Florida SHOTS™

SPECIFICATIONS FOR REAL-TIME DATA EXCHANGE

Florida Shots™
keeping shots in check

SPECIFICATIONS FOR REAL-TIME DATA EXCHANGE WITH FLORIDA SHOTS USING HL7 VERSION 2.5.1

FLORIDA STATE HEALTH ONLINE TRACKING SYSTEM

Version 3.0
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Document Version History

Version #	Date	Change Description
1.0	5/12/2014	Initial version of the document
2.0	6/5/2014	Final Edit
3.0	7/3/2014	Update data field categories

Note: This specifications document will be updated on occasion and given a new document version. To verify you are using the latest version of the specifications document, visit http://flshotsusers.com/resources/software-provider-resources/.

Table of Contents

1. INTRODUCTION

Florida Statewide Health Online Tracking System (SHOTS), the immunization registry for the state of Florida, is an online system available via the internet for providers to maintain the immunization records of patients. Providers can record patient immunizations in Florida SHOTS either by user login, or by batch file upload. Florida SHOTS now provides real-time, data exchange functionality through the use of HL7 messages and web services. Immunization providers, who currently use their own practice management or electronic medical record software and have the ability to generate an HL7 message, can now invoke the web service provided by Florida SHOTS to send immunization data in real-time. Florida SHOTS will accept HL7 messages in Versions 2.3.1 and 2.5.1. In addition to sending immunization data, providers using HL7 version 2.5.1 can query the system for a patient's immunization profile, and receive a return message containing potential matches, with immunization series forecasts.

1.1 Purpose of This Document

The purpose of this document is to provide interested data exchange partners the necessary technical information needed to implement that web service interface.

1.2 Reference

Florida SHOTS real-time web service interface is based on the following:
- The Center for Disease Implementation Guide for Immunization Data. http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html - (refer to HL7 Version 2.5.1 Implementation Guide for Immunization Messaging, Release 1.4 08/01/2012)
- Version 2.5.1 of the Health Level 7 Standards available at www.hl7.org.

1.3 Supported HL7 Message Types

Florida SHOTS supports the following HL7 message types; VXU (Unsolicited Vaccination Record Update) message from the provider, QBP (Query by Parameters) message from the provider, which will return an RSP (Respond to QBP) message containing one of three query profile response (Z31, Z32, or Z34) from Florida SHOTS.

Messages constructed using the guidelines in this document will fall within the HL7 2.5.1 standard, however, it should be noted that there are a wide variety of possible HL7 messages that may fall outside the scope of this document. For more details on the message types, please refer to the Florida SHOTS HL7 Message Specification section.

1.4 Provider Readiness Criteria

In order for the sending partner i.e., the provider/EHR to use the real-time web service interface to exchange data with Florida SHOTS:
- FL SHOTS system generated web service username and password
- A valid and active Florida SHOTS user account
- Ability to invoke the web services using SOAP 1.2 protocols via HTTPS POST.
- Ability to send patient immunization data by constructing a valid HL7 version 2.5.1 message.
- Evidence of successful testing of the data exchange process.

2. Real-time Web Service Interface Overview

Florida SHOTS real-time web service interface uses CDC recommended SOAP-based transport methodology for health systems-to-health system HL7 immunization messaging interoperability. The web service specifications described here is to transmit a single HL7 message synchronously.

> Note: "Because communication failures can occur at any point in the transmission, Florida SHOTS is designed to handle HL7 messages retransmitted by a sender that did not receive an acknowledgement to its first request."

2.1 Security

The required transport is SOAP 1.2 over HTTPS. The data encryption during the transport is provided by HTTPS (HTTP over TLS 1.1.or 1.2)

2.2 Authentication

Each sender implementing the real-time web service interface with Florida SHOTS will be provided system generated credentials. The sender will configure their EHR software with this username and password, as HTTP basic authentication arguments to the web service method call, as defined in the SOAP Web Service section below.

2.3 SOAP Web Service

The following sub sections detail the Web Services Definition Language (WSDL) for the Florida SHOTS SOAP web service. The WSDL is based on the specification published by CDC (http://www.cdc.gov/vaccines/programs/iis/technical-guidance/SOAP/wsdl.html).

2.3.1 The Header

```
<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
        xmlns:wsp="http://www.w3.org/ns/ws-policy"
        xmlns:wsp1_2="http://schemas.xmlsoap.org/ws/2004/09/policy"
        xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata"
        xmlns:wsaw="http://www.w3.org/2005/08/addressing"
        xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
        xmlns:tns="urn:cdc:iisb:2011"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns="http://schemas.xmlsoap.org/wsdl/"
        targetNamespace="urn:cdc:iisb:2011"
        name="IISServiceNew">
```

2.3.2 The Schema for Types

Note: Highlighted text indicates Florida Specific requirement for connectivity test.

```
 <types>
     <xsd:schema elementFormDefault="qualified" targetNamespace="urn:cdc:iisb:2011">

        <xsd:complexType name="connectivityTestFLRequestType">
                <xsd:sequence>
<xsd:element name="username" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>
<xsd:element name="password" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>


<xsd:element name="echoBack" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>
                </xsd:sequence>
        </xsd:complexType>

        <xsd:complexType name="connectivityTestFLResponseType">
                <xsd:sequence>

<xsd:element name="return" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>
                </xsd:sequence>
        </xsd:complexType>

        <xsd:complexType name="submitSingleMessageRequestType">
                <xsd:sequence>

<xsd:element name="username" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>

<xsd:element name="password" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>

<xsd:element name="facilityID" type="xsd:string"  minOccurs="0" maxOccurs="1" nillable="true"/>

<xsd:element name="hl7Message" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>
                </xsd:sequence>
        </xsd:complexType>

        <xsd:complexType name="submitSingleMessageResponseType">
                <xsd:sequence>

<xsd:element name="return" type="xsd:string" minOccurs="1" maxOccurs="1" nillable="true"/>
```

```
                    </xsd:sequence>
            </xsd:complexType>

            <xsd:complexType name="soapFaultType">
              <xsd:sequence>
                    <xsd:element name="Code" type="xsd:integer" minOccurs="1"/>
                    <xsd:element name="Reason" type="xsd:string" minOccurs="1"/>
                    <xsd:element name="Detail" type="xsd:string" minOccurs="1"/>
              </xsd:sequence>
            </xsd:complexType>

            <xsd:complexType name="UnsupportedOperationFaultType">
              <xsd:sequence>
                    <xsd:element name="Code" type="xsd:integer" minOccurs="1"/>
                    <xsd:element name="Reason" fixed="UnsupportedOperation"/>
                    <xsd:element name="Detail" type="xsd:string" minOccurs="1"/>
              </xsd:sequence>
            </xsd:complexType>

            <xsd:complexType name="SecurityFaultType">
              <xsd:sequence>
                    <xsd:element name="Code" type="xsd:integer" minOccurs="1"/>
                    <xsd:element name="Reason" fixed="Security"/>
                    <xsd:element name="Detail" type="xsd:string" minOccurs="1"/>
              </xsd:sequence>
            </xsd:complexType>

            <xsd:complexType name="MessageTooLargeFaultType">
              <xsd:sequence>
                    <xsd:element name="Code" type="xsd:integer" minOccurs="1"/>
                    <xsd:element name="Reason" fixed="MessageTooLarge"/>
                    <xsd:element name="Detail" type="xsd:string" minOccurs="1"/>
              </xsd:sequence>
            </xsd:complexType>

            <xsd:element name="connectivityTestFL" type="tns:connectivityTestFLRequestType"/>
            <xsd:element name="connectivityTestFLResponse" type="tns:connectivityTestFLResponseType"/>
            <xsd:element name="submitSingleMessage" type="tns:submitSingleMessageRequestType"/>
            <xsd:element name="submitSingleMessageResponse" type="tns:submitSingleMessageResponseType"/>
            <xsd:element name="fault" type="tns:soapFaultType"/>
            <xsd:element name="UnsupportedOperationFault" type="tns:UnsupportedOperationFaultType"/>
            <xsd:element name="SecurityFault" type="tns:SecurityFaultType"/>
            <xsd:element name="MessageTooLargeFault" type="tns:MessageTooLargeFaultType"/>

        </xsd:schema>
    </types>
```

2.3.3 Message Definitions

```
<!-- Message definitions -->
<message name="connectivityTestFL_Message">
 <documentation>connectivity test FL request</documentation>
 <part name="parameters" element="tns:connectivityTestFL" />
</message>

<message name="connectivityTestFLResponse_Message">
 <documentation>connectivity test FL response</documentation>
```

```
      <part name="parameters" element="tns:connectivityTestFLResponse" />
    </message>

    <message name="submitSingleMessage_Message">
      <documentation>submit single message request.</documentation>
      <part name="parameters" element="tns:submitSingleMessage" />
    </message>

    <message name="submitSingleMessageResponse_Message">
      <documentation>submit single message response</documentation>
      <part name="parameters" element="tns:submitSingleMessageResponse" />
    </message>

    <message name="UnknownFault_Message">
      <part name="fault" element="tns:fault"/>
    </message>

    <message name="UnsupportedOperationFault_Message">
       <part name="fault" element="tns:UnsupportedOperationFault"/>
    </message>

    <message name="SecurityFault_Message">
      <part name="fault" element="tns:SecurityFault"/>
    </message>
    <message name="MessageTooLargeFault_Message">
      <part name="fault" element="tns:MessageTooLargeFault"/>
    </message>
```

2.3.4 Operation/Transaction Declarations

```
<!-- Operation/transaction declarations -->
  <portType name="IIS_PortType">
    <operation name="connectivityTestFL">
      <documentation>the connectivity test</documentation>
      <input message="tns:connectivityTestFL_Message" wsaw:Action="urn:cdc:iisb:2011:connectivityTestFL"/>
      <output message="tns:connectivityTestFLResponse_
Message" wsaw:Action="urn:cdc:iisb:2011:connectivityTestFLResponse"/>
      <fault name="UnknownFault" message="tns:UnknownFault_Message"/> <!-- a general soap fault -->
      <fault name="UnsupportedOperationFault" message="tns:UnsupportedOperationFault_Message"/>
<!-- The UnsupportedOperation soap fault -->
    </operation>

    <operation name="submitSingleMessage">
      <documentation>submit single message</documentation>
      <input message="tns:submitSingleMessage_Message" wsaw:Action="urn:cdc:iisb:2011:submitSingleMessage"/>
      <output message="tns:submitSingleMessageResponse_
Message" wsaw:Action="urn:cdc:iisb:2011:submitSingleMessageResponse"/>
      <fault name="UnknownFault" message="tns:UnknownFault_Message"/> <!-- a general soap fault -->
      <fault name="SecurityFault" message="tns:SecurityFault_Message"/>
      <fault name="MessageTooLargeFault" message="tns:MessageTooLargeFault_Message"/>
    </operation>
  </portType>
```

2.3.5 SOAP Binding

```
<!-- SOAP 1.2 Binding -->
<binding name="client_Binding_Soap12" type="tns:IIS_PortType">
 <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http" />
 <operation name="connectivityTestFL">
  <soap12:operation soapAction="urn:cdc:iisb:2011:connectivityTestFL" />
  <input><soap12:body use="literal" /></input>
  <output><soap12:body use="literal" /></output>
  <fault name="UnknownFault"><soap12:fault use="literal" name="UnknownFault"/></fault>
  <fault name="UnsupportedOperationFault"><soap12:fault use="literal" name="UnsupportedOperationFault"/></fault>
 </operation>
 <operation name="submitSingleMessage">
  <soap12:operation soapAction="urn:cdc:iisb:2011:submitSingleMessage" />
  <input><soap12:body use="literal" /></input>
  <output><soap12:body use="literal" /></output>
  <fault name="UnknownFault"><soap12:fault use="literal" name="UnknownFault"/></fault>
  <fault name="SecurityFault"><soap12:fault use="literal" name="SecurityFault"/></fault>
  <fault name="MessageTooLargeFault"><soap12:fault use="literal" name="MessageTooLargeFault"/></fault>
 </operation>
</binding>
```

2.3.6 Service Definition

```
<!-- Service definition -->
<service name="client_Service">
 <port binding="tns:client_Binding_Soap12" name="client_Port_Soap12">
  <soap12:address location="http://localhost/WebApp/IISService" />
 </port>
</service>
</definitions>
```

