PHC-Hub
USER GUIDE
V 4.15.2

PHC Hub

Scientific Technologies Corporation

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Chapter 1: Introduction to PHC-Hub

PHC-Hub is a platform that facilitates the integration of HL7 message processing into the IWeb and WIR Immunization Information Systems. It will receive inbound HL7 messages, extract and validate the data, translate coded values and participate in the process of updating the host system's application database with patient and immunization data.

In addition to supporting the standard inbound unsolicited HL7 message transaction, PHC-Hub also supports a reciprocal batch interface where new patient immunization activity that may be unknown to the provider is returned using the original inbound connection. PHC-Hub supports HL7 inbound query requests for patient immunization history. Both 2.3.1 and 2.5.1 formats are supported. PHC-Hub supports quality reporting and extensive customization of the field level message validation process.

PHC-Hub is divided into five major areas:

- **Import -** Controls how data for each interface is translated and verified before being accepted into the immunization registry, as well as controls incoming queries.
- **Export** - Controls how and when data is exported from the immunization registry.
- **Test -** Allows vendors and EHR users to test HL7 messages in a controlled environment.
- **Reports** - Enables the immunization registry staff and EHR users to run and/or schedule reports to aid in monitoring data imported and in the data quality review.
- **Project** - Allows immunization registry staff and other connecting entities to organize and track interface progress.

The rest of the PHC-Hub introduction is specific to the particular IIS product that PHC-Hub is integrated with. Separate chapters are provided for each. Beyond the separate introduction chapters, any IIS specific information is identified as such in the single, common guide.

Chapter 1A: Introduction to PHC-Hub - IWeb

PHC-Hub and IWeb Integration

PHC-Hub is directly integrated into IWeb and replaces the legacy HL7 interface currently available in IWeb. Both interfaces may be run concurrently but all providers are encouraged to use the new interface as it offers the next generation of interface and data quality support.

PHC-Hub is an adaptor for IWeb and is the public facing application, but the business logic is defined and managed by IWeb. For the purpose of this document the term IWeb is used to denote functionality that is specific to IWeb and supported by PHC-Hub. PHC-Hub is used for functionality that is handled by IWeb and specific to any PHC-Hub installation. PHC-Hub is built to work with other immunization registry applications and will support similar functions, if supported by the immunization registry. This chapter assumes that PHC-Hub has been installed to connect to IWeb.

PHC-Hub manages the external HL7 interfaces and works to ensure that all incoming data passes strict data quality checks before being sent to IWeb for processing. PHC-Hub has several functions that can help integration uses:

- EHR Vendor testing tools to view and review test HL7 messages.
- Profile manager to allow configuration on a per interface basis.
- Data mapping function to map incoming codes to the correct HL7 values.
- Data quality system that can be customized to watch for specific data quality levels expected for each interface.
- Processing and data quality reports and logs to assist in interface management and trouble shooting.

IWeb Registry

IWeb is a population-based immunization registry that helps public health agencies and vaccine providers make informed decisions that improve the health of children and the entire community. IWeb is a web-based product which is used by public health officials, public health employees, and private providers by enabling:

- Vaccinators to view a child's complete vaccination record, thus preventing over and under vaccination.
- Health officials to measure and improve vaccination rates by providing a big picture through various reports.
- Health officials to send mailings to remind parents of needed vaccinations.
- School nurses to review student vaccination records.

Public and Private Data

To encourage participation and ensure privacy, IWeb differentiates between public and private data. Changes to public data are visible to all IWeb users while changes to private data are only visible to users associated within the same logical entity called an Organization. An Organization is a collection of one or more facilities that constitute a single owning entity, normally a single clinic but sometimes several clinics together.

For example; if Johnny is first given a vaccination by Clinic A and then by Clinic B, Clinic A will still have the original address Johnny gave them and not the new address he gave to Clinic B; however, if Johnny returns to Clinic A for another vaccination, Clinic A will see the vaccination that was given at Clinic B.

IWeb also tracks the patient's medical home by assigning the last facility to update a patient's record as the current owner of the record. Patient ownership primarily impacts IWeb vaccination reports.

Patient Identification

IWeb uses two IDs to identify patients, its own internal SIIS ID, and the externally defined ID normally referred to as the Medical Record Number (aka Chart Number or Patient Id), which must be unique for a given Organization. A patient in IWeb has one SIIS ID and one or more Chart Numbers, one for every Organization entity for the patient's association. If no Medical Record Number is defined, it defaults to the ID "SIISCLIENT+SIIIS ID."

Patient Matching (Deduplication)

IWeb employs a sophisticated algorithm to identify and merge duplicate patient records. The process is called deduplication which results in one of three actions for a new record:

- The new record is a good match for exactly one patient record in the registry and the two records are automatically merged together.
- The new record is not a good match for any patient records in the registry and will automatically be added as a new patient record.
- The new record is a possible match with one or more patient records and must be reviewed by an IWeb administrator before it can be merged with any patient record.

Most IWeb administrators run deduplication nightly, which in these cases means that these updates will not be visible in IWeb until the next day. Also, records marked for manual review by IWeb administrators will not be available until reviewed, which may take several days. PHC-Hub acknowledges all incoming messages by default. This acknowledgement indicates that PHC-Hub has taken responsibility for the message but does not indicate that the message has been processed and merged into IWeb.

Automatic Deduplication

PHC-Hub can request that certain incoming HL7 messages be deduplicated immediately, so that IWeb users will not have to wait until the next day to see patient information imported. This feature comes with some limitations:

- Most patients are accepted immediately but some have to be reviewed by registry staff to determine a proper registry match. Depending on the registry deduplication work queue, this may take several days. The "sending" systems can reduce the number of records that are affected by ensuring that complete patient records are sent. The more complete a patient-record's demographics are, the more likely it is to be confidently matched to other records.
- IWeb runs the primary deduplication process every night which may take several hours. Automatic deduplication requests that are sent during off hours are queued to run after the nightly process. This delay is particularly noticeable after IWeb upgrades when the night process must run for long periods of time (sometimes all night) to apply new changes to patient records.

User Role Access/Permission

Following is additional information about the interaction between IWeb user roles and PHC-Hub permissions.

	Tasks						
Access Level	Login[1]	Admin[2]	Projects[3]	Import[4]	Test	Review	WS Export[5]
Registry Client	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Registry View	Yes	No	No	No	Yes	Yes	Yes
Organization Client	Yes	No	No	Yes	Yes	Yes[6]	No
Organization View	Yes	No	No	No	Yes	Yes[6]	No
Facility Client	Yes	No	No	Yes	Yes	Yes[6]	No
Facility View	Yes	No	No	No	Yes	Yes[6]	No
No login	No	No	No	Yes	No	No	Yes

[1] Requires "PHC-Hub Access" permission.
[2] Requires "System Administrator" permission.
[3] Requires "Project Tracker Access" permission.
[4] Requires "Upload HL7 Access" permission.
[5] Requires "PHC-Hub Run Web Service Export" permission.
[6] Review access is limited to the data/reports appropriate to the access level and the provider(s) the logged-in user is associated with.

Task Definitions:
Login – User can log into PHC-Hub's user interface (UI).
Admin – User can modify application and profile settings as well as perform other administrative tasks.
Projects – User can use the *Project Tracker* functionality within PHC-Hub.
Import – User can submit HL7 updates (VXU's).
Test – User can use PHC-Hub's built-in HL7 testing/troubleshooting tools.
Review – User can review incoming messages and their associated validation results.
WS Export – User can use PHC-Hub's patient demographic export web service.

There are two basic permission checks that are performed in PHC-Hub:

- The first is a login source check that determines whether you can access the application the way you are trying to (HL7 Realtime, IWeb Linkover, Webservice, or Web Interface).

  An example of this is a Facility Client user with Upload HL7 Access will be able to submit HL7 messages via the Realtime Interface, but will not be able to login to the application through the Web Interface. Conversely, a Registry Client user may login through the Web Interface, but may not submit messages through the HL7 Realtime Server unless they have been granted that permission in IWeb. **Note**: If a user attempts to login without this permission, a message will appear indicating, “Access Denied.”

- The second is a determination of allowed modes or roles which drive the rest of the behavior primarily for users that logged in via the Web Interface and IWeb Linkover. These checks happen via a central mechanism in "Permission.java" due to each page identifying itself as having a "PermissionId" with "Permission objects" constructed to grant access to these Ids based on an array of modes.

  Example: An Organization Client user may log into the application through the Web Interface, but may not create new Import Profiles or administer the application because they are not granted the administrator mode in PHC-Hub at this time. A Registry Client user will be able to login via the Web Interface, administer the application settings and create Import/Export Profiles, but will not be able to access the Interface Status Manager unless they have been granted the Project Tracker permission in IWeb. **Note**: If a user attempts to access the application without logging in, i.e., copies/pastes a URL to a PHC-Hub web page, the "PHC-Hub" login screen appears with an error stating, "Unable to display this page, you are not currently logged in."

Chapter 1B: Introduction to PHC-Hub - WIR

PHC-Hub and WIR Integration

PHC-Hub is integrated with the WIR Immunization Information System (IIS) in several ways. When HL7 messages are received and validated, the patient and immunization content is stored in a set of "staging" tables in the WIR database. The WIR HL7 interface daemon (called ADIM) continuously polls the stage tables for new activity and performs the rest of the processing to deduplicate the incoming data and to merge it into the existing IIS patient population.

PHC-Hub references the WIR database to perform field level validation and translation on coded fields from inbound HL7 messages. Inbound HL7 query requests will search the WIR database for qualifying patients and immunization data to include in the response. Users, organizations and facilities are all defined in the WIR IIS for use in PHC-Hub.

