



# MIIC HL7 2.5.1 v1.5 Update Guide

## SUBMITTING VXU MESSAGES

This document is for organizations interested in reporting immunization data to the Minnesota Immunization Information Connection (MIIC) using Health Level 7 (HL7) messaging. It is based on the Centers for Disease Control and Prevention (CDC) “HL7 Version 2.5.1: Implementation Guide for Immunization Messaging,” Release 1.5.

MIIC accepts a subset of the value sets included in the CDC guide. For MIIC-specific information, refer to this guidance and the values at [MIIC Codes for Data Submission and Exchange](https://www.health.state.mn.us/people/immunize/miic/data/codes.html) (<https://www.health.state.mn.us/people/immunize/miic/data/codes.html>). For general guidance on HL7 immunization messaging, see the CDC implementation guide at [IIS Health Level 7 \(HL7\) Implementation](http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html) (<http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html>).

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# Introduction

## Purpose

The purpose of this document is to provide a concise guide to the Health Level 7 (HL7) 2.5.1 Unsolicited Vaccination Record Update (VXU) messages accepted by the Minnesota Immunization Information Connection (MIIC). HL7 is a standard messaging protocol used to exchange data between health care data systems. Organizations based in Minnesota must follow the specifications outlined here to send their data to MIIC's production environment.

Note: All organizations interested in starting or enhancing a data interface with MIIC must begin by completing the "MDH Data Exchange Registration" at [Process for Working on Data Exchange with MIIC](https://www.health.state.mn.us/people/immunize/miic/data/dxprocess.html) (<https://www.health.state.mn.us/people/immunize/miic/data/dxprocess.html>).

## HL7 Usage Codes

Usage	Specifications
R	Data fields marked "R" are required and must be submitted to MIIC.
RE	Data fields marked "RE" are required if information is available and the field is applicable, but may be empty. MIIC strongly recommends the collection and submission of these data elements to ensure good data de-duplication and data quality.
C	Data fields marked "C" are conditional, which means that they are required if a field that they are related to contains a specific value.
O	Data fields marked "O" are optional. Data may be sent if you have them, but MIIC may not process them.
X	Data fields marked "X" are deprecated and data should not be sent in this portion of the message. Please DO NOT include Social Security Number (SSN) in messages sent to MIIC.

## General Guidelines

When sending messages, either for a single vaccination or multiple vaccinations on a single client, please be sure to follow the HL7 format below. You can see a [sample message](#) in this guide for reference.

Segment	Cardinality	Usage	Comment
MSH	[1..1]	R	Every message begins with an MSH.
PID	[1..1]	R	Every VXU has one PID segment.
PD1	[0..1]	RE	Every PID segment in a VXU may have one or fewer PD1 segment(s).
NK1	[0..*]	RE	The PID segment in a VXU may have zero or more NK1 segment(s).
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. Each RXA segment requires an ORC segment.
RXR	[0..1]	RE	Every RXA segment in a VXU may have zero or one RXR segment(s).
OBX	[0..*]	RE	Every RXA segment in a VXU may have zero or more OBX segment(s).

## Code Tables and References

Code tables referenced in this document can be found on the Minnesota Department of Health (MDH) website at [MIIC Codes for Data Submission and Exchange](https://www.health.state.mn.us/people/immunize/miic/data/codes.html) (<https://www.health.state.mn.us/people/immunize/miic/data/codes.html>). Code tables and relevant mappings are also available on the CDC website at [Immunization Information Systems \(IIS\): Code Sets](http://www.cdc.gov/vaccines/programs/iis/code-sets.html) (<http://www.cdc.gov/vaccines/programs/iis/code-sets.html>). For additional information on MIIC specifications, Meaningful Use incentives, HL7 transport options, and MIIC-accepted code sets, see [Submitting and Exchanging Data with MIIC](https://www.health.state.mn.us/people/immunize/miic/data/index.html) (<https://www.health.state.mn.us/people/immunize/miic/data/index.html>).

## Sample Message

We will use the below scenario and sample message to show how to populate specific segments of an HL7 message throughout this guide.

