foundation for Microbial Diseases of Osaka University (BIKEN)		Active
KED	Kedrion Biopharma	Acquired Rho(D) from Ortho	Active
KGC	Korea Green Cross Corporation		Active
LED	Lederle	Became a part of WAL, now owned by Pfizer	Inactive
MA	Massachusetts Public Health Biologic Laboratories		Inactive
MBL	Massachusetts Biologic Laboratories	Formerly Massachusetts Public Health Biologic Laboratories	Active
MCM	MCM Vaccine Company	Partnership between Merck and Sanofi Pasteur	Active
MED	MedImmune, Inc.	Acquisitions of U.S. Bioscience in 1999 and Aviron in 2002, as well as the integration with Cambridge Antibody Technology and the strategic alignment with new parent company, AstraZeneca, in 2007.	Active
MIL	Miles		Inactive
MIP	Emergent BioDefense Operations Lansing	A unit of Emergent BioSolutions, Bioport renamed. Formerly Michigan Biologic Products Institute.	Active
MSD	Merck & Co., Inc.		Active
NAB	NABI	Formerly North American Biologicals, Inc.	Active
NAV	North American Vaccine, Inc.	Part of Baxter	Inactive
NOV	Novartis Pharmaceutical Corporation	Novartis has sold its flu vaccines to Seqirus and other vaccines to GlaxoSmithKline. Some vaccines may still be in circulation	Inactive
NVX	Novavax, Inc.		Active
NYB	New York Blood Center		Active

MVX Code	Manufacturer Name	Notes	Manufacturer Status
ORT	Ortho-Clinical Diagnostics	A J&J company (formerly Ortho Diagnostic Systems, Inc.)	Active
OTC	Organon Teknika Corporation		Active
OTH	Other manufacturer		Active
PAX	PaxVax		Active
PD	Parkedale Pharmaceuticals	Formerly Parke-Davis	Inactive
PFR	Pfizer, Inc.	Includes Wyeth-Lederle Vaccines and Pediatrics, Wyeth Laboratories, Lederle Laboratories, and Praxis Biologics	Active
PMC	Sanofi Pasteur	Formerly Aventis Pasteur, Pasteur Merieux Connaught ; includes Connaught Laboratories and Pasteur Merieux. Acquired Acambis.	Active
PRX	Praxis Biologics	Became a part of WAL, now owned by Pfizer	Inactive
PSC	Protein Sciences		Active
PWJ	Powderject Pharmaceutical	Part of Novartis	Inactive
SCL	Sclavo, Inc.		Active
SEQ	Seqirus	Seqirus acquired the flu vaccines from Novartis. It also includes the CSL vaccines	Active
SI	Swiss Serum and Vaccine Inst.	Part of Berna	Inactive
SKB	GlaxoSmithKline	Includes SmithKline Beecham and Glaxo Wellcome	Active
SOL	Solvay Pharmaceuticals	Part of Abbott	Inactive
TAL	Talecris Biotherapeutics	Includes Bayer Biologicals	Active
UNK	Unknown manufacturer		Active
USA	United States Army Medical Research and Material Command		Active
VXG	VaxGen	Acquired by Emergent BioDefense Operations Lansing, Inc.	Inactive
WA	Wyeth-Ayerst	Became WAL, now owned by Pfizer	Inactive
WAL	Wyeth	Acquired by Pfizer Oct. 2009	Inactive
ZLB	ZLB Behring	Acquired by CSL	Inactive

HL70322 – Completion Status

(Use in RXA-20)

Code	Description
CP	Complete
RE	Refused
NA	Not Administered
PA	Partially Administered (CIIS treats same as NA)

HL70323 - Action Codes

(Use in RXA-21)

Code	Description
A	Add
D	Delete
U	Update

HL70360 – Degrees

[Selected values suggested by HL7] (Use in all XPN data types, including PID-5, 6, 9)

Code	Description
CNA	Certified Nurse's Assistant
CMA	Certified Medical Assistant
CNM	Certified Nurse Midwife
CNP	Certified Nurse Practitioner
CPNP	Certified Pediatric Nurse Practitioner
DO	Doctor of Osteopathy
FNP	Family Practice Nurse Practitioner
LPN	Licensed Practical Nurse
MD	Doctor of Medicine
MA	Medical Assistant
NP	Nurse Practitioner
PA	Physician Assistant
PharmD	Doctor of Pharmacy
RMA	Registered Medical Assistant
RN	Registered Nurse

Code	Description
RPH	Registered Pharmacist

CVX/CPT Codes - Vaccines Administered

Meaningful Use (MU) requires the usage of CVX code in RXA-5. CIIS does not use CPT codes. However, including CPT codes will not cause a message to fail. The table below includes codes for both active and inactive vaccines. CVX codes for inactive vaccines allow transmission of historical immunization records. Active CVX codes denote vaccines that are currently available in the U.S. For National Drug Codes (NDC), please visit: <http://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=ndc>

Note: Valid CPT codes have been included in the table as appropriate.