> Note: A standard generalized SOAP fault will be provided if username/password is not validated instead of security fault document in the WSDL.
>
> The example of the generalized SOAP fault that will be returned is

```
<?xml version='1.0' encoding='UTF-8' standalone='no' ?>
<SOAP-ENV:Envelope xmlns:SOAP-ENV='http://www.w3.org/2003/05/soap-envelope' xmlns:xsi='http://www.w3.org/2001/
XMLSchema-instance' xmlns:s='http://www.w3.org/2001/XMLSchema' xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/
oasis-200401-wss-wssecurity-secext-1.0.xsd" >
    <SOAP-ENV:Body>
            <SOAP-ENV:Fault>

                    <SOAP-ENV:Code><SOAP-ENV:Value>wsse:FailedAuthentication</SOAP-ENV:Value></SOAP-ENV:Code>
                    <SOAP-ENV:Reason><SOAP-ENV:Text xml:lang='en'>The security token could not be authenticated or
                    authorized</SOAP-ENV:Text></SOAP-ENV:Reason>
                    <SOAP-ENV:Detail></SOAP-ENV:Detail>
            </SOAP-ENV:Fault>
    </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

2.4 Processing of the Web Service Call

The following describes a high level overview of how the EHR initiated web service call is authenticated at various levels before the HL7 message will be processed by Florida SHOTS.

2.4.1 Authenticate Sender

Florida SHOTS will verify that the sender of the web service call is a Florida SHOTS authorized sender by authenticating the username and password received in the web service method call in the SOAP message.

2.4.2 Validate Facility ID

The Facility ID sent in the SOAP message will not be used for validation purposes at this time.

2.4.3 Validate Organization Login ID

Florida SHOTS will verify the Organization Login ID (also known as OrgLoginID), presented in MSH 4.1. Verification requires:
- The OrgLoginID belongs to an active Organization in Florida SHOTS,
- The Organization is authorized to use web services/data exchange, and
- The sender of this message (section 2.4.1) is associated with the Organization.

Upon successful validation, the immunization information provided on the HL7 message is processed and appropriate responses returned.

3. Florida SHOTS HL7 Message Specifications

3.1 HL7 Message Overview

The HL7 standard is widely used for data exchange in the health care industry. The full standard covers different situations in health care delivery and finance. The CDC has worked with HL7 developers to create a set of messages immunization data exchange. This document addresses the subsection of HL7 that will be used for patient immunization records exchanged between Florida SHOTS and outside systems.

The fundamental element 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.

Segments are in turn made up of several Fields separated by a delimiter character, "|".
Each field is a string of characters and is of a specific HL7 Data Type. 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.
Field values of composite data types consist of several Components separated by the component separator or Delimiter, "^". 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, "\". Florida SHOTS (and as of version 2.5.1, HL7) requires the use of these specific characters—No substitutions are allowed.

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

> Florida SHOTS requires that each segment must end with a segment termination character (an ASCII carriage return character.)

3.2 HL7 Segment Structure

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

1. **SEQ** The ordinal position of the field in the segment. Since Florida SHOTS does not use all possible fields in the HL7 standard, these are not always consecutive. When datum values are provided for fields NOT defined in this guide, Florida SHOTS will ignore and NOT retain the datum value.
2. **HL7 v2.5.1 IG R/RE/O** Specifications per the HL7 v2.5.1. Implementation Guide
   R - Required by HL7
   RE - Required but can be empty
   O - Optional
3. **FL SHOTS R/RE/REC** Specifications per Florida SHOTS Phase One Implementation
   R - Required by Florida SHOTS
   RE - Required but can be empty
   REC - Recommended
4. **RP/#** Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and blank means no repetition is permitted.
5. **TBL#** Number of the table giving valid values for the field.
6. **ELEMENT NAME** HL7 name for the field.

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 Florida SHOTS, sub-components, repetition and text values requiring the escape character will be rare. Components within fields are common, since names and addresses are represented this way.

3.3 Supported Messages

3.3.1 VXU – Unsolicited Vaccine Update Message Definition

The real-time web services interface with Florida SHOTS will support receiving the following message types: VXU^V04 (Unsolicited Vaccine Update) and responding with ACK (General Acknowledgement) message. The following section outlines the specifications to be used while constructing VXU message segments that will be processed by Florida SHOTS.

Each segment must begin with the 3-letter segment ID and is one line of text ending with a line termination character (a carriage return-linefeed pair, a single linefeed, or a single carriage return character.) The line termination character is required so that the HL7 messages are readable and printable. The messages may appear somewhat ambiguous due to the lack of white space. (The standard has provisions for binary data, but Florida SHOTS will not use these features.)

Segment ID not enclosed by any type of parentheses or braces are required segments and must be present for the message to be processed. Segment ID enclosed by square brackets are recommended segments and segment ID enclosed by curly braces {} are segments that can be repeated. Also, any number of NK1 segments could be included in the VXU message. The full HL7 standard allows additional segments within these message types, but they are ignored by Florida SHOTS. In order to stay compliant with HL7 however, their use will not result in an error, but the recipient can disregard the content of the segments. The segments that are acknowledged here are adequate to support the principal Florida SHOTS functions of storing and returning data for clients and their immunizations.

Note: Only the segments/fields processed by Florida SHOTS are defined in this document. If the HL7 message you are sending to Florida SHOTS, contains additional segments that are NOT defined herein, your messages will NOT be rejected by Florida SHOTS. In the event that your message contains extraneous segments, Florida SHOTS will ignore the segment and its corresponding values. For segments/fields that are not defined in this document, please follow the HL7 standard specification as specified in the CDC Implementation Guide for Immunization Data at http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html (refer to HL7 Version 2.5.1 Implementation Guide for Immunization Messaging, Release 1.4 08/01/2012) and Version 2.5.1 of the Health Level 7 Standards available at www.hl7.org.

VXU^V04^VXU_V04

Unsolicited Vaccination Update

MSH	Message Header
PID	Patient Identification
[{NK1}]	Next of Kin / Associated Parties
[PV1]	Patient Visit
{ORC}	Order Control
RXA	Pharmacy / Treatment Administration (at least ONE RXA is REQUIRED by Florida SHOTS)
[RXR]	Pharmacy / Treatment Route (Only one RXR per RXA segment)
[{OBX}]	Observation/Result

The following section provides an overview of various segments supported by the Florida SHOTS implementation for VXU messages, as compared to the recommended specifications per the HL7 v2.5.1 Implementation Guide. The table provided in each section contains the following columns:

1. **SEQ** The ordinal position of the field in the segment. Since Florida SHOTS does not use all possible fields in the HL7 standard, these are not always consecutive. When datum values are provided for fields NOT defined in this guide, Florida SHOTS will ignore and NOT retain the datum value.
2. **HL7 v2.5.1 IG R/RE/O** Specifications per the HL7 v2.5.1. Implementation Guide
   R - Required by HL7
   RE - Required but can be empty
   O - Optional
3. **FL SHOTS R/RE/REC** Specifications per Florida SHOTS Phase One Implementation
   R - Required by Florida SHOTS
   RE - Required but can be empty
   REC - Recommended
4. **RP/#** Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and blank means no repetition is permitted.
5. **TBL#** Number of the table giving valid values for the field.
6. **ELEMENT NAME** HL7 name for the field.

3.3.1.1 MSH – Message Header Segment (Required)

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

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	DESC/ELEMENT NAME
1	R	R			Field Separator
2	R	R			Encoding Characters
3	RE	RE		0361	Sending Application
4	RE	RE		0362	Sending Facility
5	RE	REC		0361	Receiving Application
6	RE	REC		0362	Receiving Facility
7	R	R			Date/Time Message
9	R	R		0076	Message Type
10	R	R			Message Control ID
11	R	R			Processing ID
12	R	R		0104	Version ID
15	RE	REC		0155	Accept Acknowledgement Type
16	RE	REC			Application Acknowledgement Type
21	R/O	REC			Message Profile Identifier

Field Notes:

MSH-1 This is a required field. It determines the field separator in effect for the rest of this message. Florida SHOTS requires the HL7 recommended field separator of "|".

For the message to be processed, Florida SHOTS requires the field separator and encoding characters (MSH-1 and MSH-2) to conform to the HL7 recommended delimiters and repetition characters as specified in section 3.1 (HL7 Message Overview).

MSH-2 This is a required field. It determines the component separator, repetition separator, escape character, and sub- component separator in effect for the rest of this message. Florida SHOTS requires the HL7 values of ^~\&.

For the message to be processed, Florida SHOTS requires the field separator and encoding characters (MSH-1 and MSH-2) to conform to the HL7 recommended delimiters and repetition characters as specified in section 3.1 (HL7 Message Overview).

MSH-3 Name of the sending application.
- MSH-3.1 Sending Application / Namespace ID: Florida SHOTS expects the Application Name.
- MSH-3.2 Sending Application / Universal ID: Florida SHOTS expects the Software Provider.

MSH-4 Identifies for whom the message is being sent (the owner of the message information).
- MSH-4.1 Sending Facility / Namespace ID: Florida SHOTS requires the Florida SHOTS Login ID.
- MSH-4.2 Sending Facility / Universal ID: Florida SHOTS expects Sending Facility.

For the message to be processed,
- The value in MSH 4.1 must match the Florida SHOTS Organization Login ID of a valid, active organization in Florida SHOTS. To have an Organization Login ID, the sender must be enrolled in Florida SHOTS. To enroll go to Florida SHOTS web site at http://www.flshots.com.
- The organization identified above must be authorized to use web services/data exchange, and
- The message must be sent by the partner (see section 2.4.1) associated with the organization.

If the MSH-4.1 does not contain a value or contains an invalid value, the message will NOT be processed.

MSH-5 Identifies the receiving application. Not Used by Florida SHOTS.

MSH-6 Identifies the message receiver. Not Used by Florida SHOTS.

MSH-7 This is a required field. It indicates the date and time when the message was created.

MSH-9 This is a required field. This field is made up of three components.
- MSH-9.1 Message Type / Message Code: the HL7 message type (see Table 0076)
- MSH-9.2 Message Type / Trigger Event: the HL7 triggering event (see Table 0003)
- MSH-9.3 Message Type / Message Structure: the HL7 Message Structure (HL7 Table 0354.)

For a VXU message to be processed, MSH-9.1 must be valued with message type "VXU", and MSH-9.2 must be valued with trigger event "V04"

For all other values, the message will NOT be processed.

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.

MSH-11 This is a required field. The processing ID to be used by Florida SHOTS is P for production processing.

MSH-12 This is a required field. For the parser, the version number that is read in the first MSH segment, of the file, will be the version assumed for the entire file. For example, use a value of "2.5.1" to indicate HL7 Version 2.5.1. If there is no version number found in the first MSH segment, a hard error will occur and the file will not be processed.

MSH-15 This field controls whether an acknowledgement is generated for the message sent. This field is required for Enhanced Acknowledgement Mode, however the Florida SHOTS will be utilizing Original Acknowledgement Mode, and therefore Florida SHOTS will ignore this field.

MSH-16 This field controls whether the acknowledgement is required to be returned in response to the message. This field is required for Enhanced Acknowledgement Mode, however the Florida SHOTS implementation will be utilizing Original Acknowledgement Mode, and therefore Florida SHOTS will ignore this field.

MSH-21 Message Profile Identifier. This field is recommended for VXU Messages.

3.3.1.2 PID – Patient Identification (Required)

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	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	RE	REC			Set ID – PID
3	R	R	Y	0203	Patient ID (Internal ID)
5	R	R	Y		Patient Name
6	RE	REC			Mother's Maiden Name
7	R	R			Date/Time of Birth
8	RE	RE		0001	Sex
10	RE	RE		0005	Race
11	RE	RE			Patient Address
13	RE	RE	Y		Phone Number – home
22	RE	RE		0189	Ethnic Group
24	RE	RE		0136	Multiple Birth Indicator
25	RE/O	RE			Birth Order

Field Notes:

PID-3 This is a required field. When a Provider Organization is sending to Florida SHOTS, use the sending system's Patient ID Number or other identifier if available.
- PID-3.1 Patient Identifier List / ID Number: This is required. Florida SHOTS requires the Medical Record Number, Social Security Number, and/or Medicaid ID.
- PID-3.5 Patient Identifier List / ID Type Code: (see Table 0203).This is required. Florida SHOTS requires "MR" for Medical Record Number, "SS" for Social Security Number, and "MA" for Medicaid ID.

Florida SHOTS requires that the sender provide MR (Medical Record Number or Patient ID Number).

PID-5 This is a required field.
- PID-5.1 Patient Name / Family Name: This is required. Florida SHOTS requires Last Name.
- PID-5.2 Patient Name / Given Name: This is required. Florida SHOTS requires First Name.
- PID-5.3 Patient Name / Second Name: This is recommended. Florida SHOTS recommends Middle Name.
- PID-5.7 Patient Name / Name Type Code: If the Name Type Code component is included, use L-Legal Florida SHOTS does not support repetition of this field.

PID-7 This is a required field. Give the year, month, and day of birth (YYYYMMDD). Florida SHOTS ignores any time component.

PID-8 Required by Florida SHOTS (see Table 0001).

Florida SHOTS requires that the sender indicate either "M" for male, "F" for female, or "U" for unknown/ unreported. If empty Florida SHOTS will convert it as unknown.

PID-10 Contains the code which indicates the patient's race (numeric US race codes or original NIP alphabetic race codes).
- PID-10.1, 10.2, 10.3 (ID / Text / Coding System): Should contain the Alpha code (See Table 0005)
- PID-10.4, 10.5, 10.6 (Alternate ID / Alternate Text / Alternate Coding System): Should contain the governmentally assigned numeric code (See Table 0005)

If multiple race codes are sent, only the first code will be recorded.

PID-11 Florida SHOTS does not support repetition of this field.
- PID-11.1 Patient Address / Street Address: Florida SHOTS requires Street Address.
- PID-11.2 Patient Address / Other Designation: Ignored by Florida SHOTS
- PID-11.3 Patient Address / City: Florida SHOTS requires City.
- PID-11.4 Patient Address / State: Florida SHOTS requires State.
- PID-11.5 Patient Address / Zip: Florida SHOTS requires Zip.
- PID-11.7 Patient Address / Address Type: (See Table 0190)

PID-13 PID-13.2 Phone Number – Home / Telecommunications Use Code: (See Table 0201) If PRN is specified Florida SHOTS will use the 6th 7th components for specification of area code, phone number respectively.
- PID-13.6 Phone Number – Home / Area Code: Format NNN
- PID-13.7 Phone Number – Home / Local Number: Format NNNNNNN

PID-22 Currently Florida SHOTS does not accept ethnicity. See Table 0189.

PID-24 Use Y to indicate that the client was born in a multiple birth.

PID-25 Relevant when client was born in a multiple birth. Use 1 for the first born, 2 for the second, etc. This field is useful in matching client data to existing records.

3.3.1.3 NK1 – Next of Kin Segment (Recommended)

The NK1 segment contains information on the patient's next of kin and other associated parties. This segment is recommended, and allowed to repeat, providing information about multiple associated parties. Florida SHOTS retrieves information about the patient's mother and father from this segment.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Set ID - NK1
2	R	RE	Y		Name
3	R	RE		0063	Relationship
16	O	REC	Y		Date of Birth

Field Notes:

NK1-1 Sequential numbers: Contains a number that identifies the occurrence of this NK1 segment within its association with the PID segment. Using the NK1-1 Set ID, multiple NK1 segments can be associated with one PID segment. Use "1" as the Set ID for the first occurrence of the NK1 segment within the message, "2" for the second, and so forth.

