Idaho's Immunization Reminder Information System (IRIS)

Local Implementation Guide for HL7 2.4 Vaccination Update, Query and Response

Version 3.5.9

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Change History

Published / Revised Date	Version #	Author	Section / Nature of Change
02/29/2012	1.0	HP Enterprise Services	Created for IRIS Implementation February 29, 2012.
04/02/2012	1.1	HP Enterprise Services	Added Deduct from Inventory via Data Exchange modifications for Release 1.1 on April 2012.
04/12/2012	1.1	HP Enterprise Services	Added new vaccine Influenza, high-dose seasonal, p-free, new trade name Fluzone High Dose, and new CPT and CVX code. Added new vaccine Influenza, seasonal, intradermal, p-free, new trade name Fluzone Intradermal, new CPT and CVX code. Added new trade name Agriflu Pres-Free. Updated the H1N1-09 CPT codes.
0507/2012	1.11	HP Enterprise Services	Added RXA-21 and Table 0323 in Appendix B
07/11/2012	1.12	HP Enterprise Services	Added Tenivac trade name to the Td Adult Pres-Free vaccines list. Added Comment Code XB Patient has been exposed to Rabies Changed comment code 33A to XC History of Varicella.
10/26/2012	1.3	HP Enterprise Services	Added IN1 Insurance segment Added list of Insurers in Appendix B table ID002 Documented requirement for Line Feed as the segment terminator
12/21/2012	1.4	HP Enterprise Services	Added NDC code segment. Updated requirement for RXA5 to include NDC code segment and added new table for NDC codes in Appendix B Added Funding Type segments. Updated requirement for OBX-3 and OBX-5 to include Funding Type segments and added new table for Funding Type in Appendix B
02/15/2013	1.4.1	HP Enterprise Services	HL7 segments on inbound VXU messages can be terminated with the HL7 standard terminator Carriage Return (CR) HL7 segment termination with Carriage Return Line Feed (CRLF) will be allowed on for backward compatibility. The CRLF will continue to be used on outbound ACK, VXU messages.
04/03/2013	1.4.1.1	HP Enterprise Services	Added MenHibrix trade name and Meningococcal C/Y-HIB PRP vaccine to acceptable vaccines list (CV148. CPT 90644) Added CVX 147 as acceptable code for Mening-MCV4 vaccine.
08/16/2013	1.5	HP Enterprise Services	Added new 2013-2014 Influenza vaccines Added Appendix C False Name List
07/31/2014	1.6.1	HP Enterprise Services	Corrected table name in Appendix B for Patient Registry status is 0441 Corrected subcomponent numbering on IN1-3. Update Vaccine Name, Trade Name, CVX, CPT and manufacturer lists in Appendix B Corrections to existing text
08/27/2014	1.6.1.1	HP Enterprise Services	Updates to Influenza CVX codes for 2014-2015 season
03/16/2015	1.7	HP Enterprise Services	Updated Appendix B: Added new vaccines, trade names, CPT and CVX codes for 9vHPV, Meningococcal B, and Meningococcal C. Changed code set name 0292 to CVX
06/30/2015	1.7.1	Hewlett Packard Enterprise	Updated to include HL7 query and response segments VXQ, VXR, VXX, QCK Added Quadracel Trade Name (DTaP-IPV) in Appendix B

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2/16/2016	1.7.2	Hewlett Packard Enterprise	Update Vaccine Name, Trade Name, CVX, CPT and manufacturer lists in Appendix B.
10/14/2016	1.8	Hewlett Packard Enterprise	Update Manufacturer, Vaccine Name, Trade Name, CVX, CPT and manufacturer lists in Appendix B.
11/22/2016	1.8	Hewlett Packard Enterprise	Update Vaccine Name, Trade Name, CVX, CPT and manufacturer lists in Appendix B.

9/1/2017	2.0	DXC Technology	References
			− Updated email address for Idaho Immunization Program Contact
			− HL7 Message Types Used in IRIS Transmissions
			  o Removed ADT from supported message types
			− MSH
			  o MSH-4.2 Sending Org ID is required
			  o MSH-16 Application Accept as 'AL' always
			− PID
			  o PID-29 Death Date is required if Patient status (PD1-16) is 'P' Deceased
			  o PID-30 Death Indicator must be 'Y' if Death Date (PID-29) is populated.
			− PV1
			  o PV1-20.2 VFC Eligibility Effective Date re-defined as optional
			  o PV1 segment no longer sent on outbound
			− IN1 - Updated IN1 to confirm to CDC Implementation Guide HL7251 guidelines for IN1
			  o IN1 Insurance Segment is not repeatable.
			  o IN1-1 Set-ID must be 1
			  o IN1-12 Effective Date and IN1-13 Expiration Date fields are deprecated
			  o IN1-15 Plan Type added as optional field
			  o IN1-29 Verification Date added as optional field.
			− RXA
			  o RXA-7 Administered Units added as optional field
			  o RXA-9 IRIS immunization ID not sent on outbound
			  o RXA-16 Substance Expiration Date added as optional field
			  o RXA-17 Manufacturer added as optional field
			  o RXA-21 Action Code added as optional field
			− ERR
			  o Updated ERR-1 Error location format
			− Appendix B - Updated Code Sets
			  o Action Code – removed 'D' Delete feature
			  o Address Type
			  o Administrative Site
			  o Completion Status
			  o Manufacturer
			  o Insurer ID
			  o Patient Comments (Contraindications/Precautions/Immunity/Special Indications)

Published / Revised Date	Version #	Author	Section / Nature of Change
			o Patient Status o Plan Types o Professional Suffix or Degree o Responsible Person Relationship o Reaction Codes o Vaccines – CVX, CPT, Trade Names ▪ Deprecated NDC in RXA-5– future TBD o Versions of HL7 supported by IRIS
2/1/2022	3.5.9	Gainwell Technologies	Updated IRIS contact information for data exchange Updated Appendix A with new vaccines for COVID-10 and Pneumococcal

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Introduction

Idaho's Immunization Reminder Information System (IRIS) has made available an interactive user interface on the World Wide Web for authorized users to enter, query, and update patient immunization records. The web interface makes IRIS information and functions available from the internet around the state. However, some immunization providers already store and process similar data in their own Electronic Health Record Systems (EHR-S) and may wish to keep using those systems while also participating in the statewide central immunization information system.

Standardized HL7 messaging is the preferred format for exchanging data with IRIS. HL7 does not specify how messages are transmitted. The format is flexible enough to be used for both real-time (web service) interface submission of a single message or a user logging into IRIS to submit a large batch file containing many messages. The standard defines optional file header and file trailer segments that can be used when a number of messages are gathered into a batch for transmission as a file.

IRIS is designed to accept HL7 messages through a variety of methods. The preferred data exchange method is real-time messaging through the web service. HL7 batch messages uploaded through the IRIS User Interface is also considered valid data exchange method.

Timely data submission to IRIS benefits providers and the patients they serve by making complete immunization records accessible through the system as soon as possible. IRIS staff will work with your team to identify the data exchange method, format, and frequency that makes most sense for your practice. IRIS is designed to send and receive supported messages via real-time via Web Service or batch data submission in the HL7 2.4 format.

N**OTE: In the IRIS Implementation Guide, HL7 version 2.4 corresponds to the CDC Implementation Guide version listed as 'HL7 version 2.3.1: Implementation Guide for Immunization Messaging Release 2.2' June 2006.**

Intended Audience

This Implementation Guide (IG) is intended for technical groups from Immunization Information Systems (IIS) and Electronic Health Record Systems (EHR-S) that must implement these guidelines. The reader of this Local IG should have a solid HL7 foundation and be very familiar with the contents of the CDC Implementation guide noted in the references in the next section. Chapters 2 and 3 of the CDC IG provide HL7 foundational concepts and set the stage for this Local Query Implementation Guide. The goal of this guide is to provide an unambiguous specification for creating and interpreting queries.

References

- Refer to Health Level 7 standard for a full description of all messages, segments, and fields. Information regarding HL7 is at http:www.hl7.org.
- The National Immunization Program within the Center for Disease Control (CDC) has published an Implementation Guide for Immunization Data with the purpose of keeping the use of HL7 for immunization data as uniform as possible. It can be found at http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html   listed as 'Version 2.2 – Implementation Guide for Immunization Data Transactions using Version 2.3.1 of the HL7 Standard Protocol.

- Real Time submission requires setup with IRIS Web Services. The Idaho Web Service Setup Guide can be requested from the Idaho Immunization Program:
   IRIS Help Desk
   (208) 334-5995   (8:00 a.m. to 5:00 p.m. Monday through Friday)
   iris@dhw.idaho.gov
- For instructions on how to batch data exchange with IRIS please reference Chapter 13 of the User Manual. The user manual is available from the forms section on the Home page.

The Health Level Seven (HL7) Standard

The ANSI HL7 standard is widely used for data exchange in the health care industry. The full standard is quite lengthy, covering a variety of situations in patient care and health care finance and no single application is likely to use all of its content. The CDC has worked with Immunization Information Systems (IIS') to create an Immunization Guide for HL7 messages that permit exchange of immunization data. This document is a local Immunization Guide based for Idaho's Immunization Reminder Information System, based on the CDC Implementation Guide, which covers the subset of HL7 that will be used for patient and immunization records exchanged between IRIS and outside systems.

- The basic unit transmitted in an HL7 implementation is the **message**.
- Messages are made up of several **segments**, each of which is one line of text, beginning with a three-letter code identifying the segment type such as MSH or PID, etc.
- Segments are in turn made up of several **fields** separated by a delimiter character. In this document the fields are numbered within the segment. For example, the second field in MSH segment is reference as MSH-2. The field delimiters used in a message can be defined by the user in field MSH-2. The recommend delimiters for immunization messages are:

Delimiter:	Definition/Meaning:
<CR> (Carriage Return)	Segment terminator
| (Pipe)	Field separator
^	Component separator
&	Sub-component separator
~	Repetition separator
\	Escape character

Delimiter characters

Field values of composite data types consist of several components separated by the **component separator**, "^". When components are further divided into sub-components, these are separated by the **sub-component separator**, "&". Some fields are defined to permit repetition separated by the **repetition character**, "~". When these special characters need to be included within text data, their special interpretations are prevented by preceding them with the **escape character**, "\".

   MSH|^~\&| …..
   XXX|field1|component1^component2^subcomponent3.1&subcomponent3.2^component4| …..
   YYY|repetition1~repetition2| …..
   ZZZ|data includes escaped \|\~ special characters| …..

In the example above, the Message Header segment uses the field separator, "|", immediately after the "MSH" code that identifies the segment. This establishes what character serves as the field separator

throughout the message. The next field, the four characters "^~\&", establishes, in order, the component separator character, the repetition character, the escape character, and the sub-component separator character that will apply throughout the message. The hypothetical "XXX" segment includes field1 with no internal structure, but the next field has several components separated by "^", and the third of these is made up of two sub-components separated by "&". The hypothetical "YYY" segment's first field permits repetition, in this example the two values "repetition1" and "repetition2". The hypothetical "ZZZ" segment's field has a text value that includes the characters "|~", and these are escaped to prevent their normal structural interpretation.

In IRIS, sub-components, repetition and text values requiring the escape character will be rare. Components within fields are common, since names (last, first, middle) and addresses (street, PO Box, city, state, zip) are represented this way. Although HL7 permits the use of other delimiters IRIS will always use the recommended delimiters when sending files and requires their use for files received.

HL7 data types.
Each field has an HL7 data type. Appendix A of this document lists and defines the HL7 data types needed for IRIS. The elemental data types Numeric (NM) and String (ST) consist of one value, while some data types, such as Extended Person Name (XPN) are composites.

HL7 Message Types Used in IRIS Transmissions
IRIS supports the following message types:
- o   ACK General Acknowledgment
- o   QCK Query General Acknowledgement
- o   VXQ Query for Vaccination Record
- o   VXR Vaccination Query Record Response
- o   VXX Vaccination Query Reponses with Multiple PID Matches
- o   VXU Unsolicited vaccination record updates

IRIS can accept multiple messages in batch files through the IRIS user interface or as single message submitted in real-time single message via SOAP web services) transmissions.   This document includes specifications on the 6 message types.

Each segment is one line of text ending with the new line character(s) /segment terminator.   The HL7 standard segment terminator is a carriage return, denoted in this document as <CR>.   For backward compatibility, IRIS will continue to accept HL7 files terminated with a carriage return line feed format, denoted as <CR><LF>.   Outbound files, including HL7 ACK response messages will use the <CR><LF> as the segment terminator.   The newline character(s) are needed so that the HL7 messages are readable and printable.   The messages may appear somewhat cryptic due to the scarcity of white space. (The standard has provisions for inclusion of binary data, but IRIS will not use these features.)

Square brackets [ ] enclose optional segments and curly braces {} enclose segments that can be repeated; thus, a VXU message type with historical data could be composed of just MSH, PID and RXA segments. Also, any number of NK1 segments could be included in the message. The full HL7 standard allows additional segments within these message types, but they are unused by IRIS. In order to remain compliant with HL7, their use will not result in an error, but the recipient can ignore the content of the message. The segments that are documented here are sufficient to support the principal IRIS functions of storing data about patients and immunizations.

The following lists the message types and segments used in IRIS:

VXU - Unsolicited Vaccination Record Update
The VXU is used for sending new and/or updated patient demographic information and immunizations. The VXU is the most common message type used in data exchange with IRIS.

MSH	Message Header
PID	Patient Identification
[PD1]	Patient Additional Demographic
[{NK1}]	Next of Kin / Associated Parties
[*PV1]	Patient Visit
[IN1]	Insurance
{	
RXA	Pharmacy Administration
[RXR]	Pharmacy Route
[{OBX}]	Observation/Result Contraindications, Immunity or Reactions
}	
[{OBX}]	Observation/Result Vaccines Due Next (Included only on messages sent from IRIS)

* Note: The Idaho Immunization Program has **mandated** that VFC eligibility be submitted for all new administered immunizations from public funded vaccine inventory as part of the VFC Program reporting requirements. All systems that submit data to IRIS **are REQUIRED** to submit a properly formatted PV1 segment with the valid VFC Eligibility code in field PV1-20. Note that the field may repeat for multiple new immunizations sent within the same message.

ACK - General Acknowledgment
The ACK is used to acknowledge to the sender that a message has been received. The segments that are used to construct each message type are listed below.   The value in MSH-15 indicates if ACK is returned for all messages received or only if there is an error. If MSH-15 is blank, IRIS assumes that ACK is returned only if there is an error.

MSH	Message Header
MSA	Message Acknowledgment
[ERR]	Error

VXQ - Query for Vaccination Record
For querying the IIS for a complete patient demographic, vaccination history and forecast.

MSH	Message Header Segment
QRD	Query Definition Segment
QRF	Query Filter Segment (IRIS has made this segment REQUIRED)

VXR - Response To Vaccination Query Returning the Vaccination Record

In addition to supplying the querying organization with patient specific demographic and immunization data (contained in the above segments), the VXR message also specifies immunization forecasting information, under 'Observation/Result Vaccines Due Next'. This information is supplied by generating

MSH	Message Header Segment	
MSA	Message Acknowledgment Segment	
QRD	Query Definition Segment	
QRF	Query Filter Segment	
PID	Patient Identification Segment	
[PD1]	Additional Demographics	
[{NK1}]	Next of Kin Segment	
[{		
	RXA	Pharmacy Administration
	[RXR]	Pharmacy Route
	[{OBX}]	Observation/Result Contraindications, Immunity or Reactions
}]		
[{OBX}]	Observation/Result Vaccines Due Next	

When a patient has been uniquely identified (there is only one 'match' to the query), the response to the query is a VXR^V03 message that is generated and sent back to the querying organization.

VXR Message Detail

In addition to supplying the querying organization with patient specific demographic and immunization history data (contained in the above segments), the VXR message also specifies immunization forecasting information according, under 'Observation/Result Vaccines Due Next'. IRIS will only return vaccines recommended by the IRIS ACIP schedule. IRIS will not report vaccines that are not forecast due to age restrictions (series minimum age not met, max age exceeded) etc., or vaccines that have patient comments indicating contraindications, immunity or other such rules.

This information is supplied by generating five OBX segments per one vaccine recommendation. The set ID (OBX-01) for each OBX triplet, will be the sequential set number uniquely identifying the OBX set for an individual recommended vaccine. IRIS will report the Vaccination Schedule in the OBX segments through the specification of the LOINC code 30979-9 (Vaccines Due Next) and its sub-components in OBX-03. IRIS requires specification of OBX-05 when OBX-03 is specified and valid. Furthermore, IRIS has superimposed a CE data type on the OBX-05 field. The corresponding observation values will be specified in OBX-05. Combinations are as follows:

OBX-03	OBX-05
30979-9	CVX (CDC code for vaccine)
30979-9&30980-7	Date Vaccine Due (IRIS provides date recommended)
30979-9&30973-2	Next dose of vaccine due (Dose number in series)
30979-9&30981-5	Earliest date to give (IRIS provides earliest date)
30979-9&30982-3	Reason applied (ACIP)

Examples of forecast and validation information returned on outbound VXU and VXR messages are included in the OBX segment information later in this document.

VXX - Response to Vaccination Query Returning Multiple PID Matches

MSH	Message Header Segment
MSA	Message Acknowledgment Segment
QRD	Query Definition Segment
QRF	Query Filter Segment
{	
PID	Patient Identification Segment (One per matching patient)
[{NK1}]	Next of Kin Segment (Optional, zero or more per matching patient)
}	

When a health care provider participating in an immunization information system needs to obtain a complete patient vaccination record, a query (VXQ message) is sent to the immunization information system for the definitive (last updated) immunization record. When a query results in multiple patient matches, the VXX message response is generated. The VXX contains multiple patients and their demographic information but does not contain their vaccination information. In order to obtain vaccine information, the query request must result in a single matching patient record.

The number of possible matches that IRIS generates will depend on the value specified in the first component of the incoming QRD-07 Quantity Limited request field. IRIS will interpret the quantity specified in this field as the maximum number of patient matches that the requester desires. For instance, the value '5' would indicate the provider organization wants at most 5 patient matches to be sent back.

IRIS limits the number of patient matches sent back to a maximum of 10. The value 0 (zero) indicates the provider organization wants the maximum number of patient matches sent back, which will be the IRIS maximum of 10. A value of 10 or more in QRD-7 will again return at most the IRIS maximum of 10 patient matches.   Patients that have opted out of IRIS have locked records and will be excluded in the return match list.

QCK - Query General Acknowledgment

MSH	Message Header Segment
MSA	Message Acknowledgment Segment
[ERR]	Error
[QAK]	Query Acknowledgment Segment

A QCK message is generated when IRIS has processed the query message, but no match was found to the query parameters in the database. IRIS does NOT generate this response message for anything other than no match found (for successful VXQ processing). Remember, error messages are reported through the use of the ACK response message; therefore, the optional [ERR] segment will never be generated for the QCK response message.

Example Reading Message Format

The details of how HL7 messages are put together, for IRIS purposes, will be explained later in this document. The example shows the essentials of what a basic VXU message looks like.

```
MSH|^~\&|VALLEY CLINIC|VALLEY CLINIC^36|IRIS||20120920155154||VXU^V04|MESSAGE
    123|P|2.4|||ER|AL|||<CR>
PID|||MED12345^^^^PI^||EXAMPLE^MASON^MICHAEL^JR|DOE^TAMMY|20090202|F|||998 ANYSTREET^APT
    B^ BOISE^ID^837201444^^M^^ID001||^PRN^PH^^^208^5554444^1234| <CR>
PV1||R|||||||||||||||||||||V01^20120905<CR>
IN1|1|G54321^INSURANCE PLAN ^072|60095^^^NAIC^NIIP|||||||||||5|||||||||||||||20120905||||||
        |POL999| <CR>
RXA|0|999|20120905|20120905|08^HEPB-PEDS^CVX^^^|0.5|mL||00^NEW ADMINISTERED^NIP001
    |^CAPSHAW^ILIA^K^RN^^^^^^^VEI|^^^VALLEY CLINIC&36||||XYZ73465| |MSD^MercK^MVX|||CP|A <CR>
RXR|IM^INTRAMUSCULAR^HL70162|RA^RIGHT ARM^HL70163<CR>
```

In this example, a message is being sent on behalf of Valley Clinic with an IRIS provider organization id of '36' to IRIS. The message consists of six segments. NOTE: Valley Clinic may or may not be the actual transmitter of the message. The transmitter of the message will be identified by IRIS from the web service certificate or IRIS log-in information and not from an HL7 message.

- The Message Header segment (**MSH**) identifies the owner (**VALLEY CLINIC**) of the information being sent and the receiver (**IRIS**). It also identifies the message (Sending Organization Message identifier **Message 123**) as being a message type **HL724 VXU.** The VXU is an Unsolicited Vaccination Record Update, which is one of the message types defined by HL7 and supported by IRIS.
- The Patient Identification segment (**PID**) gives the patient's name (**MASON MICHAEL EVANS, JR**), birth date **February 2, 2009** in YYYYMMDD format, and other identifying fields such as mother's maiden name and patient address and phone numbers.
- The Patient Visit Segment (**PV1**), in this example, indicates the patient's VFC eligibility status on the vaccination date. In this example, the patient was **Ineligible** (V01) for VFC vaccine on **September 5, 2012.** The insurance information was included in the IN1 segment.
- The Insurance segment (**IN1**) indicates the patient had private insurance coverage. The insurance provider, **Blue Cross of ID Health Services**, is indicated by the National Association of Insurance Commissioners (NAIC) code **60095** and plan type **5** 'private insurance.' The IN1 also indicates the insurance verification date of **September 5, 2012** patient's policy number **POL999**.
- The Pharmacy Administration segment (**RXA**) tells that a **0.5 mL** HepB Pediatric **(CVX 08)** dose was administered on **September 5, 2012.** The immunization was a new administration (**00**) from the **VALLEY CLINIC**'s vaccine inventory lot number **XYZ72365** manufactured by **MSD** 'Merck**'**. The administering clinician is noted as **ILIA K CAPSHAW, RN** in field 10 Administering Provider. The immunization action was **'A'** to add and the administration was **CP** 'complete'
- The Pharmacy Treatment/Route segment (**RXR**) indicates the HepB vaccine was administered intramuscular (**IM**) in the patient's right arm (**RA**).
- Segments can be repeated within a single message. In this example, the message could have included a multiple Immunization group (RXA. RXR, OBX) segments to record additional immunizations given and patient comment information.

Message Control Segments

The message segments below are needed to construct message types that are used by IRIS. Each segment is given a brief description excerpted from the HL7 standard. The tables define what fields make up each segment. Since IRIS does not use all the fields that HL7 defines, there are sometimes gaps in the ordinal sequence of fields. Following HL7 rules, the gaps do not diminish the number of field separators within the segment. For example, if the second and third fields in a segment are not present, their field separators remain in order to indicate that the next field present is the fourth: field1|||field4.

Message Segments: Field Specifications and Usage

HL7 Segment Structure

Each segment consists of several fields that are separated by "|", which is the field separator character. The tables below define how each segment is structured and contain the following columns:

1. **SEQ** — The ordinal position of the field in the segment. Since IRIS does not use all possible fields in the HL7 standard, these are not always consecutive.
2. **COMP** — Sequence of field component in message
3. **LEN** — Maximum length of the field
4. **DT** — HL7 data type of the field. See below for definition of HL7 data types.
5. **USAGE** —
   - **R** — R indicates the field is required by HL7.
   - **M** — M indicates the field was not required by HL7, but is mandatory for IRIS to accept the message.
   - **O** — O indicates an optional field. If the provider submitting the message knows the data included in the field, it should be sent with a valid HL7 value. Otherwise the field can be left empty
6. **RP** — Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and a blank means no repetition is permitted.
7. **TBL#** — Number of the table giving valid values for the field.
8. **ELEMENT NAME** — HL7 name for the field.

Rules for Sending Systems

The following rules are used by sending systems to construct HL7 messages.

- Encode each segment in the order specified in the message format.
- Begin the segment with the 3-letter segment ID (for example RXA).
- Precede each field with the data field separator ("|").
- Use HL7 recommended encoding characters ("^~\&").
- Encode the data fields in the order given in the table defining segment structure.
- Encode the data field according to its HL7 data type format.
- Do not include any characters for fields not present in the segment. Since later fields in the segment are encoded by ordinal position, fields that are not present do not reduce the number of field separators in the segment. For example, when the second and third fields are not present, the field separators maintain the ordinal position of the fourth field: |field1|||field4
- Data fields that are present but explicitly null are represented by empty double quotes "".
- Trailing separators may optionally be omitted. For example, |field1|field2||||| is equivalent to |field1|field2, when field3 and subsequent fields are not present.
- End each segment with the segment terminator (carriage return).

Rules for Receiving systems

- Treat data segments that are expected but not present as if all data fields in the segment were not present.
- Require use of HL7 recommended Field Separator |, and Encoding characters ^~\& for encoding messages.
- Ignore any data segment that is included but not expected, rather than treating it as an error. The HL7 message types used by IRIS may include many segments besides the ones in this document, and IRIS ignores them. IRIS will not send messages with segments not documented in this specification, but reserves the right to specify more segments at a later date. The rule to ignore unexpected segments facilitates this kind of change.
- Ignore data fields found but not expected within a segment.

MSH – Message Header Segment

The MSH segment defines the intent, source, destination and some specifics of the syntax of a message.

SEQ	COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
1		**1**	**ST**	**R**			**Field Separator**
2		**4**	**ST**	**R**			**Encoding Characters**
3		180	HD				Sending Application
	3.1	95	IS	O			Sending Application Name
4		180	HD				Sending Facility
	4.1	95	IS	O			IRIS Name
	4.2	**6**	**ST**	**R**			**IRIS Organization ID**
5		95	HD	O			Receiving Application
	5.1	6	IS	O			Name
6		6	HD				Receiving Facility
	6.1	6	IS	O			Name
7		26	TS				Date Of Message
	7.1	26	TS	O			Date
9		**7**	**CM**	**R**			**Message Type**
	9.1	**3**	**ID**	**R**		**0076**	**Message**
	9.2	**3**	**ID**	**R**		**0003**	**Trigger Event**
10		**20**	**ST**	**R**			**Message Control ID**
11		**3**	**PT**	**R**			**Processing ID**
	11.1	**1**	**ID**	**R**		**0103**	**ID**
12		**60**	**VID**	**R**			**HL7 Version ID**
	12.1	**6**	**ID**	**R**		**0104**	**ID**
15		2	ID	O		0155	Accept Acknowledgment Type
16		2	ID	O		0155	Application Acknowledgment Type

Field Notes:

MSH-1 Determines the field separator in effect for the rest of this message. IRIS requires the HL7 recommended field separator of "|".

MSH-2 Determines the component separator, repetition separator, escape character, and sub-component separator in effect for the rest of this message. IRIS requires the HL7 recommended values of ^~\&.

MSH-3   First component (3.1) Name of the sending application. When sending, IRIS will use "IRIS" followed by the current version number of the registry. This field is an optional convenience. See MSH-4 and MSH-6 for the fields principally used to identify sender and receiver of the message.

MSH-4 This field identifies the IRIS organization for whom the message is being sent (the owner of the message information). The first component (4.1) is used to send the name of the IRIS organization. When sending, IRIS will use "IRIS".   The second component (4.2) is **REQUIRED** and is used to submit the IRIS Organization ID.

When the message is being sent to IRIS and the Provider Organization owning the information is different than the organization transmitting the message (as in a Parent/Child or Vendor/Client relationship), you must use the IRIS Provider Organization ID of the Provider Organization that **owns** the information preceded by a component separator (e.g., ^36). You can add the Provider

Organization name in the component prior to the provider id (e.g., VALLEY CLINIC^36.) Contact the IRIS Help Desk for the appropriate organization ID.

*Note: If a parent or vendor organization is submitting on behalf of a child organization (facility/ site), the child's Organization ID should be in MSH-4.2. If parent and child organizations are submitting immunizations for the same patient, they should be submitted as separate messages.

