

# **Immunizations Requests and Responses**



**Netsmart**

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## EXAMPLE IMMUNIZATION QUERY (HL7)

```
MSH|^~\&|DCBOH|DCBOH|GRITS|GRITS|20161111112932||QBP^Q11^QBP_Q11|147  
88853728585234|T|2.5.1|||NE|AL||||Z34^CDCPHINVS  
QPD|Z34^REQUESTIMMUNIZATIONHISTORY^HL70471|1478885372859|6627005411  
4^^LR^LR|SMITH^KRISTIN^||20000528|F|193 Park Way^APT  
401^WATERS^MA^01004|||||||  
RCP||1^RD|R|||
```

## QBP MESSAGE STRUCTURE

We support the QBP-Z34 and QBP-Z44 messages, which are used to request immunization history and/or a Person ID; it will follow the format below:

Segment	Segment Name	Comments
MSH	Message Header	Required
QPD	Query Parameter Definition	Required
QBP	Query Profile that specifies the list of fields and their components in the order that they will be expected.	Required
RCP	Response Control Parameter	Required

Braces, {}, indicate that one or more of the enclosed group of segments may repeat, and brackets, [ ], indicate that the enclosed group of segments is optional. Note that segments may be nested within the braces and brackets. This will indicate that the nested segments are units within a subgroup of segments.

## SEGMENT LAYOUTS – COLUMN HEADINGS

This section defines HL7 data segments supported in a results interface from a non-Netsmart system to the Netsmart v2.3 format.

Heading	Contents	Values
Seq.	HL7 Field Sequence	Begins with '01' for each segment.
Name	HL7 Field Name	Defined by HL7.
R/O	Field/Component	R - Required field C - Conditional O - Optional
Comment	Field Usage Comments	

**NOTE:** If a field is not included, it is not supported. An application enhancement would be required to add the additional data and would need to be part of a sanctioned product release.

If a field is marked as required and cannot be provided by the data provider, a formal HL7 configuration discussion will have to take place between Netsmart and the client because this will result in adverse effects being encountered within the product.

## CONTROL SEGMENTS

**MSH** – The Message Header segment defines the characteristics of the message and indicates the following:

- Sending Application
- Receiving Application
- Encoding Characters used as Delimiters
- Message Type being Transmitted (Specific HL7 message type and event triggering the message.)
  - The Type must be 'QBP' and sent by the source system.
  - The Event must be 'Q11' and sent by the source system.

**NOTE:** The MSH segment in the ACK (Acknowledgement) response will show the Sender and Receiver information in reverse (i.e. sender will be receiver and vice versa.)

The Encoding Characters are used to separate data field components, repeating data elements, and text control characters. They should be printable characters that will never be used in transmitted data, and are as follows:

- Field Separator: |
- Component Separator: ^
- Repetition Separator: ~
- Escape: \
- Sub-Component: &

It must include an identifier that indicates the Query Profile being used.

MSH Seq	Name	R/O	Comments
01	Field separator	R	Field separator. Value required is " " – ASCII(124)
02	Encoding Character	R	Used to separate data field components, repeating data elements, and text control characters. Must be printable characters that will never be included in transmitted data. Required values: Pos 1: Component Separator '^' - ASCII(94) Pos 2: Repetition Separator '~' - ASCII(126) Pos 3: Escape '\', ASCII(92) Pos 4: Sub-component '&' - ASCII(38).
03	Sending Application	R	
03.1	Namespace ID	R	This is the unique string value assigned by the HIE
04	Sending Facility	R	
04.1	Namespace ID	R	This is the unique string value assigned by the HIE
05	Receive Application	R	
05.1	Namespace ID	R	This is the unique string value assigned by the HIE
06	Receiving Facility	R	
06.1	Namespace ID	R	This is the unique string value assigned by the HIE
07	Date/Time of Message	R	System date and time the message was formatted in the sending placer system. Must be at least to the second and include the time zone. Format: YYYYMMDDHHMMSS[.S[S[S[S]]]]+/-ZZZZ
09	Message Type	R	Specific HL7 message type and event triggering the message.
09.1	Type	R	Value must = 'QBP' and must be sent by the source system
09.2	Event	R	Value must be 'Q11' and sent by the source system