User Role Access/Permission

PHC-Hub limits access to available functions by choosing whether to display or not display specific menu items. Non-menu based functionality like inbound HL7 message authentication is also supported. Each function is associated with a "mode". PHC-Hub supports the following modes:

- PROFILE_ADMINISTRATOR_MODE - can create & edit import/export profiles
- SYSTEM_ADMINISTRATOR_MODE - can see and edit app. Settings
- IMPORT_MODE - if user is allowed. Coupled with EXPORT_MODE.
- EXPORT_MODE - if user is allowed. Coupled with IMPORT_MODE.
- PROJECTS_MODE - just enables project tracker
- TEST_MODE - anyone
- GENERAL_MODE - anyone
- REVIEW_MODE - any UI user select import profile and look at errors read only for import profiles

WIR Role	PHC-Hub Mode
PHC-HUB ORG LEVEL PERMISSION	GENERAL_MODE
	TEST_MODE
	REVIEW_MODE
PHC-HUB REGISTRY LEVEL PERMISSION	GENERAL_MODE
	TEST_MODE
	REVIEW_MODE

WIR Role	PHC-Hub Mode
	PROFILE_ADMINISTRATOR_MODE
PHC-HUB SITE LEVEL PERMISSION	GENERAL_MODE
	TEST_MODE
	REVIEW_MODE
PHC-HUB REGISTRY & PROJECT_TRACKER_ACCESS	PROJECTS_MODE
PHC-HUB UPLOAD_HL7_ACCESS PERMISSION	IMPORT_MODE
	EXPORT_MODE
PHC-HUB ADMINISTRATOR PERMISSION	SYSTEM_ADMINISTRATOR_MODE
PHC-HUB REG_AND_UPLOAD	GENERAL_MODE
	TEST_MODE
	REVIEW_MODE
	PROFILE_ADMINISTRATOR_MODE
	IMPORT_MODE
	EXPORT_MODE
PHC-HUB ALL_IN_ONE	GENERAL_MODE
	TEST_MODE
	REVIEW_MODE
	PROFILE_ADMINISTRATOR_MODE
	IMPORT_MODE
	EXPORT_MODE
	PROJECTS_MODE
	SYSTEM_ADMINISTRATOR_MODE

The logic to verify that the user is associated with a single organization only happens if the role that the user is associated with contains the IMPORT_MODE. This currently includes the following roles:

1. PHC-HUB UPLOAD_HL7_ACCESS PERMISSION
2. PHC-HUB REG_AND_UPLOAD
3. PHC-HUB ALL_IN_ONE

Special consideration for roles associated with IMPORT_MODE

When an HL7 message is received by the PHC-Hub inbound interface servlet, the application must first authenticate that the message came from a valid source and must determine which profile to associate the message to. Each message is sent with a username and password in the HTTP transaction. PHC-Hub looks to see what imMTrax organization the user is associated with and then knows what profile to use. In order for this strategy to work, the users that are assigned to inbound HL7 interfaces must be associated with a single organization in imMTrax. If this is not the case, the message will be rejected.

Reciprocal batch processing in WIR

Reciprocal batch is an interface function that works in conjunction with the inbound unsolicited HL7 interface in PHC-Hub. Its purpose is to identify, format and send HL7 messages for new patient immunization activity back to the remote provider system over the same HTTP(S) connection that was used to receive incoming messages.

One requirement for WIR reciprocal batch processing is to maintain a separate set of demographics representing the data received from the remote provider system. When HL7 messages are formatted for return to the provider, the demographics from received messages are used instead of demographics from WIR. When the inbound interface profile is linked to an export profile via the "Reciprocal Update" parameter, then all inbound demographics are saved to a separate table in WIR as part of inbound processing. If the export profile parameter "Send name, gender, dob from reserve record" is checked, then all outbound HL7 messages will be populated using these saved demographics instead of the normal patient demographics maintained in WIR.

The reciprocal batch process can be triggered based on demand or on schedule. The on demand function requests a start and stop date. The schedule function must identify new activity that has occurred since the last time the scheduled function ran. Only patients with a relationship to the organization associated with the export profile are considered for the reciprocal batch. If the "last_updated_date" value associated with an immunization is later than the date/time of the previous reciprocal batch run then that immunization will be included.

Chapter 2: Installation for PHC-Hub and the IIS

Installation Instructions - TOMCAT

Install PHC-Hub Database - TC

Please refer to the readme.txt file for database installation instructions. If you received a compressed (zipped) directory of database install files, the file will be in the install directory; otherwise, it will be located in the db/install directory.

Install PHC-Hub Web Application - TC

1. Ensure that an oracle ojdbc driver is available to your servlet container environment classpath (eg. tomcat-install-directory/lib/ojdbc6.jar).
2. Deploy the .war file to the "webapps" directory in your tomcat installation.
3. Edit the db.properties file located at webapps/PHC-Hub/WEB-INF/classes according to your database configuration.

Installation Instructions - WEBLOGIC

Install PHC-Hub Database - WL

1. Navigate to <phc-hub project>/db/Install
2. Modify the install.bat file found in the directory.
3. You will need to modify the database SID in the install.bat file to reference your database SID.
4. In the example below, the first line is the existing statement, the second line is a modified statement:
    1. For a new database named 'PHCHUB' with an initial password of 'MANAGER':
    2. current statement:

       ```
       sqlplus SYSTEM/MANAGER@[CPWEB] @createUser.sql
       CPWEB_IHUB.DBF CPWEB_IHUB_TEMP.DBF
       ```

    3. modified statement:

       ```
       sqlplus SYSTEM/MANAGER@PHCHUB @createUser.sql
       CPWEB_IHUB.DBF CPWEB_IHUB_TEMP.DBF
       ```

Update PHC-Hub Database

1. After the install is complete, navigate to <phc-hub project>/Patches/patch_v4
2. Modify the patch.bat file found in this directory so the SID matches your database SID.
3. In the example below, the first line is the existing statement, the second line is a modified statement:
    1. For a new database named 'PHCHUB':
    2. current statement:

       ```
       sqlplus cpweb/cpweb@[CPWEB] @patch41110.sql
       ```

    3. modified statement:

       ```
       sqlplus cpweb/cpweb@PHCHUB @patch41110.sql
       ```

4. Change all occurrences of '[CPWEB]' with 'PHCHUB'.
5. Run the patch.bat file.
6. After the update is complete, the database version can be viewed by running the following statement in sqlplus:
    1. Login to sqlplus as the cpweb user.
    2. `SQL>  set linesize 120;`
    3. `SQL>  select * from CP_SW_VERSION order by insert_stamp;`

   Note - you can also find the same instruction in <phc-hubproject>/Patches/patch_v4/patch_notes.txt file

Install PHC-Hub Web Application - WL

1. **Login to WebLogic console with user credentials: http:/<hostname>:7001/console/**
2. **Creating DataSource in WebLogic Server**
    1. Select the Lock & Edit button
    2. Select “Services “ from (left menu) -> Data Sources
    3. Select “New” button to create a new JNDI datasource -> Generic Data Source
    4. Enter the following details:
        1. **Note** - We need to set up two JNDI name for WIR “jdbc/wirDB” and PHC-Hub “jdbc/cpwebDB”. We should maintain the same JNDI name as used by the PHC-Hub application.
        2. Names : <enter any relevant name>
        3. JNDI Name: “jdbc/wirDB”
        4. Database type: Oracle

5. Click Next button
6. Select default database driver -> next button
7. In the “Create a new JDBC Data Source” -> enter the database name, server name, port (1521) ,Username and password
8. Once the datasource is created, select the “Targets” -> check the “Admin Server”
9. Select Activate changes
10. Follow the same steps to create JNDI name for PHC-Hub “jdbc/cpwebDB”

3. **Disable wrapping for each JDBC data source**
    1. If you have not already done so, in the Change Center of the Administration Console, click Lock & Edit.
    2. In the Domain Structure tree, expand Services, then select Data Sources
    3. On the Summary of Data Sources page, click the data source name for example *“jdbc/wirDB”*
    4. Select the Configuration: Connection Pool tab.
    5. Scroll down and click Advanced to show the advanced connection pool options.
    6. In Wrap Data Types, deselect the checkbox to disable wrapping.
    7. Click Save.
    8. To activate these changes, in the Change Center of the Administration Console, click Activate Changes.

       Note - This change does not take effect immediately - it requires the server be restarted

4. **Restart the WebLogic server**

Deploy a new phchub.war

1. **Deploy phchub.war on weblogic server**
    1. Select “Lock and Edit”
    2. Select "Deployments" -> Hit Install button
    3. Give the location of phchub.war file in "Path"
    4. Hit "Next" button
    5. Select the default options and select "Finish" button
    6. Select phchub -> start-> servicing all request
    7. Select phchub -> Activate all changes

2. **Access phchub application**

1. Login to Oracle Fusion Middleware Control: http://<hostname>:7001/em/
2. Expand Application Deployments -> Internal Applications -> select link phchub
3. In the Entry Points -> Web modules -> you will find the URL for PHC-Hub: http://<hostname>:7001/phchub/

Edit Configuration File in the Web Application (for IWeb)

Edit web/WEB-INF/classes/db.properties

Note: The user and password parameters may be case-sensitive.

1. For the line that starts with siis.url:
   - Set HOST to be your machine name/IP address/localhost (if the database is on same machine as tomcat will be running on.)
   - Set SID to be the SID for your SIIS databases
2. The cp.url is the same if you are installing CP tables in the SIIS database. Otherwise, alter the value appropriately for the new CP database.
3. The siis.user is the user id that IWeb uses to access SIIS (usually pci.)
4. The cp.user is the same as the siis.user if the CP tables are in the SIIS database. Otherwise, alter according to createUser.sql script (usually cpuser) or local definition.
5. The siis.password will be the password that IWeb uses to access SIIS (usually admin.)
6. The cp.password will be the same as the siis.password if the CP tables are in SIIS database. Otherwise, alter it according to createUser.sql script (usually cpadmin) or local definition.

Edit Configuration File in the Web Application (for WIR)

Edit web/WEB-INF/classes/db.properties

Note: The user and password parameters may be case-sensitive.

1. For the line that starts with wir.url:
   - Set HOST to be your machine name/IP address/localhost (if the database is on same machine as tomcat will be running on.)
   - Set SID to be the SID for your WIR database
2. The cp.url is the same if you are installing CP tables in the WIR database. Otherwise, alter the value appropriately for the new CP database.
3. The wir.user is the user id that WIR uses to access the database (usually wir_owner.)

4. Alter according to createUser.sql script (usually cpuser) or local definition.
5. The wir.password will be the password that WIR uses to access the database (usually wo42wo.)
6. The cp.password will be the same as the wir.password if the CP tables are in WIR database. Otherwise, alter it according to createUser.sql script (usually cpadmin) or local definition.

(The integration between the IIS and the PHC-hub Project Tracker described below only exists for the IWeb product.)

Configure IWeb Link to PHC-Hub

1. Log into IWeb as a user who has the Registry Settings permission.
2. Navigate to Administration -> Properties -> Registry Settings.
3. Set the "Project Tracker Root URL" (this should contain the *externally* accessible URL to the PHC-Hub root - the URL that is accessible to users connecting from the Internet).

Configure PHC-Hub Link to IWeb

1. Log into PHC-Hub as a Registry Client user.
2. Navigate to the App Settings option under the MAIN menu.
3. Set the "Registry Base URL" (this should contain the internally accessible URL to the IWeb root - the URL that is accessible from the PHC-Hub application server).