NK1-2 Florida SHOTS will only retain the names of the mother or father of the patient through this process.
- NK1-2.1 Contains the last name of the next of kin or associated party.
- NK1-2.2 Contains the first name of the next of kin or associated party.
- NK1-2.3 Contains the middle name of the next of kin or associated party.

NK1-3 Relationship of the responsible individual to the client. See Table 0063 in theHL7 tables. Florida SHOTS will only accept "MTH" for Mother or "FTH" for Father, all others are ignored.

3.3.1.4 ORC – Order Request Segment – (Required)

The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). While not all immunizations recorded in an immunization message are able to be associated with an order, each RXA must be associated with one ORC, based on HL7 2.5.1 standard.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	REC			Order Control
2	RE	REC			Place Order Number
3	RE	REC			Filler Order Number
10	RE	REC			Entered By
12	RE	REC			Ordering Provider

Field Notes:

ORC-1 This is a required field and must be 'RE.'

3.3.1.5 RXA – Pharmacy/Treatment Administration Segment (Required)

The RXA carries pharmacy administration data. It is a repeating segment and can record unlimited numbers of vaccinations. Florida SHOTS requires at least one RXA segment be included in a VXU message. Only one RXA segment can be specified per ORC segment.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	RE			Give Sub-ID Counter
2	R	RE			Administration Sub-ID Counter
3	R	R			Date/Time Start of Administration
4	RE	REC			Date/Time End of Administration
5	R	R			Administered Code
6	R	REC			Administered Amount
7	R/O	RE			Administered Units
9	O	RE	Y	NIP 001	Administration Notes
10	RE	RE	Y		Administering Provider
11	RE	RE			Administered-at Location
15	R/O	RE			Substance Lot Number
16	RE/O	RE	Y		Substance Expiration Date
17	R/O	RE	Y		Substance Manufacturer Name
18	RE	RE		NIP 002	Substance/Treatment Refusal Reason
20	RE	REC		322	Completion Status
21	RE	REC		323	Action Code – RXA

Field Notes:

Only immunizations administered should be sent to Florida SHOTS; NOT ordered or refused immunizations.

RXA-1 This is a required field. Use "0". Not used by Florida SHOTS.

RXA-2 Not used by Florida SHOTS.

RXA-3 This is a required field. It indicates the date the vaccine was given. Florida SHOTS ignores any time component.

> Note: "Vaccine Given Date" is the actual date of service or administration of each vaccination. If a vaccination service is recorded in a clinic or organization's EMR or billing system, but not administered, the record should not be present in the data submitted to Florida SHOTS. This field must contain an accurate value to avoid adding invalid and erroneous data to patient records.

RXA-4 Not used by Florida SHOTS.

RXA-5 This is a required field. It identifies the vaccine administered. Florida SHOTS accepts the CVX code, or CPT code, for the vaccine administered.
- RXA-5.1, 5.2, 5.3 (Administered Code / ID / Text / Coding System): Florida SHOTS requires the CVX codes.
- RXA-5.4, 5.5, 5.6 Administered Code / ID / Text / Coding System): Florida SHOTS requires the CPT codes.

> Note: If using the CVX code, give the CVX code in the first component and "CVX" in the third component. If using the CPT code, specify the code in the first component and the coding system in the third component. See the HL7 - Table 0292 (CVX Codes),

RXA-6 Not used by Florida SHOTS.

RXA-7 Not used by Florida SHOTS.

RXA-9 Florida SHOTS will use this to categorize vaccine as either a new vaccination, given by the sending clinic (00), or historical, given by another clinic but sent as part of a complete record, as found in some EMR systems (01 – 08, null, or any value other than 00).

> Example: |01^Historical^^^^~9999999^FLORIDA SHOTS immunization id^IMM_ID^^^|

RXA-10 Identifies the name of the administering clinician (VEI) of the immunization in Florida SHOTS. The ordering and recording provider are indicated in the associated ORC segment. Not used by Florida SHOTS.

RXA-11 Florida SHOTS will use this field to identify the facility where the vaccine was administered. This is a unique code/value which identifies, from the sending system, at which clinic location a vaccination was given (10 characters max, alphanumeric only, no spaces).
- RXA-11.4.1 Place the facility identifier in the first subcomponent.

For an organization with multiple sites (administering locations), each site is required to have a unique identifier that would enable attributing a vaccination given to that specific site within the organization. Prior to initiating the web services, the Provider must contact Florida SHOTS and make sure that all of their sites have this unique identifier. The field is referred to as Provider Site ID in Florida SHOTS. Only if the value in RXA-11.4.1 must match the Provider Site ID value as specified in Florida SHOTS for that site, the shot will be attributed to that site. If a VFC provider, this field is required.

RXA-15 Manufacturer's lot number for the vaccine.
RXA-16 Identifies the date the lot expires in the YYYYMMDD format. If exact day is not known, set it to the first.
RXA-17 Vaccine manufacturer from Table 0227, for example |AB^Abbott^ MVX^^^|. The HL7 2.5.1 specification recommends use of the external code set MVX.

If multiple MVX codes are sent only the first code will be accepted.

RXA-18 When applicable, this field records the reason the patient refused the vaccine. See table NIP002. Any entry in this field indicates that the patient did not take the substance. 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. Florida SHOTS does not support repetition of this field.

> Note on Refusals: Florida SHOTS accepts only administered shots; NOT refused or ordered. Florida SHOTS does not maintain vaccine refusal information, therefore this field is unsupported. Currently Florida SHOTS does not look in this field to determine if the shot is refused. Instead it accepts the shot as given.

RXA-20 Not Used in Florida SHOTS.
RXA-21 Action expected by the sending system. Must be A or U.

3.3.1.6 RXR – Pharmacy/Treatment Route Segment (Recommended)
The Pharmacy/Treatment Route Segment contains the alternative combination of route and site.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	RE		0162	Route
2	RE	RE		0163	Administration 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.

3.3.1.7 OBX – Observation Result Segment (Highly Recommended)
Florida SHOTS highly recommends sending OBX segments that would enable transmission of information related to VFC eligibilities, VIS information etc. The Observation/Result Segment is used to transmit an observation.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	RE			Set ID (Sequential #)
2	R	RE		0125	Value Type
3	R	RE		NIP 003	Observation Identifier / ID
4	R	RE			Observation Sub-ID
5	R	RE		Varies	Observation Value / Identifier
11	R	RE		0085	Observation Result Status
14	RE	REC			Date/Time of the Observation
17	R/O	REC		CDCPHINVS	Observation Method / ID

Field Notes:

OBX-1 This is a required field. Sequential numbers: Use "1" for the first OBX within the message, "2" for the second, and so forth.

OBX-2 This is a required field. This field contains the data type which defines the format of the observation value in OBX-5.

OBX-3 Unique identifier of the observation; represents the question to be answered by OBX-5.
Florida SHOTS is interested in the following LOINC codes:

LOINC Code	Description
30963-3	Vaccine Funding Source
64994-7	Vaccine Funding Program Eligibility Category
30956-7	Vaccine Type
38890-0	Component Vaccine Type
29768-9	VIS Publication Date

- OBX-3.1 Observation Identifier / ID: Florida SHOTS requires the LOINC Code.
- OBX-3.2 Observation Identifier / Text: Florida SHOTS requires the Description Text.

For "Component Vaccine Type", the answer should be a CVX code corresponding to a component of the combination vaccine reported in the parent RXA segment. LOINC 38890-0 should appear on at least two OBX segments for any given RXA. A single-component vaccine, or a combination vaccine for which one VIS was given, should use LOINC 30956-7 instead and only use it once.

OBX-4 For sending out Series Information and Recommendations.

OBX-5 This is a required field; and will answer the question posed in OBX-3

Note: This field contains the value of OBX-3-observation identifier of the same segment. Depending upon the observation, the data type may be a number (e.g., dose number), a coded answer (e.g., a vaccine), or a date/time (the date/time that the VIS was given to the client/parent).

LOINC Code	Description	OBX-5
30963-3	Vaccine Funding Source	The code value indicating the source of the funding for the vaccination. (See Table CDCPHINVS)
64994-7	Vaccine Funding Program Eligibility Category	VFC eligibility codes. V01 – V08. (See Table 0064)
30956-7	Vaccine Type	A CVX code matching the vaccination code in the parent RXA segment. (See Table 0292)
38890-0	Component Vaccine Type	A CVX code corresponding to a component of the combination vaccine reported in the parent RXA segment. (See Table 0292)
29768-9	VIS Publication Date	The date shown on the VIS form handed to the patient/guardian prior to administration of the vaccine indicated in the parent RXA segment. Format YYYYMMDD.

OBX-11 Use "F" as specified in the HL7 2.5.1 standard for Florida SHOTS. Not used by Florida SHOTS

OBX-14 Not used by Florida SHOTS.

OBX-17 Recommended field used to transmit the method or procedure by which an observation was obtained. Not used by Florida SHOTS.

Example use of OBX segment: RXA segment indicates VFC-funded Pediarix vaccine given (CVX 110) to a VFC-eligible patient (uninsured). (The CDC has made available a single VIS statement which covers all routine birth to 6 month vaccinations called "Multiple Vaccines".)

OBX|1|CE|64994-7^Vaccine Funding Program Eligibility Category^LN|1|V03|||||||F
OBX|2|CE|30963-3^Vaccine Funding Source^LN|1|VXC1^Federal Funds^VFCSHOTS|||||||F
OBX|3|CE|30956-7^Vaccine type^LN|1|110^Pediarix^CVX|||||||F
OBX|4|DT|29768-9^VIS Publication Date^LN|1|20080918|||||||F

Example use of OBX segment for Same RXA, but separate VISs given for the Hep B, Dtap, and Polio components of the Pediarix vaccine.

OBX|1|CE|64994-7^Vaccine Funding Program Eligibility Category^LN|1|V03|||||||F
OBX|2|CE|30963-3^Vaccine Funding Source^LN|1|VXC1^Federal Funds^VFCSHOTS|||||||F
OBX|3|CE|38890-0^Component vaccine type^LN|2|08^Hep B^CVX|||||||F
OBX|4|DT|29768-9^VIS Publication Date^LN|2|20120202|||||||F
OBX|5|CE|38890-0^Component vaccine type^LN|3|20^Dtap^CVX|||||||F
OBX|6|DT|29768-9^VIS Publication Date^LN|3|20070517|||||||F
OBX|7|CE|38890-0^Component vaccine type^LN|4|10^IPV^CVX|||||||F
OBX|8|DT|29768-9^VIS Publication Date^LN|4|20111108|||||||F

3.3.2 ACK – General Acknowledgement Message Definition

For each VXU message received from the sender, Florida SHOTS will generate and return ACK messages to the sending system, to indicate either success or failure in the processing of the message.

3.3.2.1 Message Rejection Errors

ACK Messages are generated if the message is rejected for any of the following three conditions.
- Sequencing (i.e. a PID segment must follow an MSH segment.)
- Segment required fields contain no data.
- Segment required fields contain invalid data.

3.3.2.2 Message Processing Errors

An ACK is also generated when an informational error message has occurred during processing, but it has not resulted in message rejection (i.e. NK1 segment contains no last name). In this case, the segment is ignored but the remainder of the message is processed. An ACK message is generated with a message informing the sender of the problem. The error message in the text does NOT include "Message Rejected."

The following section provides an overview of various segments supported by Florida SHOTS (ACK Message), as compared to the recommended specifications per the HL7 v2.5.1 Implementation Guide.

MSH	Message Header Segment
MSA	Message Acknowledgment Segment
[ERR]	

The table provided in each section contains the following columns:

1. **SEQ** The ordinal position of the field in the segment. Since Florida SHOTS does not use all possible fields in the HL7 standard, these are not always consecutive. When datum values are provided for fields NOT defined in this guide, Florida SHOTS will ignore and NOT retain the datum value.
2. **HL7 v2.5.1 IG R/RE/O** Specifications per the HL7 v2.5.1. Implementation Guide
   R - Required by HL7
   RE - Required but can be empty
   O - Optional
3. **FL SHOTS R/RE/REC** Specifications per Florida SHOTS Phase Two Implementation
   R - Required by Florida SHOTS
   RE - Required but can be empty
   REC - Recommended
4. **RP/#** Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and blank means no repetition is permitted.
5. **TBL#** Number of the table giving valid values for the field.
6. **ELEMENT NAME** HL7 name for the field.

3.3.2.3 MSH – Message Header Segment (Required)

The Message Header Segment for ACK will have the same number of fields as the original VXU message header. The values in the fields will reflect information about a previously received, single record. The data types for each component and sub-component are the same for both VXU MSH and the ACK MSH.

For Example:

MSH-10 This is a required 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.

3.3.2.4 MSA – Message Acknowledgement Segment (Required)

The MSA segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R		0008	Acknowledgement Code
2	R	R			Message Control ID

Field Notes:

MSA-1 This is a required field. Acknowledgement code gives the 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 recommended ERR segment will be included.

MSA-2 This is a required field. 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.

3.3.2.5 ERR – Error Segment (Recommended)

The error segment is an recommended segment in ACK message and is not part of any other messages.

During the processing of the HL7 message, when Florida SHOTS encounters an error and, as part of the error handling routine, a User Message is returned in response. The intent of the originating message sender is to receive the error and display it to the end user with the intent that the error condition can be resolved and the user can re-execute the function without error.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
2	RE	RE			Error Location
3	R	RE		0357	HL7 Error Code
4	R	RE		0516	Severity
5	O	REC		0533	Application Error Code
8	RE	RE			User Message

Field Notes:

ERR-2 Location
- ERR-2.1 Error Location / Segment ID: Contains the 3-character name for the segment
- ERR-2.2 Error Location / Segment Sequence: Contains error sequence
- ERR-2.3 Error Location / Field Position: Contains field position
- ERR-2.4 Error Location / Field Repetition: Contains field repetition if applicable
- ERR-2.5 Error Location / Component Number: Contains component number if applicable
- ERR-2.6 Error Location / Sub-Component Number: Contains component number if applicable

ERR-3 Contains HL7 error code (See Table 0357)

ERR-4 Contains HL7 severity (See Table 0516 (Ignore, Warn, Error))

ERR-5 Contains Application Error Code (See Table 0533)

Note: After all errors and warnings have been notified, the last ERR segment will contain the details of the final disposition of the incoming HL7 record within Florida SHOTS.

ERR-8 Contains User Message (only on the last ERR segment) as defined in the table below
Format: A comma delimited string of the label:value pair (label1:value1,label2:value2,…)

Field #	Label	Description
1	Num Records Processed	Number of records processed
2	Failed Validation	Number of records that failed validation
3	Invalid Demographics	Number of records that had invalid demographics
4	Invalid Vaccinations	Number of records with invalid vaccinations
5	Missing Vaccinations	Number of records missing vaccination data
6	Multiple Demographics	Number of records rejected due to multiple versions of demographics information
7	Clients Processed	Number of clients processed
8	Clients Added	Number of clients added
9	Clients Found	Number of clients found
10	Clients Rejected	Number of clients rejected
11	Multiple Matches	Number of rejected clients due to multiple matches
12	No Vaccinations	Number of rejected clients due to no vaccination information
13	Vaccs Processed	Number of vaccinations processed
14	Vaccs Added	Number of vaccinations added
15	Vaccs Duped	Number of duplicate vaccinations
16	Series Duped	Number of duplicate vaccinations based on vaccine series
17	Vaccs Rejected	Number of rejected vaccinations
18	Comm. Errors	Number of records that had general processing errors
19	FileError	General file error message

3.3.3 QBP – Query by Parameters Message Definition

For providers capable of QBP data exchange, Florida SHOTS supports the ability of the provider to query Florida SHOTS to obtain a complete patient vaccination record by sending a QBP message with the Query profile (Z34^CDCPHINVS). Florida SHOTS will generate a Response message (RSP) containing one of the following three profiles as supported by CDC (Z31 - Multiple Candidates; Z32 - Exact Match; or Query General Acknowledgement- No match found) or an ACK if the QBP message is malformed and cannot be parsed. The following sections outline the specifications to be used by the provider while constructing QBP message segments that will be processed by Florida SHOTS.