MSH Seq	Name	R/O	Comments
10	Message Control ID	R	Unique. Initiator generated. Responder returns sender value in ACK message in MSA:2. With acknowledgment messages, MSH:10 value may be identical to original sender value or may be a new unique value assigned by acknowledging system. Requests the client to append date/time to the message control ID if it is not unique prior to sending the message.
11	Processing ID	R	'P' = Production 'T' = Test
11.1	Processing ID	R	
12	Version ID	R	HL7 version. Value = '2.5.1'.
15	Accept ACK Type	R	'NE' – Never
16	Application ACK Type	R	'AL' – Always
21	Message Profile Identifier	C	Required when Profile is being used or if MSH:9 is QBP or RSP. Profiles are used to explain grammar, syntax, and usage of messages. Must be: 'Z34^CDCPHINVS'

Listed below is the set of concepts that need to have a unique HIE domain set of values.

Field #	Name	Purpose
MSH:3.1	Sending Application.Namespace ID	Used to determine the specific set of transformer methods to be performed by Vendor Product Interface to normalize to HL7 2.5.
MSH:4.1	Sending Facility.Namespace ID	Used to determine the sending facility for subsequent routing of the resulting message as well as identity of the sending facility in the receiving system.
MSH:5.1	Receiving Application.Namespace ID	Used for possible routing
MSH:6.1	Receiving Facility.Namespace ID	Used for basic routing within the Order Super Node.

## REQUEST SEGMENTS

### QPD – The Query Parameter Definition

QPD Seq.	Name	R/O	Comments
01	Message Query Name	R	Assigned by the function-specific chapters of specification. Identifier for conformance statements for the query name.
02	Query Tag	R	Generated by the initiating system to match response messages to originating query.
03	User Parameters (In Successive Fields)	R	Specification of this sequence is found in the profile specific to the use case. Holds value that client passes to Server. Each QPD parameter field corresponds to 1 parameter defined in the Conformance Statement, where each name, type, optionality, and repetition of each parameter has been specified. Parameter names do not need to be stated, they are understood to be positional based on the Conformance Statement.

For an Immunization Request, the user parameters will be as follows:

QPD Seq.	Name	R/O	Comments
03	Patient List	O	Value from PID:3, may repeat – tries to match on this field is it includes an ID, assigning authority, and identifier type code.
04	Patient Name	R	Value from PID:5 – query will return an error if this is missing
05	Patient Mother Maiden Name	O	PID:6 – not considered in matching if empty
06	Patient Date of Birth	O	PID:7 – must be valued to the day to be considered for matching, YYYYMMDD
07	Patient Sex	O	PID:8 – if empty, all fields are a match
08	Patient Address	O	PID:11 – not considered in matching if empty
09	Patient Home Phone	O	PID:13 – not considered in matching if empty
10	Patient Multiple Birth Indicator	O	PID:24 – not considered in matching if empty
11	Patient Birth Order	O	PID:25 – not considered in matching if empty
12	Client Last Updated Date	O	PID:33 – not considered in matching if empty
13	Client Last Updated Facility	O	PID:34 – not considered in matching if empty

**RCP** – The Response Control Parameters as listed in the Query Profile. The segments that are to be returned in response to this query are listed here.

RCP Seq.	Name	R/O	Comments
01	Query Priority	O	Empty or 'I' for Immediate
02	Quantity Limited Request	O	Composite Quantity, no batches.
02.1	Quantity		Max number of patients that may be returned
02.2	Units		'RD' for Records
03	Response Modality	O	Specifies timing and grouping of response messages. Must be 'R' for Real-Time.
04	Execution and Delivery Time	O	
05	Modify Indicator	O	
06	Sort-By Field	O	
07	Segment Group Inclusion	O	Should be left empty.



