



WASHINGTON STATE ———  
**IMMUNIZATION**  
——— INFORMATION SYSTEM

# Washington State Immunization Information System

## HL7 Interface Project Guide

Version 2.1  
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## I. Introduction

Welcome to the Washington State Immunization Information System's (WAIIS) HL7 Interface Project Guide.

The WAIIS is a secure web-based tool developed and supported by [Scientific Technologies Corporation \(STC\)](#). The WAIIS supports bi-directional data exchange using Health Level 7 (HL7) messaging.

In addition to this guide, the following documents define the WAIIS HL7 data exchange standards:

- [HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5](#)  
[HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5 - Addendum](#)

This standard defines the structure and content for immunization messages, and how to report to immunization information systems.

- [Transport of Immunization HL7 transactions over the Internet Using Secure HTTP \(PDF\)](#) This document discusses conventions that may be used to transport HL7 messages over the Internet using Secure HTTP (HTTPS).

Message transport is via https or software bridge assisted transport. Real-time data submission is preferred; however, batch submission is accepted. The WAIIS does not support SOAP (Simple Object Access Protocol) transport at this time. [OneHealthPort](#), the State Health Information Exchange (HIE), will be available as an additional transport method later in 2016.

**Please Note:** Interoperability expectations and standards change and mature over time. WAIIS interface requirements will change as the Centers for Medicaid and Medicare (CMS) criteria for Meaningful Use (MU) move forward, as the Centers for Disease Control and Prevention (CDC) make changes to their HL7 specifications and as requirements specific to the federal entitlement, Vaccines for Children (VFC) Program, occur.

**Questions about WAIIS interoperability and data exchange may be directed to [IISDataExchange@doh.wa.gov](mailto:IISDataExchange@doh.wa.gov)**

## II. Interface Projects

We follow the same process for all interface projects regardless of whether a provider is intending to submit data to meet a measure under the Meaningful Use Public Health Reporting objectives. For Meaningful Use questions, please refer to our [website](#) or send an email to [IISMeaningfulUse@doh.wa.gov](mailto:IISMeaningfulUse@doh.wa.gov).

To participate in the WAIS an organization must have an Information Sharing Agreement. To enroll in the WAIS, you must have a licensed healthcare provider on staff, do business in Washington State, and provide immunization services. Immunization services include administering, referring, and reporting on immunizations.

Our policy is to execute WAIS Information Sharing Agreements at the organization level. Check the [List of Participating Organizations/Providers \(PDF\)](#) to see if an organization has an information sharing agreement in place.

If an organization does not have an agreement in place, to begin the enrollment process, complete a [WAIS Information Sharing Agreement \(PDF\)](#) and follow the instructions on the form. Please note the enrollment/approval process may take several weeks to complete.

We do not enter into Information Sharing Agreements or grant WAIS credentials to EHR vendors, contractors, or third-party resellers. We do not support interfaces with EHR vendors, contractors or third-party resellers. Each interface with the WAIS must be associated with one provider or one healthcare organization.

### Onboarding Process

It is essential that the provider's IT staff and clinical staff be involved in the entire interface project process to ensure differing needs are addressed, roles are clearly defined and understood, and clear expectations are set. Clinic workflow and data entry practices may need to change to ensure complete and accurate data is submitted. Additional training may be needed to ensure ongoing interface monitoring and data quality controls are established.

The onboarding process may take as little as 6 to 8 weeks, or it may take several months. The length of the project is determined by how responsive providers and vendors are to action requests and how quickly issues are resolved.

We may suspend a project if the provider or vendor fails to respond to an action request within 30 days on two separate occasions. When a project is suspended, the organization is returned to the bottom of the interface project wait list. Failure to respond to action requests may affect your meaningful use onboarding status.

#### Step 1: Registration of Intent

We add organizations to our interface project wait list after they register their intent. Organizations will stay on the wait list until we have the appropriate staff available to begin an interface project. We prioritize interface work based on a variety of factors, including (but not limited to) participation in the Washington State Childhood Vaccine Program, the volume of vaccines administered over the previous 12-months, and type of facility.

**For Meaningful Use** - Each hospital must submit an individual [Meaningful Use Registration of Intent](#). For organizations with multiple clinics we accept one registration for all the facilities enrolled under that organization in the WAIS. If your organization is already submitting immunization information to the WAIS via an HL7 interface, you still need to register your intent to submit data for meaningful use.