### Scenario

Martha Cat brings her child, Mickey J Mouse, to the MIIC clinic on May 13, 2017, for a well child visit. A clinic staff member collects basic identifying information, including name, birth date, sex, address, phone, medical record number, race, and ethnicity. The staff member then reviews the patient's vaccination history and determines that the patient needs an Influenza vaccination, an HPV vaccination, a Meningococcal vaccination, and a Varicella vaccination. The staff member interviews Mickey's mother, Martha, and determines that the patient does not qualify for Vaccines For Children (VFC) supplied vaccine because their insurance will cover these vaccinations. Martha agrees that the patient should receive the Meningococcal vaccination, but refuses the HPV vaccination and indicates that the patient had Varicella disease so doesn't need the Varicella vaccination. She also notes that Mickey had a bad reaction to his last Influenza vaccination. The staff member explains to Martha that information about this visit will be sent to the IIS, and asks Martha if the IIS can send a reminder about when the next vaccination is due. The mother indicates that the IIS can contact her. The staff member then prepares a Meningococcal vaccination dose, SKB Lot #ABC1234, and administers it to Mickey in his left arm. The staff member enters the patient demographic information, VFC status, contact status, vaccination administration, patient report of disease, reaction to previous influenza vaccination, medical exemption to influenza, and refusal to vaccinate with HPV information into the EHR and transmits it to the IIS, indicating to the IIS that the clinic administered a vaccination to an active patient.

### Message

```
MSH|^~\&|MIICEHRAApplication|MIIC|MIIC|MIIC|201705130822||VXU^V04^VXU_V04|test1100|P|2.5.1|||
AL|AL|||Z22^CDCPHINVS|^MIIIC^SR^MIIIC|MIIC
```

```
PID|1||12345678^MR||Mouse^Mickey^J^M||cat^martha|20060504|M||2106-3^White^
HL70005|12345 testing
ave^^Minneapolis^MN^55407^MN053|^PRN^PH^555^555555|||||2186-5^not Hispanic or
Latino^CDCREC|N|||||N
```

```
PD1|||||||02|N|20170513||A|20170513|20170513
```

```
NK1|1|cat^martha|MTH^Mother^HL70063|12345 testing
ave^^Minneapolis^MN^55407^MN053|^PRN^PH^555^555555
```

```
ORC|RE||IZ-783278^NDA|||||||MIIC^MIIC clinic^HL70362
```

```
RXA|0|1|201501013|201501013|141^Influenza^CVX|1|mL||00^NEW IMMUNIZATION
RECORD^NIP001|^MIICSHORTCODE|||ABC1234|20211201|SKB^GlaxoSmithKline^MVX||CP|A
```

```
OBX|4|CE|31044-1^reaction^LN|4|VXC12^fever of >40.5C within 48 hrs.^CDCPHINVS|||||F
```

```
ORC|RE||IZ-783280^NDA|||||||MIIC^MIIC clinic^HL70362
```

RXA|0|1|20170513||998^No vaccine given^CVX|999|||||||||CP

OBX|1|CE|30945-0^contraindication^LN|1|M4^Medical exemption: Influenza^NIP|||||F|||20120916

ORC|RE||IZ-783278^NDA|||||||||MIIC^MIIC clinic^HL70362

RXA|0|1|20170513|20170513|62^HPV quadrivalent^CVX|999|||||^MIICSHORTCODE|||||00^Parental Refusal^NIP002||RE

ORC|RE||IZ-783279^NDA|||||||||MIIC^MIIC clinic^HL70362

RXA|0|1|20170513|20170513|136^MCV4-CRM^CVX^90734^MCV4-CRM^CPT|1|mL||00^NEW IMMUNIZATION RECORD^NIP001|^MIIC|||ABC1234|20211201|SKB^GlaxoSmithKline^MVX|||CP|A

RXR|IM^INTRAMUSCULAR^NCIT|RA

OBX|2|CE|64994-7^funding pgm eligibility^LN|2|V01^Insured^HL70064|||||F|||||VXC40^per immunization^CDCPHINVS

ORC|RE||IZ-783281^NDA|||||||||MIIC^MIIC clinic^HL70362

RXA|0|1|20170513||998^No vaccine given^CVX|999|||||||||CP

OBX|3|CE|59784-9^Disease with presumed immunity^LN|3|38907003^Varicella infection^SCT|||||F|||20130916

## Detailed Segment Listings

### MSH – Message Header Segment

This segment identifies the owner (provider) of information sent, receiver (MIIC), HL7 message type, and HL7 message version.