MSH-5 First Component (5.1) identifies the application receiving the message. When sending to IRIS this application is 'IRIS'.

MSH-6 First component (6.1) identifies the message receiver. "IRIS" should be used for messages to be received by IRIS. When sending, IRIS will use the short Provider Organization name assigned when the provider first registers with the IRIS database and IRIS-Web interface.

MSH-7 First component (7.1) date and time the message was created. IRIS ignores any time component. See the TS data type. Date format is YYYYMMDD.

MSH-9 This is a required field. Two components of this field give the HL7 message type, 9.1 (see Table 0076) and the HL7 triggering event, 9.2 (see Table 0003). Within HL7, the triggering event is considered to be the real-world circumstance causing the message to be sent. For IRIS purposes, this field should have the value VXU^V04 for a message conveying patient and immunization information. In acknowledgement messages the value ACK is sufficient and the second component may be omitted.   For queries and responses VXQ^V01, VXR^V03, VXX^V02 or QCK are used as message types.

MSH-10 This is a required field. Message rejection will result if nothing is received in this field. The message control ID is a string (which may be a number) uniquely identifying the message among all those ever sent by the sending system. It is assigned by the sending system and echoed back in the ACK message sent in response to identify the specific record which contains errors. *It is important to have this be an ID that the provider can use to identify message sent.*

MSH-11 Component 11.1 is the processing ID. The processing ID to be used by IRIS is **P** for production processing. If this field is null, an informational message is generated indicating that IRIS is defaulting to **P**.

MSH-12 The first component (12.1) is version ID for HL7. This is a required field. For example, use a value of "2.4"to indicate HL7 Version 2.4 or "2.5.1" to indicate HL7 Version 2.5.1.   **Note that HL7 2.5.1 release 1.3 and release 1.5 have separate IRIS Implementation Guides.**

*If there is no version number found in the first MSH segment, a hard error will occur and the entire HL7 file will be rejected.

**You will need to tell the Idaho Immunization Program (IIP) which version of HL7 you will be sending: HL7 2.4, HL7 2.5.1 (release 1.3) or HL7 2.5.1 Latest (release 1.5) when setting up your organization for data exchange.   IRIS will process your file according to the version configured in IRIS, not the format indicated on the incoming file.   The HL7 version selected for the sending organization number "tells" IRIS which parsing and business rules to apply when processing an incoming file and when generating an outbound response.

MSH-15 This field controls whether an accept acknowledgement is generated for the message sent. IRIS will accept a value of ER to ask that acknowledgements be sent only for messages that cannot be processed normally. If the field is empty, IRIS will assume the value of ER.

MSH-16 This field controls whether an application acknowledgement is generated for the message sent. IRIS will accept a value of AL to ask that acknowledgements be sent for all messages.   If the field is empty, IRIS will assume the value of AL.

PID – Patient Identification Segment

The PID segment 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.

SEQ	COMP	SUB COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
3				**CX**	**R**	**Y**		**Patient ID (Internal ID)**
	3.1		**20**	**ST**	**R**	**Y**		**ID**
	3.5		**3**	**IS**	**R**	**Y**	**0203**	**Identifier Type Code**
5			**113**	**XPN**	**R**	**N**		**Patient Name**
	5.1.	**5.1.1**	**35**	**ST**	**R**			**Family Last Name**
	5.2		**25**	**ST**	**R**			**Given Name**
	5.3		25	ST	O			Middle Initial or Name
	5.4		10	ST	O			Suffix (e.g., JR or III)
	5.7		1	ID	O		0200	Name Type
6			69	XPN	O	N		Mother's Maiden Name
	6.1	6.1.1	35	ST	O			Family Last Name
	6.2		25	ST	O			Given Name
	5.7		1	ID	O		0200	Name Type
7			**26**	**TS**	**M**			**Date of Birth**
	7.1		**26**	**DT**	**R**			**Date**
8			**1**	**IS**	**R**		**0001**	**Sex**
10			80	CE		N		Race
	10.1		6	ST	O		0005	Identifier
11			191	XAD		N		Patient Mailing Address (Primary Address)
	11.1		55	ST	O			Street Address
	11.2		55	ST	O			Other Designation
	11.3		52	ST	O			City
	11.4		2	ST	O			State or Province
	11.5		9	ST	O			Zip or Postal Code
	11.6		2	ID	O		0212	Country
	11.7		1	ID	O		0190	Address Type
	11.9		5	IS	O		0289	County /Parish Code of Residence
13			54	XTN	O			Phone number –: Primary Residence Number [(999)] 999-9999 [X99999]
	13.1		25	TN	O			
	13.2		3	ID	O		0201	Telecommunication use code

	13.6		5	NM	O			Area /City code
	13.7		8	NM	O			Phone Number
	13.8		6	NM	O			Extension
22			80	CE		N		Ethnic Group
	22.1		6	ST	O		0189	Identifier
24			1	ID	O		0136	Multiple Birth Indicator
25			2	NM	C			Birth Order
29			**26**	**TS**	**C(R/X)**			**Patient Death Date and Time**
	29.1		**26**	**DT**	**R**			**Date of Death**
30			**1**	**ID**	**C(R/X)**			**Death Indicator**

Field Notes:

PID-3   Components 3.1 (ID) and 3.5 (identifier type code) are required in the PID-3 field. When a Provider Organization is sending to IRIS, send the organization's Patient ID.   IRIS does not support multiple patient identifiers for a single patient for a provider organization.   When IRIS is sending to an outside system, IRIS will repeat this field.   The first repetition will include the patient's unique state registry ID (IRIS ID), with identifier type code of SR. The second repetition will include provider organization's Patient ID (identifier type code of PI), if it is available in IRIS.

PID-5   There are 4 components for the patient name. See the XPN data type. The Last name/Family name (5.1.1) and first name (5.2) are required in the first two components. Middle name (5.3) and suffix (5.4) are optional. If the Name Type Code component (5.7) is included, use 'L' for Legal. **IRIS does not support repetition of this field.**

Note: IRIS does not permit use of false, alias or 'placeholder' names for newborns or other patients.   Use of false names facilitates the creation duplicate patient records and incomplete immunization histories.   Refer to the False Names List in Appendix C for examples of unacceptable names.

PID-6   First component (6.1) Mother's Maiden last/ family name. See the XPN data type. In this context, where the mother's name is used for patient identification, IRIS uses only last name (6.1) and first name (6.2). If the Name Type Code component (6.7) is included, use 'M' for Maiden. IRIS does not support repetition of this field.   A mother's legal name might also appear in the context of an NK1 segment component 2.1. IRIS does not support repetition of this field.

PID-7   First component (7.1) gives the year, month, and day of birth (YYYYMMDD). IRIS ignores any time component.

PID-8   Use appropriate code. See Table 0001. Use F, M, or U.

PID-10 First component (10.1) is race identifier. Use appropriate code. See Table 0005. IRIS stores and writes "Unknown" values as null. IRIS does not support repetition of this field.

PID-11 See the XAD data type. | Street^PO Box^City^State^Zip^Country^^^County of Residence| For example: |123 Main St^PO Box1^Anytown^ID^12345^USA^M^^ID001|. If the Address Type Code component (11.7) is included, use 'M' for Mailing. **IRIS does not support repetition of this field.**

PID-13 See the XTN data type. Version 2.4 includes the support of the N, X, B and C sequences. IRIS does not support repetition of this field. If PRN is specified in component 13.2 (telecommunication use code (ID) from table 0201) IRIS will use the 6th 7th 8th and 9th components for specification of area code (13.6), phone number (13.7), extension (13.8),

PID-22   First component (22.1) identifier for ethnicity. Use appropriate code. See Table 0189. IRIS stores and writes "Unknown" values as null. IRIS does not support repetition of this field.

PID-24   Use **Y** to indicate that the patient was born in a multiple birth. If Y is entered in this field, you <u>must</u> supply the required information in PID-25.

PID-25   Relevant when patient was born in a multiple birth. Use 1 for the first born, 2 for the second, etc. This field is useful in matching patient data to existing records and patient deduplication. Note: You must include Y in PID-24 multiple birth and indicate the birth order in PID-25 for the birth order to be loaded.

PID-29   Indicates the date of death, if patient is deceased. Give the year, month, and day (YYYYMMDD). IRIS ignores any time component. If a patient is deceased, then the **date of death is required**, the Patient Registry Status in PD1-16 must indicate a value of "P" for Deceased and Death Indicator (PID-30) must be "Y".

PID-30   Death Indicator is a "Y" or "N" field. If a patient is deceased, then the death date is required, the Patient Registry Status in PD1-16 must indicate a value of "P" for Deceased and Death Indicator (PID-30) must be "Y".

PD1 – Patient Additional Demographic Segment

The PD1 carries patient additional demographic information that is likely to change.

SEQ	COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
11		80	CE				Publicity Code
	11.1	3	ST	O		0215	Code
12		1	ID	X		0136	Protection Indicator
16		1	IS	C		0441	Immunization registry status

Field Notes:

PD1-11   Controls whether recall/reminder notices are sent. IRIS will recognize "01" to indicate no recall/reminder notices or "02" recall/reminder notices any method.

PD1-12   IRIS does not allow for protection indicator to be set via data exchange. Patients must have protection indicator of Y 'No Protection' to be entered or updated in IRIS. *If the patient requested to opt out of the registry, please contact the Idaho Immunization Program at iip@dhw.idaho.gov or 208-334-5931 to obtain the Opt Out form.*

PD1-16   Identifies the registry status of the patient for the provider organization. See table 0441. If a code of P is specified the PID-29 Date of Death and PID-30 Death Indicator of "Y' are required. PD1-17 will not indicate date of death.

NK1 – Next of Kin /Associated Parties Segment

The NK1 segment contains information about the patient's other related parties. Any associated parties may be identified. Utilizing *NK1-1-set ID*, multiple NK1 segments can be sent to patient accounts.

SEQ	COMP	SUB COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
1			4	SI	O			Set ID - NK1
2			98	XPN		N		Name
	2.1	**2.1.1**	**35**	**CM**	**R**			**Family Last Name**
	2.2		25	ST	O			Given Name
	2.3		25	ST	O			Middle Initial or Name
	2.4		10	ST	O			Suffix (e.g., JR or III)
	2.7		1	ID	O		0200	Name Type
3			40	CE	O			Relationship
	3.1		3	ST	O		0063	Identifier
	3.2		25	ST	O			Text
	3.3		7	ST	O			Name of Coding System
4			188	XAD	O	N		Address
	4.1		55	ST	O			Street Address
	4.2		55	ST	O			Other Designation
	4.3		52	ST	O			City
	4.4		2	ST	O			State or Province
	4.5		9	ST	O			Zip or Postal Code
	4.6		2	ID	O		0212	Country
	4.7		1	ID	O		0190	Address Type
	4.9		5	IS	O		0289	County /Parish
5			73	XTN	O	N		Phone Number
	5.1		25	TN	O			[(999)] 999-9999 [X99999]
	5.2		3	ID	O		0201	Telecommunication Use Code
	5.6		5	NM	O			Area/City Code
	5.7		8	NM	O			Phone Number
	5.8		5	NM	O			Extension

Field Notes:

NK1-1 Sequential numbers. Use "1" for the first NK1 within the message, "2" for the second, and so forth. Although this field is required by HL7, IRIS will ignore its value, and there is no requirement that the record for the same responsible person keep the same sequence number across multiple messages, in the case that information from the same record is transmitted more than once.

NK1-2 There are 4 components for the responsible person's name. See the XPN data type. The Last name/Family name (2.1.1) and first name (2.2) are sent in the first two components. Middle name (2.3) and suffix (5.4) and Name Type (2.7) are optional. If the Name Type Code component (2.7) is included, use 'L' for Legal. **IRIS does not support repetition of this field.**

NK1-3 Relationship of the responsible person to the patient. See data type CE and Table 0063 in the HL7 tables. Use the first three components of the CE data type, for example |MTH^Mother^HL70063|.

NK1-4 Name of the responsible person who cares for the patient. See the XPN data type: | Street^PO Box^City^State^Zip^ Country^M^^County| For example: |123 Main St^PO Box1^Anytown^ID^12345^US^M^^ID001. If the Address Type Code component (4.7) is included, use 'M' for Mailing. **IRIS does not support repetition of this field.**

NK1-5   Responsible person's phone number. IRIS does not support repetition of this field. First component 5.1, any text, Component 5.2 is the telecommunication code (ID).If PRN is specified in 5.2 from table 0201) IRIS will use the components 5.6, 5.7 and 5.8 for specification of area code, phone number and extension respectively. Otherwise, IRIS will assume that the phone number is specified in the first component (5.1) in the [NNN] [(999)] 999-9999[X99999] format.

PV1 – Patient Visit Segment (Not sent on outbound files from IRIS)

The PV1 segment is used to send visit-specific information.

Note: In IRIS, VFC Eligibility information is **required f**or patient that are less than 19 years old on the date the vaccine was administered and are ineligible for VFC coverage. All systems that submit data to IRIS need be able to submit a properly formatted PV1 segment with the valid VFC Eligibility code in field PV1-20.   Note that the field may repeat for multiple new immunizations sent within the same message. The PV1 segment is not sent on outbound files.

SEQ	COMP	SUB COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
2			**1**	**IS**	**R**		**0004**	**Patient Class**
20			**50**	**FC**	**M**	**Y**		**Financial Class (VFC Eligibility)**
	20.1		**3**	**IS**	**M**		**0064**	**Financial Class**
	20.2		26	TS	O			Effective Date
		20.2.1	26	DT	O			Date / Time

Field Notes:
PV1-2   See table 0004. IRIS will store and write a value of "R" (recurring patient) for this field.
PV1-20 See table 0064. IRIS defines this field as a required field and is used to report VFC eligibility. If an invalid financial class or date format is received, an INFORMATIONAL error message is generated. The format of this field is Financial Class code as described in table 0064 I the first component with a component separator ^ then the effective date in YYYYMMDD format |V01^201710013|. The date, if sent, is used to associate the VFC eligibility code with shots administered starting with the same date.   This field can be repeated to indicate eligibility on different dates.   If an effective date is not sent, the eligibility that IRIS ranks "highest" will be associated with all new immunizations in the message accepted into IRIS.

IN1 – Insurance Segment (Not sent on outbound files from IRIS)

The IN1 segment contains information about the patient's private insurance coverage.   In IRIS, insurance information is **required f**or patient that are less than 19 years old on the date the vaccine was administered and are ineligible for VFC coverage. The IN1 segment is accepted on inbound submissions to IRIS. IRIS will not send IN1 segments on outbound files.

SEQ	COMP	LEN	DT	Usage	RP/#	TBL#	ELEMENT NAME
1		**4**	**SI**	**R**			**Set ID – IN1**
2		250	CE	RE			Insurance Plan ID
	2.1	6	ST	RE			ID
	2.2	200	ST	RE			Description
	2.3	20	IS	RE			Name of Coding System
3		**250**	**CX**	**R**			**Insurance Provider ID**
	3.1	**100**	**ST**	**R**		**ID002**	**ID**
	3.2	100	ST	RE		0363	Assigning Authority
	3.3	20	IS	RE		0203	Identifier Type Code
12		26	TS	X			Insurance Effective Date
	12.1		DTM	X			Date – *Deprecated with release 2.0*
13		26	TS	X			Insurance Expiration Date
	13.1		DTM	X			Date – *Deprecated with release 2.0*
15	15	3	IS	O		0086	Plan Type
29		26	TS	O			Verification Date
	19.1		DTM	O			Date
36		15	ST	RE			Policy Number

Field Notes:

IN1-1   Shall be "1".

IN1-2   Insurance Plan is required by HL7 when submitting an IN1 segment; IRIS will ignore its value.

IN1-3   First component 3.1 indicates the patient's Insurance Provider.   Indicate the insurance provider by sending the insurers National Association of Insurance Commissioners (NAIC) Identifier code.   IRIS provides a list of common insurers in Idaho in local table ID002. If an insurance provider you want to submit is not on the table, use Other.

IN1-15 Plan Type is used to indicate the type of insurance set.   Plan Type is optional in this version of HL7.   Refer to User –defined Table 0086 – Plan ID for values.

IN1-29 This field contains the date/time that the healthcare provider verified that the patient has the indicated benefits.

IN1-36 Indicate the patient's insurance policy number in this field.   Policy number is optional.

RXA - Pharmacy/Treatment Administration Segment

The RXA carries pharmacy/immunization administration data. It is a repeating segment and can record unlimited numbers of vaccinations.

SEQ	COMP	LEN	DT	USAGE	R P	TBL#	ELEMENT NAME
1		**4**	**NM**	**R**			**Give Sub-ID Counter**
2		**4**	**NM**	**R**			**Administration Sub-ID Counter**
3		**26**	**TS**	**R**			**Date Start of Administration**
	3.1	**26**	**NM**	**R**			**Date**
4		26	TS	O			Date End of Administration
	4.1	26	NM	O			Date
5		**120**	**CE**	**R***		CVX Code	**Administered Code**
	5.1	**3**	**ST**	**C(R/O)**			**Code**
	5.2	**40**	**ST**	**O**			**Code Text**
	5.3	**3**	**ST**	**C(R/O)**			**Name of Coding System**
	5.4	**24**	**ST**	**C(R/O)**			**Alternate Identifier**
	5.5	**40**	**ST**	**O**			**Alternate Code Text**
	5.6	**4**	**ST**	**C(R/O)**			**Name of Alternate Coding System**
6		**4**	**NM**	**R**			**Administered Amount**
7			CE	O			Administered Units
9		23	CE	O	Y		Administration Notes
	9.1	**2**	**ST**	**M***		NIP001	**Immunization information Source.**
10		200	XCN		Y		Administering Provider
	10.2	35	CM	O			Family/Last Name Prefix
	10.3	25	ST	O			Given Name
	10.4	25	ST	O			Middle Initial or Name
	10.5	10	ST	O		0360	Professional Suffix or Degree (MD RN) is recommended for incoming loads in the suffix field.
	10.6	3	ST	O			Prefix (e.g., DR)
	10.13	3	ID	O			Administering Identifier type code
11		259	CM				Administered at Location
	11.4.1	**208**	**ST**	**M***			**Facility Name**
	11.4.2		**HD**	**M***			**Facility ID**
15		**20**	**ST**	**M***	N		**Lot Number**
16		26	TS	O	N		Substance Expiration Date
	16.1	26	DT	O			Date
17		104	CE	O	N		Substance Manufacturer Name
	17.1	4	ST	O		0227	Identifier
	17.2	95	ST	O			Text
	17.3	3	ST	O			Name of Coding System
18		200	CE	O			Substance Refusal Reason
	18.1	3	ST	O		NIP002	Identifier
	18.2	180	ST	O			Text
	18.3	6	ST	O			Name of Coding System
20		2	ID	O		0322	Completion Status
21		2	ID	O		0323	Action Code

Field Notes:

RXA-1   Required by HL7. Use "0" for IRIS.

RXA-2   Required by HL7. For Provider-IRIS loads, Data Exchange expects incoming values of 999 for this field. Other numeric values are ignored.

RXA-3   Date the vaccine was given. IRIS ignores any time component.

RXA-4   Required by HL7. Ignored by IRIS, which will use the value in RXA-3.

RXA-5   This field identifies the vaccine administered. IRIS accepts the CVX code, CPT code, IRIS Vaccine Trade Name, or IRIS Vaccine Group Code for the vaccine administered.   In this version of HL7, any of the codes can be sent in the first triplet. See the CE data type and HL7 - Table 0292 (CVX Codes), IRIS – Table CPT (CPT Codes), IRIS – Table WVGC (Vaccine Group Codes), and IRIS – Table WVTN (Vaccine Trade Names).

Note: IRIS does not accept NDC codes at this time.

Send the CVX, CPT, IRIS Trade Name (WVTN), or IRIS Vaccine Group (WVGC) code in the first component (5.1), the vaccine description in the second component (5.2) and the coding system in the third component (5.3)   For example, when indicating an Engerix B Peds formulation was administered, the following codes could be sent. It is preferred that the most specific code possible for your system be sent.

|08^HepB-Peds^CVX|
|90744^HepB-Peds^CPT|
|Engerix-B Peds^HepB-Peds^ WVTN|
|HepB^HepB-Peds^ WVGC|

Trade Name, CPT and Vaccine Group are also accepted in the second triplet (components 4 – 6) of the RXA-5 segment. Provide the identifier in the fourth component, text description in the fifth component (optional), and the name of coding system in the sixth component.

Examples:
Trade Name (WVTN): |^^^ Engerix-B Peds ^ HepB-Peds ^WVTN|
CPT Code: |^^^90744^ HepB-Peds ^CPT|
Vaccine Group (WVGC): |^^^ HepB ^ HepB-Peds ^WVGC|

*To deduct immunization from inventory, RXA-5 is required to contain a specified formulation of a vaccine. Vaccine Group and CVX/CPT codes for *uncertain formulation (aka unspecified)* vaccines will not be deducted as they do not indicate acceptable level of details to match to IRIS vaccine inventory.

For example:

|08^HepB-Peds^CVX| would be acceptable as HepB-Peds is a specified formulation of HepB vaccine.

|HepB^HepB^WVGC| would not meet the deduct from inventory criteria, as it does not specify if the vaccine administered is HepB Pediatric, HepB Adult, HepB Dialysis formulation.

RXA-6   Administered Amount is the amount of vaccine given. When the administered amount is unknown, this field should record the value "999" in this field.   IRIS and HL7 require this field to contain a value. However, on an immunization a value of 1.0 as Dose Magnitude will be stored in its place. If more than one dose is administered, the change will have to be made via IRIS user interface.

RXA-7   Administered are the actual quantity of the substance administered in simple units (i.e. mL). It does not include compound units.

RXA-9   IRIS will recognize 00 to indicate New Immunization Administered/Owned by the Sending Organization or 01 to indicate Historical Record – Source Unspecified. If the source for a historical record is known, please use values 02 through 08 in Table NIP001.   For outgoing IRIS-Provider processing, Data Exchange will write out the corresponding immunization id in the second repeating segment.

*To deduct immunization from inventory, RXA-9 value is required and must be 00

NOTE:
If this field is left blank, the immunization will be recorded as *historic* **(i.e. not owned by the sending organization) in IRIS.** *ALL* **immunizations that were** <u>*administered*</u> **in your provider office should be recorded as "00" to ensure that the record is correctly associated with your organization in IRIS**

> |00^^^^^~9999999^IRIS immunization id^IMM_ID^^^|

RXA-10 Identifies the name of the administering clinician (VEI), ordering authority (OEI), and recorder (REI) of the immunization in IRIS. The recorder is not supported on incoming data transfers and only returns if the immunization is owned by the provider requesting the data. IRIS will use components 2 – 6 to record the names. (Refer to table HL7 360 for valid professional suffix values)

For incoming loads, it is recommended that professional suffix or degree information is sent in the 5th component (10.5) so that it processes as the clinician suffix in IRIS, as in the following example:

|^GROBBERTS^DELIA^S^RN^^^^^^^^VEI^^~^SHAFFER^TERRENCE^P^MD^DR^^^^^^^OEI^^|

For incoming loads, the system automatically creates clinician records in IRIS if a match is not found.

RXA-11 IRIS will use this field to identify the facility where the vaccine was administered. Place the facility name in component 11.4. Historical location name on historical immunization are entered in RXA-11.4.

*To deduct immunization from inventory, RXA-11.4 is required. Place the Organization name and/or Organization ID in component 4, i.e. |^^^ORGNAME&ORGID| or |^^^ORGID|. In addition, RXA-11.4 must also match MSH-4 if provided. Otherwise it must match the organization submitting the file.

RXA-15 Manufacturer's lot number for the vaccine. IRIS does not support repetition of this field.

> *** *To deduct immunization from inventory, RXA-15 is required.** The owner of the immunization must have a single vaccine lot with an exact matching lot number for the same vaccine sent in RXA-15 in their IRIS inventory management.

RXA-16 This field identifies the expiration date of the medical substance administered.   IRIS does not support repetition in this field

RXA-17 Vaccine manufacturer for the vaccine. Refer to Table 0227, for example |PMC^sanofi pasteur^ MVX|. The HL7 2.4 specification recommends use of the external code set MVX.   IRIS does not support repetition in this field

RXA-18 When applicable, this field records the reason the patient refused the vaccine. Component 18.1 is for the refusal code, see table NIP002. Any entry in this field indicates that the patient did not take the substance. 18.2 is used for text entered as reason for refusal. 18.3 references the coding system used for refusal, NIP002. The vaccine that was offered should be recorded in RXA-5, with the number 0 recorded for the dose number in RXA-2. Do not record contraindications, immunities or reactions in this field. IRIS does not support repetition of this field. IRIS currently only accepts 00 Parental Refusal. Refusal will be rejected if any other values are provided.

> **Notes on Refusals:**
>
> a) IRIS only stores the fact that a refusal of a vaccine occurred, not a specific type of refusal, so all outgoing refusals will be designated as "PARENTAL DECISION." Please see the example below.
>
> b) The Administration date (RXA-3) is used as the refusal comment effective date. IRIS will not write out refusals which do not have a comment effective date. It will write out multiple refusals for the same vaccine on different dates for those patients who have them.
>
> c) The IRIS system will accept incoming refusals of the same vaccine on different dates and file them both. However, if they both have the same comment effective date, and then only one will be stored.
>
> d) The sending organization will become the refusal owner. In general, only the organization who owns the refusal is permitted to edit it. However, in the case of parent and child organizations, the parent may edit the child's refusals and vice versa.
>
> Here is a sample RXA segment for an MMR refusal given on the date 01/01/2007: RXA|0|999|20070101|20070101|^^^MMR^MMR^WVGC|999|||||||||||MSD^Merck^MVX|00^PARENTAL REFUSAL^NIP002||RE|A|<CR>

RXA-20 Indicates the immunization completion status. If this field is not populated, it is assumed to be CP or complete. If the Refusal reason is populated, this field shall be set to RE. Use 'PA' for doses which are partially administered. A partially administered dose refers to the scenario

where the patient jumps and the needle breaks, resulting in an unknown quantity of vaccine entering the patient's system.

RXA-21 Identifies the action for the RXA segment. If blank, RXA will be processed as an 'add'.   **At this time IRIS does not support deletions of immunizations via data exchange.** Refer to Table 0323 for list of action codes.

RXR – Pharmacy/Treatment Administration Segment

The Pharmacy/Treatment Route Segment contains the alternative combination of route and site.

SEQ	COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
1		**60**	**CE**	**R**			**Route of Administration**
	1.1	**3**	**ST**	**R**		**0162**	**Route**
2		60	CE	O		0163	Site

Field Notes:

RXR-1   This is the route of administration from table 0162.
RXR-2   This is the site of the route of administration from table 0163.

OBX – Observation/Result Segment

The Observation/Result Segment is used to transmit an observation such as patient comments for contraindication, immunity, reactions, series information (validation) and Recommendations (forecasting).

SEQ	COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
1		4	SI	O			Set ID-OBX
2		3	ID	O		0125	Value Type
3		**80**	**CE**	**R**		**NIP003**	**Observation Identifier**
	3.1	**7**	**ST**	**R**			**Observation Id**
	3.2	**20**	**ST**	**O**			**Observation Text**
	3.3	**2**	**ST**	**R**			**Name of Coding System**
4		20	ST				Observation sub-ID
5		**65536**	***Varies**	**R**		**Varies**	**Observation Value**
	5.1	**8**	***Varies**	**R**		**NIP004**	**Observation Identifier**
	5.2	**100**	**ST**	**O**			**Name or description of observation**
	5.3	**6**	**ST**	**R**			**Name Of Coding System**
11		**1**	**ID**	**R**		**0085**	**Observation Result Status**
14		**26**	**TS**	**O**			**Date of Observation**
	14.1	**26**	**DT**	**R**			**Date**

Field Notes:

OBX-1   Sequential numbers. Use "1" for the first OBX within the message, "2" for the second, and so forth.