Applications Settings in the Web Interface

The applications settings page can now be restricted for all users with the link hidden from the user interface if the new database key is set. All application settings functionality previously configured from this page can now be altered using a database update statement by someone with direct access to the CPWEB database.

1. Navigate to the cp_keys table in the CPWEB database.
2. Set the "Application Settings Display" option to either Y to display the Apps Settings (default) or null to hide the Apps Settings in PHC-Hub.
3. Execute the following in sqlplus to hide the Apps Settings: UPDATE CP_KEYS CK SET CK.VALUE=NULL WHERE CK.ID='APPLICATION' AND CK.KEY='application.settings.display';
   commit;
4. Restart the tomcat for the changes to update in PHC-Hub.

Chapter 3: Interface Specification - Message Transport

There are several methods used to transfer HL7 data. PHC-Hub supports multiple methods of message transport, all of which move the data to the common data processing interface. For this reason, all of the methods discussed below will have the same result as any of the others. While PHC-Hub may support many different methods, immunization registry or network policy may limit which of these methods are available for use by immunization providers. Please discuss with the immunization registry program to determine which methods are available.

HTTP Upload Interface

PHC-Hub allows users to log in directly and upload a data file using their web browser. This type of transfer is useful during testing and initial data loads, but because it is not automated it is not preferred for regular data submission. The following steps must be taken to load a file:

1. Login to PHC-Hub with your assigned ID.
2. Select the appropriate *Import Profile*.
3. Select *File Upload* from the appropriate Import Profile on the menu.
4. Select *Browse* and select the file on your local system. Click *Upload Now*.
5. As the data is being processed a message will appear on the menu on the left saying "*Processing... {filename}*."
6. Select *View Batch File Processing Results* to see details of how the processing is going. This page is updated as records are processed and will only show partial results until all of the records are processed. The page can be refreshed until the processing is complete. The actual HL7 or flat-file response is shown on the screen.

HTTP POST Interface

PHC-Hub receives HL7 messages using a protocol defined in the document titled, "Transport of Immunization HL7 Transaction over the Internet Using Secure HTTP version 1.0" written by the HL7 Immunization Registry Task Force (Rockmore, Yeatts, and Davidson). It describes the following: sending an HL7 message, a username, a password, and a facility ID in an HTTP POST transaction and receiving an HL7 message as a response.

For an external system to connect to the immunization registry it must have two things:

- A connection to the Internet so that it can "see" the registry's web interface.
- The ability to send HL7 immunization messages using HTTPS.

Request Encoding

When the sending application sends PHC-Hub an HL7 message via an **HTTPS POST** command, it must have the following fields:

- **USERID** - Assigned by the PHC-Hub administrator
- **PASSWORD** - Assigned by the PHC-Hub administrator
- **MESSAGEDATA** - The HL7 message(s).

HL7 messages may be one at a time (one for every HTTPS request) or together as a batch. Batched messages do not have to have any special separators or wrappers, but the standard HL7 batch protocol may be used. The batch is formatted as follows:

```
[FHS]{[BHS]{[MSH] … ]}[BTS]}[FTS]
```

Response Encoding

PHC-Hub returns responses by default. Requests with multiple messages can have multiple responses, one for each request message. Whether responses are returned depends on how the account is configured. The response configurations available are:

- **Always** - Send back responses for all messages received.
- **Never** - Do not send back any responses.
- **On Error** - Send back responses only for those messages that have errors and are not accepted.
- **Determined by Message** - Incoming request message indicates in the MSH segment determines the response configuration to "Always, "Never", or "Only on Error."

Responses from the HL7 interface are always in HL7 format. HL7 response can indicate any one of the following things:

- **Authentication error** - the HL7 user making the request is not allowed to because username and password are incorrect or account does not have permission to accept HL7.
- **Message parsing error** - the HL7 parser is unable to read the incoming message because it does not conform to HL7 standards.
- **Message content error** - PHC-Hub cannot accept the data because of missing or incorrect information (i.e., message does not indicate patient's last name).
- **Message processing exception** - PHC-Hub cannot process the message because of an unexpected problem.
- **Message accepted** - PHC-Hub has accepted the data and is either holding it for review or submitting it to the IIS for processing.
- **Response to query** - The IIS responds to query with query results.

TCP/IP Interface

PHC-Hub does support an incoming TCP/IP connection supporting the Minimum Lower Level Protocol defined by HL7; however, this interface is not secure and is normally not available beyond the local network that PHC-Hub is located on. If needed, PHC-Hub can be configured to listen on one or more ports for incoming data.

Local File Interface

PHC-Hub does support polling a local directory for files to upload. This functionality is only useful to the PHC-Hub operators as it can only examine directories on the server of which PHC-Hub is located on. This file interface cannot be used to read files from remote systems such as those located at immunization provider practices.

You may test this interface by entering the following field data into the *Realtime Interface* Test Form:

- **USERID** - type the HL7 Account username.
- **PASSWORD** - type the correct password.
- **FACILITY** - skip this field, leave it blank.
- **MESSAGEDATA** - paste the HL7 message, replace the test one that is already there.

After entering the above field data, click the **SUBMIT** button. The next page will include your result in plain HL7 format.

Chapter 4: Interface Specification - Message Format

PHC-Hub is built to accept messages in HL7 version 2 format, but supports alternate formats which follow the structure and business rules of immunization HL7 messages. PHC-Hub translates data from the message into an internal data structure that is modeled after the HL7 messages. Data from other formats, such as flat-file are translated to the internal data representation. Further processing on the data is performed on the internal model and is not HL7 specific.

Messages Accepted

PHC-Hub will accept the following HL7 messages:

Message	Description
VXU	Patient Vaccination Record Unsolicited
VXQ or QBP	Query for Patient Vaccination/Immunization History Record. Uses the data in QRF-5 to match record.
DFT^P03	Post Detail Financial
ADT	Admission/Discharge/Transfer
ORU	Unsolicited Observation Result

PHC-Hub may reply to a VXQ with one of the following HL7 messages:

Message	Description
VXX	Response to Vaccination Query returning multiple PID matches. Indicates several possible matches - No medical data returned.
VXR	Response to Vaccination Query returning the vaccination record.
QCK	Query General Acknowledgment - no matching records. Receiving registry was not able to match patient.
ACK	General Acknowledgment. Receiving registry was able to receive the message, but can indicate errors.

PHC-Hub may reply to a (v2.5.1) QBP with the following HL7 message(s):

Message	Description
RSP	Query Response with an RSP message is returned with a profile indicating that querying systems should utilize to determine If: • a high-confidence match was obtained, • one or more low-confidence matches are returned in a list, or • no results could be found for the patient vaccination record.

Messages Sent

PHC-Hub may send the following HL7 message(s):

Message	Description
VXU	Unsolicited vaccination record update

Patient Record (VXU, DFT, ADT)

The patient record update messages should only be sent to PHC-Hub when at least one of the following conditions applies:

- When the sending system's organization has just provided some type of service for the patient.
- When the patient's vaccination record has changed.
- When the sending system wishes to send patient records as part of an initial data load. This should be coordinated with registry staff to process this correctly without changing ownership.

The sending system should not send their entire patient population each time it wants to update the registry. This causes the registry to change the patient's medical home when it wrongly assumes that the sending entity has recently provided services for the patient.

Patient Identifiers

PHC-Hub looks in the Patient Identifier list (**PID-3**) field for two key patient IDs to identify a patient:

- The ID the remote application uses to uniquely identify the patient. This field is required.
- The ID that the IIS uses to identify the patient. Since most systems do not store this ID, it is not normally sent. This ID is optional.

By default when receiving the IIS's ID, it is labeled as "SR" for State Registry ID and the remote application's ID as "MR" for Medical Record Number. When sending, the IIS places the role of an external medical system and treats the other system as a state registry.

Patient Vaccination Record (VXU)

The **VXU** message contains one patient record (PID segment) and the patient's vaccination record. This is the preferred message for sending vaccination and patient records, even when a patient has no vaccinations. PHC-Hub sends and prefers to receive complete vaccination records, this way sending systems do not need to track which vaccinations the IIS has and does not have.

Post Detail Financial (DFT)

PHC-Hub supports the **DFT** message for billing systems that do not currently export VXU messages. The DFT message includes patient demographic data and services recently performed, which may include vaccinations.

Admit/Discharge/Transfer (ADT)

The **ADT** Message is normally used by hospitals to communicate patient demographic information to various internal systems. The ADT message contains no vaccination information. The following ADT trigger messages are accepted: A01, A02, A03, A04, A05, A06, A07, A08, A09, A10, A14, A15, A16, A28, and A31. Regardless of the trigger, these messages have the same effect; they add or update a patient record in the registry.

It is important to know that an **ADT** message is not required in order to register a patient in the registry. A **VXU** message without immunizations is sufficient. The ADT is accepted to allow hospital systems register patients using a standard ADT message. Senders may choose to send ADT or VXU messages in order to register patients.

Observation Result (ORU)

The **ORU** message is a generic lab reporting message that is used by labs to report on the status of lab work. PHC-Hub accepts lab messages for two different situations:

1. To receive lab data with lead test results.
2. To receive immunization data from the GE Centricity® EMR (Logician) via its LabLink interface in LinkLogic.

Query for Patient Vaccination Query (VXQ/QBP)

The **VXQ/QBP** includes patient demographic data used by a registry to query another registry for a patient's vaccination record. When the IIS receives a query, it tries to match the patient data sent with the patients in the registry and returns one of the following query responses:

Message	Description
VXR(RSP)	Query Response with Patient Vaccination Record
VXX(RSP)	Query Response with Multiple Matches
QCK	Query Acknowledgment (no match)
ACK	Acknowledgment (indicates error)

If the patient's Medical Record Number/State Registry ID, First Name, Last Name, and Birth Date match exactly one patient, the patient's complete vacation record is returned in a **VXR(RSP)** message; otherwise, the IIS tries to find as many patients that closely match the given demographic data. If one or more are found, then a **VXX(RSP)** message containing only patient demographic data is returned; otherwise, a **QCK** message is returned which indicates no matches found.

A negative **ACK** message is sent when an error prevents the completion of the request.

The standard for immunization messages does not allow the sender (the system originating the query) to specify how to do the patient query, but leaves it up to the receiving system to make that decision. Instead, the sender gives all known information about a particular patient and the receiving system must reply with exact or possible matches according to its own criteria.