Field	Description	Usage	Comment	Code Table
1	Field separator	R	Character used as field separator for rest of message. Always use the value of “ ”.	
2	Encoding characters	R	Four characters in the following order: the component separator, repetition separator, escape character, and subcomponent separator. Always use the value of “^~\&”.	
3	Sending application	RE	MIIC does not process this information.	
4	Sending facility	RE	<p>This field identifies the organization responsible for the operations of the sending application. This code, <b>assigned by MIIC</b>, is for the organization that has the direct connection to MIIC. This code should be the same for all immunizations being sent in by the same message feed.</p> <ul style="list-style-type: none"> <li>All new sites must be registered with MIIC prior to data submission.</li> </ul>	
5	Receiving application	RE	Always use the value of “MIIC”.	
6	Receiving facility	RE	Always use the value of “MIIC”.	
7	Date/time of message	R	Use the YYYYMMDDHHMM format.	
8	Security	O	MIIC disregards.	
9	Message type	R	Always use the value of “VXU^V04^VXU_V04”.	
10	Message control ID	R	Unique ID for message. This ID is used in MIIC responses to help match the original message with its response.	

Field	Description	Usage	Comment	Code Table
11	Processing ID	R	Always use “P” for production. If left blank, it will default to “P”.	
12	Version ID	R	Always use the value of “2.5.1”.	
13	Sequence number	O	MIIC disregards.	
14	Continuation pointer	O	MIIC disregards.	
15	Accept acknowledgement type	RE	Use values from <b>HL70155</b> . MIIC recommends using the value of “AL” and if this is left blank will default to that value.	
16	Application acknowledgement type	RE	Use values from <b>HL70155</b> . MIIC recommends using the value of “AL” and if this is left blank will default to that value.	
17	Country code	O	MIIC disregards.	
18	Character set	O	MIIC disregards.	
19	Principal language of message	O	MIIC disregards.	
20	Alternate character set handling	O	MIIC disregards.	
21	Message profile identifier	R	Always use the value of “Z22^CDCPHINVS”.	
22	Sending Responsible Organization	R	Business organization (legal entity) that originated and is accountable for the content of the message. MIIC expects this to contain the organization code of the child entity.	



Field	Description	Usage	Comment	Code Table
			22.6 (Responsible Organization Assigning Authority) (Shall be MIIC) 22.7 (Responsible Organization Identifier Type Code) (Shall be SR) 22.10 (Responsible Organization Identifier) MIIC- provided Short Code  <b>Provider HL7 data submissions to MIIC must include ALL                      site-specific organization codes.</b>	
23	Receiving Responsible Organization	RE	Always use the value of "MIIC".	

**Example:**

```
MSH|^~\&|MIICEHRAApplication|MIIC|MIIC|MIIC|201705130822||VXU^V04^VXU_V04|test1100|P|2.5.1|||
AL|AL|||Z22^CDCPHINVS|^^^^MIIC^SR^^MIIC|MIIC
```

## PID – Patient Identifier Segment

This segment includes client identifiers, such as name, date of birth, and address.

Field	Description	Usage	Comment	Code Table
1	Set ID – PID	RE	This field contains the number that identifies this transaction. For the first occurrence of the segment, the sequence number shall be one, for the second occurrence, the sequence number shall be two, etc.	
2	Patient ID	X	MIIC disregards.	
3	Patient identifier list	R	Medical record number. (e.g., A12457849^^^^MR^^^^)  Maximum length is 20 characters. If longer, only the first 20 characters will be saved.	User-defined table 0203
4	Alternate patient ID – PID	X	<ul style="list-style-type: none"> <li>MIIC disregards.</li> </ul>	
5	Patient name	R	Last Name and First Name are required. (Last^First^Middle^Suffix^^^^)  <ul style="list-style-type: none"> <li>MIIC does not accept placeholder names like “Baby” and “Baby Boy”.</li> </ul> Names can only contain letters, spaces, and the following three characters: . ‘ -	
6	Mother’s maiden name	RE	(Mother’s maiden last^Mother’s maiden first^^^^)  <ul style="list-style-type: none"> <li>MIIC strongly recommends collection and submission of this data element used in client deduplication.</li> </ul>	
7	Date of birth	R	Client’s birth date. Use the YYYYMMDD format.	
8	Administrative sex (Self-reported gender)	RE	Client’s gender (F- Female, M-Male, U-Unknown/Undifferentiated).  MIIC strongly recommends collection and submission of this data element. If blank, it will default to “U”.	Table 0001