## RSP MESSAGE STRUCTURE

A RSP message is used to respond to requests for immunization records and/or Person IDs; it will follow the format below:

Segment	Segment Name	Comments
MSH	Message Header	Required
MSA	Message Acknowledgement	Required
{[ERR]}	Error Segment	Optional
QAK	Query Acknowledgement	Required
QPD	Query Parameter Definition	Required
{[	Begin Segment Pattern – Segments and content specified in the Segment Pattern of the Query Profile are returned here. Will be empty if there are no records to return.	Optional, May Repeat
{[	Begin Patient Identifier	Optional, May Repeat
PID	Patient Identifier	Required
[PD1]	Patient Demographics	Optional
{[NK1]}	Next of Kin	Optional, May Repeat
]}	End Patient Identifier	
[	Begin Immunization History	Optional
[PV1]	Patient Visit	Optional
[IN1]	Insurance Information	Optional
{[	Begin Order	Optional, May Repeat
ORC	Common Order Request	Required
RXA	Pharmacy/Treatment Administration	Required
[RXR]	Pharmacy/Treatment Route	Optional
{[	Begin Observation	Optional, May Repeat
OBX	Observation Results	Required
[NTE]	Notes and Comments	Optional
}]	End Observation	
}]	End Order	
]	End Immunization History	
}}	End Segment Pattern	

## CONTROL SEGMENTS

**MSH** – The message header will be the same as in the QBP, except that it will indicate which query is being responded to and which query profile that it was based on.

**MSA** – The message acknowledgement identifies the receiver's response to the query.

MSA Seq.	Name	R/O	Comments
01	Acknowledgement Code	R	HL7 Table 0008 – Acknowledgement Code
02	Message Control ID	R	Allows sending system to associate this response with the message for which it is intended. Echoes the Message Control ID sent in MSH:10 in the request.
04	Expected Sequence Number	O	
05	Delayed Acknowledgement Type	O	

**ERR** – The error segment will list any errors that occurred when the query was processed. It will repeat for each error that was encountered.

ERR Seq.	Name	R/O	Comments
02	Error Location	O	Identifies the location in request message with the error, warning, or message. Can be empty if the location isn't meaningful (i.e. not able to be parsed.)
03	HL7 Error Code	R	HL7 Table 0357 – Message Error Condition Codes

**QAK** – The query acknowledgement response

MSA Seq.	Name	R/O	Comments
01	Query Tag	R	Value sent in QPD:2 by the initiating system and used to match response messages to original query.
02	Query Response Status	O	Useful when no data is found matching the query parameters, but there were no errors. HL7 Table 0208 – Query Response Status
03	Message Query Name	R	QPD:1 from the request being responded to
04	Hit Count	O	
05	This Payload	O	
06	Hits Remaining	O	

**QPD** – The query parameter definition will simply reflect the QPD that was sent in the QBP message.

## PERSON SEGMENTS

**PID** – Patient demographics and the encounter associated with the message are identified in this **required** segment. Typically, this is patient information that is not likely to change. The Patient Identifier List section (PID:3) supports multiple repetitions, as well as the Patient Name List (PID:5), but the first must be the primary or legal name. Please **note** that only 1 ID per ID Type is allowed, and SSN (PID:19) has been removed (it should be included in the Identifier List- PID:3). This section can also include a RR retirement number.