OBX-2   This field contains the data type which defines the format of the observation value in OBX-5. For incoming Provider-IRIS data, Data Exchange accepts CE for Coded Entry. However, for IRIS-Provider, the system will send out values of CE, TS, and NM for Coded Entry, Timestamp, and Number respectively, depending on what is actually sent in OBX-5.

OBX-3   When indicating a **Vaccination Contraindication/Precaution**, use 30945-0 in this field and enter a Contraindication, Precaution, or Immunity code (NIP004) in OBX-5.

    Example: OBX|1|CE|30945-0^contraindications^LN|3|06^allergy to neomycin^NIP004||||||F||||201607080000|||

When indicating a **Reaction to Immunization**, use 31044-1 in this field and enter a Reaction code (ID001) in OBX-5.

    Example: OBX|1|CE|31044-1^Reaction^LN||HYPOTON^hypotonic^ID001^^^||||||F|<CR>

When indicating a **Vaccination Adverse Event Outcome**, use 30948-4 in this field and enter an Event Consequence code (NIP005) in OBX-5.

    Example: OBX|1|CE|30948-4^Adverse Outcome^LN||E^er room^NIP005^^^||||||F|<CR>

OUTBOUND ONLY: SERIES AND RECOMMENDATIONS:

On outbound files, IRIS will send contraindications\precautions, immunity, reactions and indications to immunize in this field. In addition, observation values for SERIES, VIS publication date and RECOMMENDATIONS, etc) may be sent if requested.

Example of Series Information (outbound only)

```
RXA|0|999|20121011|20121011|43^HepB adult^CVX^90746^HepB adult^CPT|1.0||<CR><LF>
       ||00^^^^^^~284288^IRIS immunization id^IMM_ID^^^|^Example^Natalie^R^^^^^^^^VEI^^|
       ^^^Mari's VFC Provider Spirit Lake^^^^^^^^^^^^||||H4455||SKB^SKB^MVX^^^||||<CR><LF>
RXR|IM^^^^^||<CR><LF>
OBX|1|CE|38890-0^COMPONENT VACCINE
       TYPE^LN|1|45^HepB^CVX^90731^HepB^CPT||||||F||<CR><LF>
OBX|2|TS|38890-0&29768-9^DATE VACCINE INFORMATION STATEMENT
       PUBLISHED^LN|1|20120202||||||F||<CR><LF>
OBX|3|NM|38890-0&30973-2^Dose number in series^LN|1|3||||||F||<CR><LF>
```

Example of Recommendations (outbound only)

```
RXA|0|0|20080115|20080115|998^No Vaccine Administered^CVX|999|<CR><LF>
OBX|1|CE|30979-9^Vaccines Due
       Next^LN^^^|1|20^DTP/aP^CVX^90700^DTP/aP^CPT||||||F||<CR><LF>
OBX|2|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|1|20080315||||||F||<CR><LF>
OBX|3|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|1|1||||||F||<CR><LF>
OBX|4|TS|30979-9&30981-5^Earliest date to give^LN^^^|1|20080226||||||F||<CR><LF>
```

OBX-4   Identifies the observation sub-id. This field will be used to group associated segments. Since multiple comments can be sent within an order group or within the same message, the OBX.4 field is recommended to group associated OBX together.

Outbound files, OBX.4 will associate OBX segments with the group such as associating SERIES information for an immunization given to the patient our RECOMMENDATION information for the patient for a specific vaccine group.

OBX-5   The first component (5.1) is required for text reporting Contraindication, Precaution, or Immunity (NIP004), Reaction (ID001), Event Consequence (NIP005), or Funding Value (NIP008). IRIS has imposed a CE data type upon this field.
 (e.g., | HYPOTON^hypotonic^ID001^^^|)

The second component (5.2) is text summarizing contraindication, reaction, and event or funding description. For component 5.3 use 'NIP004' for contraindication; 'ID001' for reaction; 'NIP005' for adverse events; 'NIP008' for funding type.

OBX-11 Required for HL7. Use "F" for IRIS.
OBX-14 Records the time of the observation. IRIS will store this date as the comment start date. IRIS ignores any time component. YYYYMMDD [HHHMM [SS [.SSSS]]] [+-ZZZZ]

MSA – Message Acknowledgement Segment

The MSA segment contains information sent while acknowledging another message.

SEQ	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
1	**2**	**ID**	**R**		**0008**	**Acknowledgment Code**
2	**20**	**ST**	**R**			**Message Control ID**
3	80	ST				Text Message

Field Notes:
MSA-1   Acknowledgement code giving receiver's response to a message. AA (Application Accept) means the message was processed normally. AE (Application Error) means an error prevented normal processing. An error message will be put in MSA-3, and for ACK messages the optional ERR segment will be included.
MSA-2   The message control ID from MSH-10 in the message being acknowledged. This allows the sending system to associate this response with the message being responded to.
MSA-3   Text of error message.

ERR – Error Segment

The ERR segment is used to add error comments to acknowledgment messages.

SEQ	COMP	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
1		**80**	**CM**	**R**	**Y**		**Error Code and Location**
	1.1		**ST**	**R**			**Segment ID**
	1.2		**NM**	**R**			**Sequence**
	1.3		**NM**	**R**			**Field Position**
	1.4		NM				Component ordinal number

Field Notes:
ERR-1   A composite field with four components.

^<sequence (NM)>^<field position (NM)>^<field component ordinal number (NM)

The first component (1.1) identifies the segment ID containing the error. The second component (1.2) identifies the input file line number of the segment containing the error. The third component (1.3) identifies by ordinal number the field containing the error. The fourth component (1.4) identifies, by ordinal number, the field component containing the error (0 is used if not applicable). The remaining five components of the CE data type are not valued and their '^' separators are not generated. Note that error text is transmitted in field MSA-3. For example, if the second RXA segment field 15 lot number value is not found:

ERR|RXA^2^15^1 <CR><LF>

This error message identifies the NK1 segment occurring on line 10 of the input file whose mandatory second field
(Name) is missing the mandatory 1st component (Family Name).

Query Only Segments

The following segments are specific to use in queries for patient demographic information and immunization history. Querying IRIS will allow provider organizations to retrieve immunization data that were entered into IRIS for a specific patient. Providers can view an aggregate immunization history of a patient, even when the patient has received vaccinations from several providers.

If a provider organization plans to query IRIS, additional testing must be completed to verify the query format. The provider organization will also be required to submit at least 20 queries without any format errors. They should include the different scenarios listed in the next section.

A precise query match will return one patient in a VXR message for HL7 2.4 queries. If multiple matches are found, IRIS will return the matching patients via a VXX message for HL7 2.4 queries with up to 10 matching patients.

QRD – Query Definition Segment

This segment is used to define a query.

SEQ	Comp	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1		**26**	**TS**	**R**			**Query date/time**
2		**1**	**ID**	**R**		**0106**	**Query Format Code**
3		**1**	**ID**	**R**		**0091**	**Query Priority**
4		**10**	**ST**	**R**			**Query ID**
7		**10**	**CQ**	**R**		**0126**	**Quantity Limited Request**
	7.1	**2**	**NM**	**R**			**Quantity**
	7.2	**2**	**CE**	**R**			**Units**
8		**60**	**XCN**	**R**			**Who subject filter (Patient Name)**
	8.1	20	CX	O			Patient Identifier
	8.2	**35**	**ST**	**R**			**Family Last Name**
	8.3	**25**	**ST**	**R**			**Given Name**
	8.4	25	ST	O			Middle Initial or Name
9		**60**	**CE**	**R**		**0048**	**What subject filter**
	9.1	**3**		**R**			**Identifier**
	9.2	**50**		**R**			**Text**
	9.3	**7**		**R**			**Name of Coding System**
10		**60**	**CE**	**R**			**What department data code**
	10.1	**60**	**ST**	**R**			**Identifier**
	10.2	60	ST	O			Text
	10.3	20	ST	O			Name of coding system
12		2	ID	O			Query results level

Field Notes:

QRD-1 Date the query was generated by the application program. IRIS requires this field and verifies that a valid date is received. The minimum format of YYYYMMDD is required. A null/invalid value results in message rejection.

QRD-2 Query/response format code. IRIS requires this field and only accepts a value of 'R' for record oriented format. A null/invalid value results in message rejection.

QRD-3 Time frame in which the response is expected. IRIS requires this field and only accepts a value of 'I' for immediate response. A null/invalid value results in message rejection.

QRD-4 Unique identifier for the query assigned by the querying application. IRIS requires this field and null/invalid values result in message rejection. This field is returned intact by IRIS in a response (VXR, VXX or QCK).

QRD-7 Maximum length of the response that can be accepted by the requesting system. The 1st component is a numerical value, and the 2nd component accepts only the value 'RD' record (i.e.|5RD|). A null/invalid value in either sub-component results in message rejection. IRIS will interpret the units as the maximum number of patient matching records to be returned via a VXX response message.

Note: IRIS will return a maximum of 10 records per query message submitted. The value 0 (zero) or any number 10 or greater will result in the maximum of 10 matches returned by IRIS.

QRD-8 Identifies the subject of the query or whom the inquiry is about. The 1st component, patient identifier is optional can be used to send the IRIS ID, if known. The 2nd component (last name) and 3rd component (first name) are required by IRIS. Middle name in the 4th component is optional. If the last name or first is missing, it results in message rejection. IRIS does not support repetition in this field.

QRD-9 Describes the kind of information required to satisfy the request. IRIS requires this field and a value of 'VXI' Vaccine Information must populate the 1st component. Null/invalid values result in message rejection. IRIS does not support repetition in this field.

QRD-10 Identifies the 'what' department data code. IRIS requires this field not be empty. Null/invalid values will result in message rejection. In our examples, the field is populated with '01^SIIS.' IRIS does not support repetition in this field.

QRD-12 Used to control level of detail in query results. This field will be populated by IRIS with the total count of PID matches found in IRIS when Query results in a VXR or VXX Response Message.

QRD|20150422|R|I|A12345|||10RD|^TEST^PENELOPE^|VXI^VACCINEINFORMATION^HL70048|01^SIIS|

QRF – Query Filter Segment – (Required by IRIS)

Used with the QRD segment to further refine the content of a query.

SEQ	Comp	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1		20	ST	R			**Where subject filter**
5		60	ST	R			**Other query subject filter**

Field Notes:

QRF-1 Identifies the department, system or subsystem to which the query pertains. IRIS requires this field. A null/invalid value results in message rejection.

QRF-5 This field is used by registries to transmit a search "key". IRIS requires this field and does not support repetition. The 2nd component (patient birth date) is required by IRIS. A null/invalid format results in message rejection. Format is in YYYYMMDD.
The keys within QRF-5 are ordered and separated by the repeat delimiter '~'. If a key has no value, it is left empty with the repeat delimiter holding its place. The order of data keys is as follows:

<patient Social Security Number>~**<patient birth date>**~<patient birth state>~<patient birth registration number>~<patient Medicaid number>~<mother's name last^first^middle>~<mother's maiden name>~<mother's Social Security Number>~<father's name>~<father's Social Security Number>.

QRF|IRIS||||~20140115

QAK – Query Acknowledgment Segment

SEQ	Comp	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1		32	ST	R			**Query Tag**
2		2	ID	R		**0208**	**Query response status**

Field Notes:

QAK-1 This field is valued by the initiating system to identify the query and can be used to match response messages to the originating query. If it is valued, the responding system is required to echo it back as the first field in the QAK. IRIS uses the value specified in the QRD-04 (of the VXQ) for the QAK-01 query tag value.

QAK-2 This field allows the responding system to return a precise response status. Refer to HL7 table 0208 for values. IRIS only generates NF (no data found, no errors) for this field.

MSH|^~\&|IRISHL7 2.4^^|IRIS^^||P36^^|20150423||QAK^|JE23424|P^|2.4^^|||ER
MSA|AA|JE23424||0||0^Message Accepted^HL70357^^^
QAK|34533|NF|

Batch Files of HL7 Messages

The definitions above tell how to create messages containing patient and immunization data. Each message can logically stand on its own and HL7 is compatible with various methods of online and batch transmission. IRIS uses batch files to transmit many VXU messages together. HL7 provides special header and footer segments to structure batch files. These segments are not part of any message, but serve to bracket the messages defined above. The structure of a batch file is as follows.

```
FHS          (file header segment)
{ BHS          (batch header segment)
 { [MSH          (zero or more HL7 messages)
    ....
    ....
    ....
] }
  BTS          (batch trailer segment)
}
FTS          (file trailer segment)
```

FHS - File Header Segment

The FHS segment is used to head a file (group of batches). The FHS segment is optional.

SEQ	COMP	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1		**1**	**ST**	**R**			**File Field Separator**
2		**4**	**ST**	**R**			**File Encoding Characters**
3		15	ST				File Sending Application
	3.1	95	IS	O			Sending Application Name
4		20	ST	O			File Sending Facility
	4.1	95	IS	O			Sending Facility Name
	4.2	6	ST	O			IRIS Organization ID
6		20	ST	O			File Receiving Facility
	6.1	6	IS	O			Name (IRIS)
7		26	TS	O			File Creation Date
	7.1	26	TS	O			Date Of Message
9		20	ST	O			File Name/ID
10		80	ST				File Header Comment
11		20	ST	O			File Control ID
12		20	ST				Reference File Control ID

Field Notes:

FHS-1   Determines the field separator in effect for the rest of this message. IRIS requires the HL7 recommended field separator of "|".FHS-2   Determines the component separator, repetition separator, escape character, and sub-component separator in effect for the rest of this message. IRIS requires the HL7 recommended values of ^~\&.

FHS-3   First component (3.1) Name of the sending application. When sending, IRIS will use "IRIS" followed by the current version number of the registry. This field is an optional convenience. See FHS-4 and FHS-6 for the fields principally used to identify sender and receiver of the message.

FHS-4   First Component (4.1) identifies for whom the message is being sent (the owner of the message information). When sending, IRIS will use "IRIS".

The second component (4.2), provides the IRIS provider ID

When the message is being sent to IRIS and the Provider Organization owning the information is different than the organization transmitting the message (as in a Parent/Child or Vendor/Client relationship), you must use the IRIS Provider ID of the Provider Organization that **owns** the information preceded by a component separator (e.g., ^36). You can add the short Provider Organization name in the component prior to the provider id (e.g., VALLEY CLINIC^036.) Contact the IRIS Help Desk for the appropriate organization ID.

Note: If the owner of the information and the transmitter of the information are the same Provider Organization, and the Provider Organization is not a member of a Parent/Child or Vendor/Client relationship, this field can be left blank. The data will be loaded with the transmitting organization as the owner of the immunization records. Since there is the potential for transmitting files under an incorrect Provider Organization, we highly encourage all users to indicate the owning provider organization id in FHS-4. This will allow the system to verify that you are transmitting from an organization that is the owner of the immunization records.

FHS-6   First component (6.1) identifies the message receiver. "IRIS" should be used for messages to be received by IRIS. When sending, IRIS will use the short Provider Organization name assigned when the provider first registers with the IRIS database and IRIS-Web interface.

FHS-7   First component (7.1) date and time the message was created. IRIS ignores any time component. See the TS data type. Date format is YYYYMMDD. Same definition as the corresponding field in the MSH segment.

FHS-9   Name of the file as transmitted from the initiating system.

FHS-10 Free text, which may be included for convenience, but has no effect on processing.

FHS-11 This field is used to identify a particular file uniquely among all files sent from the sending facility identified in FHS-4.

FHS-12 Contains the value of FHS-11-file control ID when this file was originally transmitted. Not present if this file is being transmitted for the first time.

FTS - File Trailer Segment

The FTS segment defines the end of a file. The FTS segment is required if the file contains a FHS segment.

SEQ	LEN	DT	USAGE	RP	TBL#	ELEMENT NAME
1	**10**	**NM**	**O**			**File Batch Count**
2	80	ST	O			File Trailer Comment

Field Notes:

FTS-1   The number of batches contained in this file. IRIS normally sends one batch per file and discourages sending multiple batches per file.

FTS-2   Free text, which may be included for convenience, but has no effect on processing.

BHS - Batch Header Segment

The BHS segment defines the start of a batch. The BHS segment is optional.

SEQ	COMP	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1		**1**	**ST**	**R**			**Batch Field Separator**
2		**4**	**ST**	**R**			**Batch Encoding Characters**
3		15	ST				Batch Sending Application
	3.1	95	IS	O			Sending Application Name
4		20	ST	o			Batch Sending Facility
	4.1	95	IS	O			Sending Facility Name
	4.2	6	ST	O			IRIS Organization ID
6		20	ST	O			Batch Receiving Facility
	6.1	6	IS	O			Name (IRIS)
7		26	TS	O			Batch Creation Date
	7.1	26	TS	O			Date Of Message
10		80	ST				Batch Comment
11		20	ST	O			Batch Control ID
12		20	ST				Reference Batch Control ID

Field Notes:

BHS-1   This field contains the separator between the segment ID and the first real field*, BHS-2-batch encoding characters*. As such it serves as the separator and defines the character to be used as a separator for the rest of the segment. IRIS requires | (ASCII 124).

BHS-2   This field contains the four characters in the following order: the component separator, repetition separator, escape characters and sub-component separator. IRIS requires ^~\&, (ASCII 94, 126, 92 and 38 respectively).

BHS-3   Same definition as the corresponding field in the MSH segment.

BHS-4   Same definition as the corresponding field in the MSH segment.

BHS-6   Same definition as the corresponding field in the MSH segment.

BHS-7   Same definition as the corresponding field in the MSH segment.

BHS-10 Free text, which may be included for convenience, but has no effect on processing.

BHS-11 This field is used to uniquely identify a particular batch. It can be echoed back in *BHS-12-reference batch control ID* if an answering batch is needed. For IRIS purposes, the answering batch will contain ACK messages.

BHS-12 This field contains the value of *BHS-11-batch control ID* when this batch was originally transmitted. Not present if this batch is being sent for the first time. See definition for *BHS-11-batch control ID*.

BTS - Batch Trailer Segment

The BTS segment defines the end of a batch. The BTS segment is required if the file contains a BHS segment.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	10	ST	O			Batch Message Count
2	80	ST	O			Batch Comment

Field Notes:

BTS-1   This field contains the count of the individual messages contained within the batch.

BTS-2   Free text, which can be included for convenience, has no effect on processing.

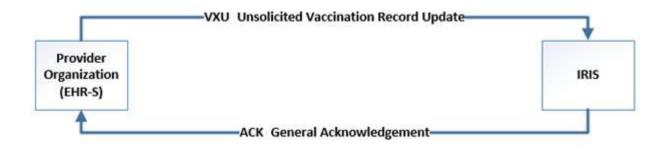## Data Exchange between IRIS and Outside Systems

The central repository of IRIS contains records of patients from around the state. Patient and immunization records flow either to IRIS from outside systems or from IRIS to outside systems. The exchange of information about a given patient is always initiated by the outside system. There are multiple options for data transfer with IRIS:
1. **PO to IRIS**
    2. **Batch File through User Interface:** The Provider Organization can send data to IRIS and request an acknowledgment from IRIS, which is a Provider Organization to IRIS data transfer. Providers can send a single message or as a batch file.
    3. **Web Service through SOAP (single message)**: The Provider Organization can send VXU data to IRIS and request an acknowledgment from IRIS, which is a Provider Organization to IRIS data transfer.
4. **IRIS to PO batch file**: The Provider Organization can request data from IRIS while not providing data to IRIS, which is an IRIS to Provider Organization data transfer. Data, for a particular patient, is transmitted by IRIS to an outside system (Provider Organization) only if the patient is identified as having an Active relationship with that Organization AND the relationship was created by transmitting the patient's record to IRIS or by creating the relationship via the IRIS-Web interface. IRIS returns the provider organizations patient records that have been updated in IRIS since the last provider data exchange.
5. **Bi-Directional batch file**: The Provider Organization can request bi-directional data transfer, in which the provider initiates the exchange by a PO to IRIS data exchange (as in #1). IRIS returns the provider organization's patient record that have been updated since the provider organization's last data exchange (as in #2). *NOTE: this option is intended only for BATCH, if using query/response refer to PO to IRIS web service.*
6. **Organizational Extract batch file**: Organization Extract is only available for HL7 2.5.1 in Release 1.5 format.

HL7 messages require an initiating system and a responder. Sometimes the initial message implies specific data to be sent in a response. Other times, as is the case with IRIS patient and immunization data, the principal response of the responder is to process the message and post whatever it contains to its own database. For these cases, the responder provides the ACK message type in an HL7 format, which contains no new application data, but allows the receiver to inform the initiator that the message has been received and processed successfully. If an error prevents successful processing, optional parts of the ACK message will allow this to be communicated as well.

For data transfer between IRIS and outside systems, which is a Provider Organization to IRIS transfer, it is the responsibility of the outside system to initiate the transfer of the first file, containing VXU messages with patient and immunization data for adding or updating patient and immunization data. After processing those messages, IRIS responds with a response file of ACK messages. For IRIS to Provider Organization transfer, the flow is reversed.

Provider Organization	IRIS	
	Outgoing	**Receiving**
1. Creates a file of patient and immunization records that are new or have changed since they were last transmitted to IRIS.		
2. Transmits the file to IRIS through the user interface or via web service.		
3.		Processes the file received, creates a file of ACK messages.
4.	Posts the ACK file for the initiator to pick up via the web-interface of the original file submitted.	
5. Processes the ACK file to confirm success of the file transmission.		

The 15th field, in the MSH message header segment, allows the initiator to ask that the message be acknowledged only in the case of an error and IRIS supports this in order to minimize the number of ACK messages transmitted. In this case, the ACK file contains only error messages (an optional form of the ACK message type). The original messages, with no answering error messages, are implicitly acknowledged as successfully processed.

Example of VXU Message and return ACK Message

To illustrate how an IRIS HL7 file is put together we will document how the fictional organization, Valley Clinic (sending organization ID 036), formats patient and immunization records to be transmitted to IRIS. The following table displays the information to be transmitted and it is organized into HL7 segments and fields. For example, PID-3 refers to the third field in the Patient Identification segment.

Information to transmit	Data value to be entered	HL7 Format
• Patient #1		
• Patient Identifier		PID segment
• Patient ID (Unique Patient Identifier within Valley Clinic's system)	45LR999	PID-3
• Name	Emily Jean Test	PID-5
• Mother's maiden name	Angelica Example	PID-6
• Birth date	April 13, 2008	PID-7
• Address	123 Main ST. Boise, ID 83727	PID-11
• Phone Number	208 123 4567	PID-13
• Multiple Birth Indicator	Y (patient was born as part of a multiple birth)	PID-24

Information to transmit	Data value to be entered	HL7 Format
• Birth Order	2 (second birth of a multiple birth)	PID-25
• Patient Demographics		PD1 segment
• Publicity Code	02 (allow reminder recall)	PD1-11
• Protection Indicator	Y (patient has not opted-out of registry)	PD1-12
• Patient Registry Status	A (patient is active patient for organization)	PD1-16
• Responsible Person (parent or other person who cares for patient)		NK1 segment
• Name	Angelica Marie Test	NK1-2
• Relationship to patient	MTH	NK1-3
• Address	123 Main ST. Boise, ID 83727	NK1-4
• Phone	208 123 4567	NK1-5
• Responsible Person (#2)		NK1 segment
• Name	Michael Lee Test, Jr	NK1-2
• Relationship to patient	FTH	NK1-3
• Address	555 Elm ST. Boise, ID 83725	NK1-4
• Patient Visit Segment		PV1 -segment
• Patient Class	R	PV1.2
• VFC Eligibility	V04 (American Indian /Alaska Native)	PV1-20
• Immunization		RXA segment
• Date administered	June 23, 2009	RXA-3
• Administered Code	90700 ^DTaP ^CPT	RXA-5
• Administered Amount	0.5	RXA-6
• Administered Unit	mL	RXA-7
• Immunization Source	01 (Historic, unspecified source)	RXA-9
• Administering Organization	East Clinic	RXA-11
• Immunization		
• Date administered	June 30, 2012	RXA-3
• Administered Code	90707^MMR^CPT	RXA-5
• Administered Amount	0.5	RXA-6
• Administered Unit	mL	RXA-7

Information to transmit	Data value to be entered	HL7 Format
• Immunization Source	00 (New Administered immunization)	RXA-9
• Administering Clinician ~ Ordering Authority (Field is repeated)	Kelly Jones RN Dr Jamie L Smith MD	RXA-10
• Administered at location	Valley Clinic	RXA-11.4
• Lot number	BC19487	RXA-15
• Manufacturer	MSD^Merck^MVX	RXA-17
• Pharmacy Treatment Route		RXR segment
• Route of Administration	IM (intramuscular	RXR-1
• Body Site	LA (left arm)	RXR-2
• Patient #2		
• Patient Demographics		PID segment
• Chart Number	92HG9257	PID-3
• Name	Joseph Robert Test	PID-5
• Mother's maiden name	Melanie Test	PID-6
• Birth date	May 28, 2010	PID-7
• Sex	M	PID-8
• Address	321 E Water ST. Boise, ID 83720	PID-11
• County of Residence	ID001 (Ada)	PID.11.9
• Patient Visit Segment		PV1 -segment
• Patient Class	R	PV1.2
• VFC Eligibility	V01^20120222 (VFC Ineligible: verified on February 22, 2012)	PV1-20
• Insurance		IN1segment
• Insurer (NAIC code)	47055	IN1.3
• Policy Number	POL55555	IN1.36
• Immunization		RXA segment
• Date administered	February 22, 2012	RXA-3
• Administered Code	08 ^HepB-Peds^CVX	RXA-5

Information to transmit	Data value to be entered	HL7 Format
• Administered Amount	0.5	RXA-6
• Administered Unit	mL	RXA-7
• Immunization Source	00 (New Administered immunization)	RXA-9
• Administering Provider	Kelly Doe RN Dr. Jamie L Smith MD	RXA-10
• Administering Organization	Valley Clinic	RXA-11
• Lot number	AD18227	RXA-15
• Manufacturer	MSD^Merck^MVX	RXA-17
• Observation segment		OBX Segment
• Contraindication Value	06 ^Allergy to neomycin^NIP004	OBX.5

In an HL7 message, each segment is a single text line, ending with the carriage return character. In the examples, long lines are broken artificially for display purposes and the carriage return character is denoted by <CR>

```
FHS|^~\&|VALLEY CLINIC|36||IRIS|20121015155154||filename1.hl7| <CR>
BHS|^~\&|VALLEY CLINIC|36||IRIS|20121015155154||<CR>
MSH|^~\&|VALLEY CLINIC|VALLEY CLINIC^36|IRIS||20121015155154||VXU^V04|MESSAGE 123|P|2.4|||ER|AL||<CR>
PID|||45LR999^^^P36^PI^||TEST^EMILY^JEAN|EXAMPLE^ANGELICA|20080413|F|||123 MAIN
        STREET^^BOISE^ID^83720^^M^^ID001||^PRN^PH^^^208^1234567^|||||||||||Y|2|||||<CR>
PD1|||||||||||02|Y||||A<CR>
NK1|1|TEST^ANGELICA^MARIE|MTH^MOTHER^HL70063|123 MAIN STREET^^BOISE^ID^83720^^M^^|^PRN^PH^angelica.test@gmail.com^^208^1234567|<CR>
NK1|2|TEST^MICHAEL^LEE^JR|FTH^FATHER^HL70063|555 ELM ST.^^BOISE^ID^83725^^M^^|<CR>
PV1||R||||||||||||||||||||V04<CR>
RXA|0|999|20090623|19990623|90700^DTaP^CPT|0.5|mL||01^historical unspecified source^NIP001||^^^EAST CLINIC|||||||||CP|A<CR>
RXA|0|999|20120630|20120630|08^HEPB-PEDS^CVX|0.5|mL||00^new administered^NIP001|^DOE^KELLY^^RN^^^^^^^^VEI^^|^^^ VALLEY
        CLINIC&36|||||BC19487||MSD^Merck^MVX|||CP|A<CR>
RXR|IM|LA<CR>
MSH|^~\&|VALLEY CLINIC|VALLEY CLINIC^36|||20121015155355||VXU^V04|MESSAGE 124|P|2.4|||AL||||<CR>
PID|||92HG9257^^^P36^PI^||TEST^JOSEPH^ROBERT^^^^L^|TEST^MELANIE^^^^^M^|20100528|M|||321 E. WATER ST.^BOISE^ID^837204^^M^^ID001|<CR>
PV1||R|||||||||||||||||||V01^20120222<CR>
IN1|1|G54321^Insurance plan^072|47055^^^NAIC^NIIP||||||||||||5||||||||||||||||20120222|||||||POL55555|<CR>
RXA|0|999|20120222|20120222|90707^MMR^CPT|0.5|mL||00^new administered^NIP001
        |^DOE^KELLY^^RN^^^^^^^^VEI^^~^SMITH^JAMIE^L^MD^DR^^^^^^^OEI^^|^^^ VALLEY CLINIC&36|||||AD18227||MSD^Merck^MVX|||CP|A<CR>
OBX|1|CE|30945-0^Vaccination contraindication^LN|1|06^allergy to neomycin^NIP004|||||||F|||20120201|<CR>
BTS|2<CR>
FTS|1<CR>
```

In the example above, Valley Clinic sends a file of two HL7 messages to IRIS. Batch header/footer segments bracket the messages.   Idaho recommends that VXU's be used for updating both demographic and immunization information.