Field	Description	Usage	Comment	Code Table
9	Patient alias	X	MIIC disregards.	
10	Race	RE	Client's race (e.g., 2106-3^White^ HL70005). <ul style="list-style-type: none"> <li>MIIC strongly recommends collection and submission of this data element.</li> </ul>	Table 0005
11	Patient address	RE	Incoming address is assumed as the patient's primary address. (Street address^other address^city^state^zip code^^^^county_code^^)	
12	County code	X	County code belongs in address field in this version	
13	Phone number	RE	This field can be used to send either client's phone number or email address. MIIC only process the first repetition sent. <ul style="list-style-type: none"> <li>(^PRN^PH^^^555^5555555)</li> <li>(^NET^Internet^testemail@test.com)</li> </ul>	
14	Phone number – business	O	MIIC disregards.	
15	Primary language	O	MIIC disregards.	
16	Marital status	O	MIIC disregards.	
17	Religion	O	MIIC disregards.	
18	Patient account number	O	MIIC disregards.	
19	SSN – patient	X	MIIC disregards. <b>DO NOT SEND.</b>	

Field	Description	Usage	Comment	Code Table
20	Driver's license number – patient	X	MIIC disregards.	
21	Mother's identifier	X	MIIC disregards.	
22	Ethnic group	RE	Client's ethnicity. MIIC strongly recommends collection and submission of this data. <ul style="list-style-type: none"> <li>Use "2186-5" for not Hispanic or Latino and "2135-2" for Hispanic or Latino.</li> </ul> (2186-5^not Hispanic or Latino^CDCREC)	CDCREC
23	Birth place	O	MIIC disregards.	
24	Multiple birth indicator	RE	(Y/N/blank). Use "Y" to indicate client was born in a multiple birth.	Table 0136
25	Birth order	C (RE/O)	If PID-24 (Multiple Birth Indicator) is valued "Y", Use "1" for the first born, "2" for the second, etc.	
26	Citizenship	O	MIIC disregards.	
27	Veteran's military status	O	MIIC disregards.	
28	Nationality	O	MIIC disregards.	
29	Patient death date	C (RE/X)	If PID-30 (Patient Death Indicator) is valued "Y". Date of death if client is deceased. Use the YYYYMMDD format.	
30	Patient death indicator	RE	Use "Y" for Yes, "N" for No and "blank" if unknown.	Table 0136

Field	Description	Usage	Comment	Code Table
31	Identity Unknown Indicator	O	MIIC disregards.	
32	Identity Reliability Code	O	MIIC disregards.	
33	Last Update Date/Time	O	MIIC disregards.	
34	Last Update Facility	O	MIIC disregards.	
35	Species Code	O	MIIC disregards.	
36	Breed Code	O	MIIC disregards.	
37	Strain	O	MIIC disregards.	
38	Production Class Code	O	MIIC disregards.	
39	Tribal Citizenship	O	MIIC disregards.	

**Example:**

PID|1||12345678^^^MR||Mouse^Mickey^J^III^^^|cat^martha|20060504|M||2106-3^White^HL70005|12345 testing  
 ave^^Minneapolis^MN^55407^^^MN053|^PRN^^^PH^555^5555555|||||||2186-5^not Hispanic or Latino^CDCREC||N|||||N

## PD1 – Patient Demographic Segment

This segment contains additional information related to the client. The segment is optional. If used, send Publicity Code, Protection Indicator, and Registry Status. These influence the client’s privacy settings in MIIC.

Field	Description	Usage	Comment	Code Table
1	Living dependency	O	MIIC disregards.	
2	Living arrangement	O	MIIC disregards.	
3	Patient primary facility	O	MIIC disregards.	
4	Patient primary care provider name and ID number.	X	MIIC disregards.	
5	Student indicator	O	MIIC disregards.	
6	Handicap	O	MIIC disregards.	
7	Living will code	O	MIIC disregards.	
8	Organ donor code	O	MIIC disregards.	
9	Separate bill	O	MIIC disregards.	
10	Duplicate patient	O	MIIC disregards.	
11	Publicity code	RE	<p>Controls whether recall/reminder notices are sent.</p> <ul style="list-style-type: none"> <li>• Default value is “02” (reminder/recall – any method).</li> <li>• “01” indicates no contact is allowed.</li> </ul>	Table 0215