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
143		Adenovirus types 4 and 7	Adenovirus, type 4 and type 7, live, oral	Active	This vaccine is administered as 2 tablets.
54	90476	Adenovirus, type 4	Adenovirus vaccine, type 4, live, oral	Inactive	
55	90477	Adenovirus, type 7	Adenovirus vaccine, type 7, live, oral	Inactive	
82		Adenovirus, unspecified formulation	Adenovirus vaccine, unspecified	Inactive	Use for reporting historical doses where the formulation is unknown.
24	90581	Anthrax	Anthrax vaccine	Active	
801		AS03 Adjuvant	AS03 Adjuvant	Active	This is the adjuvant that is packaged with H5N1 vaccine, adjuvanted.
19	90585	BCG for tuberculosis, live, for percutaneous use	Bacillus Calmette-Guerin vaccine	Active	
	90728	BCG Vaccine			
27	90287	Botulinum antitoxin	Botulinum antitoxin	Active	
26	90725	Cholera	Cholera vaccine	Inactive	
29	90291	CMVIG	Cytomegalovirus immune globulin, intravenous	Active	
12	90296	Diphtheria antitoxin	Diphtheria antitoxin	Active	

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
28	90702	DT (pediatric)	Diphtheria and tetanus toxoids, adsorbed for pediatric use	Active	
20	90700	DTaP	Diphtheria, tetanus toxoids and acellular pertussis vaccine	Active	
106	90700	DTaP, 5 pertussis antigens	Diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens	Active	
107		DTaP, unspecified formulation	Diphtheria, tetanus toxoids and acellular pertussis vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
146		DTaP-IPV-Hib-HepB	Diphtheria and tetanus toxoids and acellular pertussis adsorbed, inactivated poliovirus, Haemophilus b conjugate (meningococcal outer membrane protein complex), and hepatitis B (recombinant) vaccine	Pending	Note that this vaccine is different than CVX 132.
110	90723	DTaP-HepB-IPV	DTaP-hepatitis B and poliovirus vaccine	Active	
50	90721	DTaP-Hib	DTaP- <i>Haemophilus influenzae</i> type b conjugate vaccine	Active	
120	90698	DTaP-Hib-IPV	Diphtheria, tetanus toxoids and acellular pertussis vaccine, <i>Haemophilus influenzae</i> type b conjugate, and poliovirus vaccine, inactivated (DTaP-Hib-IPV)	Active	
130	90696	DTaP-IPV	Diphtheria, tetanus toxoids and acellular pertussis vaccine, and poliovirus vaccine, inactivated	Active	
146		DTaP-IPV-Hib-HepB	Diphtheria and Tetanus Toxoids and Acellular Pertussis Adsorbed,	Pending	This vaccine is different from CVX 132

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
			Inactivated Poliovirus, Haemophilus b Conjugate (Meningococcal Protein Conjugate), and Hepatitis B (Recombinant) Vaccine.		
132		DTaP-IPV-Hib-HepB, historical	Historical record of vaccine containing *diphtheria, tetanus toxoids and acellular pertussis, *poliovirus, inactivated, *Haemophilus influenzae type b conjugate, *Hepatitis B (DTaP-Hib-IPV)	Inactive	This is not the same as CVX 146, hexavalent vaccine.
01	90701	DTP	Diphtheria, tetanus toxoids and whole cell pertussis vaccine (DTP)	Inactive	
22	90720	DTP-Hib	DTP- <i>Haemophilus influenzae</i> type b conjugate vaccine	Inactive	
102		DTP-Hib-HepB	DTP- <i>Haemophilus influenzae</i> type b conjugate and hepatitis b vaccine	Inactive	This non-US vaccine contained DTP prior to 2007 and now contains DTaP.
57		Hantavirus	Hantavirus vaccine	Never Active	
30	90371	HBIG	Hepatitis B immune globulin	Active	
52	90632	HepA, adult	Hepatitis A vaccine, adult dosage	Active	
154		HepA, IG	Hepatitis A immune globulin	Active	
83	90633	HepA, ped/adol, 2 dose	Hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule	Active	
84	90634	HepA, ped/adol, 3 dose	Hepatitis A vaccine, pediatric/adolescent dosage, 3 dose schedule	Inactive	This vaccine formulation is inactive and should not be used except to record historical vaccinations with this formulation.

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
31		HepA, pediatric, unspecified formulation	Hepatitis A vaccine, pediatric dosage, unspecified formulation	Inactive	Do NOT use this code. If formulation is unknown, use CVX 85. There is only one formulation of HepA, peds.
85	90730	HepA, unspecified formulation	Hepatitis A vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
104	90636	HepA-HepB	Hepatitis A and hepatitis B vaccine	Active	
08	90744	HepB, adolescent or pediatric	Hepatitis B vaccine, pediatric or pediatric/adolescent dosage	Active	This code applies to any standard pediatric formulation of Hepatitis B vaccine. It should not be used for the 2-dose HepB schedule for adolescents (11-15 year olds). It requires Merck's Recombivax HB® adult formulation. Use code 43 for that vaccine.
42	90745	HepB, adolescent/high risk infant	Hepatitis B, adolescent/high risk infant dosage	Inactive	As of August 27, 1998, Merck ceased distribution of their adolescent/high risk infant HepB vaccine. This code should only be used for reporting historical doses. For current administration of HepB vaccine, pediatric/adolescent dosage, use code 08.
43	90743	HepB, adult dosage (2 dose)	Hepatitis B vaccine, adult dosage	Active	As of September 1999, a 2-dose HepB schedule for adolescents (11-15 year olds) was FDA-approved for Merck's Recombivax HB® adult formulation. Use code 43 for the 2-dose. This code should be used for any use of