Patient Emily Jean Test is identified by Valley Clinic's Patient ID, 45LR999, in the PID segment. The message could have included Emily's IRIS ID number in field PID-3, but does not have to, if it is not recorded in Valley Clinic's system. Emily's mother's maiden name, birth date, sex, and address also serve to identify her. Some other optional fields are not present, including some fields from the full HL7 standard not defined in this document because they are not used by

IRIS. Fields not present do not diminish the number of "|" delimiters, so later fields can be identified by ordinal position in the segment. In this example, the patient's VFC Eligibility information for the vaccination date is sent on the PV1 segment.   Two NK1 segments give some information for Emily's mother and father, with address and telephone fields if available.   The NK1 is followed by the RXA, which can contain immunization or refusal information.   The RXR contains information on the route of administration and body site.

Note that currently IRIS can only store only VFC eligibility per patient per date.

The next PID segment in the second messages gives a patient Joseph Robert Test.   Joseph's message is similar to Emily's with two notable exceptions, insurance and patient comments.   Joseph had private insurance coverage on the vaccination date.   The IN1 segment contains the NAIC code of Joseph's insurance company in IN1.3.   The Insurance will be applied to Joseph's new administered immunizations in which his VFC eligibility (PV1 segment) is V01 'Ineligible'. A contraindication was also sent for Joseph noting his allergy to neomycin.   Contraindications (30945-0) are sent in OBX segment.

IRIS answers the file from the above example with a file of ACK messages. Valley Clinic's message 00000123 (this is the record code entered in MSH-10 and used to identify the individual record on MSA-2 had the value 'AL' in field MSH-15, asking for acknowledgements of all messages. This example while legitimate is for purposes of illustration and most providers will probably prefer to follow the IRIS recommendation of error acknowledgements only 'ER'.

```
FHS|^~\&|IRIS2.0|IRIS||IRPH|20171101110949.328||89924.response <CR>
BHS|^~\&|IRIS2.0|IRIS||IRPH|20171101110949.328<CR>
MSH|^~\&|IRIS2.0|IRIS||IRPH|20171101110949.329||ACK|MESSAGE 123|P|2.4<CR>
MSA|AA|MESSAGE 123|Immunization added but not deducted from inventory.  Vaccine Lot not found in IRIS. <CR>
ERR|RXA^2^15<CR>
MSH|^~\&|IRIS2.0|IRIS||IRPH|20171101110949.330||ACK|MESSAGE 124|P|2.4<CR>
MSA|AA|MESSAGE 124<CR>
BTS|2<CR>
FTS|1<CR>
```
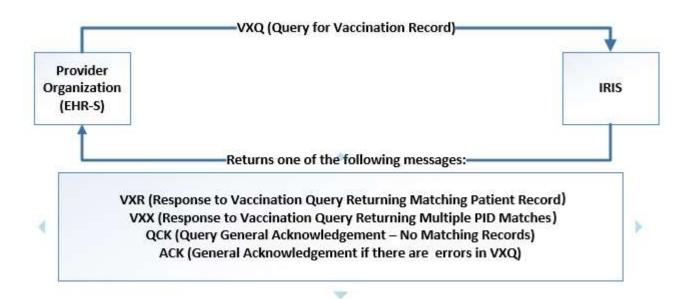
The first message, 00000123, did contain an information error, and the MSA. 1 field indicates AA for Application Accept. The ERR segment contains the location of the error if known, the error severity and the IRIS error message text. In this example, the segment (RXA), the sequence (2) for the second RXA in the message and the errant field (15).

The second message, 00000124, did not contain an error, and the MSH returned without an ERR segment.

In the sample file exchange above, the outside system initiated the exchange with the file of VXU messages and IRIS responded with ACK messages.   In the FHS, BHS, and MSH segments, the values of the fourth and sixth fields are reversed to show sender and receiver. IRIS always sends patient's state registry ID (IRIS ID) in the required field PID-03 and includes the outside system's identifier in PID-03 if known. Outside systems are encouraged to store IRIS's patient ID, and use it in PID-03 when sending to IRIS. This provides a firm basis for patient identification makes processing easier for the IRIS system and avoids errors in storing patient information, such as creation of duplicate records when an insufficiently identified patient record cannot be matched with a record already in the IRIS database. Though IRIS makes a great effort to match patient records effectively, use of the IRIS patient ID is the best guarantee of clean and useful data.

Data Query between IRIS and Outside Systems

For data transfer between IRIS and outside systems, which is a Provider Organization to IRIS transfer, it is the responsibility of the outside system to initiate the transfer of the first file, containing VXQ message with patient identifying information for querying IRIS for the patient's immunization history.   After processing those messages, IRIS responds with a response file with a VXR, VXX or QCK messages based on the number of matching records found.   If there is an error then an ACK message is returned.

Provider Organization		IRIS	
		Outgoing	**Receiving**
1.	Creates query VXQ file		
2.	Transmits the file to IRIS through the user interface or via web service.		
3.			Processes the file received, creates a file of VXR, VXX, QCK or ACK message.
4.		Posts the VXR, VXX, QCK or ACK message file for the initiator to pick up via the web-interface of the original file submitted.	
5.	Processes the VXR, VXX, QCK or ACK file to confirm success of the file transmission.		

The 7th field, in the VXQ message header segment, allows the initiator to ask that only a specified number of matching patients are returned and IRIS supports this in order to minimize the number of PID segments in the VXX messages transmitted.   In queries, the ACK message is only returned if there are error messages in the VXQ that prevent IRIS from processing and returning VXR, VXX or QCK message.

Examples of Queries

Below is the list of the type of queries that should be generated as part of the testing process.

1. Exact match found: Return VXR

Information to transmit	Data value sent	HL7 Format
• Query		
• Message Type	VXQ-01 (Query for Vaccination Record)	MSH-9
• Query Format	R (Record based	QRD-2
• Query Priority	I (Immediate)	QRD-3
• Query ID	A12345	QRD-4
• Quantity Limited Request	10RD (Maximum Matching Records)	QRD-7
• Who Subject Filter	Penelope Test (Patient Name)	QRD-8
• What Subject Filter	VXI^ Vaccine Information^HL70048	QRD-9
• What Department Code	01^SIIS	QRD-10
• Where subject Filter	IRIS	QRF-1
• Other Subject Query Filter	January 15, 2015 (Patient Birth Date)	QRF-5 (second repetition)

Query:

MSH|^~\&| VALLEY CLINIC|VALLEY CLINIC^36|||20150422134645||VXQ^V01|1|P^|2.4^^|||ER|AL|<CR>
QRD|20150422|R|I|A12345|||10RD|^TEST^PENELOPE^|VXI^VACCINEINFORMATION^HL70048|01^SIIS|<CR>
QRF|IRIS||||~20150115<CR>

Information to transmit	Data value sent	HL7 Format
• Query Response		
• Message Type	VXR-03 (Vaccination Query Record Response)	MSH-9
• Query Format	R (Record based	QRD-2
• Query Priority	I (Immediate)	QRD-3
• Query ID	A12345	QRD-4
• Quantity Limited Request	10RD (Maximum Matching Records)	QRD-7
• Who Subject Filter	Penelope Test (Patient Name)	QRD-8
• What Subject Filter	VXI^ Vaccine Information^HL70048	QRD-9
• What Department Code	01^SIIS	QRD-10
• Query Results Level	1 (one matching PID returned)	QRD-12
• Where subject Filter	IRIS	QRF-1
• Other Subject Query Filter	January 15, 2015 (Patient Birth Date)	QRF-5 (second repetition)
• Patient Identifier		PID segment
• Patient ID	175212^SR (State Registry ID)	PID-3 (first repetition)
	C2334299^PI (Unique Patient Identifier within Valley Clinic's system)	PID-3 (second repetition)
• Name	Penelope Jo Test	PID-5
• Mother's maiden name	Bethany Smith	PID-6
• Birth date	January 15, 2015	PID-7
• Gender	F (Female)	PID-8
• Address	123 ANYSTREET MOORE, ID 83255	PID-11
• County of Residence	ID0023 (Butte)	PID-11.9
• Phone Number	208 555 4321	PID-13
• Patient Demographics		PD1 segment
• Publicity Code	02 (allow reminder recall)	PD1-11
• Protection Indicator	Y (patient has not opted-out of registry)	PD1-12

Information to transmit	Data value sent	HL7 Format
• Patient Registry Status	A (patient is active patient for organization)	PD1-16
• Responsible Person #1 (parent or other person who cares for patient)		NK1 segment
• Name	Bethany Jo Test	NK1-2
• Relationship to patient	MTH	NK1-3
• Address	123 ANYSTREET MOORE, ID 83255	NK1-4
• Phone	208 555-4321	NK1-5
• Responsible Person (#2)		NK1 segment
• Name	Jason Test	NK1-2
• Relationship to patient	FTH	NK1-3
• Address	123 ANYSTREET MOORE, ID 83255	NK1-4
• Phone Number	208 555-4321	NK1-5
• Patient Visit Segment		PV1 -segment
• Patient Class	R	PV1.2
• VFC Eligibility	V01^20150422 (VFC Ineligible: verified on April 22, 2015)	PV1-20
• Immunization (#1)		RXA segment
• Date administered	April 22, 2015	RXA-3
• Administered Code	120^DTaP-IPV/Hib^CVX^90698^DTaP-IPV/Hib^CPT (Pentacel)	RXA-5
• Dose size	1.0 Full Dose	RXA-6
• Immunization Source	00 ((New Administered immunization)	RXA-9
• Administering Organization	East Clinic	RXA-11
• Administering Clinician	Emma Moore	RXA-10
• Administered at location	Valley Clinic	RXA-11.4
• Lot number	APENT234MKK	RXA-15
• Pharmacy Treatment Route		RXR segment
• Route of Administration	IM (intramuscular	RXR-1
• Body Site	RA (right arm)	RXR-2
• Observation Result	(SERIES INFORMATION) repeatable	OBX-Segment

Information to transmit	Data value sent	HL7 Format
• Observation Set ID	1 (first OBX after RXA)	OBX.1
• Observation Type	CE (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	107^DTP/aP^CVX^^^	OBX.5
• Observation Set ID	2 (second OBX after RXA)	OBX.1
• Observation Type	NM (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	1 (first dose in DTaP series)	OBX.5
• Observation Result	(SERIES INFORMATION) repeatable	OBX-Segment
• Observation Set ID	3 (third OBX after RXA)	OBX.1
• Observation Type	CE	OBX.2
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	2 (second group of OBX results)	OBX.4
• Component Type	17^Hib^CVX^90737^Hib^CPT	OBX.5
• Observation Set ID	4 (fourth OBX after RXA)	OBX.1
• Observation Type	NM	OBX.2
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	2 (second group of OBX results)	OBX.4
• Component Type	1 (first dose in Hib series)	OBX.5
• Observation Result	(SERIES INFORMATION) repeatable	OBX-Segment
• Observation Set ID	5 (fifth OBX after RXA)	OBX.1
• Observation Type	CE	OBX.2
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	3 (third group of OBX results)	OBX.4
• Component Type	89^Polio^CVX^^^	OBX.5
• Observation Set ID	6 (sixth OBX after RXA)	OBX.1
• Observation Type	NM	OBX.2

Information to transmit	Data value sent	HL7 Format
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	3 (third group of OBX results)	OBX.4
• Component Type	1 (first dose in polio series)	OBX.5
• Immunization (#2)		RXA segment
• Date administered	April 22, 2015	RXA-3
• Administered Code	133^Pneumo-Conjugate 13^CVX^90670^Pneumo-Conjugate 13^CP (Prevnar 13)	RXA-5
• Dose size	1.0 Full Dose	RXA-6
• Immunization Source	00 (New Administered immunization)	RXA-9
• Administering Clinician	Emma Moore	RXA-10
• Administered at location	Valley Clinic	RXA-11.4
• Lot number	F20002	RXA-15
• Pharmacy Treatment Route		RXR segment
• Route of Administration	IM (intramuscular	RXR-1
• Body Site	LA (left arm)	RXR-2
• Observation Result	(SERIES INFORMATION) repeatable	OBX-Segment
• Observation Set ID	1 (first OBX after RXA)	OBX.1
• Observation Type	CE (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	133^Pneumo-Conjugate 13^CVX^90670^Pneumo-Conjugate 13^CPT	OBX.5
• Observation Set ID	2 (second OBX after RXA)	OBX.1
• Observation Type	NM (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	1 (first dose in Pneumococcal series)	OBX.5
• Immunization (#3)		RXA segment
• Date administered	January 15, 2015	RXA-3

Information to transmit	Data value sent	HL7 Format
• Administered Code	08^HepB pediatric^CVX^90744^HepB pediatric^CPT	RXA-5
• Dose size	1.0 Full Dose	RXA-6
• Immunization Source	01 (Historical immunization – Source Unspecified)	RXA-9
• Administered at location	Mercy Hospital	RXA-11.4
• Observation Result	(SERIES INFORMATION) repeatable	OBX-Segment
• Observation Set ID	1 (first OBX after RXA)	OBX.1
• Observation Type	CE (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	45^HepB^CVX^90731^HepB^CPT	OBX.5
• Observation Set ID	2 (second OBX after RXA)	OBX.1
• Observation Type	NM (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	1 (first dose in HepB series)	OBX.5
• Immunization (#4)		RXA segment
• Date administered	April 22, 2015	RXA-3
• Administered Code	08^HepB pediatric^CVX^90744^HepB pediatric^CPT	RXA-5
• Dose size	1.0 Full Dose	RXA-6
• Immunization Source	00 (New Administered immunization)	RXA-9
• Administering Clinician	Emma Moore	RXA-10
• Administered at location	Valley Clinic	RXA-11.4
• Lot number	H4456	RXA-15
• Pharmacy Treatment Route		RXR segment
• Route of Administration	IM (intramuscular	RXR-1
• Observation Result	(SERIES INFORMATION) repeatable	OBX-Segment
• Observation Set ID	1 (first OBX after RXA)	OBX.1
• Observation Type	CE (Data type for OBX-5)	OBX.2

Information to transmit	Data value sent	HL7 Format
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	45^HepB^CVX^90731^HepB^CPT	OBX.5
• Observation Set ID	2 (second OBX after RXA)	OBX.1
• Observation Type	NM (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	2 (second dose in HepB series)	OBX.5
Recommendations		RXA segment
• Date administered	April 22, 2015	RXA-3
• Administered Code	998^No Vaccine Administered^CVX	RXA-5
• Dose size	999 (none)	RXA-6
• Observation Result	(Recommendation Information) repeatable	OBX-Segment
• Observation Set ID	1 (first OBX after RXA)	OBX.1
• Observation Type	CE (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	107^DTP/aP^CVX	OBX.5
• Observation Set ID	2 (second OBX after RXA)	OBX.1
• Observation Type	TS (Data type for OBX-5)	OBX.2
• Observation Identifier	30979-9&30973-2^Vaccine due next dose number^LN^^^	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	May 20, 2015	OBX.5
• Observation Set ID	3 (third OBX after RXA)	OBX.1
• Observation Type	NM (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	2 (second dose in DTaP series)	OBX.5
• Observation Set ID	2 (fourth OBX after RXA)	OBX.1

Information to transmit	Data value sent	HL7 Format
• Observation Type	TS (Data type for OBX-5)	OBX.2
• Observation Identifier	30979-9&30981-5^Earliest date to give^LN^^^	OBX.3
• Observation Sub-Type	1 (first group of OBX results)	OBX.4
• Component Type	May 20, 2015	OBX.5
• Observation Set ID	2 (fifth OBX after RXA)	OBX.1
• Observation Type	CE (Data type for OBX-5)	OBX.2
• Observation Identifier	30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^	OBX.3
• Observation Sub-Type	2 (second group of OBX results)	OBX.4
• Component Type	^ACIP schedule	OBX.5
• Observation Set ID	6 (first OBX after RXA)	OBX.1
• Observation Type	CE (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0^COMPONENT VACCINE TYPE^LN	OBX.3
• Observation Sub-Type	2 (second group of OBX results)	OBX.4
• Component Type	85^HepA^CVX^90730^HepA^CPT	OBX.5
• Observation Set ID	7 (second OBX after RXA)	OBX.1
• Observation Type	TS (Data type for OBX-5)	OBX.2
• Observation Identifier	30979-9&30973-2^Vaccine due next dose number^LN^^^	OBX.3
• Observation Sub-Type	2 (second group of OBX results)	OBX.4
• Component Type	January 15, 2016	OBX.5
• Observation Set ID	8 (eighth OBX after RXA)	OBX.1
• Observation Type	NM (Data type for OBX-5)	OBX.2
• Observation Identifier	38890-0&30973-2^Dose number in series	OBX.3
• Observation Sub-Type	2 (second group of OBX results)	OBX.4
• Component Type	1 (first dose in HepA series)	OBX.5
• Observation Set ID	9 (ninth OBX after RXA)	OBX.1
• Observation Type	TS (Data type for OBX-5)	OBX.2
• Observation Identifier	30979-9&30981-5^Earliest date to give^LN^^^	OBX.3

Information to transmit		Data value sent	HL7 Format
•	Observation Sub-Type	2 (second group of OBX results)	OBX.4
•	Component Type	January 15, 2016	OBX.5
•	Observation Set ID	2 (fifth OBX after RXA)	OBX.1
•	Observation Type	CE (Data type for OBX-5)	OBX.2
•	Observation Identifier	30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^	OBX.3
•	Observation Sub-Type	2 (second group of OBX results)	OBX.4
•	Component Type	^ACIP schedule	OBX.5
OBX group repeated for each of the remaining vaccine groups recommended.			

Response:
MSH|^~\&|IRISHL7 2.4^^|IRIS^^||P36^^|20150422||VXR^V03|1|P^|2.4^^|||ER<CR><LF>
MSA|AA|1||0||0^Message Accepted^HL70357^^^<CR><LF>
QRD|20150422|R|I|A12345|||10^RD^^^^^|^TEST^PENELOPE^^^^^^^^^^^^|VXI^VACCINEINFORMATION^HL70048^^^|01^SIIS^^^^||1<CR><LF>
QRF|IRIS|||||~20150115~~~~~~~~<CR><LF>
PID|||175212^^^^SR^~C2334299^^^^PI^||TEST^PENELOPE^JO^^^^^|SMITH^BETHANY^^^^^^|20150115|F||2028-9^^^^^|123
ANYSTREET^^MOORE^ID^83255^^PA^^ID023^^||(208)555-4321^PRN^PH^^^208^5554321^^|||||||||2186-5^^^^^|||||||<CR><LF>
PD1||||||||||||02^^^^^|Y||||A<CR><LF>
NK1|1|TEST^BETHANY^JO^^^^^|MTH^MOTHER^HL70063^^^^^^^^|123 ANYSTREET^^MOORE^ID^83255^^RP^^^^|(208)555-
4321^PRN^PH^^^208^5554321^^<CR><LF>
NK1|2|TEST^JASON^^^^^^|FTH^FATHER^HL70063^^^^^^^^|123 ANYSTREET^^MOORE^ID^83255^^RP^^^^|(208)555-4321^PRN^PH^^^208^5554321^^<CR><LF>
PV1||R||||||||||||||||||||||||V01^20150422<CR><LF>
RXA|0|999|20150422|20150422|120^DTaP-IPV/Hib^CVX^90698^DTaP-IPV/Hib^CPT|1.0|||00^^^^^~301204^IRIS immunization
id^IMM_ID^^^|^Moore^Emma^^^^^^^^^^REI^^|^^^Valley Clinic^^^^^^^^^^^||||APENT234MKK||PMC^^MVX^^^|||<CR><LF>
RXR|IM^^^^^|RA^^^^^<CR><LF>
OBX|1|CE|38890-0^COMPONENT VACCINE TYPE^LN|1|107^DTP/aP^CVX^^^||||||F|<CR><LF>
OBX|2|NM|38890-0&30973-2^Dose number in series^LN|1|1||||||F|<CR><LF>
OBX|3|CE|38890-0^COMPONENT VACCINE TYPE^LN|2|17^Hib^CVX^90737^Hib^CPT||||||F|<CR><LF>
OBX|4|NM|38890-0&30973-2^Dose number in series^LN|2|1||||||F|<CR><LF>
OBX|5|CE|38890-0^COMPONENT VACCINE TYPE^LN|3|89^Polio^CVX^^^||||||F|<CR><LF>
OBX|6|NM|38890-0&30973-2^Dose number in series^LN|3|1||||||F|<CR><LF>
RXA|0|999|20150422|20150422|133^Pneumo-Conjugate 13^CVX^90670^Pneumo-Conjugate 13^CPT|1.0|||00^^^^^~301205^IRIS immunization
id^IMM_ID^^^|^Moore^Emma^^^^^^^^^^REI^^|^^^ Valley Clinic ^^^^^^^^^^^||||F20002||PFR^^MVX^^^|||<CR><LF>
RXR|IM^^^^^|LA^^^^^<CR><LF>
OBX|1|CE|38890-0^COMPONENT VACCINE TYPE^LN|1|109^Pneumococcal^CVX^^^||||||F|<CR><LF>
OBX|2|NM|38890-0&30973-2^Dose number in series^LN|1|1||||||F|<CR><LF>
RXA|0|999|20150115|20150115|08^HepB pediatric^CVX^90744^HepB pediatric^CPT|1.0|||01^^^^^~301206^IRIS immunization id^IMM_ID^^^||^^^MERCY
HOSPITAL^^^^^^^^^^^|||||||||<CR><LF>
OBX|1|CE|38890-0^COMPONENT VACCINE TYPE^LN|1|45^HepB^CVX^90731^HepB^CPT||||||F|<CR><LF>
OBX|2|NM|38890-0&30973-2^Dose number in series^LN|1|1||||||F|<CR><LF>
RXA|0|999|20150422|20150422|08^HepB pediatric^CVX^90744^HepB pediatric^CPT|1.0|||00^^^^^~301207^IRIS immunization
id^IMM_ID^^^|^Moore^Emma^^^^^^^^^^REI^^|^^^ Valley Clinic ^^^^^^^^^^^||||H4456||SKB^SKB^MVX^^^|||<CR><LF>
RXR|IM^^^^^|<CR><LF>
OBX|1|CE|38890-0^COMPONENT VACCINE TYPE^LN|1|45^HepB^CVX^90731^HepB^CPT||||||F|<CR><LF>
OBX|2|NM|38890-0&30973-2^Dose number in series^LN|1|2||||||F|<CR><LF>
RXA|0|0|20150422|20150422|998^No Vaccine Administered^CVX|999|<CR><LF>
OBX|1|CE|30979-9^Vaccines Due Next^LN^^^|1|107^DTP/aP^CVX^^^||||||F|<CR><LF>

OBX|2|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|1|20150520||||||F|<CR><LF>
OBX|3|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|1|2||||||F|<CR><LF>
OBX|4|TS|30979-9&30981-5^Earliest date to give^LN^^^|1|20150520||||||F|<CR><LF>
OBX|5|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|1|^ACIP schedule||||||F|<CR><LF>
OBX|6|CE|30979-9^Vaccines Due Next^LN^^^|2|85^HepA^CVX^90730^HepA^CPT||||||F|<CR><LF>
OBX|7|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|2|20160115||||||F|<CR><LF>
OBX|8|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|2|1||||||F|<CR><LF>
OBX|9|TS|30979-9&30981-5^Earliest date to give^LN^^^|2|20160115||||||F|<CR><LF>
OBX|10|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|2|^ACIP schedule||||||F|<CR><LF>
OBX|11|CE|30979-9^Vaccines Due Next^LN^^^|3|45^HepB^CVX^90731^HepB^CPT||||||F|<CR><LF>
OBX|12|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|3|20150715||||||F|<CR><LF>
OBX|13|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|3|3||||||F|<CR><LF>
OBX|14|TS|30979-9&30981-5^Earliest date to give^LN^^^|3|20150715||||||F|<CR><LF>
OBX|15|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|3|^ACIP schedule||||||F|<CR><LF>
OBX|16|CE|30979-9^Vaccines Due Next^LN^^^|4|17^Hib^CVX^90737^Hib^CPT||||||F|<CR><LF>
OBX|17|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|4|20150520||||||F|<CR><LF>
OBX|18|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|4|2||||||F|<CR><LF>
OBX|19|TS|30979-9&30981-5^Earliest date to give^LN^^^|4|20150520||||||F|<CR><LF>
OBX|20|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|4|^ACIP schedule||||||F|<CR><LF>
OBX|21|CE|30979-9^Vaccines Due Next^LN^^^|5|88^Influenza^CVX^90724^ Influenza^CPT|||||F|<CR><LF>
OBX|22|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|5|20150715||||||F|<CR><LF>
OBX|23|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|5|1||||||F|<CR><LF>
OBX|24|TS|30979-9&30981-5^Earliest date to give^LN^^^|5|20150715||||||F|<CR><LF>
OBX|25|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|5|^ACIP schedule||||||F|<CR><LF>
OBX|26|CE|30979-9^Vaccines Due Next^LN^^^|6|03^MMR^CVX^90707^MMR^CPT||||||F|<CR><LF>
OBX|27|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|6|20160115||||||F|<CR><LF>
OBX|28|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|6|1||||||F|<CR><LF>
OBX|29|TS|30979-9&30981-5^Earliest date to give^LN^^^|6|20160115||||||F|<CR><LF>
OBX|30|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|6|^ACIP schedule||||||F|<CR><LF>
OBX|31|CE|30979-9^Vaccines Due Next^LN^^^|7|109^Pneumococcal^CVX^^^||||||F|<CR><LF>
OBX|32|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|7|20150520||||||F|<CR><LF>
OBX|33|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|7|2||||||F|<CR><LF>
OBX|34|TS|30979-9&30981-5^Earliest date to give^LN^^^|7|20150520||||||F|<CR><LF>
OBX|35|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|7|^ACIP schedule||||||F|<CR><LF>
OBX|36|CE|30979-9^Vaccines Due Next^LN^^^|8|89^Polio^CVX^^^||||||F|<CR><LF>
OBX|37|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|8|20150520||||||F|<CR><LF>
OBX|38|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|8|2||||||F|<CR><LF>
OBX|39|TS|30979-9&30981-5^Earliest date to give^LN^^^|8|20150520||||||F|<CR><LF>
OBX|40|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|8|^ACIP schedule||||||F|<CR><LF>
OBX|41|CE|30979-9^Vaccines Due Next^LN^^^|9|122^Rotavirus^CVX^90680^Rotavirus^CPT||||||F|<CR><LF>
OBX|42|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|9|20150315||||||F|<CR><LF>
OBX|43|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|9|1||||||F|<CR><LF>
OBX|44|TS|30979-9&30981-5^Earliest date to give^LN^^^|9|20150226||||||F|<CR><LF>
OBX|45|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|9|^ACIP schedule||||||F|<CR><LF>
OBX|46|CE|30979-9^Vaccines Due Next^LN^^^|10|21^Varicella^CVX^90716^Varicella^CPT||||||F|<CR><LF>
OBX|47|TS|30979-9&30980-7^Date Vaccine Due^LN^^^|10|20160115||||||F|<CR><LF>
OBX|48|NM|30979-9&30973-2^Vaccine due next dose number^LN^^^|10|1||||||F|<CR><LF>
OBX|49|TS|30979-9&30981-5^Earliest date to give^LN^^^|10|20160115||||||F|<CR><LF>
OBX|50|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^^|10|^ACIP schedule||||||F|<CR><LF>