**For All Other Interface Requests** - Send an email indicating your interest in an interface to [IISDataExchange@doh.wa.gov](mailto:IISDataExchange@doh.wa.gov) and include the following information:

- Organization/Practice Name
- Address
- Primary Contact
- Phone Number
- Email Address
- EHR full name and version number
- EHR Vendor Name
- Description of available IT resources to support and conduct the project
- Number of vaccines administered in the last 12 months
- Any special concerns or questions

## **Step 2: Invitation to Onboard**

When we have the appropriate staff available to begin an interface project, we send you an email invitation to begin onboarding. With the invitation, you'll receive an HL7 Interface Discovery Questionnaire to fill out and return.

When we receive the completed questionnaire, we schedule an onboarding kick-off meeting. During this meeting we review the onboarding process and define project participant roles and responsibilities.

## **Step 3: Discovery**

After the kick-off meeting, we schedule an EHR demonstration meeting. During this meeting, the provider staff, (with support from their EHR vendor), demonstrate how they use the EHR in their practice to capture patient and immunization information. The demonstration helps us to identify potential issues or challenges with message content, data quality, and clinic workflow.

Once any issues/challenges have been addressed, you send us a test message for review. We review the message for HL7 version 2.5.1 format compliance and Washington State requirements. When the format is approved, we assign HL7 Account credentials for the WAIS QA (test) system and data may be sent to the QA system for testing and validation.

## **Step 4: Testing and Validation**

You must send production data for testing and validation. All messages route through our data quality and validation tool, PHC-Hub. Throughout testing, you establish on-going submission of data to the QA system just like you will in the production system. During testing, it is important to send vaccine administration records for as many different vaccines (CVX codes) as possible, historical vaccine records, and vaccines for all age groups.

Clinical staff and/or vendor technical staff will review the data populating the QA system to verify patient and vaccination information is complete and accurate. For providers participating in the Childhood Vaccine Program, accurate inventory decrementing for administered vaccine must also be validated.

You are expected to establish routine interface monitoring practices as well. We also monitor the messages, set up automatic delivery of error reports, and work with you and your vendor to resolve any issues.

Once message format and content are deemed acceptable, we complete a Data Quality Analysis Report (DQA). Messages must meet 95% for completeness and accuracy of all key data elements before the interface is approved for production. Once approved for production, a “go-live” date is scheduled.

### **Step 5: Production**

When the interface has been approved for production, we assign HL7 Account credentials for the WAIS production system. We’ll schedule a final prep meeting to review go-live steps and on-going responsibilities.

We continue to closely monitor your interface for 30 days after you go live to be sure any issues are promptly resolved. You are responsible for:

- Consistently reviewing the warning/error report and promptly fixing any issues.
- Keeping your EHR application up-to-date.
- Ensuring CVX and MVX code tables and VIS publication dates are current with [CDC-provided updates](#).
- Ensuring the interface continues to run at all times (especially after a power outage, or when you install/upgrade servers and software).

After 30 days, we monitor your interface on a periodic basis and contact you if we discover any unresolved issues. We may suspend on-going submission if issues are not resolved within 60 days.

Multi-site organizations may want to add new facilities to an existing interface. The new facility must complete at least 2 weeks of testing with production data in the WAIS QA system before they begin sending data to the production system. You may also need to provide additional WAIS-specific training to clinic staff. The purpose of the testing and training is to validate that message content meets WA State standards and to ensure data quality. If the facility/clinic is participating in the WA Childhood Vaccine Program, testing also ensures successful inventory management of state-supplied vaccine in the WAIS.

### III. HL7 Messaging

HL7 real time data submission is preferred. EHRs that can generate a file or use TCP/IP but can't connect via HTTPS may install the STC Gateway on their local server to submit data directly to WAIS. More information about the Gateway will be provided as needed.

If real time data submission is not possible, batch upload is accepted. A daily upload is recommended. If the file is automated, files should be sent in the early morning or at night when fewer demands are made on the WAIS. If the file requires manual upload by a staff member, we recommend that at least two staff members be trained to do the upload so there is no interruption of data flow to the WAIS.

HL7 messages sent to the WAIS via an HTTPS POST command must have the following fields:

- USERID - Assigned by the WAIS administrator.
- PASSWORD - Assigned by the WAIS administrator.
- MESSAGEDATA - The HL7 message(s).