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
	90746	HepB, adult dosage			standard adult formulation of HepB vaccine.
44	90740	HepB, dialysis (3 dose schedule)	Hepatitis B vaccine, dialysis patient dosage	Active	
	90747	HepB, dialysis (4 dose schedule)			
45	90731	HepB, unspecified formulation	Hepatitis B vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
58		Hep C	Hepatitis C vaccine	Never Active	
59		Hep E	Hepatitis E vaccine	Never Active	
60		Herpes simplex 2	Herpes simplex virus, type 2 vaccine	Never Active	
47	90645	Hib (HbOC)	<i>Haemophilus influenzae</i> type b vaccine, HbOC conjugate	Inactive	
46	90646	Hib (PRP-D)	<i>Haemophilus influenzae</i> type b vaccine, PRP-D conjugate	Inactive	
49	90647	Hib (PRP-OMP)	<i>Haemophilus influenzae</i> type b vaccine, PRP-OMP conjugate	Active	
48	90648	Hib (PRP-T)	<i>Haemophilus influenzae</i> type b vaccine, PRP-T conjugate	Active	
17	90737	Hib, unspecified formulation	<i>Haemophilus influenzae</i> type b vaccine, conjugate, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
51	90748	Hib-HepB	<i>Haemophilus influenzae</i> type b conjugate and Hepatitis B vaccine	Inactive	This vaccine may still be in use until the existing lots expire on 8/19/16.
61		HIV	Human immunodeficiency virus vaccine	Never Active	
165	90651	Human Papillomavirus vaccine types 6, 11, 16, 18, 31, 33, 45, 52, 58, nonvalent (HPV)	Human Papillomavirus 9-valent vaccine	Active	
118	90650	HPV, bivalent	Human Papillomavirus vaccine, bivalent	Active	
62	90649	HPV, quadrivalent	Human Papillomavirus vaccine, quadrivalent	Active	
137		HPV, unspecified formulation	HPV, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
86	90281	IG	Immune globulin, intramuscular	Active	
14	90741	IG, unspecified formulation	Immune globulin, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
87	90283	IGIV	Immune globulin, intravenous	Active	
160		Influenza A monovalent (H5N1), ADJUVANTED-2013	Influenza A monovalent (H5N1), adjuvanted, National stockpile 2013	Active	Approved by FDA 2013, adjuvant is mixed at point of administration.
151		Influenza nasal, unspecified formulation	Influenza nasal, unspecified formulation	Inactive	This CVX should only be used for historical records where the formulation of nasal flu vaccine is not known.
123		Influenza, H5N1-1203	Influenza virus vaccine, H5N1, A/Vietnam/1203/2004 (national stockpile)	Inactive	
135	90662	Influenza, high dose seasonal	Influenza, high dose seasonal, preservative-free	Active	

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
153	90661	Influenza, injectable, MDCK, preservative free	Influenza, injectable, Madin Darby Canine Kidney, preservative free	Active	
158	90687	Influenza, injectable, quadrivalent (6-35 months)	Influenza, injectable, quadrivalent, contains preservative	Active	New in 2013, IIV4
	90688	Influenza, injectable, quadrivalent (3 years and above)			
150	90686	Influenza, injectable, quadrivalent, preservative free	Influenza, injectable, quadrivalent, preservative free	Active	New in 2012, IIV4
161	90685	Influenza, injectable, quadrivalent, preservative free, pediatric (6-35 months)	Influenza, injectable, quadrivalent, preservative free, pediatric	Active	IIV4
166	90630	Influenza, intradermal, quadrivalent (IIV4), preservative free	Influenza, intradermal, quadrivalent, preservative free, injectable	Active	
111	90660	Influenza, live, intranasal	Influenza virus vaccine, trivalent, live, attenuated, for intranasal use	Inactive	Seasonal influenza
149	90672	Influenza, live, intranasal, quadrivalent (LAIV)	Influenza, live, intranasal, quadrivalent	Active	New in 2012, LAIV
155	90673	Influenza, recombinant, injectable, preservative free	Seasonal, trivalent, recombinant, injectable influenza vaccine, preservative free	Active	
141	90657	Influenza, trivalent seasonal, injectable (6-35 months)	Influenza, seasonal, injectable	Active	This is one of two codes replacing CVX 15, which is retired.
	90658	Influenza, trivalent seasonal, injectable (3 years and above)			

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
140	90655	Influenza, seasonal, injectable, preservative-free (6-35 months)	Influenza, trivalent seasonal, injectable, preservative-free	Active	This vaccine code is one of two which replace CVX 15, influenza, split virus.
	90656	Influenza, seasonal, injectable, preservative-free (3 years and above)			
144	90654	Influenza, seasonal, intradermal, preservative-free	Seasonal influenza, intradermal, preservative-free	Active	
15		Influenza, split (incl. purified surface antigen)	Influenza virus vaccine, split virus (incl. purified surface antigen) – retired code	Inactive	This code is retired. It may still be found in older immunization records. It included both preservative-free and non preservative-free.
168	90653	Influenza, trivalent, adjuvanted	Seasonal trivalent influenza vaccine, adjuvanted, preservative free	Active	
88	90724	Influenza, unspecified formulation	Influenza virus vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
16	90659	Influenza, whole	Influenza virus vaccine, whole virus	Inactive	
10	90713	IPV	Poliovirus vaccine, inactivated	Active	
134	90738	Japanese Encephalitis IM	Japanese Encephalitis vaccine for intramuscular administration	Active	
39	90735	Japanese Encephalitis SC	Japanese Encephalitis Vaccine SC	Inactive	
129		Japanese Encephalitis, unspecified formulation	Japanese Encephalitis Vaccine, unspecified	Inactive	Use for reporting historical doses where the formulation is unknown.
63		Junin virus	Junin virus vaccine	Never Active	
64		Leishmaniasis	Leishmaniasis vaccine	Never Active	