PID Seq.	Name	R/O	Comments
01	Set ID- PID	R	Begins at 1, Increments by 1
03	Patient Identifier List	R	Supports multiple repetitions (CX List). Only 1 ID per ID Type allowed. The first must contain the sending facility Assigned MRN.
03.1	Patient ID	R	
03.4.1	Namespace ID	O	This is the unique string value assigned by the HIE.
03.4.2	Universal ID	C	Used when the HIE has defined the OID requirements.
03.4.3	Universal ID Type	C	Value is "ISO" when a Universal ID is in scope.
03.5	Identifier Type	R	Refer to HL7 Table 0203 - Identifier type. <ul style="list-style-type: none"><li>• When a number that is not necessarily unique within an Assigning Authority the value must be "MR" for Medical record number.</li><li>• When a number that is unique to a patient within an Assigning Authority, the value must be 'PI' for Patient Internal identifier.</li></ul>

PID Seq.	Name	R/O	Comments										
05	Patient Name List	R	Supports multiple repetitions. First repetition must be the primary or legal name. Only 1 ID per ID Type allowed.										
05.1	Family Name	R											
05.2	Given Name	R											
05.3	Second and Further Given Names or Initials Thereof	O											
05.4	Suffix	O											
05.5	Prefix	O											
05.6	Degree	O											
05.7	Name Type Code	C		Required if multiple names are sent. Refer to HL7 Table 0200 - Name Type.									
06	Mother's Maiden Name	O											
06.1	Family Name	O											
07	Date of Birth	R											
08	Gender	R	Must contain one of the following values of: User-defined Table 0001 - Administrative Sex <table><tr><th>Value</th><th>Description</th></tr><tr><td>F</td><td>Female</td></tr><tr><td>M</td><td>Male</td></tr><tr><td>O</td><td>Other</td></tr><tr><td>U</td><td>Unknown</td></tr></table>	Value	Description	F	Female	M	Male	O	Other	U	Unknown
Value	Description												
F	Female												
M	Male												
O	Other												
U	Unknown												

PID Seq.	Name	R/O	Comments		
10	Race	R	Suggested User-defined Table 0005 - Race		
			Value	Description	Comment
			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	
11	Patient Address	R			
11.1	Street Address ( Address Line 1)	R			
11.2	Other Designation ( Address Line 2)	O			
11.3	City	R			
11.4	State	R			
11.5	ZIP Code	R			
11.6	Country	R			
11.7	Type	O			
11.9	County/Parish	O			
13	Home Phone Number	R	First instance should be the primary		
14	Business Phone Number	O	First instance should be the primary		
15	Language – Patient	O			
16	Marital Status	O			
17	Religion	O			

PID Seq.	Name	R/O	Comments
18	Patient Account Number	C	
18.1	Patient Account Number	C	If required by the sending system, then one Patient Account ID must be included. The first must contain the sending facility Assigned Account or Visit ID.
18.4.1	Namespace ID	R	This is the unique string value assigned by the HIE. When it is the sending facility Assigned Visit ID, this should be the sending Facility value.
18.4.2	Universal ID	C	Used when the HIE has defined the OID requirements.
18.4.3	Universal ID Type	C	Value is "ISO" when a Universal ID is in scope.
18.5	Identifier Type	R	Refer to HL7 Table 0203 - Identifier type. <ul style="list-style-type: none"> <li>When an identifier that is unique to an account within the Assigning Authority is used, the value must be "AN" for Account number</li> </ul>
22	Ethnic Group	R	User-Defined table 0189 – Ethnic Group
23	Birth Place	O	
24	Multiple Birth Indicator	R	Y, N, or empty (used for twins)
25	Birth Order	C	If PID:24 is Y, 1 for first born, 2 for second, etc.
26	Citizenship	O	
27	Veterans Military Status	O	
28	Nationality	O	
29	Patient Death Date/Time	C	If PID:20 is Y
30	Patient Death Indicator	R	Whether patient is deceased or not

**PD1** – This is the patient demographics section that is used to update patient information, privacy, and whether contact is allowed or not. For immunizations, this section is used to indicate whether data should be protected, whether the individual wants to receive recall or reminder notices, and the individual's current status in the immunization registry.