HL7 messages may be submitted one at a time (one for every HTTPS request) or together as a batch. Batched messages do not require special separators or wrappers.

#### Message Types:

- VXU – Unsolicited immunization records. The goal of this interaction is to transfer immunization information from one health information system to another.
- QBP – Query. The goal of the query is to request a complete immunization history or an evaluated immunization history and forecast of next doses due for a patient.
- RSP – Response. The goal of the response is to return a complete immunization history, an evaluated immunization history and forecast for a patient; or a complete list of candidate patients in response to a request for a person's record (QBP).
- ACK – Acknowledgement. The goal of this interaction is to acknowledge receipt and processing of a partner message (VXU or QBP).

#### Message Segments:

The following segments are required for VXU messages.

Segment	Description
MSH	Message Header
PID	Patient Identifier
PD1	Patient Demographic
NK1	Next of Kin
ORC	Order Request
RXA	Pharmacy/Treatment Administration
RXR	Pharmacy/Treatment Route
OBX	Observation Results

## Message Formats:

The following sample messages show the message formats expected by the WAIS. Spaces between the segments were added to make it easier to read. Actual messages should not have spaces between the segments.

Legend: **Required** **RE** **Recommended** **Unwanted**

### Sample Administered Vaccine (VXU):

```
MSH|^~\&|Test EHR Application|X68||NIST Test Iz
Reg|201503160822||VXU^V04^VXU_V04|NIST-IZ-019.00|P|2.5.1||AL|ER
PID|1||10078-6^^^NIST MPI^MR||LASTNAME^FIRSTNAME^MIDDLENAME^JR^^^L|Mother's
Maiden Name|20131126|F||2106-3^White^HL70005|100 4th
Ave^^Seattle^WA^98104^USA^L||^PRN^PH^^^657^5558563||||SSN||2186-
5^NOT_HISPANIC^HL70121|||
PD1|||Facility_Name^^Facility_ID||||||02^Reminder/Recall any method
NK1|1|LASTNAME^FIRSTNAME^^^L|MTH^Mother^HL70063||
PV1|1|R|||||||V02^20140930
ORC|RE||IZ-783278^NDA||||||57422^RADON^NICHOLAS^^^NDA^L
RXA|0|1|20150316||141^Influenza^CVX|0.25|mL^milliliters^UCUM||00^New
immunization
record^NIP001||^facility_id|||K5094SC|20161216|SKB^GlaxoSmithKline^MVX|||C
P|A
RXR|IM^Intramuscular^HL70162|RA^Right Arm^HL70163
OBX|1|CE|64994-7^Vaccine funding program eligibility category^LN|1|V02^ VFC
eligible - Federally Qualified Health Center Patient (under-insured
^HL70064|||||F||20141117||VXC40^Eligibility captured at the immunization
level^CDCPHINVS|||||
OBX|2|CE|30963-3^VACCINE FUNDING SOURCE^LN|1|VXC1^Federal
Funds^CDCPHINVS|||||F||20141117|||||
OBX|3|CE|39956-7^VACCINE TYPE^LN|1|88^Influenza^CVX|||||F
OBX|4|DT|29768-9^DATE VACCINE INFORMATION STATEMENT
PUBLISHED^LN||20130509|||||F||20141117|||||
OBX|5|DT|29769-7^DATE VACCINE INFORMATION STATEMENT
PRESENTED^LN||20141117|||||F||20141117|||||
```

**Sample Historical Vaccine (VXU):**

MSH|^~\&|Test EHR Application|X68||NIST Test Iz  
 Reg|201503160822||VXU^V04^VXU\_V04|NIST-IZ-019.00|P|2.5.1|||AL|ER

PID|1||10078-6^^^NIST  
 MPI^MR||LASTNAME^FIRSTNAME^MIDDLENAME^JR^^^L||20131126|F||2106-  
 3^White^HL70005|100 4<sup>th</sup>  
 Ave^^Seattle^WA^98104^USA^L||^PRN^PH^^^657^5558563|||SSN|||2186-  
 5^NOT\_HISPANIC^HL70121|||

PD1|||Facility\_Name^^Facility\_ID||||||02^Reminder/Recall any method

NK1|1|LASTNAME^FIRSTNAME^^^L|MTH^Mother^HL70063||

PV1|1|R|||||||||V02^20140930

RXA|0|1|20140902||141^Influenza^CVX|999|||01^Historical immunization  
 record^NIP001|^facility\_id|||||C|A