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
65		Leprosy	Leprosy vaccine	Never Active	
66	90665	Lyme disease, adult dosage	Lyme disease vaccine	Inactive	
04	90708	M/R	Measles and rubella virus vaccine	Inactive	
67		Malaria	Malaria vaccine	Never Active	
05	90705	Measles	Measles virus vaccine	Inactive	
68		Melanoma	Melanoma vaccine	Never Active	
108		Meningococcal ACWY, unspecified formulation	Meningococcal ACWY vaccine, unspecified formulation	Inactive	This CVX is intended for use when one of the meningococcal vaccines containing serogroups A, C, W and Y (conjugate or polysaccharide) was given and the exact formulation was not recorded. It should not be used when one of the meningococcal vaccines containing other serogroups was administered.
163	90620	Meningococcal B, OMV	Meningococcal B vaccine, recombinant, OMV, adjuvanted	Active	
162	90621	Meningococcal B, recombinant	Meningococcal B vaccine, fully recombinant	Active	
164		Meningococcal B, unspecified	Meningococcal B, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
103		Meningococcal C conjugate	Meningococcal C conjugate vaccine	Inactive	
148	90644	Meningococcal C/Y – Hib PRP (MenCY-Hib)	Meningococcal groups C and Y and Haemophilus b Tetanus Toxoid conjugate vaccine	Active	

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
147		Meningococcal MCV4, unspecified formulation	Meningococcal, MCV4, unspecified formulation (groups A, C, Y and W-135)	Inactive	This CVX should only be used for historical doses of meningococcal conjugate vaccine where the formulation is unknown (oligosaccharide vs. polysaccharide). It is not the same as CVX 108, meningococcal, unspecified formulation.
136	90734	Meningococcal MCV4O	Meningococcal oligosaccharide (groups A, C, Y and W-135) diphtheria toxoid conjugate vaccine (MCV4O)	Active	
114	90734	Meningococcal MCV4P	Meningococcal polysaccharide (groups A, C, Y and W-135) diphtheria toxoid conjugate vaccine (MCV4P)	Active	
32	90733	Meningococcal MPSV4	Meningococcal polysaccharide vaccine (MPSV4)	Active	
167		Meningococcal, unknown serogroups	Meningococcal vaccine of unknown formulation and unknown serogroups	Inactive	This CVX is intended for use when any one of the meningococcal vaccines is recorded and there is no information about which serogroups are protected against. This code should not be used when a newly administered immunization is recorded.
03	90707	MMR	Measles, mumps and rubella virus vaccine	Active	
94	90710	MMRV	Measles, mumps, rubella, and varicella virus vaccine	Active	
07	90704	Mumps	Mumps virus vaccine	Inactive	
127	90668	Novel Influenza-H1N1-09	Novel influenza-H1N1-09, injectable	Inactive	

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
128	90470	Novel influenza-H1N1-09 (intramuscular, intranasal)	Novel influenza-H1N1-09, all formulations	Inactive	This code is used whenever the actual formulation is not determined or when aggregating all Novel H1N1 Influenza-09 immunizations for reporting to CRA. It should not be used for seasonal influenza vaccine that is not otherwise specified (NOS).
	90663	Influenza virus vaccine, pandemic formulation H1N1			
125	90664	Novel influenza-H1N1-09, nasal	Novel influenza-H1N1-09, live virus for nasal administration	Inactive	
126	90666	Novel influenza-H1N1-09, preservative-free	Novel influenza-H1N1-09, preservative-free, injectable	Inactive	
02	90712	OPV	Poliovirus vaccine, live, oral	Inactive	
69		Parainfluenza-3	Parainfluenza-3 virus vaccine	Inactive	
11		Pertussis	Pertussis vaccine	Inactive	
23	90727	Plague	Plague vaccine	Active	
133	90670	Pneumococcal conjugate PCV13	Pneumococcal conjugate vaccine, 13-valent	Active	
100	90669	Pneumococcal conjugate PCV7	Pneumococcal conjugate vaccine, 7-valent	Inactive	
152		Pneumococcal conjugate, unspecified formulation	Pneumococcal conjugate, unspecified formulation	Inactive	This CVX should only be used for historical records where the formulation of