PD1 Seq.	Name	R/O	Comments
01	Living Dependency	O	
02	Living Arrangement	O	
03	Patient Primary Facility	O	"Primary Care" healthcare facility selected by patient.
04	Patient Primary Care Provider Name & ID No.	O	
05	Student Indicator	O	
06	Handicap	O	
07	Living Will Code	O	
08	Organ Donor Code	O	
09	Separate Bill	O	
10	Duplicate Patient	O	
11	Publicity Code	R	How the individual wishes to be contacted in a reminder or recall situation. User-Defined Table 0215 – Publicity Code
12	Protection Indicator	R	Indicates whether an individual's information may be shared. In 2.5.1, Y – must be protected. N/empty – Can be shared. Values meant the opposite in version 2.3
13	Protection Indicator Effective Date	C	Only required if PD1:12 is populated
14	Place of Worship	O	
15	Advance Directive Code	O	
16	Immunization registry Status	R	User-Defined Table 0441 – Immunization Registry Status. Indicates whether the patient is active or not, this can differ among systems. Patient could be inactive in provider system, but active in the Public Health Jurisdiction. In this case, the provider would indicate that the patient was inactive in this field in the message that they send, while the IIS would indicate that the patient was active here in the messages that they send.

PD1 Seq.	Name	R/O	Comments
17	Immunization Registry Status Effective Date	C	Only required if PD1:16 is populated
18	Publicity Code Effective Date	C	Only required if PD1:11 is populated
19	Military Branch	O	
20	Military Rank/Grade	O	
21	Military Status	O	

**NK1** – This is the Next of Kin segment that may either repeat for multiple parties or not be included at all. It is used to identify any parties associated with the patient in separate NK1 segments.

NK1 Seq.	Name	R/O	Comments
01	Set ID	R	Begins at 1, Increments by 1
02	Name	R	First instance must be the patient's legal name
03	Relationship	R	User-Defined Table 0063 – Relationship
04	Address	R	First instance must be the primary/mailling, may repeat using the repeat delimiter
05	Phone Number	R	First instance must by the primary, may repeat using the repeat delimiter
06	Business Phone Number	O	First instance must be the primary, may repeat using the repeat delimiter
07	Contact Role	O	
08	Start Date	O	
09	End Date	O	
10	Next of Kin/Associated Parties Job Title	O	
11	Next of Kin/Associated Parties Job Code/Class	O	
12	Next of Kin/Associated Parties Employee Number	O	
13	Organization Name	O	
14	Marital Status	O	



NK1 Seq.	Name	R/O	Comments										
15	Gender	O	Must contain one of the following values of: User-defined Table 0001 - Administrative Sex <table><tr><th>Value</th><th>Description</th></tr><tr><td>F</td><td>Female</td></tr><tr><td>M</td><td>Male</td></tr><tr><td>O</td><td>Other</td></tr><tr><td>U</td><td>Unknown</td></tr></table>	Value	Description	F	Female	M	Male	O	Other	U	Unknown
Value	Description												
F	Female												
M	Male												
O	Other												
U	Unknown												
16	Date/Time of Birth	O											
17	Living Dependency	O											
18	Ambulatory Status	O											
19	Citizenship	O											
20	Primary language	O											
21	Living Arrangement	O											
22	Publicity Code	O	How the individual wishes to be contacted in a reminder or recall situation. User-Defined Table 0215 – Publicity Code										
23	Protection Indicator	O	Indicates whether an individual's information may be shared. In 2.5.1, Y – must be protected. N/empty – Can be shared. Values meant the opposite in version 2.3										
24	Student Indicator	O											
25	Religion	O											
26	Mother's Maiden Name	O											
27	Nationality	O											
28	Ethnic Group	O	User-Defined table 0189 – Ethnic Group										
29	Contact Reason	O											
30	Contact Person's Name	O											
31	Contact Person's Telephone Number	O											
32	Contact Person's Address	O											
33	Next of Kin/Associated Parties Identifiers	O											
34	Job Status	O											