**Acknowledgement Message (ACK):**

The WAIS sends an acknowledgement message for every message received. The HL7 response will indicate any one of the following:

Response Type	Results
Authentication error	Message rejected - username and password are incorrect or account does not have permission to accept HL7 messages.
Message parsing error	Message rejected - incoming message does not conform to HL7 standards.
Message processing exception	Message rejected - incoming message has an unexpected problem.
Message content error	Message accepted in whole or in part - incoming message is missing or includes incorrect information.
Message accepted	Message accepted - data has been accepted and has been sent to deduplication.
Response to query	Message accepted - response to query is sent with query results.

The following sample messages show the message formats to be expected from the WAIS.

### **Sample Accepted Message:**

```
MSH|^~\&|^|^|EHR Application^^|Organization ID^Organization  
Name^|201506040000-0500||ACK^V04^ACK|13434534|P|2.5.1|||  
MSA|AA|9299381|Patient 00000123456 "Patient Name" with 3 vaccinations  
accepted into vaccination staging table for immediate deduplication|
```

### **Error Messages:**

Messages may be rejected in whole or in part. Application errors and processing errors may reject the entire message. Segment or segment group errors may result in only the part of the message being rejected.

### **Sample Application Error (AR)**

```
MSH|^~\&|^|^|EHR Application^^|Organization ID^Organization  
Name^|20151229075750||ACK^V04^ACK|7482924683.100009480|P|2.5.1|  
MSA|AR|157220|  
ERR|||203|E|||Processing error prevented the completion of this request:  
Unable to validate|
```

### **Sample Processing Error (AE)**

```
MSH|^~\&|^|^|EHR Application^^|Organization ID^Organization  
Name^|201506040000-0500||ACK^V04^ACK|13434534|P|2.5.1|||  
MSA|AE|9299381|  
ERR||PID-11.1|101^Required field missing^HL70357|E|||patient address street  
is missing|  
ERR||PID-11.3|101^Required field missing^HL70357|E|||patient address city is  
missing|  
ERR||PID-11.4|101^Required field missing^HL70357|E|||patient address state  
is missing|  
ERR||PID-11.5|101^Required field missing^HL70357|E|||patient address zip is  
missing|
```

### **Sample Segment Error (AE)**

```
MSH|^~\&|^|^|EHR Application^^|Organization ID^Organization  
Name^|201506040000-0500||ACK^V04^ACK|49348812|P|2.5.1  
MSA|AE|9299381|  
ERR||RXA^1^5|103^table value not found^HL70357|E|5^table value not  
found^HL70533|||Vaccine code not recognized—field rejected  
ERR||RXA^1^5|101^required field missing^HL70357|E|7^required data  
missing^HL70533|||RXA-5 is required segment rejected  
ERR||RXA|100^required segment missing^HL70357|E|||RXA is required segment  
segment-group rejected
```

## Query Response Message (QBP/RSP):

The WAIS expects queries to be at the individual patient level at the time of service. Matches are found as follows:

1. Search for a match by patient ID. If a match is found, a complete record is returned.
2. If no match was found by patient ID, then the patient data is used to perform an advanced search to find exact and possible matches. The following fields are considered by the advanced search:
  - Patient Last, First, Middle Name
  - Patient Birth Date
  - Patient Birth Number
  - Guardian First Name
  - Mother's Maiden Name
  - Patient Address
  - Patient Phone

Below are the possible responses to query messages.

<b>Outcome of Query</b>	<b>Response Message</b>
No match found	QCK - Response indicates that the message was successfully processed and that no patients matched the criteria submitted in the query.
Exactly one high confidence match found	RSP - Response includes a complete immunization history.
At least one lower confidence match is found, but less than or equal to the maximum number allowed	RSP - Response returns a list of candidates including one PID segment with associated PD1 and NK1 segments for each potential match. No immunization history is returned.
An error or errors prevented the completion of the request.	ACK - Response indicates that the message was not successfully processed.