A QBP message is composed of three segments. These are MSH (message header), QPD (query parameter definition), and RCP (Response Control Parameter). For a QBP message, the MSH-09 field must contain |QBP^Q11^QBP_Q11| and the segments must be in the following sequence order:

QBP^Q11^QBP_Q11

Query for Vaccination Record
MSH   Message Header Segment
QPD   Query Parameter Definition Segment
RCP   Response Control Parameter Segment

The following section provides an overview of various segments supported by the Florida SHOTS implementation of QBP Messages, as compared to the recommended specifications per the HL7 v2.5.1 Implementation Guide. The table provided in each section contains the following columns:

1. **SEQ** The ordinal position of the field in the segment. Since Florida SHOTS does not use all possible fields in the HL7 standard, these are not always consecutive. When datum values are provided for fields NOT defined in this guide, Florida SHOTS will ignore and NOT retain the datum value.
2. **HL7 v2.5.1 IG R/RE/O** Specifications per the HL7 v2.5.1. Implementation Guide
   R - Required by HL7
   RE - Required but can be empty
   O - Optional
3. **FL SHOTS R/RE/REC** Specifications per Florida SHOTS Phase Two Implementation
   R - Required by Florida SHOTS
   RE - Required but can be empty
   REC - Recommended
4. **RP/#** Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and blank means no repetition is permitted.
5. **TBL#** Number of the table giving valid values for the field.
6. **ELEMENT NAME** HL7 name for the field.

3.3.3.1 MSH – Message Header Segment (Required)

The Message Header Segment for QBP will have the same number of fields as with the previous message header defined in this document. The data types for each component and sub-component are the same.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Field Separator
2	R	R			Encoding Characters
3	RE	RE		361	Sending Application
4	R	R		362	Sending Facility
5	RE	REC		361	Receiving Application
6	RE	REC		362	Receiving Facility
7	R	R			Date/Time Message
9	R	R		76	Message Type
10	R	R			Message Control ID
11	R	R			Processing ID
12	R	R		104	Version ID
15	RE	REC		155	Accept Acknowledgement Type
16	RE	REC			Application Acknowledgement Type
21	R/O	REC			Message Profile Identifier

Field Notes:

MSH-1 This is a required field. It determines the field separator in effect for the rest of this message. Florida SHOTS requires the HL7 recommended field separator of "|".

MSH-2 This is a required field. It determines the component separator, repetition separator, escape character, and sub-component separator in effect for the rest of this message. Florida SHOTS requires the HL7 values of ^~\&.

Note: Since "&" is a subcomponent separator, in the **QPD-8** address field when representing "Apartment A&B," the "&" has to be substituted with the escape sequence "\T\" to indicate that "&" is part of the message text, rather than a subcomponent separator:
QPD|Z34^Request Immunization History^HL70471|QT216|815^^^^MR| Smith^^Tom^^^^L|| 20081015|M||100 Main St&Main St&100^ **Apartment A\T\B** ^Miami^FL^12345^^P|

MSH-3 Name of the sending application.
- MSH-3.1 Sending Application / Namespace ID: Florida SHOTS expects the Application Name.
- MSH-3.2 Sending Application / Universal ID: Florida SHOTS expects the Software Provider.

MSH-4 Identifies for whom the message is being sent (the owner of the message information).
- MSH-4.1 Sending Facility / Namespace ID: Florida SHOTS requires the Florida SHOTS Login ID.
- MSH-4.2 Sending Facility / Universal ID: Florida SHOTS expects Sending Facility.

> For the message to be processed,
> - The value in MSH 4.1 should match the Florida SHOTS Organization Login ID of a valid and active organization in Florida SHOTS.
> - The organization identified above is authorized to use web services/data exchange, and
> - The message was sent by the sender (see section 2.4.1) associated with the organization identified above.
>
> If the MSH-4.1 does not contain a value or contains an invalid value, the message will NOT be processed.

MSH-5 Identifies the receiving application. Not Used by Florida SHOTS.
MSH-6 Identifies the message receiver. Not Used by Florida SHOTS.
MSH-7 This is a required field. It indicates the date and time when the message was created.
MSH-9 This is a required field. This field is made up of three components.
- MSH-9.1 Message Type / Message Code: the HL7 message type (see Table 0076). Must be "QBP."
- MSH-9.2 Message Type / Trigger Event: the HL7 triggering event (see Table 0003). Must be "Q11."
- MSH-9.3 Message Type / Message Structure: the HL7 Message Structure (HL7 Table 0354.) Must be "QBP_Q11."

> For a QBP message to be processed, MSH-9.1 must be valued with message type "QBP", MSH-9.2 must be valued with trigger event "Q11", and MSH-9.3 must be valued with message structure "QBP_Q11".

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.
MSH-11 This is a required field. The processing ID to be used by Florida SHOTS is P for production processing.
MSH-12 This is a required field. For the parser, the version number that is read in the first MSH segment, of the file, will be the version assumed for the entire file. For example, use a value of "2.5.1" to indicate HL7 Version 2.5.1. If there is no version number found in the first MSH segment, a hard error will occur and the file will not be processed.

> For a QBP message to be processed, MSH-12 must be valued with "2.5.1" or higher.

MSH-15 This field controls whether an acknowledgement is generated for the message sent. Florida SHOTS ignores this field.
MSH-16 This field controls whether the acknowledgement is required to be returned in response to the message. Florida SHOTS ignores this field.
MSH-21 Message Profile Identifier. In a QBP message, the expected value is "Z34^CDCPHINVS" to indicate conformance to the Z34 profile. If this field is blank or contains a value other than "Z34^CDCPHINVS", it will be treated as if "Z34^CDCPHINVS" was sent and will not result in an error.

3.3.3.2 QPD – Query Parameter Definition (Required)

The QPD segment defines the parameters of the query. This segment is intentionally very similar to the PID Segment containing permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Message Query Name
2	R	R			Query Tag
3	R	R			Patient Identifier List
4	R	R			Patient Name
5	RE	RE			Mother's Maiden Name
6	R	R			Patient's Date of Birth
7	RE	RE			Patient's Gender
8	RE	R			Patient's Address
9	RE	RE			Patient's Home Phone Number
10	RE	RE			Patient Multiple Birth Indicator
11	R/O	RE			Patient Birth Order

Field Notes:

QPD-1 Use Z34^Request Immunization History ^HL70471.

QPD-2 Unique to each query message instance. Florida SHOTS will echo back this value in QAK-1.

QPD-3 This is a required field. Sub-components 1 (ID) and 5 (identifier type code see Table 0203) are required in this field. When a Provider is sending to Florida SHOTS, use the sending system's Chart Number or other identifier if available.

- QPD-3.1 Patient Identifier List / ID Number: This is required. Florida SHOTS requires the Medical Record Number, and/or Social Security Number.
- QPD-3.5 Patient Identifier List / ID Type Code: (see Table 0203).This is required. Florida SHOTS requires "MR" for Medical Record Number, "SS" for Social Security Number, and/or "SR" for State Immunization Identifier. At least one of the MR, SS, or SR is required for search.

QPD-4 This is a required field. Florida SHOTS does not support repetition of this field.

- QPD-4.1 Patient Name / Family Name. Florida SHOTS requires Last Name.
- QPD-4.2 Patient Name / Given Name. Florida SHOTS requires First Name.
- QPD-4.3 Patient Name / Second Name. Florida SHOTS recommends Middle Name.

QPD-5 Florida SHOTS does not use this field.

QPD-6 This is a required field. Give the year, month, and day of birth (YYYYMMDD). Florida SHOTS ignores any time component.

QPD-7 See Table 0001. Use F, M, or U.

QPD-8 This is field is required but can be empty.

- QPD-8.1 Patient Address / Street Address: Florida SHOTS requires Street Address.
- QPD-8.2 Patient Address / Other Designation.
- QPD-8.3 Patient Address / City: Florida SHOTS requires City.
- QPD-8.4 Patient Address / State: Florida SHOTS requires State.
- QPD-8.5 Patient Address / Zip: Florida SHOTS requires Zip.
- QPD-8.7 Patient Address / Address Type: (See Table 0190)

QPD-9 Required but can be empty. Phone Number

- QPD-9.6 Phone Number – Home / Area Code: Format NNN
- QPD-9.7 Phone Number – Home / Local Number: Format NNNNNNN

QPD-10 Required but can be empty. Use Y to indicate that the client was born in a multiple birth.

QPD-11 Required but can be empty - Relevant when client was born in a multiple birth. Use 1 for the first born, 2 for the second, etc. This field is useful in matching client data to existing records.

3.3.3.3 RCP – Response Control Parameter Segment

The RCP segment is used to restrict the amount of data that should be returned in the RSP.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	O	REC		0091	Query Priority
2	O	REC			Quantity Limited Request
3	O	REC			Response Modality

RCP-1 This field contains the time frame that the response is expected. If this field is not valued or contains a value other than "I" (Immediate) it will be ignored and will process the message as if "I" was sent.

RCP-2 This field contains the maximum response length that will be accepted by the Sending Facility. A numerical value is given in the first component (representing the maximum number of patients that may be returned) and the units (shall be "RD" for record) are specified in the second component.

RCP-3 This field specifies the timing and grouping of the response message(s). Response Modality contains values of "R" for Real. If this field is not valued or contains a value other than "R" it will not result in an error and the message will be processed as if "R" was sent.

3.3.4 RSP – Real-time Response Message

In response to the QBP message received by Florida SHOTS, a RSP message is returned in real-time to the provider. The RSP message can contain any of the following response message profiles (specified in MSH-21 of the RSP^K11^RSP_K11 Message). The response profile sent depends on the outcome of the search performed by Florida SHOTS.

The following sections provide an overview of various segments supported by the Florida SHOTS implementation (RSP Message), as compared to the recommended specifications per the HL7 v2.5.1 Implementation Guide. The table provided in each section contains the following columns:

1. **SEQ** The ordinal position of the field in the segment. Since Florida SHOTS does not use all possible fields in the HL7 standard, these are not always consecutive. When datum values are provided for fields NOT defined in this guide, Florida SHOTS will ignore and NOT retain the datum value.
2. **HL7 v2.5.1 IG R/RE/O** Specifications per the HL7 v2.5.1. Implementation Guide
   R - Required by HL7
   RE - Required but can be empty
   O - Optional
3. **FL SHOTS R/RE/REC** Specifications per Florida SHOTS Phase Two Implementation
   R - Required by Florida SHOTS
   RE - Required but can be empty
   REC - Recommended
4. **RP/#** Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and blank means no repetition is permitted.
5. **TBL#** Number of the table giving valid values for the field.
6. **ELEMENT NAME** HL7 name for the field.

3.3.4.1 Search Outcome – No Match Found

If the Florida SHOTS search logic found no patient that matched the information provided in the query message requested, Florida SHOTS will send a QAK message indicating no matches found.

Several segments make up the response profile in case of no matches being found. The following segments have been presented previously in this document and will follow the same formatting.

Note: Segment ID not enclosed by any type of parentheses or braces are required segments and must be present for the message to be processed. Segment ID enclosed by square brackets are recommended segments and segment ID enclosed by curly braces {} are segments that can be repeated.

MSH   Message Header Segment (One per message)
MSA   Message Acknowledgment Segment (One per message)
QAK   Query Acknowledgement Segment (One per message)
QPD   Query Parameter Definition Segment (One per message)

3.3.4.1.1 MSH – Message Header Segment (Required)

The Message Header Segment for RSP will have the same number of fields as the original QBP message header. The values in the fields will reflect information about a previously received, single record. The data types for each component and sub-component are the same for both QBP MSH and the RSP MSH.

Field Notes:

MSH-9 This is a required field. This field is made up of three components.
- MSH-9.1 Message Type / Message Code: the HL7 message type (see Table 0076)
- MSH-9.2 Message Type / Trigger Event: the HL7 triggering event (see Table 0003)
- MSH-9.3 Message Type / Message Structure: the HL7 Message Structure (HL7 Table 0354.)

The RSP message sent from Florida SHOTS will contain the following; MSH-9.1 will be valued with message type "RSP", MSH-9.2 will be valued with trigger event "K11", and MSH-9.3 will be valued with trigger event "RSP_K11"

MSH-21 This is a required field. Will contain the response profile (Z34^Request Immunization History^CDCPHINVS).

3.3.4.1.2 MSA – Message Acknowledgement Segment (Required)
The MSA segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R		0008	Acknowledgment Code
2	R	R			Message Control ID

Field Notes:
MSA-1 This is a required field. Acknowledgement code gives the receiver's response to a message. If Florida SHOTS does not find a matching patient to the query, the AE (Application Error) code will be sent in in this field.
MSA-2 This is a required field. 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.

3.3.4.1.3 QAK – Query Acknowledgement Segment (Required)
The QAK segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Query Tag
2	RE	RE			Query Response Status
3	R	R			Message Query Name

Field Notes:
QAK-1 This field contains the value sent in QPD-2 (Query Tag) that was populated 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.
QAK-2 This field allows Florida SHOTS to return a precise response status. Refer to HL7 table 0208 for values. If no matches are found, Florida SHOTS will generate a "NF" (no data found, no errors) for this field.
QAK-3 This field contains the name of the query. This shall mirror the QPD-1 (Message Query Name) found in the query message that is being responded to. For Florida SHOTS this will be Z34^Request Immunization History ^HL70471.

3.3.4.1.4 QPD – Query Parameter Definition (Required)
The QPD segment will be echoed and will match the information from the corresponding QPD segment from the incoming QBP message.

3.3.4.1.5 Example: QAK for No Matches Found
MSH|^~\&|||||20140513144038.322-0400||RSP^K11^RSP_K11|45601|P|2.5.1|||||||||Z34^CDCPHINVS
MSA|AE|793543
QAK|Qry_01|NF|Z34^request Immunization history^CDCPHINVS
QPD|Z34^Request Immunization
History^HL70471|Qry_01|123441115^^^^SS~9800000001^^^^SR~PATID123^^^^MR|LAST^FIRST^MIDDLE||
19620119|F|10 East Main St^^TALLAHASSEE^FL^32311^^H|^^^^^561^1238945|Y|1

3.3.4.2 Search Outcome – A Single High Confidence Match Found
If the Florida SHOTS search logic found a high confidence patient record that matched the information provided in the query message requested, Florida SHOTS will send a response profile (Z32^CDCPHINVS) indicating an exact high confidence match is found.

When a patient has been uniquely identified and there is exactly one client match to the query, the response is a Z32^CDCPHINVS profile that is generated and sent back to the querying entity. This profile indicates that only one repetition of an entire immunization history shall be returned. It is identified in MSH-21 by its profile identifier, Z32^CDCPHINVS

Note: If the patient matched in Florida SHOTS has opted out of participation in the registry, the record will be sent only if the requesting organization is the patient's current immunization provider (CIP) in Florida SHOTS.

Several segments make up the Z32^CDCPHINVS response profile. The following segments have been presented previously in this document and will follow the same formatting for the Z32^CDCPHINVS response profile.

Note: Segment ID not enclosed by any type of parentheses or braces are required segments and must be present for the message to be processed. Segment ID enclosed by square brackets are recommended segments and segment ID enclosed by curly braces {} are segments that can be repeated.

MSH	Message Header Segment (One per message)
MSA	Message Acknowledgment Segment (One per message)
QAK	Query Acknowledgement Segment (One per message)
QPD	Query Parameter Definition Segment (One per message)
PID	Patient Identification Segment (One per matching client)
[PD1]	Additional Demographics
[{NK1}]	Next of Kin Segment (Recommended, zero or more per matching client)
[PV1]	
{	
ORC	
RXA	Pharmacy Administration
[RXR]	Pharmacy Route
[{OBX}]	Observation/Result
}	

3.3.4.2.1 MSH – Message Header Segment (Required)