Field	Description	Usage	Comment	Code Table
12	Protection indicator	RE	Controls visibility of records to other organizations. <ul style="list-style-type: none"> <li>Y - Yes, protect the data. Client (or guardian) has indicated that the data should not be shared.</li> <li>N - No, it is not necessary to protect data from other clinicians. Client (or guardian) has indicated their information does not need to be protected. (Sharing is OK.)</li> </ul>	Table 0136
13	Protection indicator effective date	C (RE/X)	If PD1-12 (protection indicator) is valued. MIIC does not currently process this information.	
14	Place of worship	O	MIIC disregards.	
15	Advance directive code	O	MIIC disregards.	
16	Immunization registry status	RE	<ul style="list-style-type: none"> <li>A – Active - (If blank, it will default to “A”)</li> <li>I – Inactive - Unspecified</li> <li>L– Inactive - Lost to follow-up (Cannot contact.)</li> <li>M – Inactive - Moved or gone elsewhere (Transferred)</li> <li>P – Inactive - Permanently inactive (Do not reactivate or add new entries to this record.)</li> </ul>	Table 0441
17	Immunization registry status effective date	C (RE/X)	If the PD1-16 (registry status) field is valued. MIIC does not process this information.	
18	Publicity code effective date	C (RE/X)	If the PD1-11 (publicity code) field is valued. MIIC does not process this information.	
19	Military branch	O	MIIC disregards.	
20	Military rank/grade	O	MIIC disregards.	
21	Military status	O	MIIC disregards.	

**Example:**

PD1|||||||02|N|20170513|||A|20170513|20170513

## NK1 – Next of Kin/Associated Parties

This segment contains information about the client’s next of kin and other associated or related parties. The segment is optional. If used, send fields 1-5.

Field	Description	Usage	Comment	Code Table
1	Set ID – NK1	R	Sequential numbers. Use “1” for the first NK1 within the message, “2” for the second, and so forth.	
2	Name	R	Name of the responsible person who cares for the client. (Next of kin last^next of kin first^^^^^^)	
3	Relationship	R	Relationship of the responsible person to the client. If no relationship is sent, it will default to Self. (SPO^Spouse^HL70063)	Table 0063
4	Address	RE	Responsible person’s mailing address. (Street address^other address^city^state^zip code^^^^county_code^^)	
5	Phone number	RE	Responsible person’s phone number. (^PRN^PH^^^555^5555555)	
6	Business phone number	O	MIIC disregards.	
7	Contact role	O	MIIC disregards.	
8	Start date	O	MIIC disregards.	
9	End date	O	MIIC disregards.	
10	Next of kin/AP job title	O	MIIC disregards.	
11	Next of kin/AP job code/class	O	MIIC disregards.	



Field	Description	Usage	Comment	Code Table
12	Next of kin/AP employee number	O	MIIC disregards.	
13	Organization name	O	MIIC disregards.	
14	Marital status	O	MIIC disregards.	
15	Sex	O	MIIC disregards.	
16	Date/time of birth	O	MIIC disregards.	
17	Living dependency	O	MIIC disregards.	
18	Ambulatory status	O	MIIC disregards.	
19	Citizenship	O	MIIC disregards.	
20	Primary language	O	MIIC disregards.	
21	Living arrangement	O	MIIC disregards.	
22	Publicity code	O	MIIC disregards.	
23	Protection indicator	O	MIIC disregards.	
24	Student indicator	O	MIIC disregards.	
25	Religion	O	MIIC disregards.	
26	Mother's maiden name	O	MIIC disregards.	
27	Nationality	O	MIIC disregards.	

Field	Description	Usage	Comment	Code Table
28	Ethnic group	O	MIIC disregards.	
29	Contact reason	O	MIIC disregards.	
30	Contact person's name	O	MIIC disregards.	
31	Contact person's telephone number	O	MIIC disregards.	
32	Contact person's address	O	MIIC disregards.	
33	Next of kin/AP's identifiers	O	MIIC disregards.	
34	Job status	O	MIIC disregards	
35	Race	O	MIIC disregards	
36	Handicap	O	MIIC disregards	
37	Contact person social security #	X	<b>MIIC DISREGARDS. DO NOT SEND.</b>	
38	Next of kin birth place	O	MIIC disregards	
39	VIP indicator	O	MIIC disregards	

### Example:

NK1|1|cat^martha|MTH^Mother^HL70063|12345 testing  
ave^^Minneapolis^MN^55407^^^MN053|^PRN^PH^^^555^5555555

## ORC – Order Request Segment

This segment includes vaccine ordering information. Each [RXA segment](#) needs to be associated with an ORC segment.