## Sample Request for Complete Immunization History (QBP):

```
MSH|^~\&|||||201505150010-  
0500||QBP^Q11^QBP_Q11|793543|P|2.5.1|||||||Z34^CDCPHINVS
```

```
QPD| Z34^Request Immunization History^CDCPHINVS |37374859|123456^^^EHR  
Application^MR|Child^Bobbie^Q^^^L|Que^Suzy^^^M|20140512|M|10 East Main  
St^^Olympia^WA^^L
```

```
RCP|I|20^RD&records&HL70126
```



**Sample Response Message with Forecast information (RSP):**

```
MSH|^~\&|^|^|^|^|^|20151105122535||RSP^K11^RSP_K11|1320521135996.100000002|
T|2.5.1|||||Z32^CDCPHINVS^^^|
MSA|AA|20150522||
QAK||Z34^Request Immunization History^HL70471|
QPD|Z34^Request Immunization History^HL70471|20150522|||Child^Bobby^Q
^^^^L|Que|20030123|M|L|
PID|1||25^^^^SR~0001||Child^Bobby^Q^^^^L||20030123|M||555 S WRIGHT
CT^^KENNEWICK^WASHINGTON^99366^United States^M|| (509) 555-
0355^^PH^^509^5550355^|||||N|
PD1||^SR|21^MATT^SHAKY^K^^^^^SR~1679652135|||||02^Reminder/recall
-any method^HL70215|||||A^Active^HL70441|
NK1|1|Que^Susy|GRD^Guardian^HL70063|
PV1||R|
ORC|RE||25.34.20100723|
RXA|0|999|20120727112142|20120727112142|998^no vaccine
administered^CVX|0|||||20120727112144|
RXR|OTH^Other/Miscellaneous^HL70162|
OBX|1|CE|30956-7^vaccine type^LN||0^DTP/aP^CVX||||F|
OBX|1|CE|59779-9^Immunization Schedule used^LN||VXC16^ACIP^CDCPHINVS||||F|
OBX|1|NM|30973-2^Dose number in series^LN||4||||F|
OBX|1|TS|30980-7^Date vaccination due^LN||20121206||||F|
OBX|1|TS|30981-5^Earliest date to give^LN||20121206||||F|
OBX|1|TS|59777-3^Latest date next dose should be given^LN||20161101||||F|
OBX|1|TS|59778-1^Date dose is overdue^LN||20130106||||F|
OBX|1|CE|59783-1^Status in immunization series^LN||U^Up to
Date^STC0002||||F|
ORC|RE||9999|
RXA|0|999|20120727112142|20120727112142|998^no vaccine
administered^CVX|0|||||20120727112144|
RXR|OTH^Other/Miscellaneous^HL70162|
OBX|1|CE|30956-7^vaccine type^LN||0^Hib^CVX||||F|
OBX|1|CE|59779-9^Immunization Schedule used^LN||VXC16^ACIP^CDCPHINVS||||F|
OBX|1|NM|30973-2^Dose number in series^LN||1||||F|
OBX|1|TS|30980-7^Date vaccination due^LN||20100102||||F|
OBX|1|TS|30981-5^Earliest date to give^LN||20091214||||F|
OBX|1|TS|59777-3^Latest date next dose should be given^LN||20141101||||F|
OBX|1|TS|59778-1^Date dose is overdue^LN||20100202||||F|
OBX|1|CE|59783-1^Status in immunization series^LN||P^Past Due^STC0002||||F|
ORC|RE||9999|
RXA|0|999|20120727112142|20120727112142|998^no vaccine
administered^CVX|0|||||20120727112144|
RXR|OTH^Other/Miscellaneous^HL70162|
OBX|1|CE|30956-7^vaccine type^LN||0^MCV4^CVX||||F|
OBX|1|CE|59779-9^Immunization Schedule used^LN||VXC16^ACIP^CDCPHINVS||||F|
OBX|1|NM|30973-2^Dose number in series^LN||1||||F|
OBX|1|TS|30980-7^Date vaccination due^LN||20201102||||F|
OBX|1|TS|30981-5^Earliest date to give^LN||20201102||||F|
OBX|1|TS|59777-3^Latest date next dose should be given^LN||20641101||||F|
OBX|1|TS|59778-1^Date dose is overdue^LN||20211102||||F|
OBX|1|CE|59783-1^Status in immunization series^LN||U^Up to
Date^STC0002||||F|
```

## IV. Message and Data Validation

We use STC's Public Health Connection Hub (PHC-Hub) for message validation and data quality review for all interfaces with the WAIS. PHC-Hub is directly integrated in the WAIS and replaces the legacy WAIS HL7 interface. The tool provides improved interface monitoring tools, including automated error and warning report delivery. This in turn supports more efficient issue resolution and improved data quality for all WAIS users.