PHC-Hub finds matches as follows:

1. Search for a match by patient ID. If a match is found, return this patient.
   - If the patient query is sent with an MPI ID, the patient is queried by this ID and a shot record is returned.
   - If the patient query is sent with the State Registry ID, the patient is queried by this ID and if found, a complete record is returned.
   - If the patient query is sent with the sender's Medical Record Number, the patient is queried by this ID and if found, a complete record is returned.
2. If no match was found above in Step One, then the patient data is used to perform the "Advanced Search" which is a standard algorithm used by the main deduplication process to find exact and possible matches. The following fields are considered by the Advanced Search:
   - Patient Last, First, Middle Name
   - Patient Birth Date
   - Patient SSN - Patient Medicaid Number
   - Patient Birth Number
   - Guardian First Name - Guardian SSN - Mother's Maiden Name
   - Patient Address - Patient Phone
3. If no matches are found, the interface may be configured to run additional searches such as "first initial, last name, birth date" searches; however, only a few of these additional searches are normally configured since the "Advanced Search" is the best option. PHC-Hub allows the administrator to configure each interface to have any set of optional queries included.
4. Once the matching has completed, the following applies:
   - If one exact match is found, this is returned in a VXR(RSP) message, which will include patient demographics and all immunizations.

- If one or more matches is found, but some matches are possible, then a VXX(RSP) message is returned, which only includes the patient demographics for the possible matches.
- If no match is found, then a **QCK** message is returned, to acknowledge the query and report that no matches were found.
    - The original CDC document specified that when there is one patient record match, the **VXR(RSP)** is returned; and if there are two or more found, then a **VXX(RSP)** is returned. This description assumed that all single matches would be good matches. For situations where there is only one match and it is not a good match, the IIS returns a **VXX(RSP)**.

5. If the sending system gets a response that indicates a multiple match, it may display the demographic information and prompt the query user to choose one.
6. The sending system may then re-query with a message that includes the State Registry ID sent in the first response; thus, ensuring an exact match on the second query and a return of an immunization record.

Chapter 5: Interface Specification - VFC and Lot Tracking

Vaccines For Children (VFC) Tracking

IWeb and WIR can track VFC vaccinations administered and vaccine lot inventory for providers. The following information is required to support this functionality:

- Vaccine Lot Number
- Vaccine Manufacturer
- VFC Status (of patient at time of vaccine administration)
  - OR -
  Vaccine Publicly Supplied? (Yes or No)
- In IWeb - Facility/Clinic ID (if the Organization includes multiple Facility/Clinics)
- In WIR - Site ID (if the organization includes multiple sites)

VFC Status must be transmitted in an OBX segment. Here is an example of how this is sent:

```
OBX|1|CE|64994-7^VACCINE FUNDING PROGRAM ELIGIBILITY CATEGORY^LN|1|
VO2^MEDICAID^HL70064||||||F|||20150202|||VXC40^ELIGIBILITY CAPTURED AT
THE IMMUNIZATION LEVEL^CDCPHINVS
```

For the IWeb integration, the HL7 interface (profile) must be configured to "Update Registry Inventory" before submitting data. Currently configured lot numbers will be decremented if they match the incoming vaccine code exactly. If the lot number is sent with a typo or the VFC status is incorrect, then the correct lot number may not be decremented and no error message will be displayed. It is important to correctly configure the current lot numbers and to transmit the vaccines given without typos. In addition, since lot numbers may be tracked separately for each facility, the facility MUST be designated if lot numbers are defined by facility.

For the WIR integration, the parameter that turns vaccine lot decrementing on or off is in WIR as part of site maintenance. Although coded fields must also match exactly with WIR, the validation step (in WIR) will report errors.

Chapter 6: Interface Specification - HL7 Gateway

The HL7 Gateway is an optional adaptor that helps external systems connect to PHC-Hub. It is installed on the sender system (remote from PHC-Hub). It is not required in order to initiate a real-time interface but will enable systems who currently save data to local files or who use MLLP (HL7 Minimum Lower Level Protocol aka TCP/IP) to send data in a real-time fashion using the required HTTP-based transport protocol.

HL7 Gateway Behavior

When installed on a sending system, the HL7 Gateway listens for an incoming HL7 message and immediately forwards it to the PHC-Hub inbound interface servlet using the HTTP-based protocol. After processing the message, PHC-Hub responds with an acknowledgment message which the Gateway will forward back to the originating system over the original connection. If the Gateway encounters an error in this process, it immediately returns a negative acknowledgment message (NAK) back to the originating system.

For more information, please see the documentation distributed with the HL7 Gateway software.

Chapter 7: PHC-Hub Application Overview

Listed below is an overview of each application menu and options; however each menu will be completely described and illustrated in a separate chapter. For additional information, please refer to the chapter title associated with the menu option.

Main Menu

The Main Menu contains options to perform the following:

- Displays the "**Home**" page
- **Login** and **Logout** of the Application
- Set the **Application Settings** - this option needs to be setup before using any of the application elements. The applications settings option will not display if the link was hidden as described in Chapter 2: Installation.

Please refer to Chapter 8, PHC-Hub Main Menu for details.

Import Profiles Menu

All data is imported under a profile which defines the format and processing settings for the data for a specific interface. Every immunization provider has at least one import profile, and some providers may have multiple profiles for each system they integrate. Each profile has some basic attributes which are detailed in Chapter 9. After creating an import profile, additional menu options appear. The options are:

- **User Profile Link** - Provides an interface for assigning a default import profile when the profile ID is not supplied in the HTTPS Post parameters.
- **Create New Profile** - Allows creation of an Import Profile.
- **Select Import Profile** - Allows selection of an Import Profile.
- **Profile & Batches** - Shows a summary of the profile, displays the import batches log (a list of batches that have been created and imported previously), and a button to edit the profile, export the profile to XML, and print the import batches log.
- **Code Values** - Certain message data fields are expected to contain coded values, which are values that are defined by a standard code table. Examples of coded values include CVX code, provider ID, Physician ID, Anatomical Route, Race, etc. Code values are organized into tables.
- **Realtime Interface** - A simple web page for manually submitting one or more messages. It is also the same URL that is used for HTTPS Post submissions.
- **File Upload** - Allows for simple manual uploads. After uploading, select "View Batch File Processing Results" to see the response message. Processing is complete when the last line of the output indicates "Processing completed ...". Refreshing the page will show updated results. Once data is loaded, the batch results can be seen under Profile & Batches.

Please refer to Chapter 9, Import Profiles Menu for details.

Export Profiles Menu

For data to be exported out of the immunization registry, it is necessary to create an export profile. The export profile defines what data should be exported and how it should be formatted. Exports can be requested immediately or scheduled for a later date. Each profile has some common basic attributes which are detailed in Chapter 10. After creating an Export Profile, additional menu options appear. The options are:

- **Create New Profile** - Allows creation of an Export Profile.
- **Select Export Profile** - Allows selection of an Export Profile.
- **Profile & Batches** - Shows a summary of the profile, a button to edit the profile, and displays the export batches log (a list of batches that have been created and exported previously).
- **Code Values** - Shows the code values that have been exported by past exports. It allows for mapping to a user-defined value. In this way non-standard code sets can be specified for export.
- **Schedule for Later** - Allows a profile to be exported on a regular basis after a profile has been created.
- **Export Download** - Allows for custom downloading of data.

Please refer to Chapter 10, Export Profiles Menu for details.

Imports Menu

The Imports Menu contains utilities to help review data that has come into the system in general through HL7 interfaces.

- **Message Search** - Search for messages across providers, users, or import profiles by date and MRN.
- **Review Errors and Warnings** - Provides a simple interface for viewing errors and warnings received.

Please refer to the Chapter 11, Imports Menu for details.

Reports Menu

The Reports Menu allows you to create/generate reports as well as view scheduled reports.

- **Stock Reports -** There are 6 reports that may be run now or can be scheduled.
- **Custom Reports -** A tool to monitor providers' data imports. It allows an administrator to easily monitor whether or not an interface is meeting certain expectations (e.g. minimum number of messages, maximum number of errors, etc)
- **Show Scheduled Reports -** Displays a list of reports that have been scheduled and their current status.

- **Show Report Tasks -** Displays a list of the Trial Patient Deduplication Report and Trial Lot Matching Report that have been scheduled.

Please refer to the Chapter 12, Reports Menu for details.

Test Menu

The test area provides a sand box for HL7 developers to validate the format and content of HL7 messages. There are two windows for HL7 testing. The first is when the HL7 interface is created, and the second is when a provider starts to send data. This testing area has been designed for the first test window.
The Test Menu offers the following options:

- **Message Constructor -** Allows a user to build a message of a particular type.
- **Quick View -** The most widely used tool, takes a pasted HL7 message and breaks it into its constituent segments and fields.
- **Request Debug -** Allows a test message to be processed through the STC HL7 API and displays the grammar and validation checks performed in line with comments from the documentation.
- **Transaction Handlers -** Provides a view of the HL7 message structure which is similar to the Request Debug except there is no test data to compare to.
- **Code Tables -** Displays the internal code table of the STC HL7 API that reflect the standard code values as defined by HL7 and the CDC.

Please refer to Chapter 13, Test Menu for details.

Actions Menu

Actions are steps that need to be taken to move projects forward. This area allows quick links to help project members to keep on top of tasks:

- **Due Today:** Action items that are scheduled to be started, reviewed, expected, or completed today.
- **Over Due:** Action items that should have been completed, but have not yet been addressed.
- **Pending:** Action items that will need to be completed at a later date.
- **Complete:** Actions that were completed in the past.

Please refer to Chapter 14, Actions Menu for details.

Projects Menu

A "project" represents all the steps needed to take a provider live. This includes initial discovery steps all the way up to installing and maintaining the provider relationship with the registry. Keeping track of projects is the single most important activity to speed up the implementation of interfaces. All interface projects should be tracked using the "Projects Menu." Typically there is one project for each interface or provider. The actual division of activities into projects depends on how the efforts are organized.

The Projects Menu offers the following options:

- **New Project** - Where a new project is created to keep track of the provider information.
- **Select Project** - To select a project to work with.
- **Project Details -** To view the project details.
- **Project Tracker Report -** This report will display information in a PDF file for a specified date range regarding activities and status of projects.

Please refer to Chapter 15, Projects Menu for details.

Contacts Menu

Contacts are people you need to work with in order to complete a project. Keeping track of project contacts is crucial to success in integration projects.

The Contacts Menu offers the following options:

- **New Contact -** Provides the data fields for entering a New Contact.
- **View Contacts -** Displays a list of Project Contacts.

Please refer to Chapter 16, Contacts Menu for details.

Phases Menu

Phases represent how close a project is to completion. Phases include concepts like "Discovery" or "Training" and all refer to the overall status of a project. Projects are organized into phases that describe where the project is at in the interface process.