Field	Description	Usage	Comment	Code Table
1	Order control	R	Always use the code "RE".	Table 0119
2	Placer order number	RE	MIIC disregards.	
3	Filler order number	R	This field uniquely identifies this order among all orders sent by a provider organization that filled the orders. If RXA-20 is valued "NA" or "RE" then ORC-3 SHALL be valued "9999".	
4	Placer group number	O	MIIC disregards.	
5	Order status	O	MIIC disregards.	
6	Response flag	O	MIIC disregards.	
7	Quantity/timing	X	MIIC disregards.	
8	Parent	O	MIIC disregards.	
9	Date/time of transaction	O	MIIC disregards.	
10	Entered by	O	MIIC disregards.	
11	Verified by	O	<ul style="list-style-type: none"> <li>MIIC disregards.</li> </ul>	

Field	Description	Usage	Comment	Code Table
12	Ordering provider	O	<ul style="list-style-type: none"> <li>MIIC disregards.</li> </ul>	
13	Enterer's location	O	MIIC disregards.	
14	Call back phone number	O	MIIC disregards.	
15	Advance directive code	O	MIIC disregards.	
15	Order effective date/time	O	<ul style="list-style-type: none"> <li>MIIC disregards.</li> </ul>	
16	Order control code reason	O	MIIC disregards.	
17	Entering organization ID	RE	This is the provider organization that entered this record/order 17.1 (Entering Organization Name) MIIC Short Code 17.2 (Entering Organization Coding System) Full name of the organization 17.3 (Entering Organization ID) HL70362	Table 0362
18	Entering device	O	MIIC disregards.	
19	Action by	O	MIIC disregards.	

Field	Description	Usage	Comment	Code Table
20	Advanced beneficiary notice code	O	MIIC disregards.	
21	Ordering facility name	O	MIIC disregards.	
22	Ordering facility address	O	MIIC disregards.	
23	Ordering facility phone number	O	MIIC disregards.	
24	Ordering provider address	O	MIIC disregards.	
25	Order status modifier	O	MIIC disregards.	
26	Advanced beneficiary notice override reason	O	MIIC disregards.	
27	Filler's expected availability date/time	O	MIIC disregards.	
28	Confidentiality code	O	MIIC disregards.	
29	Order type	O	MIIC disregards.	
30	Enterer authorization mode	O	MIIC disregards.	
31	Parent universal service identifier	O	MIIC disregards.	

**Example:**

ORC|RE||IZ-783278^NDA|||||||MIIC^MIIC clinic^HL70362

## RXA – Pharmacy Administration

This segment carries pharmacy administration data, such as vaccination date, type of vaccine administered, vaccine lot number, and vaccine manufacturer. Each RXA must be preceded by an ORC segment.

Field	Description	Usage	Comment	Code Table
1	Give sub-ID counter	R	Always use "0".	
2	Administration subID counter	R	Always use "1". This should not be used for indicating dose number, which belongs in an OBX.	
3	Date/time start of administration	R	Date the vaccine was given. Use the YYYYMMDD format.	
4	Date/time end of administration	O	MIIC disregards.	
5	Administered code	R	Identifies the vaccine administered. <ul style="list-style-type: none"> <li>MIIC requires sending enough data to uniquely identify all vaccination events. That can be accomplished by using two code sets from CVX, CPT, and NDC. We prefer NDC and CVX.</li> <li>Ensure that both triplets represent the same vaccine in their respective code sets.</li> </ul> (141^Influenza^CVX^90658^Flu 3+ yrs^CPT) (141^Influenza^CVX^19515-0845-01^Flu 3+ yrs^NDC)	Table 0292 (Also see MIIC vaccine codes)
6	Administered amount	R	Quantity of vaccine administered in milliliters. If not known or meaningful, use "999". If left blank it will default to "01".	

Field	Description	Usage	Comment	Code Table
7	Administered units	C (R/O)	<p>If Administered Amount is not valued "999".</p> <ul style="list-style-type: none"> <li>MIIC's preferred administered unit is milliliters: (mL).</li> <li>If left blank it will default to mL.</li> </ul>	UCUM
8	Administered dosage form	O	MIIC disregards.	
9	Administration notes	C (R/O)	<p>If RXA-20 is valued "CP" or "PA":</p> <ul style="list-style-type: none"> <li>Use "00" to indicate a vaccine administered by the clinic.</li> <li>Use "01" – "08" to indicate a historical immunization. We prefer the use of "01" for historical immunizations.</li> </ul> <p>If left blank, it will default to "01".</p>	NIP001
10	Administering provider	C (RE/O)	MIIC disregards.	
11	Administered-at location	C (RE/O)	<p>MIIC will use this field to store the site where the vaccine was administered (for historical vaccinations).</p> <p>RE: If RXA-9 is 00 and RXA-20 is CP or PA. Otherwise O. If RXA-11.4 does not match MSH-22.10, it will throw an informational error but be saved.</p>	
12	Administered per (time unit)	O	MIIC disregards.	
13	Administered strength	O	MIIC disregards.	
14	Administered strength units	O	MIIC disregards.	