2. Exact match found - patient has opted out and record is locked in IRIS: return QCK

Information to transmit	Data value sent	HL7 Format
• Query		
• Message Type	VXQ-01 (Query for Vaccination Record)	MSH-9
• Query Format	R (Record based	QRD-2
• Query Priority	I (Immediate)	QRD-3
• Query ID	848344	QRD-4
• Quantity Limited Request	10RD (Maximum Matching Records)	QRD-7
• Who Subject Filter	Marco test (Patient Name)	QRD-8
• What Subject Filter	VXI^ Vaccine Information^HL70048	QRD-9
• What Department Code	01^SIIS	QRD-10
• Where subject Filter	IRIS	QRF-1
• Other Subject Query Filter	January 1, 2004 (Patient Birth Date)	QRF-5 (second repetition)

Query:

MSH|^~\&| VALLEY CLINIC|VALLEY CLINIC^36|||20150422134645||VXQ^V01|848344|P^|2.4^^|||ER|AL|<CR>

QRD|20150422|R|I|A|||10RD|^TEST^MARCO^|VXI^VACCINEINFORMATION^HL70048|01^SIIS|<CR>

QRF|IRIS|||||~20040101<CR>

Information to transmit	Data value sent	HL7 Format
• Query Response		
• Message Type	QCK (Query General Acknowledgement)	MSH-9
• Acknowledgement Code	AE (Application Error)	MSA-1
• Message Control ID	848344	MSA-2
• Text Message	Patient has an 'Allow Sharing of Immunization Data' indicator = No	MSA-3
• Expected Sequence Number	0	MSA-4
• Error condition	500^Record not released^HL70357^^^	MSA-6
• Query Tag	A	QAK-1
• Query response status	NF (No matches found)	QAK-2

Response:

MSH|^~\&|IRISHL7 2.4^^|IRIS^^||P36^^|20150423||QAK^|848344|P^|2.4^^|||ER|AL|<CR><LF>

MSA|AE|848344|Patient has an 'Allow Sharing of Immunization Data' indicator = No.|0||500^Record not released^HL70357^^^<CR><LF>

QAK|A|NF <CR><LF>

3. No match found: return QCK

Information to transmit	Data value sent	HL7 Format
• Query		
• Message Type	VXQ^01 (Query for Vaccination Record)	MSH-9
• Query Format	R (Record based	QRD-2
• Query Priority	I (Immediate)	QRD-3
• Query ID	34533	QRD-4
• Quantity Limited Request	10RD (Maximum Matching Records)	QRD-7
• Who Subject Filter	Sophia Test (Patient Name)	QRD-8
• What Subject Filter	VXI^ Vaccine Information^HL70048	QRD-9
• What Department Code	01^SIIS	QRD-10
• Where subject Filter	IRIS	QRF-1
• Other Subject Query Filter	February 5, 2006 (Patient Birth Date)	QRF-5 (second repetition)

Query:

MSH|^~\&| VALLEY CLINIC|VALLEY CLINIC^36|||20150422134645||VXQ^V01|JE23424|P^|2.4^^|||ER |AL|<CR>

QRD|20150422|R|I|34533|||10RD|^TEST^SOPHIA^|VXI^VACCINEINFORMATION^HL70048|01^SIIS|<CR>

QRF|IRIS|||||~20060205<CR>

Information to transmit	Data value sent	HL7 Format
• Query Response		
• Message Type	QCK (Query General Acknowledgement)	MSH-9
• Acknowledgement Code	AA (Application Accept	MSA-1
• Message Control ID	JE23424	MSA-2
• Text Message		MSA-3
• Expected Sequence Number	0	MSA-4
• Error condition	0^Message Accepted^HL70357^^	MSA-6
• Query Tag	34533	QAK-1
• Query response status	NF (No matches found)	QAK-2

Response:

MSH|^~\&|IRIS|IRIS||P36|20171101120926.970||QCK^Q02^QCK_Q02|JE23424|P|2.4<CR><LF>

MSA|AA|JE23424||0||0^Message Accepted^HL70357<CR><LF>

QAK|34533|NF<CR><LF>

4. Multiple matches found, more than 10 matches or matches requested in QRD-7: return ACK

Information to transmit	Data value sent	HL7 Format
• Query		
• Message Type	VXQ^01 (Query for Vaccination Record)	MSH-9
• Query Format	R (Record based	QRD-2
• Query Priority	I (Immediate)	QRD-3
• Query ID	A	QRD-4
• Quantity Limited Request	10RD (Maximum Matching Records)	QRD-7
• Who Subject Filter	Liam Test (Patient Name)	QRD-8
• What Subject Filter	VXI^ Vaccine Information^HL70048	QRD-9
• What Department Code	01^SIIS	QRD-10
• Where subject Filter	IRIS	QRF-1
• Other Subject Query Filter	October 5, 2013(Patient Birth Date)	QRF-5 (second repetition)

Query:

MSH|^~\&| VALLEY CLINIC|VALLEY CLINIC^36|||20150422134645||VXQ^V01|234331|P^|2.4^^|||ER|AL|<CR>

QRD|20150422|R|I|A|||10RD|^TEST^LIAM^|VXI^VACCINEINFORMATION^HL70048|01^SIIS|<CR>

QRF|IRIS|||~20131005<CR>

Information to transmit	Data value sent	HL7 Format
• Query Response		
• Query		
• Message Type	ACK (General Acknowledgement)	MSH-9
• Acknowledgement Code	AE (Application Error	MSA-1
• Message Control ID	234331	MSA-2
• Text Message	More patients were found than allowed (10). No patients returned	MSA-3
• Expected Sequence Number	0	MSA-4
• Error condition	500^Record not released^HL70357^^^	MSA-6

Response:

MSH|^~\&|IRISHL7 2.4^^|IRIS^^||P36^^|20150423||ACK^|1|P^|2.4^^|||ER<CR><LF>

MSA|AE|234331|More patients were found than allowed (10). No patients returned.|0||500^Record not released^HL70357^^^<CR><LF>

5.   Multiple matches, less than 10 matches: return VXX
Query found 3 patient matches but only returned 2 because one patient has opted out and the record is locked.

Information to transmit	Data value sent	HL7 Format
• Query		
• Message Type	VXQ^01 (Query for Vaccination Record)	MSH-9
• Query Format	R (Record based	QRD-2
• Query Priority	I (Immediate)	QRD-3
• Query ID	884334	QRD-4
• Quantity Limited Request	10RD (Maximum Matching Records)	QRD-7
• Who Subject Filter	Aiden Test (Patient Name)	QRD-8
• What Subject Filter	VXI^ Vaccine Information^HL70048	QRD-9
• What Department Code	01^SIIS	QRD-10
• Where subject Filter	IRIS	QRF-1
• Other Subject Query Filter	October 5, 2013 (Patient Birth Date)	QRF-5 (second repetition)

Query:

MSH|^~\&| VALLEY CLINIC|VALLEY CLINIC^36|||20150422134645||VXQ^V01|T3421|P^|2.4^^|||ER|AL|<CR>

QRD|20150422|R|I|884334|||10RD|^TEST^aiden^|VXI^VACCINEINFORMATION^HL70048|01^SIIS|<CR>

QRF|IRIS|||||~20131005<CR>

Information to transmit	Data value sent	HL7 Format
• Query Response		
• Message Type	VXX^02 (Response to vaccination query returning multiple PID matches)	MSH-9
• Query Format	R (Record based	QRD-2
• Query Priority	I (Immediate)	QRD-3

Information to transmit	Data value sent	HL7 Format
• Query ID	884334	QRD-4
• Quantity Limited Request	10RD (Maximum Matching Records)	QRD-7
• Who Subject Filter	Aiden Test (Patient Name)	QRD-8
• What Subject Filter	VXI^ Vaccine Information^HL70048	QRD-9
• What Department Code	01^SIIS	QRD-10
• Query Results Level	1 (one matching PID returned)	QRD-12
• Where subject Filter	IRIS	QRF-1
• Other Subject Query Filter	October 5, 2013 (Patient Birth Date)	QRF-5 (second repetition)
• Patient 1 Identifier		PID segment
• Patient ID	175226^SR (State Registry ID)	PID-3 (first repetition)
	^PI (Unique Patient Identifier within Valley Clinic's system)	PID-3 (second repetition)
• Name	Aiden Test	PID-5
• Mother's maiden name		PID-6
• Birth date	October 5, 2013	PID-7
• Gender	U (Unknown)	PID-8
• Address	4040 HIGH POINT RD BOISE, ID 83705	PID-11
• County of Residence	ID001 (Ada)	PID-11.9
• Phone Number		PID-13
• Responsible Person #1 (parent or other person who cares for patient)		NK1 segment
• Name	Nicholas Test	NK1-2
• Relationship to patient	GRD (Guardian)	NK1-3
• Address	123 ANYSTREET MOORE, ID 83255	NK1-4
• Phone	208 555-8383	NK1-5
Patient 2 Identifier		PID segment
• Patient ID	175224^SR (State Registry ID)	PID-3 (first repetition)
	^PI (Unique Patient Identifier within Valley Clinic's system)	PID-3

Information to transmit	Data value sent	HL7 Format
		(second repetition)
• Name	Aiden M Test	PID-5
• Mother's maiden name		PID-6
• Birth date	October 5, 2013	PID-7
• Gender	M (Male)	PID-8
• Address	111 BROADWAY AVE IDAHO FALLS, ID 83401	PID-11
• County of Residence	ID019 (Bonneville)	PID-11.9
• Phone Number		PID-13
• Responsible Person #1 (parent or other person who cares for patient)		NK1 segment
• Name	Marcia Test	NK1-2
• Relationship to patient	MTH (Mother)	NK1-3
• Address	111 BROADWAY AVE IDAHO FALLS, ID 83401	NK1-4
• Phone	208 555-9898	NK1-5
• Responsible Person (#2)		NK1 segment
• Name	Brian Test	NK1-2
• Relationship to patient	FTH	NK1-3
• Address	234 MAIN ST IDAHO FALLS, ID 83406	NK1-4
• Phone Number	208 555-7777	NK1-5

Response:

MSH|^~\&|IRISHL7 2.4^^|IRIS^^||P36^^|20150423||VXX^V02|t3421|P^|2.4^^|||ER<CR><LF>

MSA|AA|T3421||0||0^Message Accepted^HL70357^^^<CR><LF>

QRD|20150422|R|I|884334|||10^RD^^^^^|^TEST^aiden^^^^^^^^^^^^|VXI^VACCINEINFORMATION^HL70048^^^|01^SIIS^^^^||3<CR><LF>

QRF|IRIS||||~20131005~~~~~~~~~<CR><LF>

PID|||175226^^^^SR^~^^^^PI^||TEST^AIDEN^^^^^^||20131005|U|||4040 HIGH POINT RD^^BOISE^ID^83705^^PA^^ID001^^||||||||||||||||||||<CR><LF>

NK1|1|TEST^NICHOLAS^^^^^^|GRD^GUARDIAN^HL70063^^^^^^^^|4040 HIGH POINT RD^^BOISE^ID^83705^^RP^^^^|(208)555-8383^PRN^PH^^^208^5558383^^<CR><LF>

PID|||175224^^^^SR^~^^^^PI^||TEST^AIDEN^M^^^^^||20131005|M|||111 BROADWAY AVE^^IDAHO FALLS^ID^83401^^PA^^ID019^^||||||||||||||||||||<CR><LF>

NK1|1|TEST^MARCIA^^^^^^|MTH^MOTHER^HL70063^^^^^^^^|111 BROADWAY AVE^^IDAHO FALLS^ID^83401^^RP^^^^|(208)555-9898^PRN^PH^^^208^5559898^^<CR><LF>

NK1|2|TEST^BRIAN^^^^^^|FTH^FATHER^HL70063^^^^^^^^|234 MAIN ST^^IDAHO FALLS^ID^83406^^RP^^^^|(208)555-7777^PRN^PH^^^208^5557777^^<CR><LF>

Appendix A -- HL7 Data Types

The following descriptions of HL7 data types are excerpted or adapted from the HL7 standard. See the field notes within each segment definition above on how to use data types in particular fields. Some data types have complex definitions much of which does not apply to IRIS usage, and for these we omit much of the HL7 definition of the data type, referring instead to the field notes in the segment definitions.

CE - Coded Element

Components: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>

Example:

> |F-11380^CREATININE^I9^2148-5^CREATININE^LN|

This data type transmits codes and the text associated with the code. To allow all six components of a CE data type to be valued, the maximum length of this data type must be at least 60.

Identifier (ST)

Sequence of characters (the code) that uniquely identifies the item being referenced by the <text>. Different coding schemes will have different elements here.

Text (ST)

Name or description of the item in question. E.g., myocardial infarction or X-ray impression. Its data type is string (ST).

Name of coding system (ST)

Each coding system is assigned a unique identifier. This component will serve to identify the coding scheme being used in the identifier component. The combination of the **identifier** and **name of coding system** components will be a unique code for a data item. Each system has a unique identifier. ASTM E1238-94, Diagnostic, procedure, observation, drug ID, and health outcomes coding systems are identified in the tables in Section 7.1.4 [of the full HL7 standard], "Coding schemes." Others may be added as needed. When an HL7 table is used for a CE data type, the **name of coding system** component is defined as **HL7nnnn** where **nnnn** is the HL7 table number.

Alternate components

These three components are defined analogously to the above for the alternate or local coding system. If the Alternate Text component is absent, and the Alternate Identifier is present, the Alternate Text will be taken to be the same as the Text component. If the Alternate Coding System component is absent, it will be taken to mean the locally defined system.

Note:	The presence of two sets of equivalent codes in this data type is semantically different from a repetition of a CE-type field. With repetition, several distinct codes (with distinct meanings) may be transmitted.

Note:	For HL7-defined tables which have not been adopted from some existing standard, the third component, "name of coding system," is constructed by appending the table number to the string "HL7." Thus, the field *RXR-2-site*, is a CE data type which refers to HL7 table number 0163. Its "name of coding system" component is "HL70163".

CM - Composite

Components: <point of care (IS)> ^ <room (IS) ^ <bed (IS)> ^ <facility (HD) ^ <location status (IS) ^ <patient location type (IS)> ^ <building (IS)> ^ <floor (IS)> ^ < street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ <address type (ID)> ^ <other geographic designation (ST)>

Subcomponents of facility (HD): <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)>

Example:

> |^^^Valley Clinic&36|

Definition: The first component contains the inpatient or outpatient location at which the drug or treatment was administered (if applicable). The default (null) value is the current census location for the patient. Site-specific table. The first eight components have the same form as the first eight components of *PV1-3-assigned patient location.* The final eight components replace the ninth component of *PV1-3-assigned patient location* and represent the full address specification*.*

CQ – composite quantity with units

IRIS uses this data type only for query QRD segment field 7 which indicates the number of matching records to return

Components: <quantity (NM)>^<units (CE)>
Example QRD-7 |10RD|

CX - Extended Composite ID with Check Digit

IRIS uses this data type only for patient identification in Patient Identification (PID) segments. See the field notes for values used for IRIS.

Components 1, ID number and Component 5, Identifier Type code are already required
Example PID-3 |1234567^^^^MR|:

IRIS will support the loading of PID-3 as in HL7 2.4. PID- 3 will be loaded as the organization specific Patient ID (chart number, medical record number) etc on inbound and outbound and send State Registry ID on outbound. For the State registry ID, the assigning authority will be IDA: Example PID-3 |1234567^^^IDA^SR|:

DT - Date

Format Date as: YYYMMDD

HD - Hierarchic Designator

IRIS uses this data type only to identify sender and receiver in Message Header (MSH) segments and the owner of a new administered immunization in the RXA.11-4 Administered at location. See the field notes for values used for IRIS.

ID - Coded Value for HL7 Defined Tables

The value of such a field follows the formatting rules for a 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 sex. 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.

IS - Coded Value for User Defined Tables

The value of such a field follows the formatting rules for a 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. An example of an IS field is the *Event reason code* defined in Section 3.3.1.4 [of the full HL7 standard], "Event reason code." 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.

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. Examples:

|999|
|-123.792|

Leading zeros, or trailing zeros after a decimal point, are not significant. For example, the following two values with different representations, "01.20" and "1.2", are identical. Except for the optional leading sign (+ or -) and the optional decimal point (.), no

non-numeric ASCII characters are allowed. Thus, the value <12 should be encoded as a structured numeric (SN) (preferred) or as a string (ST) (allowed, but not preferred) data type.

PT - Processing Type

Definition: This data type indicates whether to process a message as defined in HL7 Application (level 7) Processing rules. IRIS will only accept P for production.

Example: |P|

SI - Sequence ID

A non-negative integer in the form of a NM field. See the field notes in segments using this data type for specifications of SI fields.

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 delimiter characters. Example:

    |almost any data at all|

To include any HL7 delimiter character (except the segment terminator) within a string data field, use the appropriate HL7 escape sequence.

Usage note: the ST data type is intended for short strings (e.g., less than 200 characters). For longer strings the TX or FT data types should be used.

TN - Telephone Number

 The telephone number in a single field. Format as [(999)] 999-9999 [X99999]

Example: (208)555-1234x333

TS - Time Stamp

Format: YYYY[MM[DD[HHMM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]^<degree of precision>

Contains the exact time of an event, including the date and time. The date portion of a time stamp follows the rules of a date field and the time portion follows the rules of a time field. The specific data representations used in the HL7 encoding rules are compatible with ISO 8824-1987(E).

In prior versions of HL7, an optional second component indicates the degree of precision of the time stamp (Y = year, L = month, D = day, H = hour, M = minute, S = second). This optional second component is retained only for purposes of backward compatibility.

By site-specific agreement, YYYYMMDD[HHMM[SS[.S[S[S[S]]]]]][+/-ZZZZ]^<degree of precision> may be used where backward compatibility must be maintained.

In the current and future versions of HL7, the precision is indicated by limiting the number of digits used, unless the optional second component is present. Thus, YYYY is used to specify a precision of "year," YYYYMM specifies a precision of "month," YYYYMMDD specifies a precision of "day," YYYYMMDDHH is used to specify a precision of "hour," YYYYMMDDHHMM is used to specify a precision of "minute," YYYYMMDDHHMMSS is used to specify a precision of seconds, and YYYYMMDDHHMMSS.SSSS is used to specify a precision of ten thousandths of a second. In each of these cases, the time zone is an optional component. Maximum length of the time stamp is 26. Examples:

|19760704010159-0600|	1:01:59 on July 4, 1976 in the Eastern Standard Time zone.
|19760704010159-0500|	1:01:59 on July 4, 1976 in the Eastern Daylight Saving Time zone.
|198807050000|	Midnight of the night extending from July 4 to July 5, 1988 in the local time zone of the sender.
|19880705|	Same as prior example, but precision extends

only to the day. Could be used for a
birthdate, if the time of birth is unknown.

The HL7 Standard strongly recommends that all systems routinely send the time zone offset but does not require it. All HL7 systems are required to accept the time zone offset, but its implementation is application specific. For many applications the time of interest is the local time of the sender. For example, an application in the Eastern Standard Time zone receiving notification of an admission that takes place at 11:00 PM in San Francisco on December 11 would prefer to treat the admission as having occurred on December 11 rather than advancing the date to December 12.

One exception to this rule would be a clinical system that processed patient data collected in a clinic and a nearby hospital that happens to be in a different time zone. Such applications may choose to convert the data to a common representation. Similar concerns apply to the transitions to and from daylight saving time. HL7 supports such requirements by requiring that the time zone information be present when the information is sent. It does not, however, specify which of the treatments discussed here will be applied by the receiving system.

VID - Version ID

This specifies the HL7 version.   IRIS will support component 1 with values in table 104. For this specification document, the correct version ID is 2.5.1.

Components: <Version ID (ID)>^ <Internationalization Code (CE)> ^ <internationalized ID (CE)>

XAD - Extended Address

Components: <street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code(ST)> ^ <country (ID)> ^ < address type (ID)> ^ <other geographic designation (ST)>^ <county/parish code (IS)> ^ <census tract (IS)> ^ <address representation code (ID)>

Example:

|1234 Easy St.^Ste. 123^San Francisco^CA^95123^USA^B^^SF^^|

Street address (ST)

The street or mailing address of a person or institution.

Other designation (ST)

Second line of address. In general, it qualifies address. Examples: Suite 555 or Fourth Floor.

City (ST)
State or province (ST)

State or province should be represented by the official postal service codes for that country.

Zip or postal code (ST)

Zip or postal codes should be represented by the official codes for that country. In the US, the zip code takes the form 99999[-9999], while the Canadian postal code takes the form A9A-9A9.

Country (ID)

Defines the country of the address. See Table 0212.

Address type (ID)

Address type is optional.

Other geographic designation (ST)

Other geographic designation includes country, bioregion, SMSA, etc.

County code (IS)

A code that represents the county in which the specified address resides. Refer to *user-defined table 0289 - County*. When this component is used to represent the county, component 8 "other geographic designation" should not duplicate it (i.e., the use of "other geographic designation" to represent the county is allowed only for the purpose of backward compatibility, and should be discouraged in this and future versions of HL7).

Census tract (IS)

An optional code that represents the census track in which the specified address resides. IRIS does not store this value.

XCN - Extended Composite ID Number and Name for Persons

IRIS uses this data type only to identify Provider Organizations that administer immunizations. See the field notes for segment RXA.

XPN - Extended Person Name

Components: <family name (ST)> & <last name prefix (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <name type code (ID) > ^ <name representation code (ID)>

Example:

|Smith^John^J^III^DR^PHD^L|

Family name (ST)
Last Name Prefix (ST)
Given name (ST)
Middle initial or name (ST)
Suffix (ST)

Used to specify a name suffix (e.g., Jr. or III).

Prefix (ST)

Used to specify a name prefix (e.g., Dr.).

Degree (ST)

Used to specify an educational degree (e.g., MD).

Name type code (ID)

A code that represents the type of name. Refer to *HL7 table 0200 - Name type* for valid values.

> Note: The legal name is the same as the current married name.

Name representation code (ID)

This component can be used when names are represented in ideographic or non-alphabetic systems. IRIS ignores this component.

XTN - Extended Telecommunication Number

Components: [**N**NN] [(999)]999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID)> ^ <telecommunication equipment type (ID)> ^ <email address (ST)> ^ <country code (NM)> ^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>

Examples: A primary residence number

(**208**)555-7777x1234 ^PRN^PH^jane.doe@gmail.com^^^^ or

(^PRN^PH^jane.doe@gmail.com^^208^5557777^1234

Defined as the TN data type, except that the length of the country access code has been increased to three.

Telecommunication use code (ID)

A code that represents a specific use of a telecommunication number. Refer *to HL7 table 0201 - Telecommunication use code* for valid values.

Telecommunication equipment type (ID)

A code that represents the type of telecommunication equipment. Refer *to HL7 table 0202 - Telecommunication equipment type* for valid values.

Appendix B -- HL7 Tables

The following tables give valid values for fields in the segments defined above, in the cases where the field definitions reference an HL7 table number. The tables are considered to be part of the HL7 standard, but those tables designated as type User have values determined by IRIS.