Please refer to Chapter 17, Phases Menu for details.

Answers Menu

The Answers Menu provides the PHC-Hub User Guide which describes the PHC-Hub Application.

Organizing Interface Projects

The Project Tracker is made up of the following PHC-Hub (menus) elements:

- Projects
- Contacts
- Actions
- Phases

In order to begin using Project Tracker effectively, you must perform these tasks:

1. Create a New Project (using the Projects Menu).
    - A separate project is created for each provider or clinic you are working with to bring them online with the state registry.

2. Create a New Contact (using the Contacts Menu).
   - Assign a contact for the project (using the Contacts-View Contacts option).
3. Enter an Action for the Project (using the Project Menu - Details - Log Action section).
   - To mark an action as complete, check the checkbox.
   - To enter a new action, type it in the "Action Taken" section" and/or the "Next Action" section.
4. View the number of Projects per Phase (using the Phases Menu.)

Chapter 8: PHC-Hub Main Menu

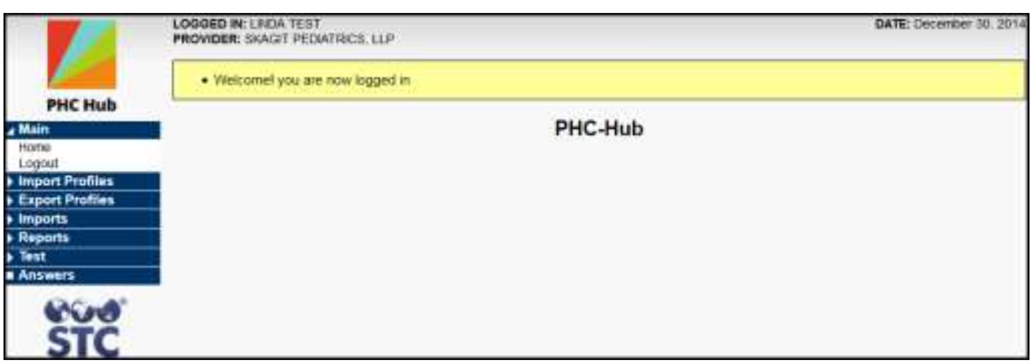
Home

The "Home" page displays the starting point. Once you start the PHC-Hub application, this is the screen you see.

Login/Logout

To Login to the application, perform the following:

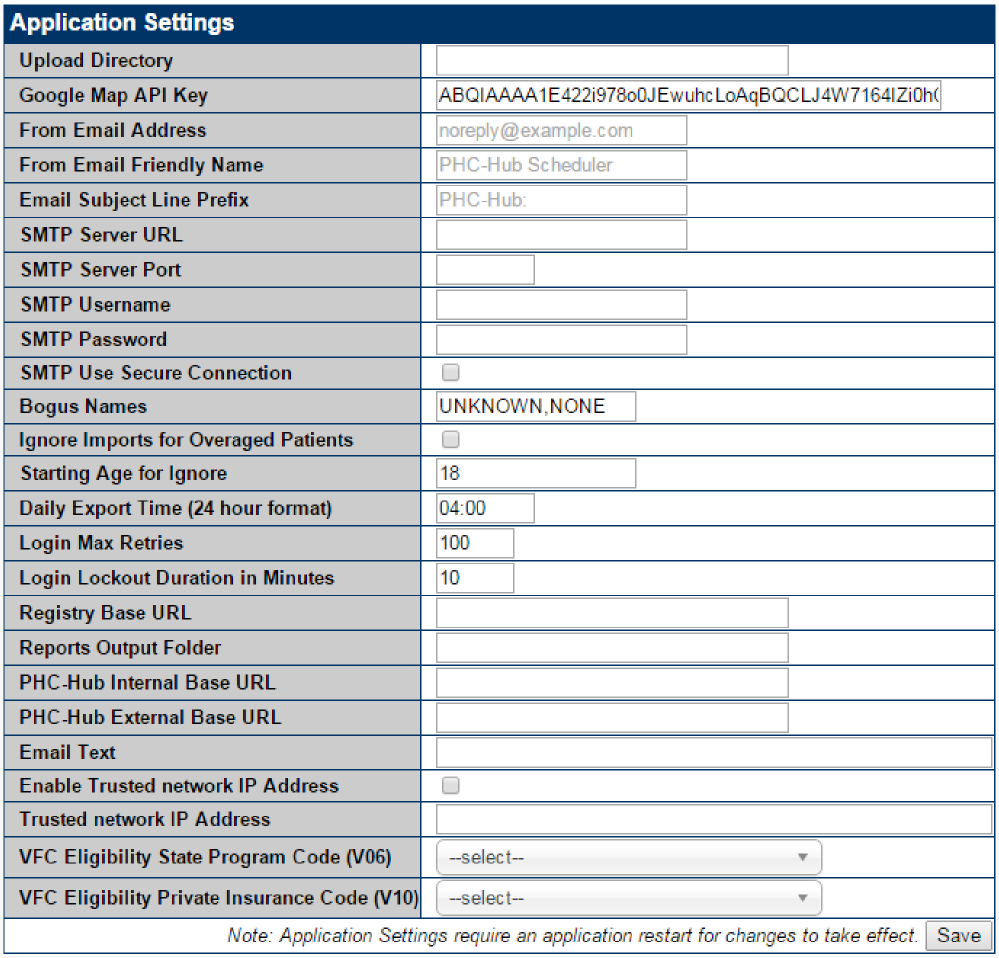
1. Click the **PROVIDER** drop-down and select the provider; press the **TAB** key.
2. Type your **USER ID** and press the **TAB** key.
3. Type your **PASSWORD** and click the **LOGIN** button. The "Login" option switches to "Logout" and the "Welcome" page appears.
    - **Note**: If you type a correct User ID and Password, but a non-matching Provider, an error message displays, "Unable to login, please select correct provider." If you type an incorrect username or password, but select a matching provider, an error message displays, "We are sorry, the username and password you entered were not recognized." Make the necessary corrections and continue to the next step.
4. Once the "Welcome" page appears, you can select the next menu/option.



To Logout, click the **LOGOUT** option. The "Home" reappears.

App Settings

The **APP SETTINGS** affect the PHC-Hub application and need to be setup prior to using the other application elements. The applications settings option will not display if the link was hidden as described in Chapter 2: Installation.



The fields are described in the table below.

Field	Description
Upload Directory	The local file directory where manually uploaded files should temporarily save while being processed. When the user uploads a file it is saved here, processed, and then deleted.
Google Map API Key	The project portion of the application allows the user to see a map of where a contact is, if the geocode has been defined. This requires a Google obtained key to enable.

Field	Description
From Email Address	This is the email where detailed debug information should be sent. Required for scheduled reports to run and email.
From Email Friendly Name	User friendly name used to identify who the email is from.
Email Subject Line Prefix	The subject line of email will begin with this.
SMTP Server URL	The SMTP server to connect in order to send the email. Required for scheduled reports to run and email.
SMTP Server Port	Optional. Port 25 is assumed if this setting is left blank.
SMTP Username	Optional. If a username is given then SMTP password based authentication will be used when communicating with the SMTP server.
SMTP Password	The password that goes along with the SMTP Username above. This setting is ignored if SMTP Username is blank.
SMTP Use Secure Connection	Forces SMTP to use a secure connection.
Bogus Names	Names that are considered to be invalid for all import interfaces. How these invalid names are handled is profile specific.
Ignore Imports for Over Aged Patients	Enables ignoring patients over a certain age.
Starting Age for Ignore	Patients at this age or older will be ignored (not imported) if the option "Ignore Imports for Over Aged Patients" is checked.
Daily Export Time (24 hour format)	The time of day when the daily exports should be scheduled to start.
Login Max Retries	The number of times a user can attempt to login before the account is locked. This value is independent of the value set in IWeb but is only active for IWeb integration. The value is maintained in WIR for WIR integration.
Login Lockout Duration in Minutes	The amount of time until the user can attempt a login after becoming locked out. This value is independent of the value set in IWeb but is only active for IWeb integration. The value is maintained in WIR for WIR integration.
Registry Base URL	The internal URL of the IIS (from the PHC-Hub server itself). This must be set in order to enable certain functions (which differ between IWeb and WIR integration).

Field	Description
Reports Output Folder	Location and name of the reports storage folder.
PHC-Hub Internal Base URL	Fully qualified URL including context path (e.g. http://192.168.56.1:8080/phchub) which is accessible from the server PHC-Hub is running on (not necessarily the URL that users would type into their browser). Required for scheduled reports to run and email.
PHC-Hub External Base URL	Optional. Fully qualified URL including context path (e.g. https://example.com/phchub) that users would type into their browsers. This setting is currently only used by the web services to set the soap address location attribute. Normally the location is figured out automatically by the incoming HTTP request, but that can fail when a proxy server (usually IIS or Apache) is running in between the user and the servlet container (Tomcat or Weblogic). So if the WSDL gives an invalid location normally use this setting to override it.
Email Text	Default text of the Email content.
Enable Trusted Network IP Address	Enables whether or not the Network IP Address is a trusted source. If the checkbox is checked, it indicates the Network IP Address is a trusted source; unchecked indicates it is not trusted.
Trusted Network IP Address	This field works with the "Enable Trusted Network IP Address" field and is the actual Network IP Address.
VFC Eligibility State Program Code (V06)	IWeb only. Maps V06 to the appropriate internal IIS eligibility code. Note that the code mapped here, not V06, will display in the code table received values.
VFC Eligibility Private Insurance Code (V10)	IWeb only. Maps V10 to the appropriate internal IIS eligibility code. Note that the code mapped here, not V10, will display in the code table received values.

Chapter 9: Import Profiles Menu

Import Profiles Menu

All data is imported under a profile which defines the format and processing settings for the data for a specific interface. Every immunization provider has at least one import profile, and some providers may have multiple profiles for each system they integrate. Each profile has some common basic attributes:

- **Name:** The display name for the interface. This is the name that is displayed for interface users and reporting.
- **ID:** Each profile extends from and inherits settings from a parent profile. Any profile may be configured to be a template and thus, become the starting position for new profiles.
- **Type:** Defines the basic structure of the data, for example: HL7.
- **Status:** Enabled (receives data) and Disabled (does not receive data)

To receive data, the import profile must first be created, configured, and enabled. Import profiles may be exported as XML. This allows the settings to be saved externally and transferred to a new system. This may be used when moving from test to production with an interface.