Field	Description	Usage	Comment	Code Table
15	Substance lot number	C (RE/O)	Manufacturer's lot number for the vaccine (string with length of 30).  RE: If RXA-9 is 00 and RXA-20 is CP or PA. Otherwise O.	
16	Substance expiration date	C (RE/O)	<ul style="list-style-type: none"> <li>Use the YYYYMMDD format.</li> <li>If populated, this shall not be a date before shot date.</li> </ul> RE: If RXA-9 is 00 and RXA-20 is CP or PA. Otherwise O.	
17	Substance manufacturer name	C (R/O)	R: If RXA-9 is 00 and RXA-20 is CP or PA. Otherwise O.  (SKB^GlaxoSmithKline^MVX)	Table 0227 MVX
18	Substance refusal reason	C (R/X)	<p>An entry in this field indicates that the patient did not take the substance. The vaccine that was offered should be recorded in RXA-5 and RXA-20 should be populated with RE.</p> <p>Do not record contraindications, immunities or reactions in this field.</p> (00^Parental Refusal^NIP002)	NIP002
19	Indication	O	MIIC disregards.	
20	Completion status	RE	If RXA-20 is valued "CP" or "PA" then RXA-9 (admin notes) SHALL be valued one of the codes listed in NIP001 in the first repetition of this field. Use "RE" for reporting vaccine refusals.	Table 0322
21	Action code-RXA	C (R/O)	R: if RXA-5 is not 998 (no vaccine given) "A" (Add) or "D" (Delete) or "U" (Update – currently treated as Add by MIIC). If blank, treated as an "Add".	Table 0323
22	System entry date /time	O	MIIC disregards.	



Field	Description	Usage	Comment	Code Table
23	Administered drug strength volume	O	MIIC disregards.	
24	Administered drug strength volume units	O	MIIC disregards.	
25	Administered barcode identifier	O	MIIC disregards.	
26	Pharmacy order type	O	MIIC disregards.	

**Example:**

**Immunization given**

```
RXA|0|1|201501013|201501013|141^Influenza^CVX|1|mL||00^NEW IMMUNIZATION  
RECORD^NIP001||^MIICSHORTCODE|||ABC1234|20211201|SKB^GlaxoSmithKline^MVX||CP|A
```

**Refusal of an immunization**

```
RXA|0|1|20170513|20170513|62^HPV quadrivalent^CVX|999|||MIICSHORTCODE||||00^Parental  
Refusal^NIP002||RE
```

**No Immunization given (used to send observation data not associated with a specific vaccination event)**

```
RXA|0|1|20170513||998^No vaccine given^CVX|999|||||||CP
```

## RXR – Pharmacy/Treatment Route

This segment indicates the route and site of vaccine administration.

Field	Description	Usage	Comment	Code Table
1	Route	R	Route of vaccine administration.	NCIT
2	Site	RE	Site of vaccine administration.	Table 0163
3	Administration device	O	MIIC disregards.	
4	Administration method	O	MIIC disregards.	
5	Routing instruction	O	MIIC disregards.	
6	Administration site modifier	O	MIIC disregards.	

### Example:

RXR|IM^INTRAMUSCULAR^NCIT|LA

## OBX – Observation Result Segment

In VXU, this segment is associated with the RXA or immunization record. The basic format is a question (OBX3) and an answer (OBX-5).