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
					pneumococcal conjugate vaccine is not known.
33	90732	Pneumococcal polysaccharide PPV23	Pneumococcal polysaccharide vaccine, 23-valent	Active	
109		Pneumococcal, unspecified formulation	Pneumococcal vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
89		Polio, unspecified formulation	Poliovirus vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
70		Q fever	Q fever vaccine	Never Active	
40	90676	Rabies, intradermal injection	Rabies vaccine, for intradermal injection	Inactive	
18	90675	Rabies, intramuscular injection	Rabies vaccine, for intramuscular injection	Active	
90	90726	Rabies, unspecified formulation	Rabies vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
72		Rheumatic fever	Rheumatic fever vaccine	Never Active	
73		Rift Valley fever	Rift Valley fever vaccine	Never Active	
34	90375	RIG, human	Rabies immune globulin	Active	
	90376	RIG, heat-treated (RIG-HT)			
119	90681	Rotavirus, monovalent	Rotavirus, live, monovalent vaccine	Active	
116	90680	Rotavirus, pentavalent	Rotavirus, live, pentavalent vaccine	Active	
74		Rotavirus, tetravalent	Rotavirus, live, tetravalent vaccine	Inactive	
122		Rotavirus, unspecified formulation	Rotavirus vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
71	90379	RSV-IGIV	Respiratory syncytial virus immune globulin, intravenous	Active	
93	90378	RSV-MAb	Respiratory syncytial virus monoclonal antibody (palivizumab), intramuscular	Active	
145		RSV-MAb (new)	Respiratory syncytial virus monoclonal antibody (motavizumab), intramuscular	Pending	
06	90706	Rubella	Rubella virus vaccine	Inactive	
38		Rubella/mumps	Rubella and mumps virus vaccine	Inactive	
76		Staphylococcus bacterio lysate	Staphylococcus bacteriophage lysate	Inactive	
138		Td (adult)	Tetanus and diphtheria toxoids, not adsorbed, for adult use	Active	Note that this Td is not adsorbed.
113	90714	Td (adult) preservative-free	Tetanus and diphtheria toxoids, adsorbed, preservative-free, for adult use	Active	
09	90718	Td (adult), adsorbed	Tetanus and diphtheria toxoids, adsorbed, for adult use	Active	Note that this vaccine name has changed. See also Td (adult). It is not adsorbed.
139		Td (adult), unspecified formulation	Td (adult) unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
115	90715	Tdap	Tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine, adsorbed	Active	
35	90703	Tetanus toxoid, adsorbed	Tetanus toxoid, adsorbed	Inactive	
142		Tetanus toxoid, not adsorbed	Tetanus toxoid, not adsorbed	Inactive	
112		Tetanus toxoid, unspecified formulation	Tetanus toxoid, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
77		Tick-borne encephalitis	Tick-borne encephalitis vaccine	Inactive	
13	90389	TIG	Tetanus immune globulin	Active	
98		TST, unspecified formulation	Tuberculin skin test, unspecified formulation	Active	TB skin test is not a vaccine. CIIS accepts these codes.
95		TST-OT tine test	Tuberculin skin test, old tuberculin, multipuncture device	Active	TB skin test is not a vaccine. CIIS accepts these codes.
96	86580	TST-PPD intradermal	Tuberculin skin test, purified protein derivative solution, intradermal	Active	TB skin test is not a vaccine. CIIS accepts these codes.
97	86858	TST-PPD tine test	Tuberculin skin test, purified protein derivative, multipuncture device	Active	TB skin test is not a vaccine. CIIS accepts these codes.
78		Tularemia vaccine	Tularemia vaccine	Inactive	
25	90690	Typhoid, oral	Typhoid vaccine, live, oral	Active	
41	90692	Typhoid, parenteral	Typhoid vaccine, parenteral, other than acetone-killed, dried	Inactive	
53	90693	Typhoid, parenteral, AKD (U.S. military)	Typhoid vaccine, parenteral, acetone-killed, dried (U.S. military)	Inactive	
91		Typhoid, unspecified formulation	Typhoid vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
101	90691	Typhoid, ViCPs	Typhoid Vi capsular polysaccharide vaccine	Active	
131		Typhus, historical	Historical record of a typhus vaccination	Inactive	
75		Vaccinia (smallpox)	Vaccinia (smallpox) vaccine	Active	
105		Vaccinia (smallpox) diluted	Vaccinia (smallpox) vaccine, diluted	Inactive	
79	90393	Vaccinia immune globulin	Vaccinia immune globulin	Active	

CVX Code	CPT Code	Short Description	Full Vaccine Name	Vaccine Status	Notes
21	90716	Varicella	Varicella virus vaccine	Active	
81		VEE, inactivated	Venezuelan equine encephalitis, inactivated	Inactive	
80		VEE, live	Venezuelan equine encephalitis, live, attenuated	Inactive	
92		VEE, unspecified formulation	Venezuelan equine encephalitis vaccine, unspecified formulation	Inactive	Use for reporting historical doses where the formulation is unknown.
36	90396	VZIG	Varicella zoster immune globulin	Active	
117		VZIG (IND)	Varicella zoster immune globulin (Investigational New Drug)	Inactive	
37	90717	Yellow fever	Yellow fever vaccine	Active	
121	90736	Zoster	Zoster vaccine, live	Active	
998		No vaccine administered	No vaccine administered	Inactive	Code 998 was added for use in VXU HL7 messages where the OBX segment is nested with the RXA segment, but the message does not contain information about a vaccine administration.
99		RESERVED – Do not use	RESERVED – Do not use	Inactive	Code 99 will not be used in this table to avoid confusion with code 999.
999		Unknown	Unknown vaccine or immune globulin	Inactive	This CVX code has little utility and should not be used.

NIP001 - Immunization Information Source

(Use in RXA-9)

Code	Description
00	New Immunization Record
01	Historical Information – source unspecified
02	Historical Information – from other provider
03	Historical Information – from parent’s written record
04	Historical Information – from parent’s recall
05	Historical Information – from other registry
06	Historical Information – from birth certificate
07	Historical Information – from school record
08	Historical Information – from public agency

NIP002 - Substance Refusal Reason

Code	Description
00	Parental Decision
01	Religious exemption
02	Other (Describe in text component of the CE field)
03	Personal Exemption/Patient decision
04	Medical exemption

NIP003 - Observation Identifiers

(use in OBX-3)

Code	Description	OBX-2 Data Type	OBX-5 notes
Vaccine Funding Program Eligibility Category			
64994-7	Vaccine funding program eligibility category	CE	HL70064
Vaccine Funding Source			
30963-3	Vaccine funding source	CE	Use code set PHVS_ImmunizationFundingSource_IIS
Contraindications, Precautions, and Immunities			
30946-8	Vaccination contraindication/precaution	DT	

Code	Description	OBX-2 Data Type	OBX-5 notes
	effective date		
30944-3	Vaccination temporary contraindication/precaution expiration date	DT	
30945-0	Vaccination contraindication/precaution	CE	Use code set PHVS_VaccinationContraindication_IIS
31044-1	Reaction	CE	Use code set PHVS_VaccinationReaction_IIS
59784-9	Disease with presumed immunity	CE	Use code set PHVS_HistoryOfDiseaseAsEvidenceOfImmunity_IIS
75505-8	Diseases with serological evidence of immunity	CE	Use code set PHVS_SerologicalEvidenceOfImmunity_IIS
Vaccine Information Statement (VIS) Dates			
69764-9	Document Type	CE	Use code set PHVS_VISBarcodes_IIS
30956-7	Vaccine Type	CE	Use code set PHVS_VISVaccines_IIS
29768-9	Date Vaccine Information Statement Published	TS	19900605
29769-7	Date Vaccine Information Statement Presented	TS	199307311615

Vaccine Observation Code Sets

HL70064 – Vaccine Program Eligibility

(Use in OBX-5 for client eligibility for a funding program at the dose administered level)