User Profile Link

The **USER PROFILE LINK** provides an interface for assigning a default import profile when the import profile ID is not supplied in the HTTPS Post parameters. The selection of import profile used is determined as follows:

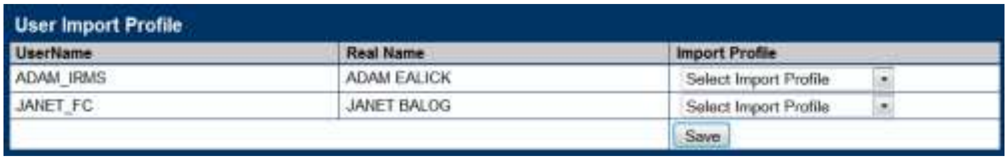
- If an import profile ID is supplied in the POST it will trump all other configurations.
- If no import profile ID is supplied in the POST but a user profile link exists for that user, the mapped import profile ID will be used.
- If no import profile ID is supplied in the POST and there is no user profile link that exists for that user:
    - If the user is associated with an organization and that organization has at least one import profile defined for it, the first one that was defined for the organization, and it currently enabled, will be used.

In summary, the default organization import profile is the first import profile defined for that organization. The default user import profile is either:

- The mapped import profile, or
- The enabled organization default import profile as a last resort.

To link an organizational user to a import profile name, perform the following:

1. Click the **USER PROFILE LINK** option. The "User Import Profile" screen appears.



User Import Profile

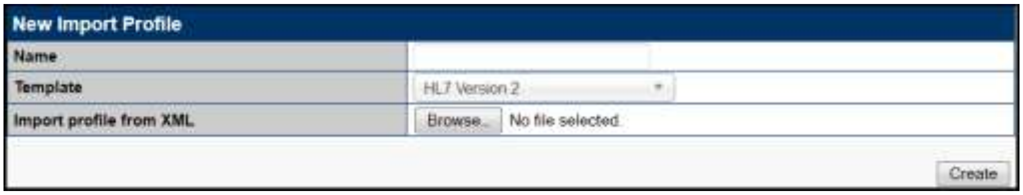
UserName	Real Name	Import Profile
ADAM_IRMS	ADAM EALICK	Select Import Profile
JANET_FC	JANET BALOG	Select Import Profile
		Save

2. The UserName and Real Name are organizational users created in IWeb and display upon entry for the selected organization.
3. In the **IMPORT PROFILE** field, click the drop-down menu arrow to view and then select an import profile.
4. Click the **SAVE** button. A confirmation message appears at the top of the window indicating, "User Import Profile Map Successfully Saved."

Create New Profile

To create a new import profile, perform the following:

1. Click the **CREATE NEW PROFILE** option. The "New Import Profile" screen appears.



New Import Profile

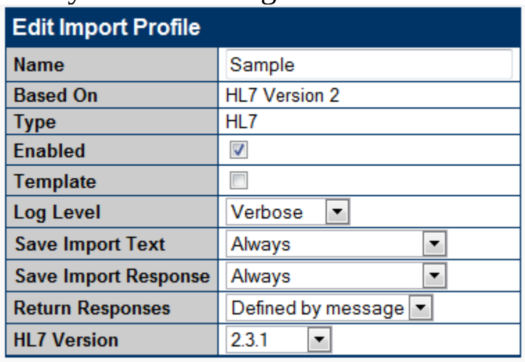
Name	
Template	HL7 Version 2
Import profile from XML	Browse... No file selected.
	Create

2. Type a **NAME** (usually a name to match the sending system data) and press the **TAB** key.
3. Click one of the buttons:
   - The **TEMPLATE** drop-down menu arrow to select an existing import profile as a template (normally HL7 Version 2), or
   - The **BROWSE** button (on the Import Profile from XML row) to select a previously exported import profile in XML format.
4. Click the **CREATE** button. The "Edit Import Profile" screen appears with several sections. Each screen section will be described below. Once an import profile has been created, more menu options appear. The menu options are:
   - **Select Import Profile:** Switch to a different import profile. Used when there are one or more profiles created.
   - **Profile & Batches:** Shows a summary of the profile, a button to edit the file, and a list of batches that have been created and imported previously. To see more details on the batches, click the line for the import batch.
   - **Code Values:** The code values show the values that have been imported by past imports. While the export interface allows for mapping to a user-defined value, this interface allows mapping only to a standard code set.

- **Realtime Interface:** View realtime interface.
- **File Upload:** Manually upload import data for immediate processing.

General Settings

The first section is titled, "Edit Import Profile." It contains the General Settings that were initially entered during creation.



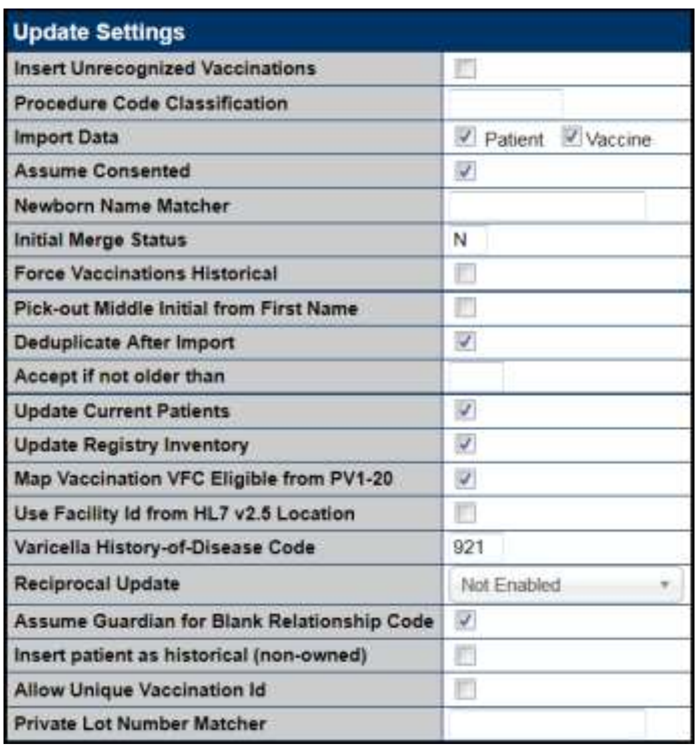
The fields are described in the table below:

Field	Description
Name	This is the human readable description for this import profile. Often this is named to match the system that will be sending the data. Pick a short name that will make sense to the registry and provider staff. This field is limited to a 50 character maximum name.
Based On	Lists the name of the import profile that this one extends from. All settings on this parent import profile flow by default into this one. This was decided at the time of the import profile creation and cannot be modified at this point.
Type	All import profiles have a basic type. This controls how the data is parsed and handled. This was decided at the time of import profile creation and cannot be modified at this point.
Enabled	Indicates that this import profile can receive data. If not enabled, then the incoming connection will not be accepted for this import profile.
Template	Indicates that this import profile can be extended and become a parent to other import profiles. Normally most import profiles are not templates; however, if this is marked as a template, it will be listed as a import profile that can be extended from when creating new import profiles. **Note**: When a template is edited, it is cascading meaning any changes to a template will affect existing interfaces derived from it, EXCLUDING changes to settings that have been modified on the derived interface. If you ever need to see how an import profile differs from its template, you can go to the "Differences vs Template" tab on the import profile configuration screen.

Field	Description
Log Level	The level of messages that should be saved for each message imported. The recommended value is, Verbose. • Verbose - All issue messages should be saved. (Recommended) • Information - All informational, warning, and error issue messages are saved. • Warning - All warning and error issue messages are saved. • Error - Error issue messages are saved. • None - No messages are saved.
Save Import Text	Indicates that the original message should be saved. The recommended value is, Always. • Never - Original message is not stored. • Only when errors occur - Original message is only stored when the message is rejected (erred). • Always - Original message is always stored. (Recommended)
Save Import Response	Indicates that the original response to the message should be saved. The recommended value is, Always. • Never - Original response to the message is not stored. • Only when errors occur - Original response to the message is only stored when the message is rejected (erred). • Always - Original response to the message is always stored. (Recommended)
Return Responses	Indicates whether a response will be returned for a message. Since most messages result in an "Acknowledgment Message" being returned, this option determines whether acknowledgments are returned or not. The default action is determined by the value of MSH-16 in each message. This can be overridden here, in which case it will apply to all messages received regardless of the value in MSH-16. If MSH-16 does not specify an action, then the message is always responded to. • Defined by Incoming Message - Look at value in MSH-16 to determine action taken. If blank or some other value, it will be treated as "Always Acknowledge." • Always Acknowledge - Always send back response messages. • Never Acknowledge - Never send back response messages. • Only for Errors - Only send back responses when an error has occurred. This option is particularly important to set properly when "Reciprocal Batch" update is enabled. Sending systems who expect to get a batch update back may not want to see any responses back. Turning off the responses here will stop that from happening.
HL7 Version	Allows you to set the outgoing version of the message to match the incoming message version if it is a valid version and has not been configured for override.

	Recognized HL7 Versions are as follows : • 2.3.1 - for VXQ (a query for immunization history) and VXU messages and a VXR/VXX/QAK message will be returned based on the outcome of the query. • 2.4 • 2.5.1 - for QBP messages, an RSP message will be returned with a profile indicating that querying systems should utilize to determine whether a high-confidence match was obtained, one or more low-confidence matches are returned in a list, or that no results could be found. **Note**: To return a logical version based on the incoming message type and version, leave this field unspecified. Any other versions received will result in the system returning a logical value based on the message type (2.3.1 for VXQ and VXU messages, and 2.5.1 for QBP messages), unless overridden by the new HL7 Version configuration option in the Import Profile Edit page described above.