The Message Header Segment for RSP will have the same number of fields as the original QBP message header. The values in the fields other than those mentioned below will be echoed from the MSH segment of the incoming QBP Message received. The data types for each component and sub-component are the same for both QBP MSH and the RSP MSH.

Field Notes:

MSH-9 This is a required field. This field is made up of three components.
- MSH-9.1 Message Type / Message Code: the HL7 message type (see Table 0076)
- MSH-9.2 Message Type / Trigger Event: the HL7 triggering event (see Table 0003)
- MSH-9.3 Message Type / Message Structure: the HL7 Message Structure (HL7 Table 0354.)

The RSP message sent from Florida SHOTS will contain the following; MSH-9.1 will be valued with message type "RSP", MSH-9.2 will be valued with trigger event "K11", and MSH-9.3 will be valued with trigger event "RSP_K11"

MSH-21 This is a required field. Will contain the response profile (Z32^CDCPHINVS).

3.3.4.2.2 MSA – Message Acknowledgement Segment (Required)

The MSA segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R		0008	Acknowledgment Code
2	R	R			Message Control ID

Field Notes:

MSA-1 This is a required field. Acknowledgement code gives the receiver's response to a message. Since a match has been found, AA (Application Accept) code will be sent in in this field.

MSA-2 This is a required field. 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.

3.3.4.2.3 QAK – Query Acknowledgement Segment (Required)

The QAK segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Query Tag
2	RE	RE			Query Response Status
3	R	R			Message Query Name

Field Notes:

QAK-1 This field contains the value sent in QPD-2 (Query Tag) that was populated 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.

QAK-2 This field allows Florida SHOTS to return a precise response status. Refer to HL7 table 0208 for values. Since a match has been found. Florida SHOTS will generate an "OK" (Data found, no errors) for this field.

QAK-3 This field contains the name of the query. This shall mirror the QPD-1 (Message Query Name) found in the query message that is being responded to. For Florida SHOTS this will be Z34^Request Immunization History ^HL70471.

3.3.4.2.4 QPD – Query Parameter Definition (Required)

The QPD segment will be echoed and will match the information from the corresponding QPD segment from the incoming QBP message.

3.3.4.2.5 PID – Patient Identification (Required)

For the matching patient record, Florida SHOTS will send the patient information in PID segment. This segment contains patient identifying and demographic information for the matching patient in Florida SHOTS at the time of search.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	RE	REC			Set ID – PID
3	R	R	Y	0203	Patient ID (Internal ID)
5	R	R	Y		Patient Name
7	R	R			Date/Time of Birth
8	RE	RE		0001	Sex
10	RE	RE		0005	Race
11	RE	RE			Patient Address
13	RE	RE	Y		Phone Number – home
22	RE	RE		0189	Ethnic Group
24	RE	RE		0136	Multiple Birth Indicator
25	RE/O	RE			Birth Order

Field Notes:

PID-3 This is a required field.

When responding to a query, Florida SHOTS will also return the State Immunization Identifier.
- PID-3.1 Patient Identifier List / ID Number: This is required. Florida SHOTS will send one or all of the following subject to the following rules;
  - The State Immunization Identifier – 10 digit numeric assigned by Florida SHOTS,
  - The Medical Record Number, only if the patient medical record number or the chart number on file belongs to the organization that is querying. If multiple chart numbers are found for the same org, this field will be repeated.
  - If present, Social Security Number (masked) i.e. only the last 4 digit will be shown and rest will be *.
- PID-3.5 Patient Identifier List / ID Type Code: (see Table 0203).This is required. Florida SHOTS will send "SR" for State Immunization Identifier, "MR" for Medical Record Number and "SS" for Social Security Number.

PID-5 This is a required field.
- PID-5.1 Patient Name / Family Name: This is required. Florida SHOTS will send Last Name.
- PID-5.2 Patient Name / Given Name: This is required. Florida SHOTS will send First Name.
- PID-5.3 Patient Name / Second Name: This is recommended. If present, Florida SHOTS will send Middle Name.
- PID-5.4 Patient Name/Suffix. This is recommended. If present, Florida SHOTS will send Suffix.

PID-7 This is a required field.
Florida SHOTS will send the year, month, and day of birth (YYYYMMDD). Florida SHOTS will not send any time component.

PID-8 Required.
Florida SHOTS will send either "M" for male, "F" for female, or "U" for unknown/unreported (see Table 0001).

PID-10 Contains the code which indicates the patient's race (numeric US race codes or original NIP alphabetic race codes).
- PID-10.1, 10.2, 10.3 (ID / Text / Coding System): Should contain the Alpha code (See Table 0005)
- PID-10.4, 10.5, 10.6 (Alternate ID / Alternate Text / Alternate Coding System): Should contain the governmentally assigned numeric code (See Table 0005)

PID-11 Florida SHOTS does not support repetition of this field.
- PID-11.1 Patient Address / Street Address: Florida SHOTS will send Street Address.
- PID-11.2 Patient Address / Other Designation: Ignored by Florida SHOTS
- PID-11.3 Patient Address / City: Florida SHOTS will send City.
- PID-11.4 Patient Address / State: Florida SHOTS will send State.
- PID-11.5 Patient Address / Zip: Florida SHOTS will send Zip.
- PID-11.7 Patient Address / Address Type: (See Table 0190)

PID-13 PID-13.2 Phone Number – Home / Telecommunications Use Code: (See Table 0201) If PRN is specified Florida SHOTS will use the 6th and 7th components for specification of area code, phone number respectively.
- PID-13.6 Phone Number – Home / Area Code: Format NNN
- PID-13.7 Phone Number – Home / Local Number: Format NNNNNNN

PID-24 Contains Y to indicate that the client was born in a multiple birth.

PID-25 Relevant when client was born in a multiple birth. 1 for the first born, 2 for the second, etc.

3.3.4.2.6 NK1 – Next of Kin Segment (Recommended)

The NK1 segment contains information on the patient's next of kin and other associated parties. This segment is recommended, and allowed to repeat, providing information about multiple associated parties. Florida SHOTS retrieves information about the patient's mother and father for this segment.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Set ID - NK1
2	R	RE	Y		Name
3	R	RE		0063	Relationship
16	O	REC	Y		Date of Birth

Field Notes:

NK1-1 Sequential numbers: Contains a number that identifies the occurrence of this NK1 segment within its association with the PID segment. Using the NK1-1 Set ID, multiple NK1 segments can be associated with one PID segment. Use "1" as the Set ID for the first occurrence of the NK1 segment within the message, "2" for the second, and so forth.

NK1-2 Florida SHOTS will only send the names of the mother or father of the patient through this process.
- NK1-2.1 Contains the last name of the next of kin or associated party.
- NK1-2.2 Contains the first name of the next of kin or associated party.
- NK1-2.3 Contains the middle name of the next of kin or associated party.

NK1-3 Relationship of the responsible individual to the client. See Table 0063 in theHL7 tables. Florida SHOTS will send "MTH" for Mother or "FTH" for Father.

NK1-16 Date of birth of the responsible individual to the client.

3.3.4.2.7 ORC – Order Request Segment – (Required)

The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). While not all immunizations recorded in an immunization message are able to be associated with an order, each RXA must be associated with one ORC, based on HL7 2.5.1 standard.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	REC			Order Control

Field Notes:

ORC-1 This is a required field and will be 'RE'.

3.3.4.2.8 RXA – Pharmacy/Treatment Administration Segment (Required)

The RXA carries pharmacy administration data. It is a repeating segment and can record unlimited numbers of vaccinations. Florida SHOTS will send at least one RXA segment be included in a RSP message for the Z32^CDCPHINVS response profile.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	RE			Give Sub-ID Counter
2	R	RE			Administration Sub-ID Counter
3	R	R			Date/Time Start of Administration
4	RE	REC			Date/Time End of Administration
5	R	R			Administered Code
6	R	REC			Administered Amount
7	R/O	RE			Administered Units
9	O	RE	Y	NIP 001	Administration Notes
10	RE	RE	Y		Administering Provider
11	RE	RE			Administered-at Location
15	R/O	RE			Substance Lot Number
16	RE/O	RE	Y		Substance Expiration Date
17	R/O	RE	Y		Substance Manufacturer Name
18	RE	RE		NIP 002	Substance/Treatment Refusal Reason
20	RE	REC		322	Completion Status
21	RE	REC		323	Action Code – RXA

Field Notes:

RXA-1 Florida SHOTS will send "0."

RXA-3 Florida SHOTS will send the date the vaccine was given. Florida SHOTS ignores any time component.

> Note: "Vaccine Given Date" is the actual date of service or administration of each vaccination.

RXA-4 Not used by Florida SHOTS

RXA-5 This field identifies the vaccine administered. For the vaccine administered, Florida SHOTS will send either the CPT codes or CVX codes depending on the how the Shot was reported to Florida SHOTS.
- If sending CVX codes, Florida SHOTS will send
  RXA-5.1, 5.2, 5.3 (Administered Code / ID / Text / Coding System)
- If sending CPT codes, Florida SHOTS will send
  RXA-5.4, 5.5, 5.6 Administered Code / ID / Text / Coding System)

RXA-6 Florida SHOTS will always send "999."

RXA-9 Florida SHOTS will send '00' or '01' to categorize vaccination as either given by the requesting clinic (00), or historical (01), given by another clinic but sent as part of a complete record,

> Example: |01^Historical^^^^~9999999^FLORIDA SHOTS immunization id^IMM_ID^^^|

RXA-11 Florida SHOTS will send this field to identify the facility where the vaccine was administered. This is a unique code/ value (provider site id) in the sending system (i.e. Florida SHOTS) which identifies the clinic location within the receiving organization, where the vaccination was given. This will be sent only if the requesting organization is the provider of the vaccination and the provider service site id of the vaccination is known in Florida SHOTS.
- RXA-11.4.1 Place the facility identifier in the first subcomponent.

For an organization with multiple sites (administering locations), each site is required to have a unique identifier that would enable Florida SHOTS to attribute a vaccination given to that specific site within the organization. Prior to initiating the web services, the Provider must contact Florida SHOTS and make sure that all of their sites have this unique identifier. The field is referred to as Provider Site ID in Florida SHOTS.

RXA-15 If present, Florida SHOTS will send Manufacturer's lot number for the vaccine.
RXA-16 If present, Florida SHOTS will send the date the lot expires in the YYYYMMDD format.
RXA-17 If present, Florida SHOTS will send Vaccine manufacturer from Table 0227, for example |AB^Abbott^ MVX^^^|. The HL7 2.5.1 specification recommends use of the external code set MVX.

3.3.4.2.9 RXR – Pharmacy/Treatment Route Segment (Recommended)

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

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	RE		0162	Route
2	RE	RE		0163	Administration Site

Field Notes:
RXR-1 If present, Florida SHOTS will send the route of administration (see values from Table 0162).
RXR-2 If present, Florida SHOTS will send the site of the route of administration (see values from Table 0163).

3.3.4.2.10 Immunization History Evaluation and Forecast Information in OBX Segment

Florida SHOTS provides series forecasts and evaluation as part of providing a complete immunization profile. Florida SHOTS will provide a full immunization history evaluation and immunization recommendations for the vaccine series mentioned in Table Z001.

The details of how immunization evaluation and forecasting details are conveyed is based on the guidelines provided by CDC's HL72.5.1 Implementation guide and are described below.

The following table provides the codes used to support messaging of evaluation and forecast details.

Data Element	Use	OBX-3 Value (LOINC Code)	Optionality for meaningful evaluation and forecast
Codes Supporting Messaging Evaluation and Forecasting			
Series name	Name of the specific set of doses and recommendations that were used to evaluate this dose and make recommendations.	59780-7	See Table Z001
Ordinal position in primary series	Indicates which dose in a series this given immunization fulfills. **While forecasting this code indicates the next dose number due.**	30973-2	Will be sent
Dose Validity	Indicates if this dose was given appropriately for this series in this schedule.	59781-5	Optional. Will send Y, N or empty
Series Status	This indicates the status of the client's progress toward meeting the goals of the series selected. This could be complete, overdue, in progress, etc.	59783-1	Optional See Table Z002

Next dose forecast	Earliest date dose should be given. (Minimum Due Date)	30981-5	Will be sent for forecast
	Date next dose recommended (Recommended Due Date)	30980-7	
Reason code	This can indicate why a dose is not valid or that the recommendation was changed because of a special circumstance.	30982-3	Optional Will be sent only of the dose is invalid
Vaccine funding program eligibility category	Vaccine Funding Program Eligibility Category	64994-7	VFC eligibility codes. V01 – V08. (See Table 0064)

Evaluations are associated with immunizations received. They will be messaged in the OBX segments associated with existing immunization records (RXA) indicating that the doses were received. Each RXA segment may have one or more OBX, observation segments. Each distinct piece of information (see data element column in table above) is found in its own OBX segment and follows its associated RXA.

Note: The only schedule supported by Florida SHOTS is the ACIP schedule.

The basic structure for including evaluation in the message is:

ORC-Order segment
RXA-the immunization and vaccine
OBX-vaccine series
OBX-dose number in series (ordinal position)
OBX-dose validity (if the dose is invalid, the dose number in series will be empty)
OBX-invalid dose reason (only if the dose is invalid)

Evaluations are detailed by immunization series (see Table Z001). For a single antigen vaccine, the vaccine series represents a single vaccine and is more straightforward when constructing a message. The vaccine series is indicated in an OBX. All following OBX relate to that vaccine series, using the OBX-4 Observation sub-id.

Single Vaccine group Vaccine:
RXA|0|1|20140413||^^^90700^DTAP^CPT|999|||00^New Immunization^NIP001||||||11122299||PMC
OBX|1|CE|59780-7^Series Name^99FLS|2|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS ||||||F

In the case where a combination vaccine is given, each vaccine series is identified and has segments describing its evaluation. Each vaccine series is associated with a group of OBX, using the OBX-4 observation sub-id and information about each vaccine group is specified separately.

Combination vaccine:
RXA|0|1|20091031132511|20091031132511|110^DTAP-Hep B-IPV^CVX|999|||00^new immunization record^NIP0001|^Sticker^Nurse|^^^DCS_DC||||xy3939||SKB^GSK^MVX|||CP<CR>

OBX|1|CE|59780-7^Series Name^99FLS|1|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS ||||||F
OBX|2|N|30973-2^dose number in series^LN|1|2||||||F<CR>
OBX|3|ID|59781-5^Dose validity^LN|1|Y||||||F

OBX|4|CE|59780-7^Series Name^99FLS|2|HEP B^HEPATITIS B||||||F
OBX|5|NM|30973-2^Dose number in series^LN|2|3||||||F
OBX|6|ID|59781-5^Dose validity^LN|2|Y||||||F

OBX|7|CE|59780-7^Series Name^99FLS|3|POLIO^POLIO||||||F
OBX|8|NM|30973-2^Dose number in series^LN|3|2||||||F
OBX|9|ID|59781-5^Dose validity^LN|3|Y||||||F

Recommendations/forecasting are associated with future events. They will be messaged in the OBX segments associated with an RXA that indicates that no dose was given. They will not be associated with existing immunization records (RXA).

The basic structure for the recommendation in the message is:

ORC-order segment
      RXA-vaccine, CVX-Unspecified formulation (no dose given)
      OBX-the series used
      OBX-earliest next dose due
      OBX-recommended next dose due
      OBX-series status

The RXA segment that is associated with No vaccine administered may have one or more OBX, observation segments. Each distinct piece of information (see data element column in table above) is found in its own OBX segment and follows its associated RXA

RXA|0|1|20140513||998^No vaccine administered^CVX|999
OBX|1|CE|59780-7^Series Name^99FLS|1|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS |||||F
OBX|2|DT|30981-5^Minimum Due Date^LN|1|20140813|||||F
OBX|3|DT|30980-7^Recommended Due Date^LN|1|20141013|||||F
OBX|4|CE|59783-1^Status in immunization series^99FLS|1|Up to Date^Up to Date|||||F

      Note that the filler order number is meaningless in this case since no immunization is associated with it.

3.3.4.2.11 OBX – Observation Result Segment

Florida SHOTS will use Observation/Result (OBX) segments to transmit information related to Immunization History Evaluation, and Immunization Series forecast and recommendations as described in the previous section.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	RE			Set ID (Sequential #)