Each interface is associated with an Import Profile within PHC-Hub. The profile defines how key data elements will be reviewed and analyzed to ensure strict data quality standards are met before being sent to the WAIS for processing. For selected data elements, we set the Import Profile to perform one of the following actions:

- **Ignore** the data element if missing, incomplete, or invalid and accept the message.
- **Warn** the submitter of missing, incomplete, or invalid data elements and accept the message. Providers are encouraged to correct issues and adjust data submission practices to avoid warnings in the future.
- **Error** the message if required data elements are missing, incomplete or invalid. Submitter must correct issues and resubmit the message. Providers must adjust data submission practices to avoid errors in the future.

Import Profiles for providers participating in the Washington Childhood Vaccine Program (VFC) include settings to support program-specific requirements, including inventory management for state-supplied vaccine.

During the testing and validation stage of your interface project, you'll receive the Provider Detail Error/Warning Report via email. Error and warnings are determined by the Import Profile settings in PHC-Hub. We use this report to help identify and resolve issues before your interface is approved for production.

After your interface is approved for production you'll continue to receive the Provider Detail Error/Warning Report. You are expected to use this report to quickly identify issues and address problems to ensure quality data continues to be submitted in the WAIS.

## V. Requirements Specific to Washington State

Washington State has a number of state-specific requirements reflected below.

### **Online Vaccine Management and Reporting:**

For providers participating in the Washington Childhood Vaccine Program (VFC) it is critically important to include accurate vaccine and VFC eligibility information in the messages for successful vaccine inventory management and accountability reporting,

Changes to the vaccine supply, including the introduction of new vaccines and vaccine coding changes must be closely monitored. For example, new influenza vaccine products are added to the public and private vaccine supply every flu season. An interface must accurately reflect the vaccine products being administered in the practice and included in their vaccine inventory.

### **VFC Eligibility:**

Washington is a “universal” state, meaning that all patients under 19 years of age are eligible to receive state-supplied vaccines, even if they are covered by private insurance. While private insurance coverage is not a “VFC eligible” category according to federal guidelines, it is an eligibility category in Washington State. (V10 or WA001=Private Insurance)

A VFC status of “ineligible” is required for all patients receiving non-VFC vaccine, including adults. (V01=Ineligible)

### **Unverified Vaccine Data:**

The WAIS does not accept any patient or parent reported vaccine information without documentation or medical evidence to support the administration of vaccine. This is consistent with ACIP and the Centers for Disease Control advice. No partial vaccine dates are accepted or defaulted to a specific date. **If your organization captures patient or parent reported vaccine information, the WAIS will not accept historical data in the interface from your organization.**

### **Privacy of Data**

**The WAIS does not accept or store social security numbers.** Do not send this data in the interface.

The following tables reflect the HL7 Version 2.5.1 standards and identify additional Washington State requirements.

Usage legend: R=Required, RE=Required, but may be empty, C=Conditional, O=Optional

MSH Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
MSH.1 : Field Separator	R			IZ-12: The MSH.1 (Field Separator) field SHALL be valued " "	.
MSH.2 : Encoding Characters	R			IZ-13: The MSH.2 (Encoding Characters) field SHALL be valued "^~\&"	.
MSH.3 : Sending Application	RE	HL70361			
MSH.4 : Sending Facility	RE	HL70362			Needs to match the WAIS Facility Name. For VFC providers must match the Provider Agreement.
MSH.5 : Receiving Application	RE	HL70361			
MSH.6 : Receiving Facility	RE	HL70362			
MSH.7 : Date/Time Of Message	R				
MSH.9 : Message Type	R			IZ-17: MSH-9 (Message Type) SHALL contain the constant value "VXU^VO4^VXU_V04"	.
MSH.10 : Message Control ID	R				
MSH.11 : Processing ID	R				MSH-11 is always "P"
MSH.12 : Version ID	R			IZ-15: The MSH-12 (Version ID) SHALL be valued "2.5.1"	.
MSH.15 : Accept Acknowledgment Type	RE	HL70155			
MSH.16 : Application Acknowledgment Type	RE	HL70155		IZ-16: The value of MSH-16 (Application Acknowledgement Type) SHALL be one of the following: AL-always, NE-Never, ER-Error/reject only, SU successful completion only	.
MSH.21 : Message Profile Identifier	C(R/O)	PHVS_ImmunizationProfileIdentifier_IIS	If MSH-9.1 is valued "QBP" or "RSP"		.
MSH.22 : Sending Responsible Organization	RE				
MSH.23 : Receiving Responsible Organization	RE				