Update Settings



Update Settings	
Insert Unrecognized Vaccinations	☐
Procedure Code Classification	
Import Data	☑ Patient ☑ Vaccine
Assume Consented	☑
Newborn Name Matcher	
Initial Merge Status	N
Force Vaccinations Historical	☐
Pick-out Middle Initial from First Name	☐
Deduplicate After Import	☑
Accept if not older than	
Update Current Patients	☑
Update Registry Inventory	☑
Map Vaccination VFC Eligible from PV1-20	☑
Use Facility Id from HL7 v2.5 Location	☐
Varicella History-of-Disease Code	921
Reciprocal Update	Not Enabled
Assume Guardian for Blank Relationship Code	☑
Insert patient as historical (non-owned)	☐
Allow Unique Vaccination Id	☐
Private Lot Number Matcher	

The fields are described in the table below:

Field	Description
Insert Unrecognized Vaccinations	Determines if an unrecognized vaccination should be inserted into the registry.
Procedure Code Classification	This option is unlikely to be used. It allows support for DFT messages to identify immunization procedures.
Import Data	To ensure patient and vaccination data are imported into the registry, both options have to be checked. If neither box is checked, the message will import, but the patient and vaccination information will not be imported into the registry.
Assume Consented	This option is to be used with registries that require consent before accepting data. Selecting this option will set incoming messages as consented unless otherwise indicated. This field should normally not be set.
Newborn Name Matcher	A regular expression that matches names that are placeholder names that the sender uses for newborn babies who have not been named. If a value is placed here and it matches, then the first name will be changed to "Newborn." This helps to standardize newborn names.
Initial Merge Status	This option is not applicable to IWeb installations. It is used in WIR integrated systems to set the value of the Initial Merge Status column in the hl7cp_stage_patient table. Rows containing this value have not completed the 2nd phase of processing by the WIR ADIM process.
Force Vaccinations Historical	Vaccinations can be marked as historical or administered. Some systems do not properly do so. This option forces all vaccinations to be imported as historical.
Pick-out Middle Initial from First Name	Some systems enter the middle initial as part of the first name, for example: Doe, John A. This option will assume that a single letter at the end of the name is actually the patient's middle initial and move it to the middle name field if the middle name field is empty.
Deduplicate after import	Indicates whether or not incoming data should automatically be deduplicated. All incoming data is eventually deduplicated, but this normally happens in the evening after business hours. Checking this box will request that deduplication be performed after the incoming data is received. (IWeb only). Deduplication is controlled by WIR for a WIR implementation. **Note:** This will not function properly unless the connection to IWeb has been successfully configured according to Chapter 2, Configuring PHC-Hub Link to IWeb.

Field	Description
Accept if not older than	If patients older than a certain age (for example 18) are NOT to be accepted and the sending system sends them, this option may be used to ask PHC-Hub to reject/ignore patient records that are too old. To enable this feature, enter a cutoff age (in years) that is greater than 0. For example, if the value of 18 is used, then all patients 19 years of age and older will not be accepted and all patients 0 through 18 will be accepted.
Update current patients	By default this is checked and patient demographics are always updated. If not checked, the interface checks first to see if a patient with the same MRN, has already been submitted by this provider. If so the patient update is skipped. Vaccinations included with the message will be added to the record. Use this option when old information is to be uploaded and the current demographics are already in IWeb for some or all patients. This option will keep the current patient records from being overwritten.
Update registry inventory	This flag triggers the inventory tracking system to decrement the appropriate lot inventory. See Chapter 5, VFC and Lot Tracking.
Map Vaccination VFC Eligible from Patient Reserve	This option indicates that IWeb should look at the patient record to determine the VFC status of the vaccination that is to be decremented in inventory.
Use Facility ID from HL7 v2.5 Location	This option forces the usage of the HL7 v2.5.1 location for Facility Id (RXA-11.4 as opposed to RXA-11.1). **Note**: Submitting a message with both RXA-11.1 and RXA-11.4 populated while this configuration is enabled results in the value in RXA-11.1 being ignored and the Facility Id being pulled from RXA-11.4 instead.
Varicella history-of-disease code	A parent report of Varicella can be recorded as a contraindication. An EHR system that is unable to record or send a contraindication can record a custom code. Any immunization with this code is saved as a contraindication instead of an immunization. (IWeb integration only)
Reciprocal Update	If an export profile has been defined for this provider then it will appear in this drop-down menu. Selecting this export profile here will indicate that before processing the incoming data, the export interface should be reviewed first and any data that has been exported previously should send back on the same open connection. This mirrors the reciprocal batch update process that IWeb previously supported. The major difference is that the export interface creates the export file on a scheduled or manual basis. This removes the issues that occurred when large exports could not be downloaded in a timely manner. (supported in both IWeb and WIR integrations)

Field	Description
Assume Guardian for blank relationship code	If checked, the next of kin name sent in NK1-2 will import as the guardian if the guardian relationship code in NK1-3 is blank. When unchecked, the next of kin name sent in NK1-2 will not import as the guardian if the guardian relationship code in NK1-3 is blank.
Insert patient as historical (non-owned)	Marks patient information as historical or non-owned. This option will keep ownership from changing because of this update. This option is useful when loading data for non-owning entities (such as mobile shot clinics) or when loading initial data dumps which include many patients that are no longer seen. Another Example: When bringing a new provider on board and he has seven years of legacy data, we would not want the data to overwrite the registry data by changing the vaccination owner.
Allow Unique Vaccination ID	If the EHR system generates a unique vaccination ID, the Iis extracts and utilizes the ID in the deduplication process to more efficiently update/delete records and is stored for later use.
Private Lot Number Matcher	With an HL7 Interface, this setting allows mapping for the differentiation of VFC vaccine from privately purchased vaccine. On the provider side an identifier needs to be added to the end of each lot number for private lots. The new configuration will allow this to be mapped to private inventory supplies. This identifier is a free-entry text field. • This is a statewide setting and should be sufficiently unique, such as 'PRIV' so that this string would not appear as part of a manufacturer issued lot number. • If there is a value in this field and it matches the incoming lot number, this lot number will be designated as private. This will allow for matching with lot numbers that end with the letters 'PRIV'. Thus if the provider ends lot numbers with the letters 'PRIV' the HL7 interface will be able to recognize the lot as private.

Issue Resolution

Issue Resolution Settings are not available for selection until after the import profile has been created and saved once.

Once a message is parsed, it is reviewed for potential data quality issues. Not every issue listed here (partially shown below) is necessarily a data quality issue; instead these issues should be reviewed for each interface and a determination made about how each issue should be handled. Each tab's fields are described in the linked STC Implementation Guide for HL7 2.5.1.

Each issue can be marked with one of these settings to determine "how" you want to handle the issue:

- **Ignore** - Don't pay attention to this issue. Represented by a green check mark.
- **Warn** - Log a message for later review. Represented by a yellow caution sign.
- **Error** - Log a message for later review and do not allow the message to be accepted or processed. Represented by a red stop sign.

There is some information that a provider may collect about a patient or about a vaccination procedure that, although allowed by the HL7 messaging standard, may not be desirable for collection by an immunization program. A likely scenario involves the transmission of a patient's Social Security Number (SSN) as part of an HL7 message. A provider's EMR system may send the SSN by default. If the immunization program specifically does not want to receive the SSN, this field can be configured that will prevent its acceptance.

These issues can be marked with one of these options that will coincide with the issue's setting:

- **Missing** - If a certain issue is "missing" information, the issue will be handled based on the setting (Ignore, Warn, or Error). **Note**: If a component of a segment is flagged to error if missing, and the segment is not included in the message, it will NOT error.
- **Unwanted** - If a certain issue is "unwanted" information, the issue will be handled based on the setting (Ignore, Warn, or Error). **Note**: If you hover the mouse on top of the radio buttons, a tool tip box appears displaying the row you

are on and the specific resolution. Click the appropriate radio button depending on what action you want to take for the particular segment. The row will be highlighted representing your choice: Ignore (Gray), Warn (Yellow), or Error (Red).

1. **ALL TAB**

Contains all of the segments included in the Patient, Vaccination, Next of Kin, Guardian, Contraindication, Insurance, and Difference vs. Template Tabs.

Note: The code tables that are referenced in the tables below are listed in PHC-Hub > Test > Code Tables.

2. **PATIENT TAB**

Issue Resolution Name	Code Table	HL7 Field	Description
Patient Date of Birth		PID-7	Currently accepts format: YYYYMMDD
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is in the future			Raised if a future date from the sent date is received.
Patient Sex	HL70001	PID-8	Only codes recognized: M - Male; F - Female.
is missing			Raised when value is missing.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Patient First Name		PID-5.2	

is invalid			Considered invalid if
			• Contains characters besides A-Z, a-z, single quote, dash, period, and space
			• Is one of the following values:
			  ○ test
			  ○ name
			  ○ testname

			○ noname ○ new ○ old ○ fake
Issue Resolution Name	**Code Table**	**HL7 Field**	**Description**
is truncated			A truncated name is any name greater than 48 characters in length. Anything more will not fit into the database column, which is why this issue resolution exists.
Patient Last Name		PID-5.1	
is invalid			Considered invalid if • Contains characters besides A-Z, a-z, single quote, dash, period, and space • Is one of the following values: ○ test ○ name ○ testname ○ noname ○ new ○ old ○ fake
is possibly a test-name			Raised if the value sent could be a test name.
Patient Middle Name		PID-5.3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if • Contains characters besides A-Z, a-z, single quote, dash, period, and space • Is one of the following values: ○ test ○ name ○ testname ○ noname ○ new ○ old ○ fake

Issue Resolution Name	Code Table	HL7 Field	Description
Patient Mother's Maiden Name		PID-6	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Patient Address Street		PID-11.1	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if one of these values: • Anywhere • Nowhere • Address • Address 1 • Address 2
Patient Address Street 2		PID-11.2	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if one of these values: • Anywhere • Nowhere • Address • Address 1 • Address 2
Patient Address City		PID-11.3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Patient Address Country		PID-11.6	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	Code Table	HL7 Field	Description
is invalid			The code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Patient Address County		PID-11.9	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Patient Address State	STATES	PID-11.4	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Patient Address Zip		PID-11.5	Acceptable format: NNNNN and NNNNN-NNNN
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if: • Not 5 or 10 characters in length • If "-" not in proper position • Alphanumeric • Not a US zip code
Patient Alias		PID-9	
is missing			Raised when value is missing.

Issue Resolution Name	Code Table	HL7 Field	Description

is invalid			Considered invalid if
			• Contains characters besides A-Z, a-z, single quote, dash, period, and space
			• Is one of the following values:
			  ○ test
			  ○ name
			  ○ testname
			  ○ noname
			  ○ new
			  ○ old
			  ○ fake

Patient Alias First Name		PID-9.2	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

is invalid			Considered invalid if
			• Contains characters besides A-Z, a-z, single quote, dash, period, and space
			• Is one of the following values:
			  ○ test
			  ○ name
			  ○ testname
			  ○ noname
			  ○ new
			  ○ old
			  ○ fake

Patient Alias Last Name		PID-9.1	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	Code Table	HL7 Field	Description
is invalid			Considered invalid if: • Contains characters besides A-Z, a-z, single quote, dash, period, and space • Is one of the following values: ○ test ○ name ○ testname ○ noname ○ new ○ old ○ fake
Patient Alias Middle Name		PID-9.3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if • Contains characters besides A-Z, a-z, single quote, dash, period, and space • Is one of the following values: ○ test ○ name ○ testname ○ noname ○ new ○ old ○ fake
Patient Death Date		PID-29	Acceptable format: YYYYMMDD
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is in the future			Raised if a future date from the sent date.