Code	Description
V00	VFC eligibility not determined/unknown
V01	Not VFC eligible
V02	VFC eligible - Medicaid/Medicaid Managed Care
V03	VFC eligible - Uninsured
V04	VFC eligible - American Indian/Alaska Native
V05	VFC eligible - Federally Qualified Health Center Patient (under-insured)
V22	CHIP plan (not Medicaid or VFC eligible)
V23	317 (CO State Adult 317 Program)

Code	Description
V24	Medicare (Client is enrolled in Medicare)
V25	State program eligibility (Do not use if client is enrolled in CHIP or is eligible for Adult 317 Program, use above codes V22 and V23 respectively)

PHVS_ImmunizationFundingSource_IIS - Vaccine Funding Source

Use in OBX-5 when OBX-3 is valued as 30963-3-Vaccine purchased with. Indicates the funding source for a vaccine. Used to support vaccine inventory management at the clinic level.

Code	Description	HL7 Table 0396 Code
PHC70	Private Funds	CDCPHINVS
VXC50	Public Funds	CDCPHINVS
VXC51	Public VFC Funds	CDCPHINVS
VXC52	Public non-VFC Funds (use this code for CO State 317 Program funded vaccine)	CDCPHINVS
PHC68	Military Funds	CDCPHINVS
VXC3	Tribal Funds	CDCPHINVS
OTH	Other	NULLFL
UNK	Unspecified/Unknown	NULLFL

PHVS_VaccinationContraindication_IIS - Contraindications

(Use in OBX-5 when OBX-3 is valued as LOINC® code 30945-0 , Vaccination contraindication/precaution)

Code	Description	HL7 Table 0396 Code	V 2.3.1 Value NIP004
VXC30	Allergy (anaphylactic) to proteins of rodent or neural origin	CDCPHINVS	
VXC17	Allergy (anaphylactic) to 2-phenoxyethanol	CDCPHINVS	
VXC18	Allergy to baker's yeast (anaphylactic)	CDCPHINVS	03
91930004	Allergy to egg ingestion (anaphylactic)	SCT	04
294847001	Allergy to gelatin (anaphylactic)	SCT	05
294468006	Allergy to neomycin (anaphylactic)	SCT	06
294466005	Allergy to streptomycin (anaphylactic)	SCT	07
VXC19	Allergy to thimerosal (anaphylactic)	CDCPHINVS	08
VXC20	Allergy to previous dose of this vaccine or to any of its unlisted vaccine components (anaphylactic)	CDCPHINVS	09

Code	Description	HL7 Table 0396 Code	V 2.3.1 Value NIP004
402306009	Anaphylactic (life-threatening) reaction of previous dose of this vaccine or any of its components	SCT	
VXC21	Previous history of intussusception	CDCPHINVS	
VXC22	Encephalopathy within 7 days of previous dose of DTP or DTaP	CDCPHINVS	15
VXC23	Current fever with moderate-to-severe illness	CDCPHINVS	16
VXC24	Current acute illness, moderate to severe (with or without fever) (e.g., diarrhea, otitis media, vomiting)	CDCPHINVS	21
VXC25	History of Arthus hypersensitivity reaction to a tetanus-containing vaccine administered < 10 yrs previously	CDCPHINVS	
27624003	Chronic illness (e.g., chronic gastrointestinal disease)	SCT	22
77386006	Pregnancy (in recipient)	SCT	39
302215000	Thrombocytopenia	SCT	40
161461006	Thrombocytopenic purpura (history)	SCT	41
VXC26	Underlying unstable, evolving neurologic disorders, (including seizure disorders, cerebral palsy, and developmental delay)	CDCPHINVS	37
VXC27	Immunodeficiency due to any cause, including HIV (hematologic and solid tumors, congenital immunodeficiency, long-term immunosuppressive therapy, including steroids)	CDCPHINVS	36

PHVS_VaccinationReaction_IIS - Reactions

(Use in OBX-5 when OBX-3 is valued as LOINC® code 31044-1, Reaction)

Code	Description	HL7 Table 0396 Code	V 2.3.1 Value NIP004
39579001	Anaphylaxis (disorder)	SCT	
81308009	Disorder of brain (disorder)	SCT	
VXC10	Collapse or shock like state within 48 hours of previous dose of DTP/DTaP	CDCPHINVS	
VXC11	Convulsions (fits, seizures) within 3 days of previous dose of DTP/DTaP	CDCPHINVS	
VXC9	Persistent, inconsolable crying lasting ≥ 3 hours within 48 hours of previous dose of DTP/DTaP	CDCPHINVS	

Code	Description	HL7 Table 0396 Code	V 2.3.1 Value NIP004
VXC12	Fever of $\geq 40.5^{\circ}\text{C}$ (105°F) within 48 hours of previous dose of DTP/DTaP	CDCPHINVS	
VXC13	Guillain-Barré syndrome (GBS) within 6 weeks of previous dose of DTP/DTaP	CDCPHINVS	
VXC14	Rash within 14 days of dose	CDCPHINVS	
VXC15	Intussusception within 30 days of dose	CDCPHINVS	

PHVS_HistoryOfDiseaseAsEvidenceOfImmunity_IIS – History of Disease as Evidence of Immunity indicates that a person has been diagnosed with a particular disease.
(Use in OBX-5 when OBX-3 is valued as LOINC® code 59784-9)