Type	Table	Name	Value	Description
HL7	0001	**Sex**		
	0001		F	Female
	0001		M	Male
	0001		U	Unknown
HL7	0003	**Event Type**		
	0003		V01	VXQ – Query for vaccination record
	0003		V02	VXX – Response to vaccination query returning multiple PID matches
	0003		V03	VXR – Vaccination record response
	0003		V04	VXU - Unsolicited vaccination record update
HL7	0004	**Patient class**		
	0004		R	Recurring
HL7	0005	**Race**		
	0005		1002-5	American Indian or Alaska Native
	0005		2028-9	Asian
	0005		2076-8	Native Hawaiian or Other Pacific Islander
	0005		2054-5	Black or African-American
	0005		2106-3	White
	0005		2131-1	Other Race
HL7	0008	**Acknowledgment Code**		
	0008		AA	Application Accept
	0008		AE	Application Error
	0008		AR	Application Reject
HL7	0048	**What Subject Filter**		
	0048		VXI	Vaccine Information
User	0063	**Relationship**		
	0063		BRO	Brother
	0063		CGV	Care giver
	0063		CHD	Child
	0063		DOM	Life partner
	0063		EMC	Emergency contact
	0063		EXF	Extended family
	0063		FCH	Foster Child
	0063		FTH	Father
	0063		GRD	Guardian
	0063		GRP	Grandparent
	0063		MTH	Mother
	0063		OTH	Other
	0063		PAR	Parent
	0063		SCH	Stepchild
	0063		SEL	Self

	0063		SIB	Sibling
	0063		SIS	Sister
	0063		SPO	Spouse
	0063		UNK	Unknown
HL7	0064	**Financial class (VFC Eligibility)**		
	0064		V01	Ineligible
	0064		V02	Medicaid
	0064		V03	Uninsured
	0064		V04	American Indian/Alaskan Native
	0064		V05	Underinsured FQHC/RHC
HL7	0076	**Message Type**		
	0076		ACK	General acknowledgment
	0076		QCK	General query acknowledgement
	0076		VXQ	Query for vaccination record
	0076		VXX	Vaccination query response with multiple PID matches
	0076		VXR	Vaccination query record response
	0076		VXU	Unsolicited vaccination record update
HL7	0085	**Observation result status codes**		
	0085		F	Final
	0085			
HL7	0086	**Plan Type ID**		
	0086		1	Medicare
	0086		2	Medicaid
	0086		5	Private Insurance
	0086		81	Self Pay
HL7	0091	**Query Priority**		
	0091		I	Immediate
HL7	0103	**Processing ID**		
	0103		P	Production
HL7	0104	**Version ID**		
	0104		2.4	Release 2.4 (CDC Guide 2.3.1 version 2.2 2006)
	0104		2.5.1	Version 2.5.1 CDC Implementation Guide, release 1.3 (August 2011) **REFER TO IRIS HL7 2.5.1 Release 1.4 Specifications** **OR** Version 2.5.1 CDC Implementation Guide, release 1.5 (November 2014) **REFER TO IRIS HL7 2.5.1 Release 1.5 Specifications**
HL7	0106	**Query/Response Format code**		
	0106		R	Response is in record–oriented format
HL7	0125	**HL7 Data Types**		

	0125		CE	Coded Entry
	0125		CM	Composite
	0125		CQ	Composite Quantity with Units
	0125		CX	Extended Composite ID with Check Digit
	0125		DT	Date
	0125		HD	Hierarchic Designator
	0125		ID	Coded Values for HL7 tables
	0125		IS	Coded Values for User-defined tables
	0125		NM	Numeric
	0125		PT	Processing Type
	0125		SI	Sequence ID
	0125		ST	String Data
	0125		TN	Telephone Number (single field)
	0125		TX	Text Data ((String longer than 200 characters)
	0125		VID	HL7 Version ID
	0125		XAD	Extended Address
	0125		XCN	Extended Composite Name And Number For Persons
	0125		XPN	Extended Person Name
	0125		XTN	Extended Telecommunications Number
HL7	0126	**Quantity Limited Request**		
	0126		RD	Records
HL7	0136	**Yes/No Indicator**		
	0136		Y	Yes
	0136		N	No
HL7	0155	**Accept/Application Acknowledgment Conditions**		
	0155		AL	Always
	0155		ER	Error/reject conditions only
HL7	0162	**Route of Administration**		
	0162		ID	Intradermal
	0162		IM	Intramuscular
	0162		NS	Nasal
	0162		IV	Intravenous
	0162		PO	Oral
	0162		SC	Subcutaneous
	0162		TD	Transdermal
	0162		MP	Multiple Puncture (Small Pox)
HL7	0163	**Administrative Site**		
	0163		LT	Left Thigh
	0163		LA	Left Arm
	0163		LD	Left Deltoid

	0163		LG	Left Gluteus Medius
	0163		LVL	Left Vastus Lateralis
	0163		LLFA	Left Lower Forearm
	0163		OTH	Other/Miscellaneous
	0163		RA	Right Arm
	0163		RT	Right Thigh
	0163		RVL	Right Vastus Lateralis
	0163		RG	Right Gluteus Medius
	0163		RD	Right Deltoid
	0163		RLFA	Right Lower Forearm
HL7	0189	**Ethnic Group**		
	0189		2135-2	Hispanic
	0189		2186-5	Non-Hispanic
HL7	0190	**Address Type**		
	0190		B	Business
	0190		BA	Bad Address
	0190		C	Current
	0190		H	Home
	0190		L	Legal
	0190		M	Mailing
	0190		O	Office
	0190		P	Permanent
	0190		B	Business
HL7	0200	**Name Type**		
	0200		L	Legal
	0200		M	Maiden
HL7	0201	**Telecommunication Use**		
	0201		PRN	Primary Residence Number
HL7	0202	**Telecommunication Equipment Type**		
	0202		PH	Phone Number
HL7	0203	**Identifier Type**		
	0203		MA	Medicaid (PID)
	0203		MC	Medicare (PID)
	0203		MR	Medical Record Number (PID)
	0203		NH	National Health Plan (IN1)
	0203		NII	National Insurance Organization Identifier (N1)
	0203		NIIP	National Insurance Payor Identifier (IN1)
	0203		PI	Patient Internal Identifier (PID)
	0203		PN	Person Number (PID)
	0203		PT	Patient External Identifier (PID)
	0203		SR	State Registry Identifier (PID)
HL7	0208	**Query Response Status**		
	0208		NF	No data found, no errors
	0208		TM	Too many possible matches – refine query criteria

User	0212	**Nationality**		
	0212		US	United States of America
User	0215	**Publicity Code**		
	0215		01	No reminder/recall
	0215		02	Yes reminder/recall – any method
HL7	0227	**Manufacturers of vaccines (code = MVX)**		
	0227		AB	Abbott Laboratories (Ross Products Division)
	0227		ACA	Acambis, Inc - **Inactive**
	0227		AD	ADAMS LABORATORIES - **Inactive**
	0227		AKR	Akron, Inc
	0227		ALP	Alpha Therapeutic Corporation
	0227		AP	Sanofi Pastuer - **Inactive**
	0227		AR	Armour - **Inactive**
	0227		ASZ	AstraZeneca, Inc.
	0227		AVB	Sanofi Behring L.L.C. (Centeon and Armour Pharmaceutical) - **Inactive**
	0227		AVI	Aviron - **Inactive**
	0227		BA	Baxter Healthcare Corporation - **Inactive**
	0227		BAH	Baxter Healthcare Corporation (Hyland, Immuno Intl AG, and N. Amer. Vac)
	0227		BAY	Bayer (Including Miles And Cutter) - **Inactive**
	0227		BP	Berna - **Inactive**
	0227		BPC	Berna (Including Swiss Serum And Vib) - **Inactive**
	0227		BRR	Barr Laboratories
	0227		BTP	Biotest Pharmaceuticals Corporation
	0227		CEN	Centeon (Including Armour Pharm) - **Inactive**
	0227		CHI	Chiron Corporation
	0227		CMP	Celltech Medeva Pharmaceuticals - **Inactive**
	0227		CNJ	Cangene Corporation - **Inactive**
	0227		CON	Connaught - **Inactive**
	0227		CRU	Crucell
	0227		CSL	bioCSL -**Inactive**
	0227		DVC	DynPort Vaccine Company, LLC
	0227		DYN	Dynaport
	0227		EVN	Evans Medical Limited - **Inactive**
	0227		GEO	GeoVax Labs, Inc
	0227		GRE	Greer Laboratories Inc.
	0227		GRF	Grifols
	0227		IAG	Immuno International Ag - **Inactive**
	0227		IDB	ID Biomedical
	0227		IM	Merieux - **Inactive**
	0227		INT	Intercell Biomedical- **Inactive**

	0227		IUS	Immuno-U.S., Inc. - **Inactive**
	0227		JNJ	Johnson and Johnson
	0227		JSN	Janssen
	0227		JPN	Osaka University (Biken)
	0227		KED	Kedrion Biopharma
	0227		KGC	Korea Green Cross Corporation - **Inactive**
	0227		LED	Lederlen - **Inactive**
	0227		MA	Massachusetts Public Health Biologic Lab - **Inactive**
	0227		MBL	Massachusetts Biologic Laboratories
	0227		MCM	MCM Vaccine Company
	0227		MED	Medimmune, Inc.
	0227		MIL	Miles - **Inactive**
	0227		MIP	Emergent BioDefense Operations Lansing (formerly Bioport Corporation)
	0227		MOD	Moderna US, Inc.
	0227		MSD	Merck & Co, Inc.
	0227		NAB	NABI
	0227		NAV	North American Vaccine, Inc. - **Inactive**
	0227		NOV	Novartis Pharmaceutical Corporation (Ciba-Geigy and Sandoz)
	0227		NVX	Novavax, Inc.
	0227		NYB	New York Blood Center
	0227		ORT	Ortho-Clinical Diagnostics - **Inactive**
	0227		OTC	Organon Teknika Corporation
	0227		OTH	Other - **Inactive**
	0227		PAX	PaxVax
	0227		PD	Parkedale Pharmaceuticals - **Inactive**
	0227		PFR	Pfizer, Inc.
	0227		PMC	Sanofi Pasteur Inc. (Connaught and Pasteur Merieux)
	0117		PRX	Praxis Biologics - **Inactive**
	0227		PSC	Protein Sciences
	0227		PWJ	PowerJect Pharmaceuticals (Celltech Medeva and Evans Medical) - **Inactive**
	0227		SCL	Sclavo, Inc.
	0227		SEQ	Seqirus
	0227		SI	Swiss Serum and Vaccine Inst. - **Inactive**
	0227		SKB	GlaxoSmithKline (SmithKline Beecham and Glaxo Wellcome)
	0227		TAL	Talecris Biotherapeutics (includes Bayer Biologicals)
	0227		SOL	Solvay Pharmaceuticals - **Inactive**
	0227		USA	Us Army Med Research - **Inactive**
	0227		VAL	Valneva

	0227		VXG	VaxGen - **Inactive**
	0227		WAL	Wyeth-Ayerst (Lederle and Praxis) - **Inactive**
	0227		UNK	UNKNOWN - **Inactive**
	0227		NOT	- **Inactive**
User	0289	**County**		
	0289		ID001	Ada
	0289		ID003	Adams
	0289		ID005	Bannock
	0289		ID007	Bear Lake
	0289		ID009	Benewah
	0289		ID011	Bingham
	0289		ID013	Blaine
	0289		ID015	Boise
	0289		ID017	Bonner
	0289		ID019	Bonneville
	0289		ID021	Boundary
	0289		ID023	Butte
	0289		ID025	Camas
	0289		ID027	Canyon
	0289		ID029	Caribou
	0289		ID031	Cassia
	0289		ID033	Clark
	0289		ID035	Clearwater
	0289		ID037	Custer
	0289		ID039	Elmore
	0289		ID041	Franklin
	0289		ID043	Fremont
	0289		ID045	Gem
	0289		ID047	Gooding
	0289		ID049	Idaho
	0289		ID051	Jefferson
	0289		ID053	Jerome
	0289		ID055	Kootenai
	0289		ID057	Latah
	0289		ID059	Lemhi
	0289		ID061	Lewis
	0289		ID063	Lincoln
	0289		ID065	Madison
	0289		ID067	Minidoka
	0289		ID069	Nez Perce
	0289		ID071	Oneida
	0289		ID073	Owyhee
	0289		ID075	Payette
	0289		ID077	Power
	0289		ID079	Shoshone
	0289		ID081	Teton
	0289		ID083	Twin Falls
	0289		ID085	Valley

	0289		ID087	Washington
HL7	0322	**Completion Status**		
	0322		CP	Complete
	0322		RE	Refused
	0322		PA	Partially Administered
HL7	0323	**Action Code**		
	0323		A	Add
	0323		U	Update
HL7	0360	**Professional Suffix or Degree**		
	0360		BN	Bachelor of Nursing
	0360		BSN	Bachelor of Science in Nursing
	0360		CANP	Certified Adult Nurse Practitioner
	0360		CMA	Certified Medical Assistant
	0360		CNA	Certified Nurse's Assistant
	0360		CNM	Certified Nurse Midwife
	0360		CNP	Certified Nurse Practitioner
	0360		CNS	Certified Nurse Specialist
	0360		CPNP	Certified Pediatric Nurse Practitioner
	0360		CRN	Certified Registered Nurse
	0360		DDS	Doctor of Dental Surgery
	0360		DO	Doctor of Osteopathic Medicine
	0360		DR	Doctor of Medicine
	0360		DVM	Doctor of Veterinary Medicine
	0360		FPNP	Family Practice Nurse Practitioner
	0360		FR	First Responder
	0360		LPN	Licensed Practical Nurse
	0360		MD	Doctor of Medicine
	0360		MDA	Medical Assistant
	0360		MPH	Master of Public Health
	0360		MS	Master of Science
	0360		MSN	Master of Science - Nursing
	0360		MT	Medical Technician
	0360		NP	Nurse Practitioner
	0360		PA	Physician Assistant
	0360		PHD	Doctor of Philosophy
	0360		PHN	Public Health Nurse
	0360		PN	Advanced Practice Nurse
	0360		PVT	Private

	0360		PharmD	Doctor of Pharmacy
	0360		REV	Reverend
	0360		RMA	Registered Medical Assistant
	0360		RN	Registered Nurse
	0360		RPH	Registered Pharmacist
User	0363	**Assigning Authority**		
	0363		NAIC	National Insurance Company code
User	0396	**Coding System**		
	0396		CVX	CDC assigned vaccine codes
	0396		CPT	CPT- 4 vaccine codes
	0396		WVGC	Local defined codes (Vaccine Group Codes)
	0396		WVTN	Local defined codes (Vaccine Trade Names)
	0396		LN	LOINC codes (used on OBX-3)
	0396		MVX	CDC Vaccine Manufacturer codes
NIP	0441	**Patient Registry Status**		
	0441		A	Active
	0441		I	Inactive – Unspecified
	0441		L	Inactive – Lost to Follow-up
	0441		M	Inactive - No Longer a Patient
	0441		P	Deceased
NIP	NIP001	**Immunization Information Source**		
	NIP001		00	New Immunization Administered (by Sending Organization)
	NIP001		01	Source Unspecified (Historical)
	NIP001		02	Other Provider
	NIP001		03	Parent Written Record
	NIP001		04	Parent Recall
	NIP001		05	Other Registry
	NIP001		06	Birth Certificate
	NIP001		07	School Record
	NIP001		08	Public Agency
NIP	NIP002	**Substance Refusal Reason**		
	NIP002		00	Parental Refusal
NIP	NIP003	**Observation Identifiers (LOINC)**		
	NIP003		30945-0	Contraindication \Precaution\Immunity
	NIP003		31044-1	Reaction
	NIP003		30948-4	VAERS Adverse Event Outcome
	NIP003		38890-0	Component Vaccine type (outbound only)
	NIP003		38890-0&29768-9	Date Vaccine Information Statement Published (Outbound only, new administered imms only)
	NIP003		38890-0&30973-2	Dose number in series (outbound only)
	NIP003		30979-9	Vaccine Due Next (outbound only)
	NIP003		30979-9&30980-7	Date Vaccine Due (outbound only)

	NIP003		30979-9&30973-2	Vaccine Due Next Dose Number(outbound only)
	NIP003		30979-9&30981-5	Earliest Date to Give (outbound only)
	NIP003		30979-9&30982-3	Reason to apply forecast logic (outbound only)
NIP	NIP004	**Contraindications, Precautions**		
	NIP004		03	Allergy to baker's yeast (anaphylactic)
	NIP004		04	Allergy to egg ingestion (anaphylactic)
	NIP004		05	Allergy to gelatin (anaphylactic)
	NIP004		06	Allergy to neomycin (anaphylactic)
	NIP004		07	Allergy to streptomycin (anaphylactic)
	NIP004		08	Allergy to thimerosal (anaphylactic)
	NIP004		14	Current fever with moderate-to-severe illness
	NIP004		15	Encephalopathy within 7 days of previous dose of DTP or DTaP
	NIP004		16	Current fever with moderate-to-severe illness
	NIP004		18	Guillain-Barre syndrome (GBS) within 6 weeks of previous dose of DTP/DTaP
	NIP004		21	Current acute illness, moderate to severe (with or without fever)(e.g. diarrhea, otitis media, vomiting)
	NIP004		22	Chronic illness (e.g., chronic gastrointestinal disease)
	NIP004		24	History of diphtheria infection
	NIP004		25	History of HIB infection
	NIP004		XA	Immunity: hepatitis A
	NIP004		26	History of Hepatitis B infection
	NIP004		27	History of measles infection
	NIP004		28	History of mumps infection
	NIP004		29	History of pertussis infection
	NIP004		30	History of polio infection
	NIP004		31	History of rubella infection
	NIP004		32	History of tetanus infection
	NIP004		33	Serology confirmed varicella
	NIP004		XC	History of varicella infection
	NIP004		34, 35, 36	Immunodeficiency-any cause (e.g. HIV, hematologic null tumors, congenital immunodeficiency, long-term immunosuppressive therapy)
	NIP004		37	Underlying unstable, evolving neurologic disorders, (including seizure disorders, cerebral palsy, and developmental delay)
	NIP004		38	Current acute illness, moderate to severe (with or without fever)(e.g. diarrhea, otitis media, vomiting)
	NIP004		39	Pregnancy (in recipient)
	NIP004		40	Thrombocytopenia
	NIP004		41	Thrombocytopenic purpura (history)
	NIP004		XB	Rabies exposure within previous 10 days

NIP	NIP005	**Event Consequence (VAER)**		
	NIP005		D	Patient Died
	NIP005		L	Life threatening illness
	NIP005		E	Required emergency room/doctor visit
	NIP005		H	Required hospitalization
	NIP005		P	Resulted in prolongation of hospitalization
	NIP005		J	Resulted in permanent disability
IRIS	ID001	**Reaction Codes**		
	ID001		PERTCONT	Pertussis allergic reaction
	ID001		TETCONT	Tetanus allergic reaction
	ID001		HYPOTON	Collapse or shock-like state within 48 hours of dose
	ID001		SEIZURE	Convulsions (fits, seizures) within 72 hours of dose
	ID001		CRYING	Persistent, inconsolable crying lasting > 3 hours within 48 hours of dose
	ID001		FEVER105	Fever of >40.5C (105F) within 48 hours of dose
	ID001		10	Anaphylaxis
	ID001		11	Collapse or shock-like state within 48 hours of dose
	ID001		12	Convulsions (fits, seizures) within 72 hours of dose
	ID001		13	Persistent, inconsolable crying lasting > 3 hours within 48 hours of dose
	ID001		17	Fever of >40.5C (105F) within 48 hours of dose
	ID001		18	Guillain-Barre syndrome (GBS) within 6 weeks of dose
IRIS	ID002	**Insurance Company ID (NAIC Code)**		
	ID002		72052	Aetna Health Insurance Company
	ID002		99920	Aetna Health Management LLC
	ID002		95407	Altius Hlth Plans Inc
	ID002		28207	Anthem Insurance Companies INC
	ID002		55026	Blue Cross Blue Shield Of Minnesota
	ID002		60095	Blue Cross of ID Hlth Serv Inc
	ID002		67369	Cigna Health and Life Insurance Company
	ID002		62146	Combined Ins Co Of Amer
	ID002		96598	Dakotacare
	ID002		47055	Group Hlth Options Inc
	ID002		70670	Healthcare Service Corporation
	ID002		35599	Highmark INC
	ID002		97055	Mega Life & Hlth Ins Co The
	ID002		99910	Other Insurance
	ID002		54976	Pacificsource Hlth Plans
	ID002		47570	Premera Blue Cross

			54933	Regence Bluecross Blueshield Of Oregon
	ID002		54933	Regence Bluecross Blueshield Of Oregon
	ID002		60131	Regence Blueshield Of ID Inc
	ID002		95153	Selecthealth INC
	ID002		80802	Sun Life Assurance Company Of Canada
	ID002		99900	Tricare
	ID002		99930	UMR INC
	ID002		69868	United Of Omaha Life Ins Co
	ID002		79413	UnitedHealthcare Ins Co
IRIS	WVGC	**Vaccine Group Code (WVGC)**		
	WVGC		Adeno	Adenovirus
	WVGC		Anthrax	Anthrax
	WVGC		BCG	Bacillus Calmette–Guérin
	WVGC		COVID-19	SARS-COV-2 (COVID-19) vaccine
	WVGC		Cholera	Cholera
	WVGC		DTP/aP	Diphtheria, Tetanus, Acellular Pertussis
	WVGC		Dengue Fever	Dengue Fever vaccine
	WVGC		Diphtheria	Diphtheria antitoxin
	WVGC		Encephalitis	Encephalitis
	WVGC		Flu H1N1-09	Novel Influenza-09
	WVGC		HepA	Hepatitis A
	WVGC		HepB	Hepatitis B
	WVGC		Hib	Haemophilus Influenzae Type b
	WVGC		HPV	Human Papilloma Virus
	WVGC		Ig	Immune Globulin
	WVGC		IG-RSV IgIM	IG-RSV IgIM
	WVGC		Influenza	Influenza
	WVGC		Lyme	Lyme
	WVGC		Measles	Measles
	WVGC		MMR	Measles, Mumps, Rubella
	WVGC		MeningACWY	Meningococcal groups A, C, Y and W-135
	WVGC		MeningB	Meningococcal B
	WVGC		Mumps	Mumps
	WVGC		Plague	Plague
	WVGC		Pneumococcal	Pneumonia Conjugate
	WVGC		Pneumo-Poly	Pneumonia Polysaccharide
	WVGC		Polio	Poliomyelitis
	WVGC		Rabies	Rabies
	WVGC		Rotavirus	Rotavirus
	WVGC		Rubella	Rubella
	WVGC		Tetanus	Tetanus
	WVGC		Td	Tetanus Diphtheria
	WVGC		Typhoid	Typhoid
	WVGC		Smallpox	Vaccinia
	WVGC		Varicella	Varicella
	WVGC		Yellow Fever	Yellow Fever
	WVGC		Zoster	Zoster (Shingles)
IRIS	WVTN	**Vaccine Trade Name (WVTN)**		

	WVTN		ACAM2000	Smallpox
	WVTN		Acel-Imune	DTaP
	WVTN		ActHib	Hib-PRP-T
	WVTN		Adacel	Tdap
	WVTN		Adeno T4	Adeno T4
	WVTN		Adeno T7	Adeno T7
	WVTN		Adenovirus T4 and T7	Adenovirus types 4 and 7
	WVTN		AFLURIA	Influenza (IIV3)
	WVTN		AFLURIA Pres-Free	Influenza (IIV3), p-free
	WVTN		Afluria Quad	Influenza (IIV4), multi-dose vial
	WVTN		Afluria Quad PF	Influenza (IIV4), p-free
	WVTN		Afluria Quad PF infant	Influenza (IIV4), p-free, infant (0.25mL)
	WVTN		Agriflu Pres-Free	Influenza (IIV3), p-free
	WVTN		Anthrax	Anthrax
	WVTN		Anthrasil	Anthrax immune globulin
	WVTN		AstraZeneca COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, vector non-replicating, recombinant spike protein-ChAdOx1, preservative free, 0.5 mL
	WVTN		Attenuvax	Measles
	WVTN		BabyBIG	Botulism
	WVTN		BayTet	TIg
	WVTN		BCG-Cancer	BCG-BC
	WVTN		BCG-TB	BCG-TB
	WVTN		Bexsero	Meningococcal B, OMV
	WVTN		Biavax II	Rubella-Mumps
	WVTN		BIG	Botulism
	WVTN		BioThrax	Anthrax
	WVTN		Boostrix	Tdap
	WVTN		Botulinum-antitoxin	Botulinum-antitoxin
	WVTN		Botulism	Botulism
	WVTN		Certiva	DTaP
	WVTN		Cervarix	2vHPV
	WVTN		CMV-IgIV	CMV-IgIV
	WVTN		Comvax	HepB-Hib
	WVTN		DAPTACEL	DTaP,5 pertussis antigens
	WVTN		DECAVAC	Td (adult), p-free
	WVTN		DENGVAXIA	Dengue Fever, live
	WVTN		Diphtheria	Diphtheria
	WVTN		Diphtheria-antitoxin	Diphtheria-antitoxin
	WVTN		Dryvax	Smallpox
	WVTN		DT	DT-Peds
	WVTN		DTP	DTP
	WVTN		Engerix-B Adult	HepB-Adult
	WVTN		Engerix-B dialysis	HepB-Dialysis 4 dose
	WVTN		Engerix-B Peds	HepB-Peds
	WVTN		Flebogamma	IgIV
	WVTN		Flu-Imune	Influenza (IIV3)
	WVTN		Flu-Shield	Influenza (IIV3)
	WVTN		Fluad	Influenza (IIV3), adjuvanted
	WVTN		Fluad Quad PF	Influenza (IIV4), adjuvanted, p-free
	WVTN		Fluarix Pres-Free	Influenza (IIV3), p-free

	WVTN		Fluarix Quad PF	Influenza (IIV4), p-free
	WVTN		Flublok	Influenza (RIV3), recombinant, p-free
	WVTN		Flublok Quad PF	Influenza (RIV4), recombinant, p-free
	WVTN		Flucelvax	Influenza (ccIIV3), MDCK, p-free
	WVTN		Flucelvax Quad	Influenza (ccIIV4), MDCK, multi-dose vial
	WVTN		Flucelvax Quad PF	Influenza (ccIIV4), MDCK, p-free
	WVTN		FluLaval	Influenza (IIV3), multi-dose vial
	WVTN		FluLaval Quad	Influenza (IIV4), multi-dose vial
	WVTN		FluLaval Quad PF	Influenza (IIV4), p-free
	WVTN		FluMist	Influenza (LAIV3), live, nasal
	WVTN		FluMist Quadrivalent	Influenza (LAIV4), live, nasal
	WVTN		Fluogen	Influenza (IIV3)
	WVTN		Fluvirin	Influenza (IIV3)
	WVTN		Fluvirin Pres-Free	Influenza (IIV3), p-free
	WVTN		Fluzone	Influenza (IIV3)
	WVTN		Fluzone High-Dose	Influenza (IIV3) high-dose, p-free
	WVTN		Fluzone High-Dose Quad	Influenza (IIV4) high-dose, p-free
	WVTN		Fluzone Intradermal	Influenza (IIV3) intradermal, p-free
	WVTN		Fluzone Pres-Free	Influenza (IIV3), p-free
	WVTN		Fluzone Quad	Influenza (IIV4), multi-dose vial
	WVTN		Fluzone Quad Intradermal	Influenza (IIV4),intradermal, p-free
	WVTN		Fluzone Quad PF	Influenza (IIV4) p-free (.5 mL for 3 years and older)
	WVTN		Fluzone Quad PF Infant	Influenza (IIV4), p-free, infant (.25 mL for 6 months – 35 months)
	WVTN		Gardasil	4vHPV
	WVTN		Gardasil 9	9vHPV
	WVTN		Havrix-Adult	HepA-Adult
	WVTN		Havrix-Peds 2 Dose	HepA-Ped 2 Dose
	WVTN		Havrix-Peds 3 Dose	HepA-Peds
	WVTN		HBIg	HBIg
	WVTN		HEPLISAV-B	Hep B, adjuvanted
	WVTN		Hiberix	Hib-PRP-D
	WVTN		Hib-TITER	Hib-HbOC
	WVTN		H1N1 Nasal	Novel Influenza-H1N1-09, nasal
	WVTN		H1N1 P-free, CSL	Novel Influenza-H1N1-09, preserve-free
	WVTN		H1N1 P-free, Novartis	Novel Influenza-H1N1-09, preserve-free
	WVTN		H1N1 P-free, Sanofi	Novel Influenza-H1N1-09, preserve-free
	WVTN		H1N1 CSL	Novel Influenza-H1N1-09
	WVTN		H1N1 Novartis	Novel Influenza-H1N1-09
	WVTN		H1N1 Sanofi Pasteur	Novel Influenza-H1N1-09
	WVTN		Ig	Ig
	WVTN		IgIV	IgIV
	WVTN		Imovax-ID	Rabies-ID
	WVTN		Imovax	Rabies - IM Diploid cell culture
	WVTN		Infanrix	DTaP
	WVTN		IPOL	IPV

	WVTN		Ixiaro	Japanese Encephalitis IM
	WVTN		Janssen COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, vector non-replicating, recombinant spike protein-Ad26, preservative free, 0.5 mL
	WVTN		JE-Vax	Japanese Encephalitis SC
	WVTN		Kinrix	DTaP-IPV
	WVTN		LYMErix	Lyme
	WVTN		M-R-VAX	Measles-Rubella
	WVTN		Measles	Measles
	WVTN		Measles-Rubella (MERU)	Measles-Rubella
	WVTN		Menactra	Meningococcal-MCV4P
	WVTN		MenHibrix	Meningococcal C/Y-HIB PRP
	WVTN		Meningococcal C	Meningococcal C (May be given outside U.S.)
	WVTN		MENOMUNE	Meningococcal-MPSV4
	WVTN		Menveo	Meningococcal-MCV4O
	WVTN		Meruvax II	Rubella
	WVTN		MMR II	MMR
	WVTN		Moderna COVID-19 Vaccine	COVID-19, mRNA,LNP-S,PF, 100 mcg/0.5mL
	WVTN		Mumps	Mumps
	WVTN		Mumps-Rubella (MURU)	Rubella-Mumps
	WVTN		Mumpsvax	Mumps
	WVTN		Mycobax	BCG-TB
	WVTN		Novavax COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, Subunit, recombinant spike protein-nanoparticle+Matrix-M1 Adjuvant, preservative free, 0.5mL per dose
	WVTN		OmniHib	Hib-PRP-T
	WVTN		ORIMUNE	OPV trivalent
	WVTN		Pediarix	DTaP-HepB-IPV
	WVTN		Pentacel	DTaP-IPV/Hib
	WVTN		PedvaxHIB	Hib-OMP
	WVTN		Pfizer COVID-19 tris-sucrose Age 12+	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 30 mcg/0.3mL dose, tris-sucrose formulation
	WVTN		Pfizer COVID-19 tris-sucrose Age 5-11	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 10 mcg/0.2mL dose, tris-sucrose formulation
	WVTN		Pfizer COVID-19 tris-sucrose Age 2-4	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 3 mcg/0.2mL dose, tris-sucrose formulation
	WVTN		Pfizer COVID-19 Vaccine	COVID-19, mRNA,LNP-S,PF, 30 mcg/0.3mL
	WVTN		Plague	Plague
	WVTN		Pneumovax 23	Pneumococcal 23
	WVTN		PNU-IMUNE 23	Pneumococcal 23
	WVTN		Prevnar 7	Pneumo-Conjugate 7
	WVTN		Prevnar13	Pneumo-Conjugate Vaccine 13
	WVTN		Prevnar 20	Pneumococcal conjugate PCV20
	WVTN		ProHIBit	Hib-PRP-D