2	R	RE		0125	Value Type
3	R	RE		NIP 003	Observation Identifier / ID
4	R	RE			Observation Sub-ID
5	R	RE		Varies	Observation Value / Identifier
11	R	RE		0085	Observation Result Status
14	RE	REC			Date/Time of the Observation
17	R/O	REC		CDCPHINVS	Observation Method / ID

Field Notes:

OBX-1 Florida SHOTS will send Sequential numbers in this field; "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.

OBX-3 Unique identifier of the observation; represents the question to be answered by OBX-5.
Florida SHOTS will send the following LOINC codes (if needed):

LOINC Code	Description
Forecasting and Evaluating Immunizations	
30973-2	Dose number in series All valid doses are assigned a dose number in FLSHOTS regardless of it being a dose in primary series or a booster dose.
30980-7	Date vaccine due (Recommended Due Date)
30981-5	Earliest date to give (Minimum Due Date)
59780-7	Immunization Series name (Recommended Series Name)
59781-5	Dose validity
30982-3	Reason applied by forecast logic to evaluate the dose of the vaccine. Will be provided only for Invalid doses.
59783-1	Status in immunization series
64994-7	Vaccine Funding Program Eligibility Category

- OBX-3.1 Observation Identifier / ID: Florida SHOTS will use the LOINC Code.
- OBX-3.2 Observation Identifier / Text: Florida SHOTS will send the Description Text.

OBX-4 Used when sending Immunization Series Information and Recommendations.

Evaluations are detailed by immunization series (see Table Z001). For a single antigen vaccine, the vaccine series represents a single vaccine and is more straightforward when constructing a message. The vaccine series is indicated in an OBX. All following OBX relate to that vaccine series, using the OBX-4 Observation sub-id.
In the case where a combination vaccine is given, each vaccine series is identified and has segments describing its evaluation. This requires that the information about each vaccine series be handled separately. Each vaccine series is associated with a group of OBX, using the OBX-4 observation sub-id and information about each vaccine group is specified separately.

OBX-5 This field will answer the question posed in OBX-3

Note: This field contains the value of OBX-3-observation identifier of the same segment. Depending upon the observation, the data type may be a number (e.g., dose number), a coded answer (e.g., a vaccine), or a date/time (the date/time that the VIS was given to the client/parent).

LOINC Code	Description	Corresponding observation value EXAMPLE OR code table to use (value in OBX-5)
Forecasting and Evaluating Immunizations		
30973-2	Dose number in series	2
30980-7	Date vaccine due	19980526
30981-5	Earliest date to give	19980522
30982-3	Invalid Dose Reason	Codes for invalid dose reason locally defined. See Table Z003
59780-7	Immunization Series name	Locally Defined. See table Z001
59782-3	Number of doses in primary series	2
59781-5	Dose validity	Y, N or empty
59783-1	Status in immunization series	Locally defined value
64994-7	Category	VFC eligibility codes. V01 – V08. (See Table 0064)

3.3.4.2.12 Example: Z32^CDCPHINVS Response profile (exactly one candidate match)

MSH|^~\&|||||20140513164351.746-0400||RSP^K11^RSP_K11|46401|P|2.5.1|||||||||Z32^CDCPHINVS
MSA|AA| QRY_01
QAK|HMS_CQM0038_2014|OK|Z34^Request Immunization History^CDCPHINVS
QPD|Z34^Request Immunization History^CDCPHINVS|HMS_
CQM0038_2014|7000001602^^^FLSHOTS^SR|FLORA^AHEPB||20100101|F|3453 AHEPB
AD^^TALLAHASSEE^FL^32356^^H

PID|1||7000001602^^^FLSHOTS^SR||FLORA^AHEPB||20100101|F|||3453 AHEPB AD^^TALLAHASSEE^FL^32356^^H

NK1|1|FLORA^AHEPBMOM|MTH^Mother^HL70063

ORC|RE||7000001602.47.20100215
RXA|0|1|20140413||^^^90700^DTAP^CPT|999|||00^New Immunization^NIP001|||||||11122299||PMC
RXR|IM^^HL70162|LA^^HL70163
OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V04|||||F
OBX|2|CE|59780-7^Series Name^99FLS|2|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS |||||F
OBX|3|NM|30973-2^Dose number in series^LN|2|3|||||F
OBX|4|ID|59781-5^Dose validity^LN|2|Y|||||F

RXA|0|1|20140513||998^No vaccine administered^CVX|999
OBX|1|CE|59780-7^Series Name^99FLS|1|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS |||||F
OBX|2|DT|30981-5^Minimum Due Date^LN|1|20140813|||||F
OBX|3|DT|30980-7^Recommended Due Date^LN|1|20141013|||||F
OBX|4|CE|59783-1^Status in immunization series^99FLS|1|Up to Date^Up to Date|||||F

3.3.4.3 Search Outcome – Multiple Matches Found

If the Florida SHOTS search logic found multiple patients that matched the information provided in the query message requested, Florida SHOTS will return a response profile (Z31^CDCPHINVS) indicating multiple matches were found.

> Note: The querying system will send a parameter on RCP-2 as part of the QBP message indicating maximum number of matches that the system will accept in response to the query. If multiple matches were found, Florida SHOTS will send either a maximum of 5 matching patient demographic records or the quantity returned limit value specified in the RCP-2 segment, whichever is smaller. If more than 5 matches were found, Florida SHOTS will return too many matches message.

Note: Segment ID not enclosed by any type of parentheses or braces are required segments and must be present for the message to be processed. Segment ID enclosed by square brackets are recommended segments and segment ID enclosed by curly braces {} are segments that can be repeated.

MSH	Message Header Segment (One per message)
MSA	Message Acknowledgment Segment (One per message)
QAK	Query Acknowledgement Segment (One per message)
QPD	Query Parameter Definition Segment (One per message)

3.3.4.3.1 MSH – Message Header Segment (Required)

The Message Header Segment for RSP will have the same number of fields as the original QBP message header. The values in the fields will reflect information about a previously received, single record. The data types for each component and sub-component are the same for both QBP MSH and the RSP MSH.

Field Notes:

MSH-9 This is a required field. This field is made up of three components.
- MSH-9.1 Message Type / Message Code: the HL7 message type (see Table 0076)
- MSH-9.2 Message Type / Trigger Event: the HL7 triggering event (see Table 0003)
- MSH-9.3 Message Type / Message Structure: the HL7 Message Structure (HL7 Table 0354.)

> The RSP message sent from Florida SHOTS will contain the following; MSH-9.1 will be valued with message type "RSP", MSH-9.2 will be valued with trigger event "K11", and MSH-9.3 will be valued with trigger event "RSP_K11"

MSH-21 This is a required field. Will contain the response profile (Z31^CDCPHINVS) for RSP type message.

3.3.4.3.2 MSA – Message Acknowledgement Segment (Required)
The MSA segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R		0008	Acknowledgment Code
2	R	R			Message Control ID

Field Notes:
    MSA-1 This is a required field. Acknowledgement code gives the receiver's response to a message. Since matches were found, AA (Application Accept) code will be sent in in this field..
    MSA-2 This is a required field. 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.

3.3.4.3.3 QAK – Query Acknowledgement Segment (Required)
The QAK segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Query Tag
2	RE	RE			Query Response Status
3	R	R			Message Query Name

Field Notes:
    QAK-1 This field contains the value sent in QPD-2 (Query Tag) that was populated 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.
    QAK-2 This field allows Florida SHOTS to return a precise response status. Refer to HL7 table 0208 for values. Since matches were found. Florida SHOTS will generate an "OK" (Data found, no errors) for this field.
    QAK-3 This field contains the name of the query. This shall mirror the QPD-1 (Message Query Name) found in the query message that is being responded to. For Florida SHOTS this will be Z34^Request Immunization History ^HL70471.

3.3.4.3.4 QPD – Query Parameter Definition (Required)
The QPD segment will be echoed and will match the information from the corresponding QPD segment from the incoming QBP message.

3.3.4.3.5 PID – Patient Identification (Required)
For the matching patient record, Florida SHOTS will send the patient information in PID segment. This segment contains patient identifying and demographic information for the matching patient in Florida SHOTS at the time of search.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	RE	REC			Set ID – PID
3	R	R	Y	0203	Patient ID (Internal ID)
5	R	R	Y		Patient Name
6	RE	REC			Mother's Maiden Name
7	R	R			Date/Time of Birth
8	RE	RE		0001	Sex
10	RE	RE		0005	Race
11	RE	RE			Patient Address
13	RE	RE	Y		Phone Number – home
24	RE	RE		0136	Multiple Birth Indicator
25	RE/O	RE			Birth Order

Field Notes:

PID-3 This is a required field. When responding to a query the sending system (Florida SHOTS), will also send the State Immunization Identifier.
- PID-3.1 Patient Identifier List / ID Number: This is required. Florida SHOTS will send one or all of the following subject to the following rules;
- The State Immunization Identifier – 10 digit numeric assigned by Florida SHOTS,
- The Medical Record Number, only if the patient medical record number or the chart number on file belongs to the organization that is querying. If multiple chart numbers are found for the same org, this field will be repeated.
- If present, Social Security Number (masked) i.e. only the last 4 digit will be shown and rest will be *.
- PID-3.5 Patient Identifier List / ID Type Code: (see Table 0203).This is required. Florida SHOTS will send "SR" for State Immunization Identifier, "MR" for Medical Record Number and "SS" for Social Security Number.

PID-5 This is a required field.
- PID-5.1 Patient Name / Family Name: This is required. Florida SHOTS will send Last Name.
- PID-5.2 Patient Name / Given Name: This is required. Florida SHOTS will send First Name.
- PID-5.3 Patient Name / Second Name: This is recommended. If present, Florida SHOTS will send Middle Name.

PID-7 This is a required field. Florida SHOTS will send the year, month, and day of birth (YYYYMMDD). Florida SHOTS will not send any time component.

PID-8 Required. Florida SHOTS will send either "M" for male, "F" for female, or "U" for unknown/unreported (see Table 0001). PID-10 Contains the code which indicates the patient's race (numeric US race codes or original NIP alphabetic race codes).
- PID-10.1, 10.2, 10.3 (ID / Text / Coding System): Should contain the Alpha code (See Table 0005)
- PID-10.4, 10.5, 10.6 (Alternate ID / Alternate Text / Alternate Coding System): Should contain the governmentally assigned numeric code (See Table 0005)

PID-11 Florida SHOTS does not support repetition of this field.
- PID-11.1 Patient Address / Street Address: Florida SHOTS will send Street Address.
- PID-11.2 Patient Address / Other Designation: Ignored by Florida SHOTS
- PID-11.3 Patient Address / City: Florida SHOTS will send City.
- PID-11.4 Patient Address / State: Florida SHOTS will send State.
- PID-11.5 Patient Address / Zip: Florida SHOTS will send Zip.
- PID-11.7 Patient Address / Address Type: (See Table 0190)

PID-13 PID-13.2 Phone Number – Home / Telecommunications Use Code: (See Table 0201) If PRN is specified Florida SHOTS will use the 6th and 7th components for specification of area code, phone number respectively.
- PID-13.6 Phone Number – Home / Area Code: Format NNN
- PID-13.7 Phone Number – Home / Local Number: Format NNNNNNN

PID-24 Contains Y to indicate that the client was born in a multiple birth.

PID-25 Relevant when client was born in a multiple birth. 1 for the first born, 2 for the second, etc.

3.3.4.3.6 NK1 – Next of Kin Segment (Optional)

The NK1 segment contains information on the patient's next of kin and other associated parties. This segment is recommended, and allowed to repeat, providing information about multiple associated parties. Florida SHOTS retrieves information about the patient's mother and father for this segment.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R			Set ID - NK1
2	R	RE	Y		Name
3	R	RE		0063	Relationship

Field Notes:

NK1-1 Sequential numbers: Contains a number that identifies the occurrence of this NK1 segment within its association with the PID segment. Using the NK1-1 Set ID, multiple NK1 segments can be associated with one PID segment. Use "1" as the Set ID for the first occurrence of the NK1 segment within the message, "2" for the second, and so forth.

NK1-2 Florida SHOTS will only send the names of the mother or father of the patient through this process.
NK1-2.1 Contains the last name of the next of kin or associated party.
- NK1-2.2 Contains the first name of the next of kin or associated party.
- NK1-2.3 Contains the middle name of the next of kin or associated party.

NK1-3 Relationship of the responsible individual to the client. See Table 0063 in theHL7 tables. Florida SHOTS will only send "MTH" for Mother or "FTH" for Father.

3.3.4.3.7 Example: Z31^CDCPHINVS Response profile (multiple matches found)

MSH|^~\&|FLORIDA SHOTS^^|FLORIDA SHOTS^^|||20110330||RSP^K11^RSP_K11|PHIN_
QUERY01|P^|2.5.1^^|||ER||||||Z31^CDCPHINVS MSA|AA|PHIN_QUERY01|Query matched 2 clients, of which 0 do NOT
consent to share.
QAK|PHIN_QUERY01|AA
QPD|Z34^Request Immunization History^HL70471|PHIN_QUERY_01||Last^First^^^^^L^||20030830|||
PID|||2668777^^^^SR~1^^^^PI^||Doe^Jane^DEBBIE^^^^^|JOHNSSON^VELMA^^^^^^|20030830|F|||MAIN ST^^JIM
FALLS^FL^(ZIP CODE)^^^^^||||||||||||||||||
NK1|1|Jane^Doe^^^^^|SEL^SELF^HL70063^^^^^||
PID|||2668765^^^^SR~1^^^^PI^||Doe^Jane^DEBBIE^^^^^||20030830|F|
NK1|1|Jane^Doe^^^^^|SEL^SELF^HL70063^^^^^||

3.3.4.4 ACK – General Acknowledgement Message in case of Message Rejection Errors

For each QBP message received from the sender, ACK Messages are generated if the message is rejected for any of the following three conditions.
- Segment Sequencing
- Segment required fields contain no data.
- Segment required fields contain invalid data.

The following section provides an overview of various segments supported by the Florida SHOTS (ACK Message), as compared to the recommended specifications per the HL7 v2.5.1 Implementation Guide.

MSH	Message Header Segment
MSA	Message Acknowledgment Segment
[ERR]	

The table provided in each section contains the following columns:

1. **SEQ** The ordinal position of the field in the segment. Since Florida SHOTS does not use all possible fields in the HL7 standard, these are not always consecutive. When datum values are provided for fields NOT defined in this guide, Florida SHOTS will ignore and NOT retain the datum value.
2. **HL7 v2.5.1 IG R/RE/O** Specifications per the HL7 v2.5.1. Implementation Guide
   R - Required by HL7
   RE - Required but can be empty
   O - Optional
3. **FL SHOTS R/RE/REC** Specifications per Florida SHOTS Phase One Implementation
   R - Required by Florida SHOTS
   RE - Required but can be empty
   REC - Recommended
4. **RP/#** Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and blank means no repetition is permitted.
5. **TBL#** Number of the table giving valid values for the field.
6. **ELEMENT NAME** HL7 name for the field.

3.3.4.4.1 MSH – Message Header Segment (Required)

The Message Header Segment for ACK will have the same number of fields as the original QBP message header. The values in the fields will reflect information about a previously received, single record. The data types for each component and sub-component are the same for both QBP MSH and the ACK MSH.

For Example:
MSH-10 This is a required 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.

3.3.4.4.2 MSA – Message Acknowledgement Segment (Required)

The MSA segment contains information sent while acknowledging another message.

SEQ	HL7 v2.5.1 IG R/RE/O	FL SHOTS R/RE/REC	RP/#	TBL#	ELEMENT NAME
1	R	R		0008	Acknowledgment Code
2	R	R			Message Control ID

Field Notes:

MSA-1 This is a required field. Acknowledgement code gives the receiver's response to a message. AR (Application Reject) means the message was rejected and it was not processed.

MSA-2 This is a required field. 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.

4. Appendix A – HL7 and User-Defined Tables

4.1 Table 0001 – User-Defined Table – Sex

Used in PID-8

Value	Description	Description
F	Female	Person reports that she is female.
M	Male	Person reports that he is male.
U	Unknown/undifferentiated	No assertion is made about the gender of the person.

4.2 Table 0003 – HL7-Defined Table – Event Type

Used in MSH-9.2

Value	Description
V04	VXU - Unsolicited vaccination record update

4.3 Table 0005 – User-Defined Table – Race

Used in PID-10

Note: The US race code values are consistent with the OMB Notice of revised categories for collection of race and ethnicity data—the combined format. The NIP original race codes are still allowed for backwards compatibility and are included below for reference. NIP codes do not distinguish between Asian and Pacific Islander; 'A' is used for both

US Race Codes	NIP Original Race Codes	Description
1002-5	I	American Indian or Alaska Native
2028-9	A	Asian
2076-8	A	Native Hawaiian or Other Pacific Islander
2054-5	B	Black or African-American
2106-3	W	White
2131-1	O	Other Race
<empty field>	U	Unknown/undetermined