Code	Description	Explanation	HL7 Table 0396 Code	V 2.3.1 Value NIP004
409498004	Anthrax (disorder)	History of anthrax infection.	SCT	
397428000	Diphtheria (disorder)	History of diphtheria infection.	SCT	24
76902006	Tetanus (disorder)	History of tetanus infection.	SCT	32
27836007	Pertussis (disorder)	History of pertussis infection.	SCT	29
40468003	Viral hepatitis, type A (disorder)	History of Hepatitis A infection.	SCT	
66071002	Type B viral hepatitis (disorder)	History of Hepatitis B infection.	SCT	26
91428005	Haemophilus influenzae infection (disorder)	History of HIB infection.	SCT	25
240532009	Human papillomavirus infection (disorder)	History of HPV infection.	SCT	
6142004	Influenza (disorder)	History of influenza infection.	SCT	
52947006	Japanese encephalitis virus disease (disorder)	History of Japanese encephalitis infection.	SCT	
14189004	Measles (disorder)	History of measles infection.	SCT	27
36989005	Mumps (disorder)	History of mumps infection.	SCT	28
36653000	Rubella (disorder)	History of rubella infection.	SCT	31
23511006	Meningococcal	History of meningococcal infection.	SCT	

Code	Description	Explanation	HL7 Table 0396 Code	V 2.3.1 Value NIP004
	infectious disease (disorder)			
16814004	Pneumococcal infectious disease (disorder)	History of pneumococcal infection.	SCT	
398102009	Acute poliomyelitis (disorder)	History of polio infection.	SCT	30
14168008	Rabies (disorder)	History of rabies infection.	SCT	
18624000	Disease due to Rotavirus (disorder)	History of rotavirus infection.	SCT	
4834000	Typhoid fever (disorder)	History of typhoid infection.	SCT	
111852003	Vaccinia (disorder)	History of vaccinia infection.	SCT	
38907003	Varicella (disorder)	History of Varicella infection.	SCT	33
16541001	Yellow fever (disorder)	History of yellow fever infection.	SCT	

PHVS_SerologicalEvidenceOfImmunity_IIS – Serological evidence of immunity to a particular disease indicates that a person has immunity to that disease.

(Use in OBX-5 when OBX-3 is valued as LOINC® code 75505-8)

Code	Description	Explanation	HL7 Table 0396 Code	V 2.3.1 Value NIP004
341112003	Mumps (finding)	Serology confirmed mumps.	SCT	
278968001	Rubella (finding)	Serology confirmed rubella.	SCT	
371111005	Measles (finding)	Serology confirmed measles.	SCT	
371113008	Varicella (finding)	Serology confirmed varicella.	SCT	
271511000	Hepatitis B immune (finding)	Serology confirmed hepatitis B.	SCT	
278971009	Hepatitis A immune (finding)	Serology confirmed hepatitis A.	SCT	

PHVS_VISBarcodes_IIS - VIS Bar Codes (IIS)

Use in OBX-5 when OBX-3 is valued as 69764-9. The purpose of the barcode on the bottom of the Vaccine Information Statement (VIS) is to provide an opportunity to electronically capture the VIS document type (e.g. influenza, MMR) and the edition date of the VIS, as required by the National Childhood Vaccine Injury Act (NCVIA). For more information, please visit - <http://www.cdc.gov/vaccines/pubs/vis/vis-barcodes.htm>

VIS Document Type Description / Concept Name	Edition Date	VIS Fully-encoded text string (Concept Code)	Code System Code (HL7 Table 0396)
Adenovirus VIS	7/14/2011	253088698300001111110714	cdcgs1vis
Anthrax VIS	3/10/2010	253088698300002811100310	cdcgs1vis
Hepatitis A VIS	10/25/2011	253088698300004211111025	cdcgs1vis
Hepatitis B VIS	2/2/2012	253088698300005911120202	cdcgs1vis
Haemophilus Influenzae type b VIS	12/16/1998	253088698300006611981216	cdcgs1vis
Human papillomavirus Vaccine (Cervarix) VIS	5/3/2011	253088698300007311110503	cdcgs1vis
Human papillomavirus Vaccine (Gardasil) VIS	2/22/2012	253088698300008011120222	cdcgs1vis
Influenza Vaccine - Live, Intranasal VIS	7/2/2012	253088698300009711120702	cdcgs1vis
Influenza Vaccine - Inactivated VIS	7/2/2012	253088698300010311120702	cdcgs1vis
Japanese Encephalitis VIS	12/7/2011	253088698300011011111207	cdcgs1vis
Measles/Mumps/Rubella VIS	4/20/2012	253088698300012711120420	cdcgs1vis
Measles/Mumps/Rubella/Varicella VIS	5/21/2010	253088698300013411100521	cdcgs1vis
Meningococcal VIS	10/14/2011	253088698300014111111014	cdcgs1vis
Pneumococcal Conjugate (PCV13) VIS	4/16/2010	253088698300015811100416	cdcgs1vis
Pneumococcal Polysaccharide VIS	10/6/2009	253088698300016511091006	cdcgs1vis
Polio VIS	11/8/2011	253088698300017211111108	cdcgs1vis
Rabies VIS	10/6/2009	253088698300018911091006	cdcgs1vis
Shingles VIS	10/6/2009	253088698300020211091006	cdcgs1vis
Tetanus/Diphtheria/(Pertussis) VIS	1/24/2012	253088698300022611120124	cdcgs1vis
Typhoid VIS	5/29/2012	253088698300023311120529	cdcgs1vis

PHVS_VISVaccines_IIS - VIS Vaccines (IIS)

Use in OBX-5 when OBX-3 is valued as 30956-7. This table lists the vaccines which require that a Vaccine Information Statement (VIS) be shared with a patient/parent. The VIS document type, edition date and presentation date are reported in a set of OBX. The current list will be found on PHIN VADS, as the list may change over time.