NK1 Seq.	Name	R/O	Comments																					
35	Race	O	<div>Suggested User-defined Table 0005 - Race</div> <table><tr><th>Value</th><th>Description</th><th>Comment</th></tr><tr><td>1002-5</td><td>American Indian or Alaska Native</td><td></td></tr><tr><td>2028-9</td><td>Asian</td><td></td></tr><tr><td>2054-5</td><td>Black or African American</td><td></td></tr><tr><td>2076-8</td><td>Native Hawaiian or Other Pacific Islander</td><td></td></tr><tr><td>2106-3</td><td>White</td><td></td></tr><tr><td>2131-1</td><td>Other Race</td><td></td></tr></table>	Value	Description	Comment	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	
Value	Description	Comment																						
1002-5	American Indian or Alaska Native																							
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2054-5	Black or African American																							
2076-8	Native Hawaiian or Other Pacific Islander																							
2106-3	White																							
2131-1	Other Race																							
36	Handicap	O																						
37	Contact Person's SSN	O																						
38	Next of Kin Birth Place	O																						
39	VIP Indicator	O																						

## IMMUNIZATION SEGMENTS

**PV1** – This is the patient visit specific information. It used to convey the patient's eligibility status, but that is now recorded at the immunization event (dose administered) level. Therefore, this segment is typically not used anymore in RCP messages.

**IN1** – This is the optional Patient Insurance section. It will detail the properly pro-rated patient and insurance bills. It is typically only used based on State Requirements, so it is not used in immunization messages.

## ORDER SEGMENTS

**ORC** – This is the order request, which is a required field. It is used to transmit fields that are common to all orders. Each RXA segment must be associated with 1 ORC segment.

ORC Seq.	Name	R/O	Comments
01	Order Control	R	Value = "RE"
02	Placer Order Number	R	Used when the HIE has defined the OID requirements  Value is "ISO" when a Universal ID is in scope.
02.1	Entity Identifier	R	
02.2	Namespace ID	R	
02.3	Universal ID	C	
02.4	Universal ID Type	C	
03	Filler Order Number	R	'9999' If the immunization was refused.  Unique ID of Immunization sending system  Used when the HIE has defined the OID requirements  Value is "ISO" when a Universal ID is in scope.
03.1	Entity Identifier	R	
03.2	Namespace ID	R	
03.3	Universal ID	C	
03.4	Universal ID Type	C	
04	Placer Group Number	C	Used when the HIE has defined the OID requirements  Value is "ISO" when a Universal ID is in scope.
04.1	Entity Identifier	R	
04.2	Namespace ID	R	
04.3	Universal ID	C	
04.4	Universal ID Type	C	
09	Date of Transaction	O	

ORC Seq.	Name	R/O	Comments
10	Entered By	R	
12	Ordering Provider	R	Leave field empty if the immunization record is transcribed from a historical record.
12.1	Doctor ID	R	
12.2	Last Name	R	
12.3	First Name	O	
12.4	Middle Name	O	
12.5	Prefix	O	
12.6	Suffix	O	
12.7	Degree	O	
12.8	Source Table	R	See PV1:7.8 for requirements
14	Call Back Phone Number	O	May not be accepted by most filler systems.
28	Confidentiality Code	O	'R' – Restricted if special privacy rules apply. Only applies if the patient specifically states that they want the information confidential.

**RXA** – This is a required child segment of the ORC. It may repeat for an unlimited number of vaccines, but must be preceded by an ORC.

RXA Seq.	Name	R/O	Comments
01	Given Sub-ID Counter	R	'0' – Used to match RXA and RXR
02	Administration Sub-ID Counter	R	'1' – Used to track multiple RXA segments under 1 ORC segment. Dose number goes in the OBX
03	Date/Time Start of Administration	R	Can be used in cases where vaccine has not been administered – patient refused or forecasting the next dose. Use the date of refusal or forecasted date in those cases
04	Date/Time End of Administration	R	Same as RXA:3