4.4 Table 0008 – HL7-Defined Table – Acknowledgment Code

Used in MSA-1

Value	Description
AA	Original mode: Application Accept
AE	Original mode: Application Error
AR	Original mode: Application Reject

4.5 Table 0063 – User-Defined Table – Relationship

Used in NK1-3

Value	Description
FTH	Father
MTH	Mother

4.6 Table 0064 – User-Defined Table – Financial Class

Used in PV1-20 (HL7 v2.3.1) and OBX-5

Code	Label	Definition
V01	Not VFC eligible	Client does not qualify for VFC because they do not have one of the statuses below. (V02-V05)
V02	VFC eligible-Medicaid/ Medicaid Managed Care	Client is currently on Medicaid or Medicaid managed care and < 19 years old and the vaccine administered is eligible for VFC funding.
V03	VFC eligible- Uninsured	Client does not have private insurance coverage and < 19 years old and the vaccine administered is eligible for VFC funding.
V04	VFC eligible- American Indian/Alaskan Native	Client is a member of a federally recognized tribe and < 19 years old and the vaccine administered is eligible for VFC funding.
V05	VFC eligible-Federally Qualified Health Center Patient (under-insured)	Client has insurance, but insurance does not cover vaccines, limits the vaccines covered, or caps vaccine coverage at a certain amount and so client is eligible for VFC coverage at a Federally Qualified Health Center. The client must be receiving the immunizations at the FQHC or a FQHC designated clinic and < 19 years old and the vaccine administered is eligible for VFC funding.
V06	Deprecated [VFC eligible-State specific eligibility (e.g. S-CHIP plan)]	Do not use this code. State specific funding should either use V07 or a state generated code.
V07	Local-specific eligibility	Client is eligible for state supplied vaccine based on local-specific rules and vaccine administered is eligible for state-funding. It should only be used if the state has not published local codes for these programs.
V08	Deprecated [Not VFC eligible-Under-insured]	Do not use this code. The MIROW effort determined that person in this situation are V01, not VFC eligible. It is not necessary to differentiate this sub-class of Not VFC eligible.

4.7 Table 0076 – HL7-Defined Table – Message Type

Used in MSH-9

Value	Description
ACK	General acknowledgment
VXU	Unsolicited vaccination record update
QBP	Query by parameter
RSP	Response to Query by parameter

4.8 Table 0085 - HL7-Defined Table - Observation result status codes interpretation

Used in OBX-11.
Fields using this code set are expected to be F for Final.

4.9 Table 0091 – HL7-Defined Table – Query Priority

Used in RCP-1.

Fields using this code set are expected to be I or empty, which indicates Immediate processing is expected.

4.10 Table 0104 – HL7-Defined Table – Version ID

Used in MSH-12

Value	Description
2.5.1	Release 2.5.1

4.11 Table 0125 – HL7-Defined Table – Value Type

Value	Description
CE	Code Element
NM	Numeric
ST	String
DT	Date
ID	Code Values for HL7 Tables
TS	Time Stamp

4.12 Table 0126 – HL7-Defined Table – Quantity Limited Request

Used in RCP-2

Fields using this code set are expected to be set to RD for records.

4.13 Table 0136 – HL7-Defined Table – Yes/No Indicator

Value	Description
Y	Yes
N	No

4.14 Table 0155 – HL7-Defined Table – Accept/Application Acknowledgement Conditions

Used in MSH-15

Value	Description
AL	Always
NE	Never
NR	Error/Reject conditions only
SU	Successful completion only

4.15 Table 0162 – HL7-Defined Table – Route of Administration

Used in RXR-1

FDA NCI Thesaurus (NCIT)	HL7-0162	Description	Definition
C38238	ID	Intradermal	within or introduced between the layers of the skin
C28161	IM	Intramuscular	within or into the substance of a muscle
C38284	NS	Nasal	Given by nose
	~~IN~~	~~Intranasal~~	{Do not use this older code}
C38276	IV	Intravenous	administered into a vein
C38288	PO	Oral	administered by mouth
	OTH	Other/ Miscellaneous	
C38676		Percutaneous	made, done, or effected through the skin.
C38299	SC	Subcutaneous	Under the skin or between skin and muscles.
C38305	TD	Transdermal	describes something, especially a drug, that is introduced into the body through the skin

4.16 Table 0163 – HL7-Defined Table – Administrative Site

Used in RXR-2

HL7 0163	Description
LT	Left Thigh
LA	Left Upper Arm
LD	Left Deltoid
LG	Left Gluteous Medius
LVL	Left Vastus Lateralis
LLFA	Left Lower Forearm
RA	Right Upper Arm
RT	Right Thigh
RVL	Right Vastus Lateralis
RG	Right Gluteous Medius
RD	Right Deltoid
RLFA	Right Lower Forearm

4.17 Table 0189 – User-Defined Table – Ethnic Group
Used in PID-22

US ethnicity codes	HL7 Version 2.4 ethnicity codes	Description
2135-2	H	Hispanic or Latino
2186-5	N	not Hispanic or Latino
	U	Unknown

4.18 Table 0190 – HL7-Defined Table – Address Type
Used in PID-11

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

4.19 Table 0200 – HL7-Defined Table – Name Type
Used in PID-5, NK1-2

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

4.20 Table 0201 – HL7-Defined Table – Telecommunications Use Code

Used in PID-13

Value	Description
PRN	Primary residence number
ORN	Other residence number
WPN	Work number
VHN	Vacation home number
ASN	Answering service number
EMR	Emergency number
NET	Network (email) address
BRN	Beeper number

4.21 Table 0203 – User-Defined Table – Identifier Type

Used in PID-3

Value	Description	Comment
MA	Patient Medicaid number	Class: Insurance
MCD	Practitioner Medicaid number	Class: Insurance
MD	Medical License number	An identifier that is unique to a medical doctor within the jurisdiction of a licensing board. Use Case: These license numbers are sometimes used as identifiers. In some states, the same authority issues all three identifiers, e.g., medical, osteopathic, and physician assistant licenses all issued by one state medical board. For this case, the CX data type requires distinct identifier types to accurately interpret component 1. Additionally, the distinction among these license types is critical in most health care settings (this is not to convey full licensing information, which requires a segment to support all related attributes).
MR	Medical record number	An identifier that is unique to a patient within a set of medical records, not necessarily unique within an application.
NPI	National provider identifier	Class: Insurance. In the US, the Assigning Authority for this value is typically CMS, but it may be used by all providers and insurance companies in HIPAA related transactions.
SS	Social Security number	
WC	WIC identifier	
PI	Patient internal identifier	A number that is unique to a patient within an Assigning Authority.
SID	State Immunization Identifier	A unique identifier system generated for a patient record.

4.22 Table 0208 – User-Defined Table – Query Response Status

Used in QAK-2

Value	Description
OK	Data found, no errors (this is the default)
NF	No data found, no errors
AE	Application error
AR	Application reject
TM	Too many candidates found

4.23 Table 0227 – HL7-Defined Table – Manufacturers of Vaccines (code = MVX)
Used in RXA-17

MVX Code	Manufacturer Name	CDC Status
AB	Abbott Laboratories	Active
AD	Adams Laboratories, Inc.	Active
ALP	Alpha Therapeutic Corporation	Active
BAH	Baxter Healthcare Corporation	Active
BPC	Berna Products Corporation	Active
BTP	Biotest Pharmaceuticals Corporation	Active
MIP	Emergent BioDefense Operations Lansing	Active
CSL	CSL Behring, Inc	Active
CNJ	Cangene Corporation	Active
DVC	DynPort Vaccine Company, LLC	Active
GEO	GeoVax Labs, Inc.	Active
SKB	GlaxoSmithKline	Active
GRE	Greer Laboratories, Inc.	Active
IUS	Immuno U.S., Inc.	Active
INT	Intercell Biomedical	Active
KGC	Korea Green Cross Corporation	Active
MBL	Massachusetts Biologic Laboratories	Active
MED	MedImmune, Inc.	Active
MSD	Merck & Co., Inc.	Active
NAB	NABI	Active
NYB	New York Blood Center	Active
NOV	Novartis Pharmaceutical Corporation	Active
NVX	Novavax, Inc.	Active
OTC	Organon Teknika Corporation	Active
ORT	Orthoclinical Diagnostics	Active
JPN	The Research Foundation for Microbial Diseases of Osaka University (BIKEN)	Active
PMC	sanofi pasteur	Active
SCL	Sclavo, Inc.	Active
TAL	Talecris Biotherapeutics	Active
USA	United States Army Medical Research and Material Command	Active
WAL	Wyeth	Active
OTH	Other manufacturer	Active
UNK	Unknown manufacturer	Active
AKR	Akorn, Inc	Active
PFR	Pfizer, Inc	Active
BRR	Barr Laboratories	Active
ACA	Acambis, Inc	Inactive
AR	Armour	Inactive
AVB	Aventis Behring L.L.C.	Inactive
AVI	Aviron	Inactive
BA	Baxter Healthcare Corporation inactive	Inactive

MVX Code	Manufacturer Name	CDC Status
BAY	Bayer Corporation	Inactive
BP	Berna Products	Inactive
CMP	Celltech Medeva Pharmaceuticals	Inactive
CEN	Centeon L.L.C.	Inactive
CHI	Chiron Corporation	Inactive
CON	Connaught	Inactive
EVN	Evans Medical Limited	Inactive
IAG	Immuno International AG	Inactive
LED	Lederle	Inactive
MA	Massachusetts Public Health Biologic Laboratories	Inactive
IM	Merieux	Inactive
MIL	Miles	Inactive

4.24 Table 0292 – HL7-Defined Table – Codes for Vaccines Administered (code = CVX)
Used in RXA-5.1

CVX Code	Short Description
1*	DTP
2*	OPV
3	MMR
4	M/R
5	Measles
6	Rubella
7	Mumps
8	Hep B, adolescent or pediatric
9	Td (adult)
10	IPV
14	Immune globulin, NOS
15+	Influenza, split(pur surf ant)
17**	Hib, NOS
18	Rabies, intramuscular inj
20	DTaP
21	Varicella
22*	DTP-Hib
25	Typhoid, oral
26	CHOLERA
28	DT (PEDIATRIC)
30	HBIG
31	Hep A, pediatric, NOS
32	Meningococcal polysaccharide vaccine (MPSV4)
33	Pneumoccocal polysaccharide vaccine (PPSV23)
34	RIG
35	Tetanus toxoid
36	VZIG
37	Yellow fever
38	Rubella/Mumps

39	Japanese encephalitis
41	Typhoid, parenteral, non-AKD
42	Hep B, adol/high risk infant
43	Hep B, adult
44	Hep B, dialysis
45	Hep B, NOS
47	Hib (HbOC)
48	Hib (PRP-T)
49	Hib (PRP-OMP)
50	DTaP-Hib
51	Hib-Hep B
52	Hep A, adult
53	Typhoid, parenteral, AKD (US MIL)
62	Human Papilloma Virus vaccine (quadrivalent)
66	Lyme disease
83	Hep A, ped/adol, 2 dose
84	Hep A, ped/adol, 3 dose
85	Hep A, NOS
88+	Influenza, NOS
90	Rabies, NOS
91	Typhoid, NOS
94	MMRV
100	Pneumococcal conjugate vaccine (PCV7)
101	Typhoid, ViCPs
104	Hep A-Hep B
105	Vaccinia (smallpox) diluted
106	DTaP, 5 pertussis antigens
107	DtaP, NOS
108	Meningococcal, NOS
109	Pneumococcal, NOS
110	DtaP-HeP B-IPV
111	Influenza, live, intranasal
112	Tetanus toxoid, NOS
113	Td, adsorbed, preservative free
114	Meningococcal conjugate vaccine (MCV4P, Menactra)
115	Tdap
116	Rotavirus vaccine, pentavalent, 3-dose, live, oral
118	Human Papilloma Virus vaccine (bivalent)
119	Rotavirus vaccine, monovalent, 2-dose, live, oral
120	Pentacel (Dtap-ActHib-IPV)
121	Zoster VZV (Shingles) vaccine, live
125	Novel Influenza-H1N1-09, Nasal
126	Novel Influenza-H1N1-09, Preservative-free
127	Novel Influenza-H1N1-09
128	Novel Influenza-H1N1-09, All Formulations
130	Kinrix (Dtap-IPV)
133	Pneumococcal conjugate vaccine (PCV13)
135	Influenza, high-dose seasonal
136	Meningococcal conjugate vaccine (MCV4O, Menveo)
138	TD (adult) – Non-adsorbed

140	Influenza, seasonal, injectable, preservative free
141	Influenza, seasonal, injectable
144	Influenza, seasonal, intradermal, preservative free
147	Meningococcal, MCV4, unspecified formulation

4.25 Table 0322 – HL7-Defined Table – Completion Status

Used in RXA-20

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

4.26 Table 0323 – HL7-Defined Table – Action Code

Used in RXA-21

Value	Description
A	Add
U	Update

4.27 Table 0354 – HL7-Defined Table – Message Structure

Used in MSH-9

Value	Description
ACK	ACK
QBP_Q11	QBP
RSP_K11	RSP
VXU_V04	VXU

4.28 Table 0396 – User-Defined Table – Coding System

Value	Description
99FLS	Florida SHOTS Local Code
ART	WHO Adverse Reaction Terms
C4	CPT-4
C5	CPT-5
CDCA	CDC Analyte Codes
CDCM	CDC Methods/Instruments Codes
CDCPHINVS	PHIN VS (CDC Local Coding System)
CDS	CDC Surveillance
CPTM	CPT Modifier Code
CST	COSTART
CVX	CDC Vaccine Codes
E	EUCLIDES
E5	Euclides quantity codes
E6	Euclides Lab method codes
E7	Euclides Lab equipment codes
ENZC	Enzyme Codes

Value	Description
HB	HIBCC
HCPCS	HCFA Common Procedure Coding System
HHC	Home Health Care
HL7nnnn	HL7 Defined Codes where nnnn is the HL7 table number
HPC	HCFA Procedure Codes (HCPCS)
I10	ICD-10
I10P	ICD-10 Procedure Codes
I9	ICD9
I9C	ICD-9CM
ISOnnnn	ISO Defined Codes where nnnn is the ISO table number
LB	Local billing code
LN	Logical Observation Identifier Names and Codes (LOINC)
MCD	Medicaid
MCR	Medicare
MEDR	Medical Dictionary for Drug Regulatory Affairs (MEDDRA)
MVX	CDC Vaccine Manufacturer Codes
NDC	National drug codes
NCIT	NCI Thesaurus
NPI	National Provider Identifier
SNM	Systemized Nomenclature of Medicine (SNOMED)
SCT	SNOMED Clinical Terminology
SCT2	SNOMED Clinical Terms alphanumeric codes
SNM3	SNOMED International
SNT	SNOMED topology codes (anatomic sites)
UML	Unified Medical Language
UPC	Universal Product Code
UPIN	UPIN
W1	WHO record # drug codes (6 digit)
W2	WHO record # drug codes (8 digit)
W4	WHO record # code with ASTM extension
WC	WHO ATC

4.29 Table 0399 – HL7-Defined Table – Country Code

Country code for the 3-character codes as defined by ISO 3166-1

4.30 Table 0471 – User-Defined Table – Query Name

Use in QPD-1

Value	Description
Z34	Request Immunization History

4.31 Table NIP001 – CDC-Defined Table – Immunization Information Source
Used in RXA-9

Value	Description
00	New immunization record
01	Historical information - source unspecified
02	Historical information - from other provider
03	Historical information - from parent's written record
04	Historical information - from parent's recall
05	Historical information - from other registry
06	Historical information - from birth certificate
07	Historical information - from school record
08	Historical information - from public agency

4.32 Table NIP002 – CDC-Defined Table – Substance Refusal Reason

Value	Description
00	Parental decision
01	Religious exemption
02	Other (must add text component of the CE field with description)
03	Patient decision

4.33 Table NIP003 – CDC-Defined Table – Observation Identifiers
Used in OBX-3

LOINC Code	Description
30963-3	Vaccine Funding Source
64994-7	Vaccine Funding Program Eligibility Category
30956-7	Vaccine Type
38890-0	Component Vaccine Type
29768-9	VIS Publication Date
Contraindications, Precautions, Indications and Immunities	
30946-8	Vaccination contraindication/precaution effective date
30944-3	Vaccination temporary contraindication/precaution expiration date
30945-0	Vaccination contraindication/precaution
31044-1	Reaction
59784-9	Disease with presumed immunity
59785-6	Indications to immunize
Forecasting and Evaluating Immunizations	
30973-2	Dose number in series
30979-9	Vaccines due next
30980-7	Date vaccine due
30981-5	Earliest date to give
30982-3	Reason applied by forecast logic to project this vaccine
59779-9	Immunization Schedule used
59780-7	Immunization Series name
59782-3	Number of doses in primary series
59781-5	Dose validity
59783-1	Status in immunization series

4.34 Table CDCPHINVS – CDC-Local Table – Immunization Funding Source

Value	Description
PHC70	Private funds
VXC1	Federal funds
VXC2	State funds
PHC68	Military funds
VXC3	Tribal funds
OTH	Other
UNK	unspecified

4.35 Table CPT Codes
Used in RXA-5.1

Reference: http://www2a.cdc.gov/nip/IIS/IISStandards/vaccines.asp?rpt=cpt

Code	Description	FLSHOTS Vacc. Type
90371	Hepatitis B immune globulin	HBIG
90375	Rabies immune globulin	RIG
90376	Rabies immune globulin, heat-treated	RIG-HT
90396	VZIG	VZV
90470	Novel Influenza-H1N1-09, All Formulations	H1N109 UNK
90632	Hepatitis A vaccine, adult dosage	HEP A
90633	Hep A vaccine ped./adol. Dosage, 2 dose schedule	HEP A
90634	Hepatitis A, ped/adol dose (3-dose)	HEP A
90636	Hepatitis A and Hepatitis B vaccine	HEPA-HEPB
90645	Haemophilus influenza type b vaccine, HbOC conjuga	HIB (HBOC)
90647	Haemophilus influenza type b vaccine, PRP-OMP conj	HIB PRPOMP
90648	Haemophilus influenza type b vaccine, PRP-T conjug	HIB PRP-T
90649	Human Papilloma Virus vaccine (quadrivalent)	HPV4
90650	Human Papilloma Virus vaccine (bivalent)	HPV2
90654	Influenza, seasonal, intradermal, preservative free	FLU-ID
90655	Influenza, split virus, preservative-free, 6-35 months	FLU6-35 PF
90656	Influenza, split virus, preservative-free, 3Y+	FLU3Y+ PF
90657	Influenza, split virus, 6-35 months	FLU6-35 P
90658	Influenza, split virus, 3Y+	FLU3Y+ P
90660	Influenza, live, intranasal	FLU-MIST
90662	Influenza, high-dose seasonal	FLU HIDOSE
90663	Novel Influenza-H1N1-09, All Formulations	H1N109 UNK
90664	Novel Influenza-H1N1-09, nasal	H1N109 MST
90665	Lyme disease vaccine	LYME
90666	Novel Influenza-H1N1-09, preservative-free	H1N109 PF
90668	Novel Influenza-H1N1-09	H1N109 P
90669	Pneumococcal conjugate vaccine (PCV7)	PCV7
90670	Pneumococcal conjugate vaccine (PCV13)	PCV13
90675	Rabies, intramuscular inj	RABIES IM
90680	Rotavirus vaccine, pentavalent, 3-dose, live, oral	ROTATEQ
90681	Rotavirus vaccine, monovalent, 2-dose, live, oral	ROTARIX

Code	Description	FLSHOTS Vacc. Type
90690	Typhoid vaccine, live, oral	TYPHOID PO
90691	Typhoid, ViCPs	TYPHOID IM
90692	Typhoid (HP)	TYPHOID IM
90693	Typhoid vaccine (AKD)	TYPHOID IM
90696	Kinrix (Dtap-IPV)	DTAP-IPV
90698	Pentacel (Dtap-ActHib-IPV)	PENTACEL
90700	Diphtheria, tetanus toxoids and acellular pertussis	DTAP
90701*	Diphtheria, tetanus toxoids and pertussis vaccine	DTP
90702	Diphtheria and tetanus toxoids, adsorbed for pedia	DT
90703	Tetanus toxoid	TD
90704	Mumps virus vaccine	MUMPS
90705	Measles virus vaccine	MEASLES
90706	Rubella virus vaccine	RUBELLA