Code	Description	HL7 Table 0396 Code
106	DTaP, 5 pertussis antigens	CVX
146	DTaP-IPV-Hib-HepB	CVX
110	DTaP-HepB-IPV	CVX
50	DTaP-Hib	CVX
120	DTaP-Hib-IPV	CVX
130	DTaP-IPV	CVX
52	HepA, adult	CVX
83	HepA, ped/adol, 2 dose	CVX
104	HepA-HepB	CVX
08	HepB, adolescent or pediatric	CVX
42	HepB, adolescent/high risk infant	CVX
43	HepB, adult	CVX
44	HepB, dialysis	CVX
49	Hib (PRP-OMP)	CVX
48	Hib (PRP-T)	CVX
51	Hib-HepB	CVX
118	HPV, bivalent	CVX
62	HPV, quadrivalent	CVX
135	Influenza, high dose seasonal	CVX
111	influenza, live, intranasal	CVX
141	Influenza, seasonal, injectable	CVX
140	Influenza, seasonal, injectable, preservative free	CVX
144	influenza, seasonal, intradermal, preservative free	CVX
10	IPV	CVX
148	Meningococcal C/Y-HIB PRP	CVX
136	Meningococcal MCV4O	CVX
114	meningococcal MCV4P	CVX
32	meningococcal MPSV4	CVX
03	MMR	CVX

Code	Description	HL7 Table 0396 Code
94	MMRV	CVX
133	Pneumococcal conjugate PCV13	CVX
100	pneumococcal conjugate PCV7	CVX

Miscellaneous Code Sets

HL70061 – Check digit scheme

(Use in all CX data types; including PID-2, 3, 4, 18, 21)

Code	Description
M10	Mod 10 algorithm
M11	Mod 11 algorithm
ISO	ISO 7064: 1983
NPI	Check digit algorithm in the US National Provider Identifier

HL70103 – Processing ID

(Use in MSH-11)

Code	Description
D	Debugging
P	Production
T	Test

HL70136 – Yes/No Indicator

(Use in PID-24, 30; PD1-12)

Code	Description
Y	Yes
N	No

HL70190 – Address type

(Use in all XAD data types; including PID-11)

Code	Description
C	Current or temporary
P	Permanent
M	Mailing
B	Firm/Business
O	Office
H	Home
N	Birth
F	Country of origin
L	Legal address
BDL	Birth delivery location [use for birth facility]
BR	Residence at birth [use for residence at birth]
RH	Registry home
BA	Bad Address

HL70200 – Name Type

(Use in all XCN, XPN data types; including PID-5, 6, 9)

Code	Description	Definition
A	Alias name	This is a nickname or other assumed name.
L	Legal name	This is a person's official name. It is the primary name recorded in the IIS.
D	Display name	This is the preferred name displayed on a user interface.
M	Maiden name	This is a woman's name before marriage.
C	Adopted name	This is the name of a person after adoption.
B	Name at birth	This is a name recorded at birth (prior to adoption).
P	Name of partner/spouse	This is the name of the partner or spouse.
U	Unspecified	This is a name of unspecified type.

HL70201 – Telecommunications Use Code

(Use in all XTN data types; including PID-13, 14)

Code	Description
PRN	Primary residence number.
ORN	Other residence number.
WPN	Work number.
PRS	Personal/Cell number
VHN	Vacation home number.
ASN	Answering service number
EMR	Emergency number
NET	Network (email) address
BPN	Beeper number

HL70202 – Telecommunications Equipment Type

(Use in all XTN data types; including PID-13, 14)

Code	Description
PH	Telephone
FX	Fax
MD	Modem
CP	Cellular phone

Code	Description
BP	Beeper
INTERNET	Internet address: Use only if telecommunication use code is NET
X.400	X.400 email address: Use only if telecommunication use code is NET
TDD	Telecommunications Device for the Deaf
TTY	Teletypewriter

HL70396 - Coding system

[only selected values listed] See Version 2.5.1 Table 0396 for other values. Use in CE data types to denote the coding system used for coded values

Code	Description
99zzz or L	Local general code (where z is an alphanumeric character)
ART	WHO Adverse Reaction Terms
C4	CPT-4
C5	CPT-5
CDCA	CDC Analyte Codes
CDCM	CDC Methods/Instruments Codes
CDCPHINVS	PHIN VS (CDC Local Coding System)
CDCREC	CDC Race and Ethnicity Codes
CDS	CDC Surveillance
CPTM	CPT Modifier Code
CST	COSTART
CVX	CDC Vaccine Codes
E	EUCLIDES
E5	Euclides quantity codes
E6	Euclides Lab method codes
E7	Euclides Lab equipment codes
ENZC	Enzyme Codes
HB	HIBCC
HCPCS	HCFA Common Procedure Coding System
HHC	Home Health Care
HL7nnnn	HL7 Defined Codes where nnnn is the HL7 table number
HPC	HCFA Procedure Codes (HCPCS)
I10	ICD-10

I10P	ICD-10 Procedure Codes
I9	ICD9
I9C	ICD-9CM
ISOnnnn	ISO Defined Codes where nnnn is the ISO table number
LB	Local billing code
LN	Logical Observation Identifier Names and Codes (LOINC [®])
MCD	Medicaid
MCR	Medicare
MEDR	Medical Dictionary for Drug Regulatory Affairs (MEDDRA)
MVX	CDC Vaccine Manufacturer Codes
NDC	National drug codes
NCIT	NCI Thesaurus
NPI	National Provider Identifier
SNM	Systemized Nomenclature of Medicine (SNOMED [®])
SCT	SNOMED Clinical Terminology
SCT2	SNOMED Clinical Terms alphanumeric codes
SNM3	SNOMED International
SNT	SNOMED topology codes (anatomic sites)
UML	Unified Medical Language
UPC	Universal Product Code
UPIN	UPIN
W1	WHO record # drug codes (6 digit)
W2	WHO record # drug codes (8 digit)
W4	WHO record # code with ASTM extension
WC	WHO ATC