PID Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
PID.1 : Set ID - PID	RE				
PID.3 : Patient Identifier List	R	HL70061			Expected value is "MR" Medical Record must be unique to each patient (do not reuse a number previously assigned to a different patient).
PID.5 : Patient Name	R				Valid first and last name required. Do not add a suffix to the first or last name. Must be a separate field. Middle initial recommended.
PID.6 : Mother's Maiden Name	RE				Recommended
PID.7 : Date/Time of Birth	R				
PID.8 : Administrative Sex	RE	HL70001			Must be a valid HL7 code.
PID.10 : Race	RE	HL70005			Recommended. Must be a valid HL7 code.
PID.11 : Patient Address	RE				If there are two lines for address concatenate into one line. If County is sent, must be a valid code.
PID.13 : Phone Number - Home	RE				Recommended
PID.22 : Ethnic Group	RE	HL70189			Recommended. Must be a valid HL7 code.
PID.24 : Multiple Birth Indicator	RE	HL70136			If sent, must be a valid HL7 code.
PID.25 : Birth Order	C(RE/O)		If PID-24 (Multiple Birth Indicator) is valued "Y"		
PID.29 : Patient Death Date and Time	C(RE/X)		If PID-30 (patient death date) is valued "Y"		
PID.30 : Patient Death Indicator	RE	HL70136			If sent, must be a valid HL7 code.

PD1 Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
PD1.11 : Publicity Code	RE	HL70215			Do not default to "No." If sent must be coded 02 – Reminder/Recall any method.
PD1.12 : Protection Indicator	RE	HL70136			If sent, must be a valid HL7 code.
PD1.13 : Protection Indicator Effective Date	C(RE/X)		If PD1-12 (Protection Indicator) is valued	.	.
PD1.16 : Immunization Registry Status	RE	HL70441			If sent, must be a valid HL7 code.
PD1.17 : Immunization Registry Status Effective Date	C(RE/X)		If the PD1-16 (Registry Status) field is valued.	.	.
PD1.18 : Publicity Code Effective Date	C(RE/X)		If the PD1-11 (Publicity Code) field is valued.	.	.

NK1 Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
NK1.1 : Set ID - NK1	R				
NK1.2 : Name	R				Must be a valid name (do not send "None" or "Unknown"). Required for patients under 19 years of age.
NK1.3 : Relationship	R	HL70063			Must be a valid HL7 code. Required for patients under 19 years of age. Only the following are accepted: GRD - Guardian MTH - Mother FTH - Father PAR - Parent Null defaults to GRD
NK1.4 : Address	RE				
NK1.5 : Phone Number	RE				

ORC Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
ORC.1 : Order Control	R	HL70119		IZ-25: ORC.1 (Order Control) SHALL contain the value "RE"	.
ORC.2 : Placer Order Number	RE				
ORC.3 : Filler Order Number	R				
ORC.10 : Entered By	RE				
ORC.12 : Ordering Provider	C(RE/O)		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"		.
ORC.17 : Entering Organization	RE	HL70362			

RXA Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
RXA.1 : Give Sub-ID Counter	R			IZ-28: RXA-1 (Give Sub-id counter) SHALL be valued "0" Note that "0" is zero.	
RXA.2 : Administration Sub-ID Counter	R				
RXA.3 : Date/Time Start of Administration	R				
RXA.4 : Date/Time End of Administration	RE			IZ-30: If RXA-4 (Date time of admin end) is populated, then it SHALL be the same as Start time (RXA-3)	
RXA.5 : Administered Code	R	CVX			Must be a valid CDC code. Do not use "Other" or "Unknown" for historical vaccines. Required for inventory management. CVX, CPT, or both are expected.
RXA.6 : Administered Amount	R				
RXA.7 : Administered Units	C(R/O)	UCUM	If Administered Amount is not valued "999"		"ml" is the expected value.
RXA.9 : Administration Notes	C(R/O)	NIP001	If RXA-20 is valued "CP" or "PA"		
RXA.10 : Administering Provider	RE	HL70010			Do not add credentials in the name field. Must be a separate field.
RXA.11 : Administered-at Location	C(R/O)				11.4 - use WAIS assigned Facility ID. Required for all administered vaccines.
RXA.15 : Substance Lot Number	C(R/O)		If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"		Required for all administered vaccines. Must match exactly with lot number in inventory for lot decrementing.
RXA.16 : Substance Expiration Date	C(RE/O)		If the RXA-15 (lot number) is valued		Required for all administered vaccines.