Field	Description	Usage	Comment	Code Table
1	Set ID-OBX	R	Sequential numbers. • Use “1” for the first OBX within the message, “2” for the second, and so forth.	
2	Value type	R	Always use “CE”.	
3	Observation identifier	R	<p>This field contains a unique identifier for the observation.</p> <ul style="list-style-type: none"> <li>The format is that of the Coded Element (CE).</li> <li>It indicates what the observation refers to and poses the question that is answered by OBX-5.</li> <li>LOINC is the standard coding for this field.</li> </ul> <p><b>To report contraindications use:</b> (30945-0^contraindication^LN)</p> <p><b>To report history of disease with presumed immunity use:</b> (59784-9^Disease with presumed immunity^LN)</p> <p><b>To report an adverse reaction use:</b> (31044-1^reaction^LN)</p> <p><b>To report vaccine-level funding eligibility use:</b> (64994-7^funding program eligibility^LN)</p>	CDC-Defined NIP003
4	Observation sub-ID	R	Used to link related components of an observation. Each component of the observation would share an observation sub-ID.	

Field	Description	Usage	Comment	Code Table
5	Observation value	R	<p>This is the observation value that answers the question posed in OBX-3.</p> <ul style="list-style-type: none"> <li>• Values are dependent on the value type specified in OBX-2 (CE) and the observation identifier specified in OBX-3.</li> <li>• Use to report medical exemptions, reactions, history of disease and vaccine-level funding eligibility information.</li> </ul> <p><b>Medical exemption:</b> (e.g., M4^Medical exemption: Influenza^NIP)</p> <p><b>Vaccination adverse reaction:</b> (e.g., VXC12^fever of &gt;40.5C within 48 hrs.^CDCPHINVS)</p> <p><b>History of disease with presumed immunity:</b> (e.g., 38907003^Varicella infection^SCT)</p> <p><b>Vaccine-level funding eligibility:</b> Contains value for program funding code for this shot. Derived from screening at this visit or special program funding. (e.g., V01^Insured^HL70064)</p>	<p>Use CDC-defined value sets for reactions and immunities.</p> <p>Use state-defined value sets for medical exemptions and temporary deferrals.</p> <p>Use user-defined table 0064 for vaccine-level funding eligibility.</p>
6	Units	O	MIIC disregards.	
7	Reference ranges	O	MIIC disregards.	
8	Abnormal flags	O	MIIC disregards.	

Field	Description	Usage	Comment	Code Table
9	Probability	O	MIIC disregards.	
10	Nature of abnormal test	O	MIIC disregards.	
11	Observe result status	R	Always use "F".	Table 0085
12	Effective Date of Reference Range Values	O	MIIC disregards.	
13	User defined access checks	O	MIIC disregards.	
14	Date/time of the observation	RE	MIIC disregards. Value in RXA-3 is used to store the date/time of the comment in MIIC.	
15	Producer's reference	O	MIIC disregards.	
16	Responsible observer	O	MIIC disregards.	
17	Observation method	C (RE/O)	<p>If OBX-3.1 is "64994-7" for reporting "funding program eligibility", then this field is used to distinguish between eligibility that is captured at the visit level versus at the immunization event level.</p> <ul style="list-style-type: none"> <li>This will always be at the "per immunization" level in MIIC.</li> </ul> <p>(VXC40^per immunization^CDCPHINVS)</p>	CDCPHINVS-Funding Eligibility Observation Method (IIS)
18	Equipment instance identifier	O	MIIC disregards.	
19	Date/time of the analysis	O	MIIC disregards.	

Field	Description	Usage	Comment	Code Table
20	Reserved for harmonization with v2.6	X	MIIC disregards.	
21	Reserved for harmonization with v2.6	X	MIIC disregards.	
22	Reserved for harmonization with v2.6	X	MIIC disregards.	
23	Performing organization name	O	MIIC disregards.	
24	Performing organization address	O	MIIC disregards.	
25	Performing organization medical director	O	MIIC disregards.	

## Examples:

### Reaction to vaccination

OBX|4|CE|31044-1^reaction^LN|4|VXC12^fever of >40.5C within 48 hrs.^CDCPHINVS|||||F

### Contraindication against vaccination

OBX|1|CE|30945-0^contraindication^LN|1|M4^Medical exemption: Influenza^NIP|||||F|||20120916

### Dose-level funding eligibility

OBX|2|CE|64994-7^funding pgm eligibility^LN|2|V01^Insured^HL70064|||||F|||||VXC40^per immunization^CDCPHINVS

### Disease with presumed immunity

OBX|3|CE|59784-9^Disease with presumed immunity^LN|3|38907003^Varicella infection^SCT|||||F|||20130916

## PV1 – Patient Visit Information

No longer supported.

- Use of this segment for the purpose of reporting client eligibility for a funding program at the visit-level is not supported by this guide.
- This information is now captured in the [OBX segment](#).

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*Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording.*