	WVTN		ProQuad	MMRV
	WVTN		Quadracel	DTaP-IPV
	WVTN		RabAvert	Rabies - IM fibroblast culture
	WVTN		Recombivax Peds	HepB-Peds
	WVTN		Recombivax-Adult	HepB-Adult
	WVTN		Recombivax-Dialysis	HepB-Dialysis 4 dose
	WVTN		RespiGam	RSV-IgIV
	WVTN		Rho(D)Full	Rho(D)Full
	WVTN		Rho(D)IV	Rho(D)IV
	WVTN		Rho(D)Mini	Rho(D)Mini
	WVTN		RIg	RIg
	WVTN		RIg-HT	RIg-HT
	WVTN		Rotarix	Rotavirus, monovalent
	WVTN		RotaShield	Rotavirus, tetravalent
	WVTN		RotaTeq	Rotavirus, pentavalent
	WVTN		RSV-IgIM	RSV-IgIM
	WVTN		Rubella	Rubella
	WVTN		Shingrix	Zoster (shingles),recombinant
	WVTN		Stamaril	Yellow Fever - alt
	WVTN		Synagis	RSV-IgIV
	WVTN		Td	Td (adult), adsorbed
	WVTN		TENIVAC	Td (adult), p-free
	WVTN		Tetramune	DTP-Hib
	WVTN		TICE BCG	BCG-TB
	WVTN		TIg	TIg
	WVTN		TriHIBit	DTaP-Hib
	WVTN		Tripedia	DTaP
	WVTN		Trumenba	Meningococcal B, recombinant
	WVTN		TT	Tetanus
	WVTN		Twinrix	HepA-HepB Adult
	WVTN		Typhim Vi	Typhoid-ViCPs
	WVTN		Typhoid	Typhoid-HP
	WVTN		Typhoid-AKD	Typhoid-AKD
	WVTN		Vaccinia, diluted	Vaccinia (smallpox), diluted
	WVTN		Vaccinia VIG	Vaccinia immune globulin VIG
	WVTN		VAQTA-Adult	HepA-Adult
	WVTN		VAQTA-Peds 2 Dose	HepA-Ped 2 Dose
	WVTN		VAQTA-Peds 3 Dose	HepA-Peds 3 Dose
	WVTN		Varivax	Varicella
	WVTN		Vaxchora	Cholera, live attenuated
	WVTN		VAXELIS	DTaP-IPV- Hib-HepB combination
	WVTN		VAXNEUVANCE	Pneumococcal conjugate PCV15
	WVTN		Vivotif	Typhoid-Oral
	WVTN		VZIg	VZIg (IND)
	WVTN		YF-VAX	Yellow Fever
	WVTN		Zostavax	Zoster (shingles), live
IRIS	CPT	**CPT Codes**	CPT CODE	Name
	CPT		90281	Ig
	CPT		90283	IgIV
	CPT		90287	Botulinum-antitoxin

	CPT		90288	Botulism
	CPT		90291	CMV-IgIV
	CPT		90296	Diphtheria-antitoxin
	CPT		90371	HBIg
	CPT		90375	RIg
	CPT		90376	RIg-HT
	CPT		90378	RSV-IgIM
	CPT		90379	RSV-IgIV
	CPT		90384	Rho(D)Full
	CPT		90385	Rho(D)Mini
	CPT		90386	Rho(D)IV
	CPT		90389	TIg
	CPT		90393	Vaccinia immune globulin VIG
	CPT		90476	Adeno T4
	CPT		90477	Adeno T7
	CPT		90581	Anthrax
	CPT		90585	BCG-TB
	CPT		90586	BCG-BC
	CPT		90592	Cholera-Oral
	CPT		90620	Meningococcal B, OMV
	CPT		90621	Meningococcal B, recombinant
	CPT		90625	Cholera, live attenuated
	CPT		90630	Influenza (IIV4), intradermal, p-free
	CPT		90632	HepA-Adult
	CPT		90633	HepA-Ped 2 Dose
	CPT		90634	HepA-Peds
	CPT		90636	HepA-HepB Adult
	CPT		90645	Hib-HbOC
	CPT		90646	Hib-PRP-D
	CPT		90647	Hib-OMP
	CPT		90648	Hib-PRP-T
	CPT		90649	4vHPV
	CPT		90650	2vHPV
	CPT		90651	9vHPV
	CPT		90653	Influenza (IIV4), adjuvanted
	CPT		90654	Influenza (IIV3), intradermal, p-free
	CPT		90655	Influenza (IIV3), p-free (0.25 mL for ages 6 months through 35 months)
	CPT		90656	Influenza (IIV3), p-free (0.5 mL for ages 3 years and older)
	CPT		90657	Influenza (IIV3) (0.25 mL for ages 6 months through 35 months)
	CPT		90658	Influenza (IIV3) (0.5 mL for ages 3 years and older)
	CPT		90659	Influenza-Whole Virus
	CPT		90660	Influenza (LAIV3), live, nasal
	CPT		90661	Influenza (ccIIV3), MDCK, p-free
	CPT		90662	Influenza (IIV3), high dose, p-free before July 1, 2020 Influenza (IIV4), high dose, p-free effective July 1, 2020

	CPT		90663	Novel Influenza-H1N1-09 all formulations
	CPT		90664	Novel Influenza-H1N1-09, nasal
	CPT		90665	Lyme
	CPT		90666	Novel Influenza-H1N1-09, preserve-free
	CPT		90668	Novel Influenza-H1N1-09
	CPT		90669	Pneumo-Conjugate 7
	CPT		90670	Pneumo-Conjugate 13
	CPT		90671	Pneumococcal conjugate PCV20
	CPT		90672	Influenza (LAIV4), live, nasal
	CPT		90673	Influenza (RIV3), recombinant, p-free
	CPT		90674	Influenza (ccIIV4), MDCK, p-free
	CPT		90675	Rabies-IM
	CPT		90676	Rabies-ID
	CPT		90677	Pneumococcal conjugate PCV20
	CPT		90680	Rotavirus, Tetravalent (DOS prior to 10/16/1999)
	CPT		90680	Rotavirus, Pentavalent (DOS on or after 02/03/2006)
	CPT		90680	Rotavirus unspecified (DOS between 10/16/1999 and 02/02/2006)
	CPT		90681	Rotavirus, monovalent
	CPT		90682	Influenza (RIV4), recombinant, p-free
	CPT		90685	Influenza (IIV4), p-free, infant (0.25 mL for ages 6 months through 35 months)
	CPT		90686	Influenza (IIV4), p-free (0.5 mL for age 3 years and older)
	CPT		90687	Influenza (IIV4) multi-dose vial (0.25 mL for ages 6 months through 35 months)
	CPT		90688	Influenza (IIV4) multi-dose vial (0.5 mL for ages 3 years and older)
	CPT		90690	Typhoid-Oral
	CPT		90691	Typhoid-ViCPs
	CPT		90692	Typhoid-HP
	CPT		90693	Typhoid-AKD
	CPT		90694	Influenza (IIV4), adjuvanted, p-free
	CPT		90696	DTaP-IPV
	CPT		90697	DTaP, IPV, Hib, HepB
	CPT		90698	DTaP-IPV/Hib
	CPT		90700	DTaP
	CPT		90701	DTP
	CPT		90702	DT-Peds
	CPT		90703	Tetanus toxoid, adsorbed
	CPT		90704	Mumps
	CPT		90705	Measles
	CPT		90706	Rubella
	CPT		90707	MMR
	CPT		90708	Measles-Rubella
	CPT		90709	Rubella-Mumps
	CPT		90710	MMRV
	CPT		90712	OPV trivalent

	CPT		90713	IPV
	CPT		90714	Typhoid (DOS prior to 07/01/2005)
	CPT		90714	Td (adult), p-free DOS on or after 07/01/2005)
	CPT		90715	Tdap
	CPT		90716	Varicella
	CPT		90717	Yellow Fever
	CPT		90718	Td (adult), adsorbed
	CPT		90719	Diphtheria
	CPT		90720	DTP-Hib
	CPT		90721	DTaP-Hib
	CPT		90723	DTaP-HepB-IPV
	CPT		90724	FLU unspecified
	CPT		90725	Cholera-Inject
	CPT		90726	Rabies unspecified
	CPT		90727	Plague
	CPT		90728	BCG
	CPT		90730	Hep A unspecified
	CPT		90731	Hep B unspecified
	CPT		90732	Pneumococcal 23
	CPT		90733	Meningococcal-MPSV4
	CPT		90734	Meningococcal-MCV4
	CPT		90735	Japanese Encephalitis SC
	CPT		90736	Zoster (shingles), live
	CPT		90737	Hib unspecified
	CPT		90738	Japanese Encephalitis IM
	CPT		90739	Hep B, adjuvanted
	CPT		90740	HepB-Dialysis 3 dose
	CPT		90743	HepB-Adult
	CPT		90741	Immune Globulin, unspecified formulation
	CPT		90744	HepB-Peds
	CPT		90745	Hep B, adolescent/high risk infant
	CPT		90746	HepB-Adult
	CPT		90747	HepB-Dialysis 4 dose
	CPT		90748	HepB-Hib
	CPT		90750	Zoster (shingles),recombinant
	CPT		90756	Influenza (ccIIV4), MDCK, multi-dose vial
	CPT		91300	COVID-19, mRNA,LNP-S,PF, 30 mcg/0.3mL
	CPT		91301	COVID-19, mRNA,LNP-S,PF, 100 mcg/0.5mL
	CPT		91302	COVID-19, vector-nr,rS-ChAdOx1,PF,0.5 mL
	CPT		91303	COVID-19, vector-nr, rS-Ad26, PF, 0.5 mL
	CPT		91304	COVID-19,rS-nanoparticle+Matrix-M1 0.5mL
	CPT		91305	COVID-19 mRNA 30 mcg/0.3 mL tris-sucrose
	CPT		91307	COVID-19 mRNA 10 mcg/0.2 mL tris-sucrose
HL7	CVX	**CVX Code**		
	CVX		01	DTP
	CVX		02	OPV trivalent
	CVX		03	MMR
	CVX		04	Measles-Rubella
	CVX		05	Measles
	CVX		06	Rubella

	CVX		07	Mumps
	CVX		08	HepB-Peds
	CVX		09	Td (adult), adsorbed
	CVX		10	IPV
	CVX		11	Pertussis
	CVX		12	Diphtheria-antitoxin
	CVX		13	TIg
	CVX		14	Immune Globulin, unspecified formulation
	CVX		16	Influenza-Whole Virus
	CVX		17	Hib unspecified
	CVX		18	Rabies-IM
	CVX		19	BCG
	CVX		20	DTaP
	CVX		21	Varicella
	CVX		22	DTP-Hib
	CVX		23	Plague
	CVX		24	Anthrax
	CVX		25	Typhoid-Oral
	CVX		26	Cholera-Inject
	CVX		27	Botulinum-antitoxin
	CVX		28	DT-Peds
	CVX		29	CMV-IgIV
	CVX		30	HBIg
	CVX		32	Meningococcal-MPSV4
	CVX		33	Pneumococcal 23
	CVX		34	RIg-HT
	CVX		34	RIg
	CVX		35	Tetanus toxoid, adsorbed
	CVX		36	VZIg
	CVX		37	Yellow Fever (YF-VAX)
	CVX		38	Rubella-Mumps
	CVX		39	Japanese Encephalitis SC
	CVX		40	Rabies-ID
	CVX		41	Typhoid-HP
	CVX		42	Hep B, adolescent/high risk infant
	CVX		43	HepB-Adult
	CVX		44	HepB-Dialysis 4 dose
	CVX		44	HepB-Dialysis 3 dose
	CVX		45	Hep B unspecified
	CVX		46	Hib-PRP-D
	CVX		47	Hib-HbOC
	CVX		48	Hib-PRP-T
	CVX		49	Hib-OMP
	CVX		50	DTaP-Hib
	CVX		51	HepB-Hib
	CVX		52	HepA-Adult
	CVX		53	Typhoid-AKD
	CVX		54	Adeno T4
	CVX		55	Adeno T7
	CVX		56	Dengue Fever, live

	CVX		62	4vHPV
	CVX		66	Lyme
	CVX		71	RSV-IgIV
	CVX		74	Rotavirus, Tetravalent
	CVX		75	Smallpox
	CVX		79	Vaccinia immune globulin VIG
	CVX		82	Adenovirus unspecified
	CVX		83	HepA-Ped 2 Dose
	CVX		84	HepA-Peds
	CVX		85	Hep A unspecified
	CVX		86	Ig
	CVX		87	IgIV
	CVX		88	FLU unspecified
	CVX		89	Polio unspecified
	CVX		90	Rabies unspecified
	CVX		91	Typhoid
	CVX		93	RSV-IgIM
	CVX		94	MMRV
	CVX		100	Pneumo-Conjugate 7
	CVX		101	Typhoid-ViCPs
	CVX		102	DTP-Hib-HepB (Non US vaccine)
	CVX		103	Meningococcal C (May be given outside U.S.)
	CVX		104	HepA-HepB Adult
	CVX		105	Vaccinia (smallpox), diluted
	CVX		106	DTaP,5 pertussis antigens
	CVX		107	DTP/aP unspecified
	CVX		108	Meningococcal ACWY
	CVX		109	Pneumococcal unspecified
	CVX		110	DTaP-HepB-IPV
	CVX		111	Influenza (LAIV3), live, nasal
	CVX		112	Tetanus toxoid unspecified
	CVX		113	Td (adult), p-free
	CVX		114	Meningococcal-MCV4P
	CVX		115	Tdap
	CVX		116	Rotavirus, Pentavalent
	CVX		117	VZIG (IND)
	CVX		118	2vHPV
	CVX		119	Rotavirus, Monovalent
	CVX		120	DTaP-IPV/Hib
	CVX		121	Zoster (shingles), live
	CVX		122	Rotavirus unspecified
	CVX		125	Novel Influenza-H1N1-09, nasal
	CVX		126	Novel Influenza-H1N1-09, preserve-free
	CVX		127	Novel Influenza-H1N1-09
	CVX		128	Novel Influenza-H1N1-09 all formulations
	CVX		129	Japanese Encephalitis unspecified
	CVX		130	DTaP-IPV
	CVX		132	DTaP-IPV-Hib-HepB, historical
	CVX		133	Pneumo-Conjugate 13
	CVX		134	Japanese Encephalitis IM

	CVX		135	Influenza (IIV3), high-dose, p-free
	CVX		136	Meningococcal-MCV4O
	CVX		137	HPV unspecified
	CVX		138	Td (adult), not adsorbed
	CVX		139	Td (adult) unspecified
	CVX		140	Influenza (IIV3), p-free
	CVX		141	Influenza (IIV3)
	CVX		142	Tetanus toxoid, not adsorbed
	CVX		143	Adenovirus types 4 and 7
	CVX		144	Influenza (IIV3), intradermal, p-free
	CVX		146	DTaP, IPV, Hib, HepB
	CVX		147	Meningococcal-MCV4
	CVX		148	Meningococcal C/Y-HIB PRP
	CVX		149	Influenza (LAIV4), live, nasal
	CVX		150	Influenza (IIV4), p-free (0.5 mL for ages 3 years and older)
	CVX		151	Influenza , live, nasal unspecified
	CVX		152	Pneumococcal conjugate unspecified
	CVX		153	Influenza (ccIIV3), MDCK, p-free
	CVX		155	Influenza, (IIV3), recombinant, p-free
	CVX		156	Rho(D)-IG
	CVX		157	Rho(D)-IG IM
	CVX		158	Influenza (IIV4) from multi dose vial (MDV) (0.5 mL for ages 3 years and older)
	CVX		159	Rho(D) unspecified
	CVX		161	Influenza (IIV4) p-free, infant (0.25 mL for ages 6 months – 35 months)
	CVX		162	Meningococcal B, recombinant
	CVX		163	Meningococcal B, OMV
	CVX		164	Meningococcal B unspecified
	CVX		165	9vHPV
	CVX		166	Influenza (IIV4), intradermal, p-free
	CVX		167	Meningococcal, unknown serogroups
	CVX		168	Influenza (IIV3), adjuvanted
	CVX		169	HepA, live attenuated (non US vaccine)
	CVX		170	DTaP-IPV-Hib, non US (non US vaccine)
	CVX		171	Influenza (ccIIV4), MDCK, p-free
	CVX		172	Cholera, WC-rBS (non US vaccine)
	CVX		173	Cholera, BivWC (non US vaccine)
	CVX		174	Cholera, live attenuated
	CVX		175	Rabies - IM Diploid cell culture
	CVX		176	Rabies - IM fibroblast culture
	CVX		177	PCV10, non US
	CVX		178	OPV bivalent, non US
	CVX		179	OPV monovalent, non US
	CVX		181	Anthrax immune globulin
	CVX		182	OPV, unspecified
	CVX		183	Yellow Fever – alt
	CVX		184	Yellow Fever unspecified
	CVX		185	Influenza (RIV4), recombinant, p-free
	CVX		186	Influenza (ccIIV4), MDCK

	CVX		187	Zoster (shingles),recombinant
	CVX		188	Zoster (shingles) unspecified
	CVX		189	Hep B, adjuvanted
	CVX		190	Typhoid conjugate (TCV), non US
	CVX		191	Meningococcal A polysaccharide, non US
	CVX		192	Meningococcal AC polysaccharide, non US
	CVX		193	HepA-HepB, pediatric/adolescent, non US
	CVX		194	Influenza Southern Hemisphere, unspecified
	CVX		197	Influenza (IIV4), high-dose, p-free
	CVX		200	Influenza Southern Hemisphere, Infant (0.25mL)
	CVX		201	Influenza Southern Hemisphere, p-free (0.5mL)
	CVX		202	Influenza Southern Hemisphere, MDV
	CVX		205	Influenza (IIV4), adjuvanted, p-free
	CVX		207	COVID-19, mRNA,LNP-S,PF, 100 mcg/0.5mL
	CVX		208	COVID-19, mRNA,LNP-S,PF, 30 mcg/0.3mL
	CVX		210	COVID-19, vector-nr,rS-ChAdOx1,PF,0.5 mL
	CVX		211	COVID-19,rS-nanoparticle+Matrix-M1 0.5mL
	CVX		212	COVID-19, vector-nr, rS-Ad26, PF, 0.5 mL
	CVX		213	SARS-COV-2 (COVID-19) vaccine
	CVX		215	Pneumococcal conjugate PCV15
	CVX		216	Pneumococcal conjugate PCV20
	CVX		217	COVID-19 mRNA 30 mcg/0.3 mL tris-sucrose
	CVX		218	COVID-19 mRNA 10 mcg/0.2 mL tris-sucrose
	CVX		219	COVID-19 mRNA, 3 mcg/0.2 mL tris-sucrose

Observation Identifier Code Sets (OBX.3)

Observation Identifiers NIP003	Value (OBX-3 .1)	Description (OBX-3.2)	Identifier (OBX-3.3)	Corresponding Value in OBX.2	Refer Corresponding Table Value below for NIP004 and ID001 OBX.5	Direction of exchange
NIP003	30945-0	Contraindication/ Precaution/History of Disease, Special Indications to Immunize	LN	CE	NIP004	Inbound and Outbound
NIP003	31044-1	Reaction	LN	CE	**ID001**	Inbound and Outbound
NIP003	30948-4	VAERS Adverse Event Outcome	LN	CE	**HL7 0292 (CVX)**	Outbound Only
NIP003	38890-0	Component Vaccine type (outbound only)	LN	CE	**HL7 0292 (CVX)**	Outbound Only
NIP003	38890-0&29768-9	Date Vaccine Information Statement Published	LN	DT		Outbound Only
NIP003	38890-0&30973-2	Dose number in series	LN	NM		Outbound Only
NIP003	30979-9	Vaccine Due Next	LN	CE	**HL7 0292 (CVX)**	Outbound Only
NIP003	30979-9&30980-7	Date Vaccine Due	LN	DT		Outbound Only
NIP003	30979-9&30973-2	Vaccine Due Next Dose Number	LN	NM		Outbound Only
NIP003	30979-9&30981-5	Earliest Date to Give	LN	CE		Outbound Only
NIP003	30979-9&30982-3	Reason to apply forecast logic	LN	CE		Outbound Only

Observation Value Sets (OBX.5)

Observation Value (OBX-5.1)	Observation Description (OBX-5.2)	Observation Identifier (OBX-5.3)
Contraindications, Precautions **Value Set Name – Vaccination Contraindications (Used in OBX- 5)** **Table NIP004** **Value set definition: indicates a contraindication to vaccination**		
03	Allergy to baker's yeast (anaphylactic)	NIP004
04	Allergy to egg ingestion (anaphylactic)	NIP004
05	Allergy to gelatin (anaphylactic)	NIP004
06	Allergy to neomycin (anaphylactic)	NIP004
07	Allergy to streptomycin (anaphylactic)	NIP004
08	Allergy to thimerosal (anaphylactic)	NIP004
14	Current fever with moderate-to-severe illness	NIP004
15	Encephalopathy within 7 days of previous dose of DTP or DTaP	NIP004
16	Current fever with moderate-to-severe illness	NIP004
17	Fever of 40.5 C (105 F) within 48 hours of previous dose of DTP/DTaP	NIP004
18	Guillain-Barre syndrome (GBS) within 6 weeks of previous dose of DTP/DTaP	NIP004
21	Current acute illness, moderate to severe (with or without fever)(e.g. diarrhea, otitis media, vomiting)	NIP004
22	Chronic illness (e.g., chronic gastrointestinal disease)	NIP004
34, 35, 36	Immunodeficiency-any cause (e.g. HIV, hematologic null tumors, congenital immunodeficiency, long-term immunosuppressive therapy)	NIP004
37	Underlying unstable, evolving neurologic disorders, (including seizure disorders, cerebral palsy, and developmental delay)	NIP004
38	Current acute illness, moderate to severe (with or without fever)(e.g. diarrhea, otitis media, vomiting)	NIP004
39	Pregnancy (in recipient)	NIP004
40	Thrombocytopenia	NIP004
41	Thrombocytopenic purpura (history)	NIP004
Reactions **Value Set Name – Vaccination Reaction - IIS (Used in OBX- 5)** **Table ID001** **Value set definition: indicates a reaction or adverse event associate in time with an immunization**		
HYPOTON	Hypotonic-hypo responsive collapse within 48 hours of immunization	ID001
SEIZURE	Seizure occurring within 3 days	ID001
CRYING	Persistent crying lasting >= 3 hours within 48 hours of immunization	ID001
FEVER105	Temperature >= 105 (40.5 C) within 48 hours of immunization	ID001
10	Anaphylaxis	ID001
11	Collapse or shock-like state within 48 hours of dose	ID001
12	Convulsions (fits, seizures) within 72 hours of dose	ID001
13	Persistent, inconsolable crying lasting > 3 hours within 48 hours of dose	ID001
17	Fever of >40.5C (105F) within 48 hours of dose	ID001
18	Guillain-Barre syndrome (GBS) within 6 weeks of dose	ID001

Indications to Immunize		
Schedule Identifier (Reason to apply forecast logic		
Value Set Name – Immunization Schedule Identifiers - IIS		
Value set definition: Identifies the schedule used for immunization evaluation and forecast.		
ACIP schedule	ACIP Schedule	
History of Disease (Immunity)		
Value Set Name – Evidence of Immunity - IIS (Used in OBX- 5)		
NIP004		
Value set definition: Evidence of immunity indicates that a person has plausible evidence that they have already developed immunity to a particular disease. The definition of plausible evidence is a local decision, but best practice would suggest that serological evidence of immunity is the strongest indicator of immunity.		
24	History of diphtheria infection	NIP004
25	History of HIB infection	NIP004
XA	Serology confirmed hepatitis A	NIP004
26	History of Hepatitis B infection	NIP004
27	History of measles infection	NIP004
28	History of mumps infection	NIP004
29	History of pertussis infection	NIP004
30	History of polio infection	NIP004
31	History of rubella infection	NIP004
32	History of tetanus infection	NIP004
33	Serology confirmed varicella	NIP004
XC	History of varicella infection	NIP004

Vaccine Code Relationships

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
90476	54	Adeno	Adeno T4	Adeno T4	Adenovirus Type 4, live oral	WAL
90477	55		Adeno T7	Adeno T7	Adenovirus Type 7, live oral	WAL
	143		Adenovirus types 4 and 7	Adenovirus T4 and T7	Adenovirus types 4 and 7	BRR
	82		Adeno		Adenovirus, unspecified formulation	
90581	24	Anthrax	Anthrax	Anthrax	Anthrax	MIP
				BioThrax	Anthrax	MIP
90585	19	BCG	BCG-TB	BCG-TB	Bacillus Calmette-Guerin TB	OTC
				Mycobax		PMC
				TICE BCG		OTC
90586			BCG-BC	BCG-Cancer	Bacillus Calmette-Guerin bladder cancer	OTC
90728			BCG		BCG, unspecified formulation	
91300	208	COVID-19	COVID-19, mRNA,LNP-S,PF, 30 mcg/0.3mL	Pfizer COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 30 mcg/0.3mL dose	PFR
91301	207		COVID-19, mRNA,LNP-S,PF, 100 mcg/0.5mL	Moderna COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 100 mcg/0.5mL dose	MOD
91302	210		COVID-19, vector-nr,rS-ChAdOx1,PF,0.5 mL	AstraZeneca COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, vector non-replicating, recombinant spike protein-ChAdOx1, preservative free, 0.5 mL	ASZ
91303	212		COVID-19, vector-nr, rS-Ad26, PF, 0.5 mL	Janssen COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, vector non-replicating, recombinant spike protein-Ad26, preservative free, 0.5 mL	JSN
91304	211		COVID-19,rS-nanoparticle+Matrix-M1 0.5mL	Novavax COVID-19 Vaccine	SARS-COV-2 (COVID-19) vaccine, Subunit, recombinant spike protein-nanoparticle+Matrix-M1 Adjuvant, preservative free, 0.5mL per dose	NVX
91305	217		COVID-19 mRNA 30 mcg/0.3 mL tris-sucrose	Pfizer COVID-19 tris-sucrose Age 12+	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 30 mcg/0.3mL dose, tris-sucrose formulation	PFR
91307	218		COVID-19 mRNA 10 mcg/0.2 mL tris-sucrose	Pfizer COVID-19 tris-sucrose Age 5-11	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 10 mcg/0.2mL dose, tris-sucrose formulation	PFR
	219		COVID-19 mRNA, 3 mcg/0.2 mL tris-sucrose	Pfizer COVID-19 tris-sucrose Age 2-4	SARS-COV-2 (COVID-19) vaccine, mRNA, spike protein, LNP, preservative free, 3 mcg/0.2mL dose, tris-sucrose formulation	PFR
	213		SARS-COV-2 (COVID-19) vaccine		SARS-COV-2 (COVID-19) vaccine, UNSPECIFIED	
90725	26	Cholera	Cholera-Inject		Cholera Injectable	CHI
90592			Cholera-Oral		Cholera Oral	CHI
	173		Cholera, BivWC		Cholera, BivWC (non US vaccine)	
90625	174		Cholera, live attenuated	Vaxchora	Cholera, live attenuated	PAX