90707	Measles, Mumps and Rubella virus vaccine	MMR
90708	Measles and Rubella virus vaccine	MR
90709	Rubella and Mumps virus vaccine	MUMPS-RUB
90710	Measles, Mumps, Rubella and Varicella virus vaccin	MMRV
90712*	Poliovirus vaccine, live, oral	OPV
90713	Poliovirus vaccine, inactivated	IPV
90714	Td, adsorbed, preservative free	TD DECAVAC
90715	Tetanus toxoid, reduced diphtheria toxoid and acce	TDAP
90716	Varicella virus vaccine	VZV
90717	Yellow fever vaccine	YELLOW FEV
90718	Tetanus and diphtheria toxoids, adsorbed for adult	TD
90720*	DTP-Haemophilus influenza type b conjugate vaccine	DTP-ACTHIB
90721	DTaP-Haemophilus influenza type b conjugate vaccin	DTAP-HIB
90723	DTap- hepatitis B and poliovirus vaccine	PEDIARIX
90724+	Influenza virus vaccine, NOS	FLU3Y+ P
90725	Cholera vaccine	CHOLERA
90726	Rabies vaccine	RABIES IM
90731	Hepatitis B vaccine	HEP B
90732	Pneumococcal polysaccharide vaccine	PPSV23
90733	Meningococcal polysaccharide vaccine (MPSV4)	MPSV4
90734	Meningococcal conjugate vaccine (MCV4)	MCV4
90735	Japanese encephalitis vaccine	JENCEPH
90736	Zoster VZV (Shingles) vaccine, live	ZOSTER VZV
90737**	Haemophilus influenza type b vaccine, conjugate NOS	HIB (UNK)
90740	Hepatitis b, dialysis or immun suppressed (3 dose)	HEP B
90741	Immune globulin, NOS	GAMMA
90743	Hepatitis B vaccine, adult dosage	HEP B2DOSE
90744	Hepatitis B vaccine, ped. or ped./adol. dosage	HEP B
90745	Hepatitis b, adol/high risk infant	HEP B
90746	Hepatitis b, adult dosage	HEP B
90747	Hepatitis b, dialysis or immun suppressed (4 dose)	HEP B
90748	Haemophilus influenza type b conj. and Hep B vacci	HIB-HEPB

Other Vaccination Codes Code	Description	FLSHOTS Vacc. Type
G9141	Novel Influenza-H1N1-09, All Formulations	H1N109 UNK
G9142	Novel Influenza-H1N1-09, All Formulations	H1N109 UNK
Q2035	Afluria vacc, 3 yrs & >, im	FLU3Y+ P
Q2036	Flulaval vacc, 3 yrs & >, im	FLU3Y+ P
Q2037	Fluvirin vacc, 3 yrs & >, im	FLU3Y+ P
Q2038	Fluzone vacc, 3 yrs & >, im	FLU3Y+ P
Q2039	NOS flu vacc, 3 yrs & >, im	FLU3Y+ P

* Codes used for vaccination dates after 1/1/2001 will be rejected
** Codes used for vaccination dates after 1/1/1999 will be rejected
+ When using CVX codes, the only active codes for use in documenting standard seasonal influenza vaccine (not mist or high-dose) are CVX 140 and CVX 141 (CVX 15 is being discontinued in favor of CVX 140 and CVX 141). Although the addition of CVX 140 and 141 does make noting flu vaccinations with CVX codes more accurate, there are still two possible FLSHOTS vaccine types each can match to according to age group. As a result, CVX 140 is matched to "FLU6-35 PF" and CVX 141 is matched to "FLU3Y+ P" as being the most probable selections.
CPT 90724 and CVX 88 are for unknown or non-specific Influenza virus vaccine and theses codes have been inactivated by their respective issuing agencies as of 1/1/99. In the interest of capturing flu vaccinations, FLSHOTS will associate CVX 88 and CPT 90724 with the FLSHOTS vaccine type of "FLU3Y+ P".

4.1 Table Z001 – User-Defined Table – Florida SHOTS Vaccine Series

Use in OBX-3/OBX-5

VALUE	DESCRIPTION
DTAP	DIPHTHERIA, TETANUS, AND ACELLULAR PERTUSSIS
HEP A	HEPATITIS A
MEASLES	MEASLES
MUMPS	MUMPS
RUBELLA	RUBELLA
ROTAVIRUS	ROTAVIRUS
HEP B	HEPATITIS B
HIB	H INFLUENZA TYPE B
POLIO	POLIO
VZV	CHICKEN POX
PNEUCON	PNEUMOCOCCAL CONJUGATE
FLU	INFLUENZA – NOTE: Flu is a SERIES IN FLORIDA SHOTS but without a schedule.

4.2 Table Z002 – User-Defined Table – Florida SHOTS Immunization Series Status

Use in OBX-3/OBX-5

VALUE	DESCRIPTION
COMPLETE	COMPLETE
OVERDUE	OVERDUE
UP TO DATE	UP TO DATE
CONTRAINDICATION-PERMANENT	CONTRAINDICATION-PERMANENT
CONTRAINDICATION-TEMPORARY	CONTRAINDICATION-TEMPORARY

4.3 Table Z003 – User-Defined Table – Florida SHOTS Invalid Dose Reasons

Use in OBX-3/OBX-5

In response to OBX-3 (with LOINC Code of 30982-3), the value provided in OBX-5 is specific for each patient and vaccination dependent reasons and as such cannot be enumerated. The recipient should expect the reason for why the dose was considered invalid in OBX-5.

Example
OBX|4|ST|30982-3^Invalid Dose Reason^99FLS|1|MIN AGE FOR TDAP IN THE DTAP SERIES IS 2557 DAYS. THE CLIENT'S AGE IS 2363 DAYS.||||||F

5. Appendix B – Error Tables

5.1 Table 0357 – HL7-Defined Table – Message Error Status Codes

Status Code	Status Text	Description
Success		
0	Message Accepted	Success. Optional, as the AA conveys this. Used for systems that must always return a status code.
Error status codes		
100	Segment sequence error	The message segments were not in the proper order or required segments are missing.
101	Required field missing	A required field is missing from the segment.
102	Data type error	The field contained data of the wrong data type, e.g., an NM field contained letters of the alphabet.
103	Table value not found	A field of data type ID or IS was compared against the corresponding table, and no match was found.
Rejection status codes		
200	Unsupported message type	The Message type is not supported.
201	Unsupported event code	The Event Code is not supported.
202	Unsupported processing ID	The processing ID is not supported.
203	Unsupported version ID	The version ID is not supported.
204	Unknown key identifier	The ID of the patient, order, etc. was not found. Used for transactions other than additions, e.g., transfer of a non-existent patient.
205	Duplicate key identifier	The ID of the patient, order, etc. already exists. Used in response to addition transactions (Admit, New Order, etc.).
206	Application record locked	The transaction could not be performed at the application storage level, e.g., database locked.
207	Application internal error	A catchall for internal errors not explicitly covered by other codes.

5.2 Table 0516 – HL7-Defined Table – Error Severity

Value	Description	Comment
W	Warning	Transaction successful, but there may be issues. These may include non-fatal errors with potential for loss of data.
I	Information	Transaction successful, but includes returned information.
E	Error	Transaction was not successful.

5.3 Table 0533 – User Defined Table – Application Error and Warning Codes

The Application Errors table includes application errors and warnings that may be encountered during the processing of the VXU or QBP message by Florida SHOTS application. The following table depicts Table 0533 with details of the errors and warnings which will be provided in the ERR-5 segment.

Application Error Code (ERR-5)	Error Text
101	Invalid characters were stripped.
102	Invalid format - converted to '00000'.
103	Invalid format - converted to '000000000'.
104	Invalid format - converted to '0000000000'
105	Invalid format - converted to NULL.
106	Invalid value - converted to OUT-OF-STATE.
107	Invalid value - converted to UNKNOWN.
108	Invalid value - converted to NULL.
109	Multiple Birth Indicator/BirthOrder values conflict - converted to NULL.
110	NULL value - converted to '000000000'.
111	Truncated to 5-digits.
112	Truncated to 9-digits.
113	Incoming value is different than existing value. Existing value will be retained.
114	Invalid characters were stripped resulting in a NULL value.
115	Invalid value - value will be ignored
116	Not available - Patient is not participating in the registry due to parent or legal guardian request
117	Invalid BirthOrder value - this value will be ignored.
118	Invalid Multiple Birth Indicator value - this value will be ignored.
201	Could not be validated against the Vaccine/VaccDate - converted to NULL.
202	Invalid characters - converted to:
203	Invalid characters were stripped resulting in a NULL value.
204	Invalid characters were stripped.
205	Invalid value - converted to NULL.
206	Is obsolete - converted to NULL.
207	Manufacturer changed to NULL because the lot number was NULL.
208	No VIS records exist for this vaccine - converted to NULL.
209	No manufacturer submitted - lot number changed to NULL.
210	No match found on file - converted to NULL.
211	No matching VIS entries could be found on file - converted to NULL.
212	Will not be processed on a historic shot - converted to NULL.
213	Lot number changed to NULL due to invalid manufacturer code.
214	Vaccine not available in the U.S. on vaccination date.
215	Vaccine not available in the U.S. on vaccination date - will be processed as a historical shot.
217	Multiple Vacc Codes supplied but only 1 found on file.
605	Invalid characters were stripped resulting in a NULL value for a required field.
606	Invalid characters.
607	Invalid code.
608	Invalid date.
616	Required field is missing.
617	Invalid name(s) in the incoming record:
618	Unsupported value - A value of "D" or "T" is not acceptable for production
701	Could not be validated against the campaigns default VIS Form for this vaccine.
702	Could not locate corresponding IMM Vaccine Type
703	Date less than Date of Birth.

Application Error Code (ERR-5)	Error Text
704	Duplicate vaccinations on the same day are rejected.
705	Duplicate vaccinations within the same series on the same day are rejected.
706	Invalid characters.
707	Invalid date.
708	No match found on file.
709	Required field is missing.
710	Vaccination Date greater than Date of Death.
711	Vaccination code not allowed in private provider upload process.
713	Vaccine not available in the U.S. on the date given.
714	Vaccine not available worldwide on the date given.
715	Value must be 'Y' or 'N'
717	Could not locate a distinct corresponding IMM Vaccine Type.
718	Vaccine not part of the identified campaign.
719	VIS Publication Date does not match form's publication date.
720	Missing vaccination record.
801	Processing error occurred:
802	CLIENT NOT AVAILABLE - ERRORS IN RETRIEVAL
803	CLIENT NOT AVAILABLE - RECORD IN USE BY
804	CLIENT NOT AVAILABLE FROM OWNER
805	CLIENT RECORD NOT AVAILABLE - INCOMPLETE RECORD
811	Multiple client matches found against the Date of Birth.
812	Multiple matches found against the org login id and the patient chart number.
813	Multiple records sharing the same Record Number
814	Multiple versions of demographic information for the same patient chart number.
815	NOT AVAILABLE - TIMEOUT WAITING FOR RESPONSE
817	UNABLE TO STORE THE RECORD IN WEBWORK.
901	Message too long
902	Error calling HL7 parser
903	Unsupported HL7 message type
909	Unexpected application error encountered

6. Appendix C – Examples

Sample patient data for MSH, PID, NK1, RXA, RXR, and OBX.
MSH|^~\&|||||20140513164351.746-0400||RSP^K11^RSP_K11|46401|P|2.5.1|||||||||Z32^CDCPHINVS
MSA|AA
QAK|HMS_CQM0038_2014|OK|Z34^Request Immunization History^CDCPHINVS
QPD|Z34^Request Immunization History^CDCPHINVS|HMS_
CQM0038_2014|7000001602^^^FLSHOTS^SR|FLORA^AHEPB||20100101|F|3453 AHEPB
AD^^TALLAHASSEE^FL^32356^^H
PID|1||7000001602^^^FLSHOTS^SR||FLORA^AHEPB||20100101|F|||3453 AHEPB AD^^TALLAHASSEE^FL^32356^^H
NK1|1|FLORA^AHEPBMOM|MTH^Mother^HL70063
ORC|RE||7000001602.47.20100215
RXA|0|1|20100215||^^^90723^PEDIARIX^CPT|999|||01^Historical Information - source unspecified^NIP001
OBX|1|CE|59780-7^Series Name^99FLS|1|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS ||||||F
OBX|2|NM|30973-2^Dose number in series^LN|1|1||||||F

OBX|3||D|59781-5^Dose validity^LN|1||Y|||||F
OBX|4|CE|59780-7^Series Name^99FLS|2|HEP B^HEPATITIS B|||||F
OBX|5|NM|30973-2^Dose number in series^LN|2|2|||||F
OBX|6||D|59781-5^Dose validity^LN|2||Y|||||F
OBX|7|CE|59780-7^Series Name^99FLS|3|POLIO^POLIO|||||F
OBX|8|NM|30973-2^Dose number in series^LN|3|1|||||F
OBX|9||D|59781-5^Dose validity^LN|3||Y|||||F
ORC|RE||7000001602.47.20100101
RXA|0|1|20100101||^^^90723^PEDIARIX^CPT|999|||01^Historical Information - source unspecified^NIP001
OBX|1|CE|59780-7^Series Name^99FLS|1|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS |||||F
OBX|2|NM|30973-2^Dose number in series^LN|1|1|||||F
OBX|3||D|59781-5^Dose validity^LN|1||N|||||F
OBX|4|ST|30982-3^Invalid Dose Reason^99FLS|1|MIN AGE FOR PEDIARIX IN THE DTAP SERIES IS 42 DAYS. THE CLIENT'S AGE IS 0 DAYS.|||||F
OBX|5|CE|59780-7^Series Name^99FLS|2|HEP B^HEPATITIS B|||||F
OBX|6|NM|30973-2^Dose number in series^LN|2|1|||||F
OBX|7||D|59781-5^Dose validity^LN|2||Y|||||F
OBX|8|CE|59780-7^Series Name^99FLS|3|POLIO^POLIO|||||F
OBX|9|NM|30973-2^Dose number in series^LN|3||||||F
OBX|10||D|59781-5^Dose validity^LN|3||N|||||F
OBX|11|ST|30982-3^Invalid Dose Reason^99FLS|3|MIN AGE FOR PEDIARIX IN THE POLIO SERIES IS 42 DAYS. THE CLIENT'S AGE IS 0 DAYS.|||||F
ORC|RE||7000001602.47.20100801
RXA|0|1|20100801||^^^90723^PEDIARIX^CPT|999|||01^Historical Information - source unspecified^NIP001
OBX|1|CE|59780-7^Series Name^99FLS|1|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS |||||F
OBX|2|NM|30973-2^Dose number in series^LN|1|2|||||F
OBX|3||D|59781-5^Dose validity^LN|1||Y|||||F
OBX|4|CE|59780-7^Series Name^99FLS|2|HEP B^HEPATITIS B|||||F
OBX|5|NM|30973-2^Dose number in series^LN|2|3|||||F
OBX|6||D|59781-5^Dose validity^LN|2||Y|||||F
OBX|7|CE|59780-7^Series Name^99FLS|3|POLIO^POLIO|||||F
OBX|8|NM|30973-2^Dose number in series^LN|3|2|||||F
OBX|9||D|59781-5^Dose validity^LN|3||Y|||||F
ORC|RE||7000001602.2.20101001
RXA|0|1|20101001||^^^90744^HEP B^CPT|999|||01^Historical Information - source unspecified^NIP001
OBX|1|CE|59780-7^Series Name^99FLS|1|HEP B^HEPATITIS B|||||F
OBX|2|NM|30973-2^Dose number in series^LN|1|4|||||F
OBX|3||D|59781-5^Dose validity^LN|1||Y|||||F
ORC|RE||7000001602.6.20140413
RXA|0|1|20140413||^^^90700^DTAP^CPT|999|||00^New Immunization^NIP001|||||11122299||PMC
RXR|IM^^HL70162|LA^^HL70163
OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V04|||||F
OBX|2|CE|59780-7^Series Name^99FLS|2|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS |||||F
OBX|3|NM|30973-2^Dose number in series^LN|2|3|||||F
OBX|4||D|59781-5^Dose validity^LN|2||Y|||||F
ORC|RE||7000001602.4.20140414
RXA|0|1|20140414||^^^90707^MMR^CPT|999|||00^New Immunization^NIP001|||||44455599||MSD
RXR|IM^^HL70162|RA^^HL70163
OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V03|||||F
OBX|2|CE|59780-7^Series Name^99FLS|2|MEASLES^MEASLES|||||F
OBX|3|NM|30973-2^Dose number in series^LN|2|1|||||F
OBX|4||D|59781-5^Dose validity^LN|2||Y|||||F
OBX|5|CE|59780-7^Series Name^99FLS|3|MUMPS^MUMPS|||||F
OBX|6|NM|30973-2^Dose number in series^LN|3|1|||||F
OBX|7||D|59781-5^Dose validity^LN|3||Y|||||F
OBX|8|CE|59780-7^Series Name^99FLS|4|RUBELLA^RUBELLA|||||F
OBX|9|NM|30973-2^Dose number in series^LN|4|1|||||F
OBX|10||D|59781-5^Dose validity^LN|4||Y|||||F
ORC|RE|7000001602.0.20140513
RXA|0|1|20140513||998^No vaccine administered^CVX|999
OBX|1|CE|59780-7^Series Name^99FLS|1|DTAP^DIPHTHERIA, TETANUS, AND PERTUSSIS |||||F
OBX|2|DT|30981-5^Minimum Due Date^LN|1|20140813|||||F
OBX|3|DT|30980-7^Recommended Due Date^LN|1|20141013|||||F

OBX|4|CE|59783-1^Status in immunization series^99FLS|1|Up to Date^Up to Date|||||F
OBX|5|CE|59780-7^Series Name^99FLS|2|HEP B^HEPATITIS B|||||F
OBX|6|CE|59783-1^Status in immunization series^99FLS|2|Complete^Complete|||||F
OBX|7|CE|59780-7^Series Name^99FLS|3|HIB^H INFLUENZA TYPE B|||||F
OBX|8|NM|30973-2^Dose number in series^LN|3|1|||||F
OBX|9|DT|30981-5^Minimum Due Date^LN|3|20100212|||||F
OBX|10|DT|30980-7^Recommended Due Date^LN|3|20100212|||||F
OBX|11|CE|59783-1^Status in immunization series^99FLS|3|Over Due^Over Due|||||F
OBX|12|CE|59780-7^Series Name^99FLS|4|POLIO^POLIO|||||F
OBX|13|NM|30973-2^Dose number in series^LN|4|3|||||F
OBX|14|DT|30981-5^Minimum Due Date^LN|4|20140101|||||F
OBX|15|DT|30980-7^Recommended Due Date^LN|4|20140101|||||F
OBX|16|CE|59783-1^Status in immunization series^99FLS|4|Over Due^Over Due|||||F
OBX|17|CE|59780-7^Series Name^99FLS|5|VZV^CHICKEN POX|||||F
OBX|18|NM|30973-2^Dose number in series^LN|5|1|||||F
OBX|19|DT|30981-5^Minimum Due Date^LN|5|20140512|||||F
OBX|20|DT|30980-7^Recommended Due Date^LN|5|20140512|||||F
OBX|21|CE|59783-1^Status in immunization series^99FLS|5|Due Now^Due Now|||||F
OBX|22|CE|59780-7^Series Name^99FLS|6|PNEUCON^PNEUMOCOCCAL CONJUGATE|||||F
OBX|23|NM|30973-2^Dose number in series^LN|6|1|||||F
OBX|24|DT|30981-5^Minimum Due Date^LN|6|20100212|||||F
OBX|25|DT|30980-7^Recommended Due Date^LN|6|20120101|||||F
OBX|26|CE|59783-1^Status in immunization series^99FLS|6|Over Due^Over Due|||||F
OBX|27|CE|59780-7^Series Name^99FLS|7|MEASLES^MEASLES|||||F
OBX|28|NM|30973-2^Dose number in series^LN|7|2|||||F
OBX|29|DT|30981-5^Minimum Due Date^LN|7|20140512|||||F
OBX|30|DT|30980-7^Recommended Due Date^LN|7|20170414|||||F
OBX|31|CE|59783-1^Status in immunization series^99FLS|7|Up to Date^Up to Date|||||F
OBX|32|CE|59780-7^Series Name^99FLS|8|MUMPS^MUMPS|||||F
OBX|33|NM|30973-2^Dose number in series^LN|8|2|||||F
OBX|34|DT|30981-5^Minimum Due Date^LN|8|20140512|||||F
OBX|35|DT|30980-7^Recommended Due Date^LN|8|20170414|||||F
OBX|36|CE|59783-1^Status in immunization series^99FLS|8|Up to Date^Up to Date|||||F
OBX|37|CE|59780-7^Series Name^99FLS|9|RUBELLA^RUBELLA|||||F
OBX|38|NM|30973-2^Dose number in series^LN|9|2|||||F
OBX|39|DT|30981-5^Minimum Due Date^LN|9|20140512|||||F
OBX|40|DT|30980-7^Recommended Due Date^LN|9|20170414|||||F
OBX|41|CE|59783-1^Status in immunization series^99FLS|9|Up to Date^Up to Date|||||F
OBX|42|CE|59780-7^Series Name^99FLS|10|ROTAVIRUS^ROTAVIRUS|||||F
OBX|43|CE|59783-1^Status in immunization series^99FLS|10|Complete^Complete|||||F
OBX|44|CE|59780-7^Series Name^99FLS|11|HIBMENCY^MENINGOCOCCAL CY|||||F
OBX|45|CE|59783-1^Status in immunization series^99FLS|11|Complete^Complete|||||F

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