RXA Segment (cont.)					
RXA.17 : Substance Manufacturer Name	C(R/O)	MVX	If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"	.	Required for all administered vaccines. Must match exactly with lot number in inventory for lot decrementing.
RXA.18 : Substance/Treatment Refusal Reason	C(R/X)	NIP002	If the RXA-20 (Completion Status) is valued "RE"	IZ-32: If the RXA-18 (Refusal Reason) is populated, RXA-20 (completion Status) SHALL be valued to "RE".	.
RXA.20 : Completion Status	RE	HL70322			
RXA.21 : Action Code - RXA	RE	HL70323	If RXA-5.1 is not valued "998"	.	A = Add U = Update D = Delete

RXR Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
RXR.1 : Route	R	HL70162			Must be a valid HL7 code.
RXR.2 : Administration Site	RE	HL70163			Must be a valid HL7 code.

OBX Segment					
Location	Usage	Table	Predicate	Conformance Statement	WAIS Specifics
OBX.1 : Set ID - OBX	R			IZ-20: The Value of OBX-1 (Set ID-OBX) SHALL be valued sequentially starting with the value "1" within a given segment group.	.
OBX.2 : Value Type	R	HL70125		IZ-21: The value of OBX-2 (Value Type) SHALL be one of the following: CE, NM, ST, DT, ID or TS	.
OBX.3 : Observation Identifier	R	NIP003			
OBX.4 : Observation Sub-ID	R				

OBX Segment (cont.)					
OBX.5 : Observation Value	R			<p>IZ-37: If OBX-3.1 is "30956-7" and OBX-2 is "CE" then the value set for OBX-5 shall be CVX.</p> <p>IZ-36: If OBX-3.1 is "69764-9" and OBX-2 is "CE" then the value set for OBX-5 shall be cdcgs1vis.</p> <p>IZ-35: If OBX-3.1 is "64994-7" and OBX-2 is "CE" then the value set for OBX-5 shall be HL70064.</p>	<p>VFC status is required for all age patients. Required for lot decrementing.</p> <p>Only the following are accepted:  V01=Not VFC Eligible (adults).  V02= VFC eligible- Medicaid/Medicaid Managed Care  V03= VFC eligible- Uninsured  V04= VFC eligible- American Indian/Alaska Native  V05= VFC eligible-underinsured at FQHC/RHC/deputized provider  V10 or WA001=Private Insurance for patients under 19 years of age.</p>
OBX.6 : Units	C(R/RE)	UCUM			
OBX.11 : Observation Result Status	R	HL70085		IZ-22: The value of OBX-11 (Observation Result Status) SHALL be "F"	
OBX.14 : Date/Time of the Observation	RE				
OBX.17 : Observation Method	C(R/O)	CDCPHINVS			

## APPENDIX

<b>Version</b>	<b>Issue Date</b>	<b>Modified By</b>	<b>Comments/Reason</b>
1.0	08/01/2011	Sherry Riddick	First Version released
1.1	09/15/2011	Sherry Riddick	Formatting of document changed. Appendices A, B, C, D incorporated into main document. Appendix C modified – Vaccinator (RXA 10) added to list of Vaccination Fields as “Recommended”. Had been inadvertently omitted in Version 1.0
1.2	05/15/2012	Margo Harris	Updated supported NK codes. Revised Appendix A and C with minor changes.
1.3	9/15/2012	Margo Harris	Edited for IIS name change, updated CDC HL7 Specification link
1.4	12/16/2013 8/31/2014	Margo Harris	Major revision of guide, updating WA State requirements, including Meaningful Use Stage 2. Replaced Appendix D. Updated information for HL7 2.5.1 and QBP/RSP query.
2.0	12/31/2015	Karen Meranda	Complete rewrite.
2.1	3/18/2016	Karen Meranda	Final updates and edits

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