RXA Seq.	Name	R/O	Comments
05	Administered Code	R	CVX code is required for meaningful use, other codes won't be part of conformance testing. Used to identify the medical substance being administered.
06	Administered Amount	R	Units are in RXA:7, '999' if amount information isn't collected
07	Administered Units	R	If RXA:6 is not populated, use '999'
09	Administration Notes	C	Required if RXA:20 is CP or PR. Conveys whether the immunization is historical or was given by the provider. Other uses will need to be specified locally.
09.1	Information Source Code	C	
09.2	Free Text	C	
09.3	Code System Name	C	
10	Administering Provider	R	Vaccinator name
11	Administered Location	R	Name of Clinic/Site
11.1	Identifier	R	If populated, 11.2 and 11.3 are not
11.2	OID	O	
11.3	Universal ID	O	If populated, 11.3 is as well.
11.4	Facility Name	R	Value is "ISO" when a Universal ID is in scope.
15	Substance Lot Number	C	Required if RXA:9 is '00' Leave empty if the record is historical. Identifies the number printed on the label, first repetition should be the vaccine itself.
16	Substance Expiration Date	C	Required if RXA:15 is populated. Leave empty if the record is historical. Format: YYYYMM
17	Substance Manufacturer Name	C	Required if RXA:9 is '00' – MVX value set
18	Substance/Treatment Refusal Reason	C	Required if RXA:20 is 'RE'
20	Completion Status	R	'RE' - Dose was successfully given. If dose was not completely administered or wasn't potent, this field can be used to label the immunization.

RXA Seq.	Name	R/O	Comments
21	Action Code – RXA	R	Action expected by the sending system – can facilitate an update or deletion of records. Assumed to be 'A' for add if the field is empty. 'U' indicates that a change is being made to a previously sent immunization record.

**RXR** – This is an optional segment that may repeat. It is used to convey information regarding alternative combinations of routes, sites, administration devices, and administrative methods that were used for that particular immunization.

RXR Seq.	Name	R/O	Comments
01	Route	R	User-Defined Table 0162 – Route of Administration. Will change based on HITSP, so systems should be prepared to accept HL7 or FDA codes.
02	Administration Site	R	
03	Administration Device	O	
04	Administration Method	O	
05	Routing Instruction	O	
06	Administration Site Modifier	O	

## OBSERVATION SEGMENTS

**OBX** – This is an optional segment that may repeat. They are observations from the immunization, referencing the RXA segment. It is typically in a Q (OBX:3) & A (OBX:5) format, utilizing the Ask at Order Entry (AOE) questions. The Value Type (OBX:2) can be 'NM' for numeric or 'ST' for string.

OBX Seq.	Name	R/O	Comments
01	Set ID- OBX	R	Begins at 1, Increments by 1
02	Value Type	R	Allowable Fields: NM - Numeric ST – String

OBX Seq.	Name	R/O	Comments
03	Observation Identifier	R	See OBR:4 for coding requirements
03.1	Test Code	R	
03.2	Test Code Description	R	
03.3	Coding Scheme	R	
03.4	Alternate Test Code	C	
03.5	Alternate Code Description	C	
03.6	Alternate Coding Scheme	C	
04	Observation Sub-ID	R	Used to group related OBX segments
05	Observation Value	R	Contains an answer to an AOE question (OBX:3) in the format from OBX:2
06	Units	C	Units for OBX:5, use NA if no units of measure apply. Required if OBX:2 is NM or SN
11	Observation Result Status	R	'F' - Final
14	Date/Time of the Observation	R	
17	Observation Method	C	If OBX:3 = "64994-7" value set will be CDCPHINVS. "-7" is a LOINC* meaning "funding program eligibility." This field is used to distinguish between eligibility captured at the visit vs. immunization event level.

\***LOINC** – Logical Observation Identifiers Names and Codes Committee

**NTE** – This is an optional segment that may repeat. It is used to send notes or comments in relation to the OBX segment for a specific immunization.

NTE Seq.	Name	R/O	Comments
01	Set ID – NTE	R	Begins at 1, Increments by 1 – Sequence ID
02	Source of Comment	R	Must be values with "C"
03	Comment	R	
04	Comment Type	O	

Date	Modification	Modified By
1/9/2017	Initial Draft	Kayla Rowton

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