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
	172		Cholera, WC-rBS		Cholera, WC-rBS (non US vaccine)	
90700	20	DTP/aP	DTaP	Acel-Imune	Diphtheria, Tetanus, acellular Pertussis	WAL
				Certiva		BAH
				Infanrix		SKB
				Tripedia		PMC
	106		DTaP, 5 pertussis antigens	DAPTACEL	Diphtheria, Tetanus, acellular Pertussis, 5 antigens	PMC
90701	01		DTP	DTP	Diphtheria, Tetanus, whole cell Pertussis	PMC
90702	28		DT-Peds	DT	Diphtheria Tetanus pediatric	PMC
90720	22		DTP-Hib	Tetramune	DTP – Hib combination	WAL
90721	50		DTaP-Hib	TriHIBit	DTaP-Hib combination	PMC
90696	130		DTaP-IPV	Kinrix	DTaP-IPV	SKB
				Quadracel	DTaP-IPV	PMC
90723	110		DTaP-HepB-IPV	Pediarix	DTAP-HepB -IPV combination	SKB
90698	120		DTaP-IPV/Hib	Pentacel	DTaP-IPV/Hib combination	PMC
	102		DTP-Hib-HepB		DTP-Hib-HepB combination (non US vaccine)	
	170		DTaP-IPV-Hib, non US		DTaP-IPV-Hib combination (non US vaccine)	
	132		DTaP-IPV-Hib-HepB, historical		DTaP-IPV- Hib-HepB combination, historical formulation	
90697	146		DTaP, IPV, Hib, HepB	VAXELIS	DTaP-IPV- Hib-HepB combination	PMC
	107		DTP/aP		DTaP, unspecified formulation	
	56	Dengue Fever	Dengue Fever, live	DENGVAXIA	dengue fever trivalent vaccine	PMC
90719		Diphtheria	Diphtheria	Diphtheria	Diphtheria	PD
90664	125	Flu H1N1-09	Novel Influenza-H1N1-09, nasal	H1N1 Nasal	2009 Influenza-H1N1, nasal	MED
90666	126		Novel Influenza-H1N1-09, preserve-free	H1N1 p-free, CSL	2009 Influenza-H1N1, p-free, injectable	CSL
				H1N1 p-free, Novartis		NOV
				H1N1 p-free, Sanofi		PMC
90668	127		Novel Influenza-H1N1-09, preserve-free	H1N1 CSL	2009 Influenza-H1N1, p-free, injectable	CSL
				H1N1 Novartis		NOV
				H1N1 Sanofi Pasteur		PMC
	128		Novel Influenza-H1N1-09 all formulations		2009 Influenza-H1N1, unspecified formulation	
90735	39	Encephalitis	Japanese Encephalitis SC	JE-Vax	Japanese Encephalitis, subcutaneous	JPN
90738	134		Japanese Encephalitis IM	Ixiaro	Japanese Encephalitis intramuscular	VAL
	129		Japanese Encephalitis		Japanese Encephalitis, unspecified formulation	
90649	62	HPV	4vHPV	Gardasil	Human Papilloma Virus, quadrivalent	MSD
90650	118		2vHPV	Cervarix	Human Papilloma Virus, bivalent	SKB
90651	165		9vHPV	Gardasil 9	Human Papilloma Virus 9-valent	MSD
	137		HPV		Human Papilloma Virus, unspecified formulation	
90632	52	HepA	HepA Adult	Havrix-Adult	Hepatitis A Adult	SKB
				VAQTA-Adult		MSD
90633	83		HepA Ped-2 dose	Havrix-Peds 2 Dose	Hepatitis A Pediatric/Adolescent 2 dose	SKB

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
				VAQTA-Peds 2 Dose		MSD
90634	84		HepA Ped-3 dose	Havrix-Peds 3 Dose	Hepatitis A Pediatric/Adolescent 3 dose	SKB
				VAQTA-Peds 3		
						MSD
90636	104		HepA-HepB Adult	Twinrix	Hepatitis A & Hepatitis B Adult	SKB
	169		HepA, live attenuated		HepA, live attenuated (non US vaccine)	
	193		HepA-HepB, pediatric/adolescent, non US	TWINRIX Junior	hepatitis A and hepatitis B vaccine, pediatric/adolescent (non-US)	
90730	85		Hep A		Hep A , unspecified formulation	
	31		Hep A-Peds, unspecified formulation		Inactive code, Recorded as CVX 85	
90636	104	HepB	HepA-HepB Adult	Twinrix	Hepatitis A & Hepatitis B adult	SKB
90723	110		DTAP-HepB-IPV	Pediarix	DTAP-HepB-IPV combination	SKB
90739	189		Hep B, adjuvanted	HEPLISAV-B	Hepatitis B vaccine (recombinant), CpG adjuvanted	DVX
90740	44		Hep B-Dialysis 3 dose		Hepatitis B Dialysis 3 dose	
90743	43		HepB Adult	Recombivax-Adult	Hepatitis B Adult Dose 1ml	MSD
90744	08		HepB Pediatric	Recombivax Peds	Hepatitis B Pediatric/Adolescent .5ml	MSD
				Engerix-B Peds		SKB
90745	42		Hep B, Adolescent/High Risk infant		Hep B, Adolescent/High Risk infant	
90746	43		HepB Adult	Recombivax-Adult	Hepatitis B adult dose 1ml	MSD
				Engerix-B Adult		SKB
90747	44		HepB-Dialysis 4 dose	Recombivax-Dialysis	Hepatitis B Dialysis 4 dose	MSD
				Engerix-B dialysis		SKB
90748	51		HepB-Hib	Comvax	HepB-Hib combination	MSD
	102		DTP-Hib-HepB		DTaP-Hib-HepB combination (non US vaccine)	
	132		DTaP-IPV-Hib-HepB, historical		DTaP-IPV- Hib-HepB combination, historical formulation	
90697	146		DTaP, IPV, Hib, HepB	VAXELIS	DTaP-IPV- Hib-HepB combination	PMC
	193		HepA-HepB, pediatric/adolescent, non US	TWINRIX Junior	hepatitis A and hepatitis B vaccine, pediatric/adolescent (non-US)	
90731	45		Hep B		Hep B, unspecified formulation	
90645	47	Hib	Hib-HbOC	Hib-TITER	Hæmophilus influenzæ b HbOC 4 dose	WAL
90646	46		Hib-PRP-D	ProHIBit	Hæmophilus influenzæ b PRP-D booster	PMC
90647	49		Hib-OMP	PedvaxHIB	Hæmophilus influenzæ b OMP 3 dose	MSD
90648	48		Hib-PRP-T	OmniHib	Hæmophilus influenzæ b PRP-T 4 dose	PMC
				ActHib		PMC
				Hiberix		SKB
90720	22		DTP-Hib	Tetramune	DTP-Hib combination	WAL
90721	50		DTaP-Hib	TriHIBit	DTaP-Hib combination	PMC
90748	51		HepB-Hib	Comvax	HepB-Hib combination	MSD
90698	120		DTaP-IPV/Hib	Pentacel	DTaP-Hib-IPV combination	PMC
90644	148		Meningococcal C/Y-HIB PRP	MenHibrix	Mening-Hib combination	GSK
	102		DTP-Hib-HepB		DTaP-Hib-HepB combination, (non US vaccine)	

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
	170		DTaP-IPV-Hib, non US		DTaP-IPV-Hib combination (non US vaccine)	
	132		DTaP-IPV-Hib-HepB, historical		DTaP-IPV- Hib-HepB combination, historical formulation	
90697	146		DTaP, IPV, Hib, HepB	VAXELIS	DTaP-IPV- Hib-HepB combination	PMC
90737	17		Hib		Hib, unspecified formulation	
90378	93	IG-RSV IM	RSV-IgIM	Synagis	Respiratory Syncytial Virus Ig	
90281	86	Ig	Ig	Ig	Ig human	
90283	87		IgIV	IgIV	Ig IV human	
				Flebogamma		
	181		Anthrax immune globulin	Anthrasil	Anthrax immune globulin	
90287	27		Botulinum-antitoxin	Botulinum-antitoxin	Botulinum antitoxin equine	
90288			Botulism	BabyBIG	Botulism Immune Globulin	
				Botulism		
				BIG		
90291	29		CMV-IgIV	CMV-IgIV	Cytomegalovirus Ig IV human	
90296	12		Diphtheria-antitoxin	Diphtheria-antitoxin	Diphtheria antitoxin, equine	
90371	30		HBIg	HBIg	Hepatitis B Ig human	
90375	34		RIg	RIg	Rabies Ig human	
90376	34		RIg-HT	RIg-HT	Rabies Ig heat treated human	
90379	71		RSV-IgIV	RSV-IgIV	Respiratory syncytial virus Ig IV	
				RespiGam		
90384			Rho(D)Full	Rho(D)Full	Rho(D) Ig Rhlg human full-dose	
90385			Rho(D)Mini	Rho(D)Mini	Rho(D) Ig Rhlg human mini-dose	
90386			Rho(D)IV	Rho(D)IV	Rho(D) Ig Rhlg human IV	
	156		Rho(ID)-IG		Rho(D) Ig Rhlg human may be administered either IM or IV.	
	157		Rho(D)-IG IM		Rho(D) Ig Rhlg human administered as IM only	
	159		Rho(D)		Rho(D) Ig Rhlg human unspecified	
90389	13		TiG	BayTet	Tetanus Ig human	
				TIg		
90393	79		Vaccinia immune globulin	Vaccinia VIG	Vaccinia Ig human	
90396	36		VZIg	VZIg	Varicella-Zoster Ig human	
	117		VariZIG	VZIG (IND)		
			Varicella IG			
90399			Unlisted Immune Globulin	Ig	Unlisted immune globulin	
90741	14		Ig, unspecified formulation		Immune globulin, unspecified formulation	
90655	140	Influenza	Influenza (IIV3), p-free	AFLURIA Pres-Free	Influenza, injectable, trivalent, p-free 6-35 months	SEQ
				Agriflu Pres-Free		NOV
				Fluarix Pres-Free		SKB
				Fluvirin Pres-Free		SEQ
				Fluzone Pres-Free		PMC
90656				AFLURIA Pres-Free	Influenza, injectable, trivalent, p-free, 3+ years old	SEQ
				Agriflu-Pres-Free		NOV
				Fluarix Pres-Free		SKB
				Fluvirin Pres-Free		SEQ
				Fluzone Pres-Free		PMC

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
90657	141		Influenza (IIV3)	AFLURIA	Influenza, injectable, trivalent, 6-35 months	SEQ
				Flu-Imune		WAL
				Flu-Shield		WAL
				FluLaval		IDB
				Fluogen		PD
				Fluvirin		SEQ
				Fluzone		PMC
90658				AFLURIA	Influenza, injectable, trivalent, 3+ years old	SEQ
				Flu-Imune		WAL
				Flu-Shield		WAL
				FluLaval		IDB
				Fluogen		PD
				Fluvirin		SEQ
				Fluzone		PMC
90685	161		Influenza (IIV4), p-free, infant	Afluria Quad PF infant	Influenza, injectable, quadrivalent, p-free 0.25 mL for ages 6-35 months	SEQ
				Fluzone Quad PF infant		PMC
90686	150		Influenza (IIV4), p-free	Afluria Quad PF	Influenza, injectable, quadrivalent, p-free 0.5 mL for ages 3 years and older	SEQ
				Fluarix Quad PF		SKB
				FluLaval Quad PF		IDB
				Fluzone Quad PF		PMC
90687	158		Influenza (IIV4)	Afluria Quad	Influenza, injectable, quadrivalent, from multiple dose vial, 0.25 mL for ages 6-35 months	SEQ
				FluLaval Quad		IDB
				Fluzone Quad		PMC
90688				Afluria Quad	Influenza, injectable, quadrivalent, from multiple dose vial, 0.5 mL for ages 3 years and older	SEQ
				FluLaval Quad		IDB
				Fluzone Quad		PMC
	151		Influenza, live, nasal		Influenza, live, nasal, unspecified formulation	
90660	111		Influenza (LAIV3), live, nasal	FluMist	Influenza, live, nasal, trivalent	MED
90672	149		Influenza (LAIV4), live, nasal	FluMist Quadrivalent	Influenza, live, nasal, quadrivalent	MED
90654	144		Influenza (IIV3), intradermal, p-free	Fluzone Intradermal	Influenza, injectable, trivalent, intradermal, p-free	PMC
90630	166		Influenza (IIV4) intradermal, p-free	Fluzone Quad Intradermal	Influenza, injectable, quadrivalent, intradermal, p-free	PMC
90661	153		Influenza (ccIIV3), MDCK, p-free	Flucelvax	Influenza, injectable, trivalent, MDCK, p-free	SEQ
90674	171		Influenza (ccIIV4), MDCK, p-free	Flucelvax Quad PF	Influenza, injectable, quadrivalent MDCK, p-free	SEQ
90756	186		Influenza (ccIIV4), MDCK	Flucelvax Quad	Influenza, injectable, quadrivalent MDCK, preservative from multiple dose vial	SEQ
90662	135		Influenza (IIV3), high-dose, p-free	Fluzone High-Dose	Influenza, injectable, high-dose trivalent, p-free 0.5 mL for ages 65 years and older	PMC
	197		Influenza (IIV4), high-dose, p-free	Fluzone High-Dose Quad	Influenza, injectable, high-dose quadrivalent, p-free 0.7 mL for ages 65 years and older; CPT code effective July 1, 2020	PMC
90673	155		Influenza (RIV3), recombinant, p-free	Flublok	Influenza, injectable, trivalent, recombinant, p-free	PSC

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
90682	185		Influenza (RIV4), recombinant, p-free	Flublok Quad PF	Influenza, injectable, quadrivalent, recombinant, p-free	PSC
90653	168		Influenza (IIV3), adjuvanted	Fluad	Influenza, injectable, trivalent adjuvanted	SEQ
90694	205		Influenza (IIV4), adjuvanted, p-free	Fluad Quad PF	Influenza, injectable, quadrivalent adjuvanted, p-free	SEQ
90659	16		Influenza-Whole Virus		Influenza whole virus	
90724	88		Influenza, unspecified	Flu-Unspecified	Influenza, unspecified formulation	
	194		Influenza Southern Hemisphere		Influenza, Southern Hemisphere, unspecified formulation	
	200		Influenza Southern Hemisphere, Infant		Influenza, seasonal, Southern Hemisphere, quadrivalent, pediatric 0.25mL dose, preservative free	
	201		Influenza Southern Hemisphere, PF		influenza, seasonal, Southern Hemisphere, quadrivalent, 0.5mL dose, no preservative	
	202		Influenza Southern Hemisphere, MDV		influenza, seasonal, Southern Hemisphere, quadrivalent, 0.5mL dose, with preservative (multi-dose vial)	
90665	66	Lyme	Lyme	LYMErix	Lyme disease	SKB
90707	03	MMR	MMR	MMR II	Measles, Mumps and Rubella live	MSD
90710	94		MMRV	Proquad	Measles, Mumps, Rubella, Varicella live	MSD
90705	05	Measles	Measles	Measles	Measles live 1964-1974 (Eli Lilly)	MSD
				Attenuvax	Measles live	MSD
90708	04		Measles-Rubella	M-R-VAX	Measles and Rubella live	MSD
				Measles-Rubella (MERU)		MSD
90733	32	MeningACWY	Meningococcal–MPSV4	MENOMUNE	Meningococcal polysaccharide (any groups) - subcutaneous use	PMC
90734	114		Meningococcal-MCV4P	Menactra	Meningococcal [Groups A, C, Y and W-135] Polysaccharide Diphtheria Toxoid Conjugate Vaccine – intramuscular use (MCV4P)	PMC
	136		Meningococcal-MCV4O	Menveo	Meningococcal [Groups A, C, Y and W-135] Oligosaccharide Diphtheria Toxoid Conjugate Vaccine – intramuscular use (MCV4O)	GSK
	147		Meningococcal-MCV4		Meningococcal [Groups A, C, Y and W-135] Diphtheria Toxoid Conjugate Vaccine (MCV4)	
90644	148		Meningococcal C/Y-HIB PRP	MenHibrix	Mening-Hib combination	GSK
	103		Meningococcal C		Meningococcal C unspecified formulation **(non-US)**	
	108		Meningococcal ACWY		Meningococcal ACWY, unspecified formulation	
	191		Meningococcal A polysaccharide, non US		Meningococcal A polysaccharide vaccine **(non-US)**	
	192		Meningococcal AC polysaccharide, non US		Meningococcal AC polysaccharide vaccine **(non-US)**	

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
	167		Meningococcal, unknown serogroups		Meningococcal, unknown serogroups **(use for historical purposes only)** in which the vaccine may have been ACWY or B	
90621	162	MeningB	Meningococcal B, recombinant	Trumenba	Meningococcal B vaccine, fully recombinant	PFR
90620	163		Meningococcal B, OMV	Bexsero	Meningococcal B vaccine, recombinant, OMV, adjuvanted	GSK
	164		Meningococcal B		meningococcal B, unspecified formulation	
90704	07	Mumps	Mumps	Mumps	Mumps 1950-1978	MSD
				Mumpsvax	Mumps live	MSD
90709			Rubella-Mumps		Rubella and Mumps, Unspecified Formulation	
	38		Rubella-Mumps	Biavax II	Rubella and Mumps live	MSD
				Mumps-Rubella (MURU)		MSD
90727	23	Plague	Plague	Plague	Plague	GRE
90732	33	Pneumo-Poly	Pneumococcal 23	PNU-IMUNE 23	Pneumococcal polysaccharide 23 valent	WAL
				Pneumovax 23		MSD
90669	100	Pneumococcal	Pneumo-conjugate 7	Prevnar 7	Pneumococcal conjugate vaccine,7 valent	WAL
90670	133		Pneumo-conjugate 13	Prevnar 13	Pneumococcal conjugate vaccine, 13 valent	PFR
90671	215		Pneumococcal conjugate PCV15	VAXNEUVANCE	Pneumococcal conjugate vaccine 15-valent (PCV15), polysaccharide CRM197 conjugate, adjuvant, preservative free	MSD
90677	216		Pneumococcal conjugate PCV20	Prevnar 20	Pneumococcal conjugate vaccine 20-valent (PCV20), polysaccharide CRM197 conjugate, adjuvant, preservative free	PFR
	152		Pneumococcal conjugate		Pneumococcal conjugate, unspecified formulation	
	177		PCV10, non US		Pneumococcal conjugate vaccine, 10 valent, **non US**	
	109		Pneumococcal		Pneumococcal, unspecified formulation	
90712	02	Polio	OPV trivalent	ORIMUNE	Trivalent poliovirus vaccine, live, oral	WAL
90713	10		IPV	IPOL	Poliovirus inactivated IPV	PMC
90723	110		DTaP-HepB-IPV	Pediarix	DTAP-HepB-Polio combination	SKB
90698	120		DTaP-IPV/Hib	Pentacel	DTaP-Hib-IPV combination	PMC
90696	130		DTaP-IPV	Kinrix	DTaP-IPV	SKB
				Quadracel	DTaP-IPV	PMC
	170		DTaP-IPV-Hib, non US		DTaP-IPV-Hib combination (non US vaccine)	
	132		DTaP-IPV-Hib-HepB, historical		DTaP-IPV- Hib-HepB combination, historical formulation	
90697	146		DTaP, IPV, Hib, HepB	VAXELIS	DTaP-IPV- Hib-HepB combination	PMC
	178		OPV bivalent, non US		**Non-US** bivalent oral polio vaccine (types 1 and 3)	
	179		OPV monovalent, non US		**Non-US** monovalent oral polio vaccine, unspecified formulation	

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
	182		OPV, unspecified		Oral Polio Vaccine, Unspecified formulation	
	89		Polio		Polio, unspecified formulation	
90675	18	Rabies	Rabies-intramuscular		Rabies intramuscular – discontinued use CVX 175 or 176	
90676	40		Rabies-intradermal	Imovax ID	Rabies intradermal	PMC
	175		Rabies - IM Diploid cell culture	Imovax	Rabies - IM Diploid cell culture	PMC
	176		Rabies - IM fibroblast culture	RabAvert	Rabies - IM fibroblast culture	GSK
90726	90		Rabies		Rabies, unspecified formulation	
90675	18		Rabies-intramuscular		Rabies intramuscular – discontinued use CVX 175 or 176	
90680	74	Rotavirus	Rotavirus, Tet	RotaShield	Rotavirus tetravalent live oral (removed on 10/16/1999)	WAL
	116		Rotavirus, Pent	RotaTeq	Rotavirus pentavalent (after 02/02/2006)	MSD
90681	119		Rotavirus, monovalent	Rotarix	Rotavirus monovalent	SKB
	122		Rotavirus		Rotavirus, unspecified formulation	
90706	06	Rubella	Rubella	Rubella	Rubella live	MSD
				Meruvax II		MSD
90708	04		Measles-Rubella	Measles-Rubella (MERU)	Measles and Rubella live	MSD
				M-R-VAX		MSD
90709			Rubella-Mumps		Rubella-Mumps, Unspecified Formulation	
	38		Rubella-Mumps	Mumps-Rubella (MURU)	Rubella and mumps live	MSD
				Biavax II		MSD
	75	Smallpox	Smallpox	ACAM2000	Vaccinia(Smallpox), dry	PMC
				Dryvax		WAL
	105		Vaccinia (Smallpox), diluted	Vaccinia, diluted	Vaccinia (smallpox), diluted	
90718	09	Td	Td (adult), adsorbed	Td	Tetanus and diphtheria adult, adsorbed	GRF
						MBL
	138		Td (adult), not adsorbed		Tetanus and diphtheria adult, not adsorbed	
90714	113		Td (adult), p-free	DECAVAC	Td p-free – CPT code is effective 7/1/2005	PMC
				TENIVAC	Td p-free – CPT code is effective 7/1/2005	PMC
90715	115		Tdap	Adacel	Tdap	PMC
				Boostrix		SKB
	139		Td (adult)		Td (adult), unspecified formulation	
90703	35	Tetanus	Tetanus toxoid, adsorbed	TT	Tetanus toxoid, adsorbed	PMC
	142		Tetanus toxoid, not adsorbed		Tetanus toxoid, not adsorbed	
	112		Tetanus Toxoid		Tetanus, unspecified formulation	
90690	25	Typhoid	Typhoid-oral	Vivotif	Typhoid oral	PAX
90691	101		Typhoid-ViCPs	Typhim Vi	Typhoid - VI Capsular Polysaccharide	PMC
90692	41		Typhoid-HP	Typhoid	Typhoid - Heat and Phenol inactivated	
90693	53		Typhoid-AKD	Typhoid-AKD	Typhoid - Acetone-Killed, Dried (military)	

CPT	CVX	Group	Vaccine	Trade Name	Description	MFG
	190		Typhoid conjugate (TCV), non US		Typhoid conjugate vaccine **(non-US)**	
	91		Typhoid		Typhoid, unspecified formulation(after 7/1/2005, no CPT code is associated with this vaccine group)	
90710	94	Varicella	MMRV	Proquad	Measles, Mumps, Rubella, Varicella live	MSD
90716	21		Varicella	Varivax	Varicella live	MSD
90717	37	Yellow Fever	Yellow Fever	YF-VAX	Yellow Fever live	PMC
	183		Yellow Fever - alt	Stamaril	Yellow Fever live alternate formulation	PMC
	184		Yellow Fever		Yellow Fever, unspecified formulation	
90736	121	Zoster	Zoster (shingles), live	Zostavax	Zoster (shingles), live	MSD
90750	187		Zoster (shingles),recombinant	Shingrix	Zoster vaccine recombinant	GSK
	188		Zoster (shingles)		Zoster vaccine, unspecified formulation	

Appendix C: False Names and Acceptable Suffix List

Specific names are *rejected* within data exchange processing *if* they are contained within the false names list. This includes first and last names, as well as street addresses. These constraints apply to patient specific information only. The false name constraints do not apply to either the Mother or Father's information. Since the patient's first and last names are required, empty fields are not permitted and a false name in one of those fields will cause the record to be rejected. For optional fields, (i.e. Street Address) the record is not rejected but a <null> value is stored instead of the false name. False Name values indicated with an asterisk (*) may be entered through the user-interface (Enter New/Edit Patient Screen).

FALSE FIRST NAMES

*AF BABY		INFANTGIRL	
BABY		*INFANTMAL	
*BABY B		INFANTMALE	
BABY BOY		*LCFS	
*BABY G		*LSS	
BABY GIRL		*LSS BABY	
*BABYB		*LWG	
BABYBOY		MR	
BABYGIRL		MRS	
*BOY I		MS	
*BOY II		NEWBORN	
CHILD		*NFN	
*CSS		*NTXHW	
FEMALE		*PVN	
*FIRE DEPT		*SIGNATURE	
GIRL		*SLKDFSLKD	
*GIRL I		*SRM	
*GIRL II		*THWJ	
*HBS		*TOMORROW'S CHILDREN	
*HRH		*TSWJ	
*ILLEGIBLE SIGNATURE		*TSWM	
INFANT		*TSWV	
*INFANT BO		*TXWM	
INFANT BOY		UFA	
*INFANT FE		*UNK	
INFANT FEM		*UNKN	
*INFANT G		*UNKNOEN	
*INFANT GI		*UNKNOWN	
*INFANT GIR		*UNKOWN	
INFANT GIRL		*UNNAMED	
*INFANT GRL		UNREADABLE	
*INFANT M		*WLCFS	
*INFANT MA		*XWM	
*INFANT MAL		XXX	
INFANTBOY			
*INFANTGIR			

FALSE LAST NAMES

*A BABY		INFANT GIRL
*A F BABY		INFANTBOY
*AF		INFANTGIRL
*AF BABY		INFANTMALE
*AF BABY BO		*L S
*AF BABY GI		*LCFD
*AFBABY		*LCFS
*B C S		*LCSF
*B S C		*LNAME
BABY		*LS
BABY BOY		*LSDKFSLDK
BABY GIRL		*LSS
BABYBOY		*LSSFC
BABYGIRL		*LT JR
*BCS		*M BABY
*BCSW		*M BABY BOY
*BRT		*NLN
*BSC		*O BABY
*C A C		*P BABY
*C S		*PCS
*C S		*R BABY
*CAC		*S B A
*CBS		*S BABY
*CCS		*S C I
*CFCFS		*SB
*CS		*SC
*CSS		*SIGNATURE
*CSS BABY		*SMRT
*CSSW		*SRB
*D S		*SRFC
*DCS		*SRP
*DFS		*SS
*DSS		*T A O
*E BABY		UFA
*F BABY		*UN
FEMALE		*UNK
*FF		*UNKN
*FIRE DEPT		*UNKNOEN
*FWV		*UNKNOWN
*G BABY		*UNKOWN
*GARCIA INF		*UNNAMED
GIRL		UNREADABLE
*GSST		*V BABY
*H BABY BOY		*VLK
INFANT		*WLCFS
INFANT BOY		*ZBABY
INFANT FEM		

VALID SUFFIXES

I or 1ST	
II or 2ST	
III or 3RD	
IV or 4TH	
V or 5TH	
VI or 6TH	
VII or 7TH	
VIII or 8TH	
IX or 9TH	
X or 10T or 10TH	

JR	Junior
SR	Senior
Professional Suffixes	
BN	Bachelor of Nursing
BSN	Bachelor of Science in Nursing
CANP	Certified Adult Nurse Practitioner
CMA	Certified Medical Assistant
CNA	Certified Nurse's Assistant
CNM	Certified Nurse Midwife
CNP	Certified Nurse Practitioner
CNS	Certified Nurse Specialist
CPNP	Certified Pediatric Nurse Practitioner
CRN	Certified Registered Nurse
DO	Doctor of Osteopath
FPNP	Family Practice Nurse Practitioner
LPN	Licensed Practical Nurse
MD	Doctor of Medicine
MDA	Medical Assistant
MPH	Master of Public Health
MS	Master of Science
MSN	Master of Science – Nursing
MT	Medical Technician
NP	Nurse Practitioner
PA	Physician Assistant
PharmD	Doctor of Pharmacy
PHD	Doctor of Philosophy
PHN	Public Health Nurse
PN	Advanced Practice Nurse
RMA	Registered Medical Assistant
RN	Registered Nurse
RPH	Registered Pharmacist

FALSE ADDRESSES

Note: (Identical match (case insensitive) required for field to violate constraint, i.e. "1234 Address" would not be violation; "Address" would be violation.)

ADDRESS
COMMENT
DECEASED
DO NOT USE
FAMILY PLANNING
FAMILY PLANNING SERVICES
GENERAL DELIVERY
MAIL RETURNED
MOVED
NO CURRENT
PLANN PARENTHOO
PLANNED PARENTHOOD
UNKNOWN
UPDATE

ADDRESS REMOVE PERSON

Note: An identical match results in entire Responsible Person record, including Address, being ignored and not loaded.

FAMILY PLANNING
FAMILY PLANNING SERVICES
PLANN PARENTHOO
PLANNED PARENTHOOD