Issue Resolution Name	Code Table	HL7 Field	Description
is before the vaccination date			Raised if before the vaccination date.
is before the patient's date of birth			Raised if before the patient's date of birth.
Patient Medicaid Number		PID-3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Not working at this time.
Patient SSN		PID-19	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

is invalid			Considered invalid if:
			• Characters other than 0-9
			• One of the following values:
			  ○ 987-65-4320
			  ○ 987-65-4321
			  ○ 123-45-6789

Patient Primary Language	HL70296	PID-15	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is deprecated			Not applicable at this time.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Patient Phone Number		PID-13	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	Code Table	HL7 Field	Description
is invalid			Considered invalid if in an improper format and cannot be parsed. This could be caused by a length other than 7 or 10 characters or an issue with parentheses.
Patient Primary Facility ID		PD1-3.3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Patient Primary Facility Name		PD1-3.1	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Patient Race	HL70005	PID-10	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Patient VFC Status		PV1-20	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.

Issue Resolution Name	Code Table	HL7 Field	Description
Patient Consent		PD1-12	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Not working at this time.

3. VACCINATION TAB

Note: For Historical Vaccinations only - The only Vaccination fields that the missing issues is raised for are CVX, CPT, vaccination date, and information source. All other vaccinations fields are considered "details" that aren't relevant for historical records.

Issue Resolution Name	Code Table	HL7 Field	Description
Vaccination Patient Vaccinations Quantity		RXA	
is missing			Raised when no vaccinations are in the message.
exceeds 10			Raised when a message contains more than 10 vaccinations given on a single day. More than 10 vaccinations records can be sent at the same time as long as 10 or fewer of them were actually given on the same date.
Vaccinations		RXA	
is historical; with same encounter submission date			Raised when an vaccination is historical but the administered date is the same as the submission date. (**NOT** raised for historical vaccinations)
is not recorded as a single vaccination event			Raised when the logic compares vaccination lot numbers, manufacturers, and dates. If all three values of any two or more match, it's assumed they should be part of a combo vaccination.
Vaccination Date		RXA-3	Currently accepts format: YYYYMMDD
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.

Issue Resolution Name	Code Table	HL7 Field	Description
is after the lot expiration date			Raised when the lot number expiration date is before the vaccination date.
was more than 30 days ago			Raised when the vaccination date is more than 30 days from the submission date.
is an ACIP schedule violation			Raised if a violation of the licensing criteria has occurred.
is after the patient's death date			Raised when the patient's death date is before the vaccination date.
is after the system entry date			Raised if a future date from the sent date.
is before the patient's date of birth			Raised when the patient's date of birth is after the vaccination date.
Vaccination ID		ORC-3	(**NO VALIDATIONS** raised for historical vaccinations)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is not unique			Raised if not a unique ID to any newly administered vaccinations.
Vaccination Action Code	HL70323	RXA-21	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Vaccination Administered Units		RXA-7	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Vaccination Administered Amount		RXA-6	
is missing			Raised when value is missing.

Issue Resolution Name	Code Table	HL7 Field	Description
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Vaccination CPT Code	CPT	RXA-5.4	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
CVX and CPT codes are inconsistent			Raised if the codes are not from the same vaccine group established by CDC.
Vaccination CVX Code	CVX	RXA-5.1	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
CVX and CPT codes are inconsistent			Raised if the codes are not from the same vaccine group established by CDC.
Vaccination Facility ID		RXA-11.1, 11.4	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized; on an administered vaccination			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.

Issue Resolution Name	Code Table	HL7 Field	Description
is unrecognized; on an historical vaccination			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
exceeds maximum length			Raised if exceeds 25 characters in length
Vaccination Information Source		RXA-9	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Vaccination VIS Publication Date		OBX	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is in the future			Raised if a future date from the sent date.
is after the vaccination date			Raised if after the vaccination date.
Vaccination VIS Barcode		OBX	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Not working at this time.
is unrecognized			Raised if not in the list PHC-Hub has on file (updated periodically from the posted CDC values).
Vaccination VIS Given Date		OBX	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	**Code Table**	**HL7 Field**	**Description**
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is in the future			Raised if a future date from the sent date.
Vaccination Lot		RXA-15	(**NO VALIDATIONS** raised for historical vaccinations)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised when one or more instances of the lot number exists in the IIS, but NONE of them are active.
is unrecognized			Raised if there is no active or inactive lot number in the IIS that matches.
does not match manufacturer code			If there is at least one lot number in the IIS with a matching lot number and the vaccine code indicated is in the same group as the vaccine code on one or more lot numbers in the IIS, the manufacturer code is checked for consistency among the lot numbers.
does not match funding source			If there is at least one lot number in the IIS with a matching lot number and the vaccine code indicated is in the same group as the vaccine code on one or more lot numbers in the IIS, the funding source code is checked for consistency among the lot numbers.
does not match expiration date			If there is at least one lot number in the IIS with a matching lot number and the vaccine code indicated is in the same group as the vaccine code on one or more lot numbers in the IIS, the expiration date is checked for consistency among the lot numbers.
does not match vaccine group			Raised if the value sent does not match the vaccine group.
Vaccination Lot Expiration date		RXA-16	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	Code Table	HL7 Field	Description
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is before the vaccination date			Raised if the value sent is before the vaccination date.
Vaccination Manufacturer		RXA-17	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Vaccination VFC Status		OBX	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Vaccination ID of Vaccinator		RXA-10	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Vaccination Route	HL70162	RXR-1	
is missing			Raised when value is missing.

Issue Resolution Name	Code Table	HL7 Field	Description
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Vaccination Anatomical Site	HL70163	RXR-2	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.

4. NEXT OF KIN TAB

Issue Resolution Name	Code Table	HL7 Field	Description
Next of Kin First Name		NK1-2.2	Names can contain 48 characters (alphabetic characters, hyphens, apostrophes, and spaces are all valid)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if • Contains characters besides A-Z, a-z, single quote, dash, period, and space • Is one of the following values: ○ test ○ name ○ testname ○ noname ○ new ○ old ○ fake

Issue Resolution Name	Code Table	HL7 Field	Description
Next of Kin Middle Name		NK1-2.3	Names can contain 48 characters (alphabetic characters, hyphens, apostrophes, and spaces are valid)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

is invalid			Considered invalid if
			• Contains characters besides A-Z, a-z, single quote, dash, period, and space
			• Is one of the following values:
			  ○ test
			  ○ name
			  ○ testname
			  ○ noname
			  ○ new
			  ○ old
			  ○ fake

Next of Kin Last Name		NK1-2.1	Names can contain 48 characters (alphabetic characters, hyphens, apostrophes, and spaces are all valid)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

is invalid			Considered invalid if
			• Contains characters besides A-Z, a-z, single quote, dash, period, and space
			• Is one of the following values:
			  ○ test
			  ○ name
			  ○ testname
			  ○ noname
			  ○ new
			  ○ old
			  ○ fake

Next of Kin Phone		NK1-5	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	Code Table	HL7 Field	Description
is invalid			Considered invalid if in an improper format and cannot be parsed. This could be caused by a length other than 7 or 10 characters or an issue with parentheses.
Next of Kin Business Phone		NK1-6	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if in an improper format and cannot be parsed. This could be caused by a length other than 7 or 10 characters or an issue with parentheses.
Next of Kin County		NK1-4.9	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Next of Kin Relationship	HL70063	NK1-3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Next of Kin SSN		NK1-33	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

is invalid			Considered invalid if:
			• Characters other than 0-9
			• One of the following values:
			  ○ 987-65-4320
			  ○ 987-65-4321
			  ○ 123-45-6789

5. GUARDIAN TAB

Missing guardian information is ignored if the patient is 19 or more years of age.

Issue Resolution Name	Code Table	HL7 Field	Description
Guardian First Name		NK1-2.2	Names can contain 48 characters (alphabetic characters, hyphens, apostrophes, and spaces are all valid)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

is invalid			Considered invalid if
			• Contains characters besides A-Z, a-z, single quote, dash, period, and space
			• Is one of the following values:
			  ○ test
			  ○ name
			  ○ testname
			  ○ noname
			  ○ new
			  ○ old
			  ○ fake

Guardian Middle Name		NK1-2.3	Names can contain 48 characters (alphabetic characters, hyphens, apostrophes, and spaces are all valid)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	Code Table	HL7 Field	Description
is invalid			Considered invalid if • Contains characters besides A-Z, a-z, single quote, dash, period, and space • Is one of the following values: ○ test ○ name ○ testname ○ noname ○ new ○ old ○ fake
Guardian Last Name		NK1-2.1	Names can contain 48 characters (alphabetic characters, hyphens, apostrophes, and spaces are all valid)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if • Contains characters besides A-Z, a-z, single quote, dash, period, and space • Is one of the following values: ○ test ○ name ○ testname ○ noname ○ new ○ old ○ fake
Guardian Phone		NK1-5	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if in an improper format and cannot be parsed. This could be caused by a length other than 7 or 10 characters or an issue with parentheses.

Issue Resolution Name	Code Table	HL7 Field	Description
Guardian Business Phone		NK1-6	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if in an improper format and cannot be parsed. This could be caused by a length other than 7 or 10 characters or an issue with parentheses.
Guardian Address Street		NK-4.1	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if one of these values: • Anywhere • Nowhere • Address • Address 1 • Address 2
Guardian Address Street2		NK1-4.1	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
Guardian Address City		NK1-4.3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Not working at this time.
Guardian Address State		NK1-4.4	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.

Issue Resolution Name	Code Table	HL7 Field	Description
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
Guardian SSN		NK1-33	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Considered invalid if: • Characters other than 0-9 • One of the following values: ○ 987-65-4320 ○ 987-65-4321 ○ 123-45-6789

6. CONTRAINDICATION TAB

Issue Resolution Name	Code Table	HL7 Field	Description
Contraindication Concept Code		OBX	OBX 30945-0, 59784-9
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.
Contraindication Observation Date		OBX-14	Names can contain 48 characters (alphabetic characters, hyphens, apostrophes, and spaces are all valid)
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is in the future			Raised if a future date from the sent date is received.

Issue Resolution Name	Code Table	HL7 Field	Description
is before the patient's date of birth			Raised when the patient's date of birth is after the observation date.
Contraindication Effective Date		OBX	OBX 30946-8
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is before the patient's date of birth			Raised when the patient's date of birth is after the effective date.
Contraindication Expiration Date		OBX	OBX 30944-3
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised when the incoming value is a date that cannot be parsed because it is not in a format that is understood. Checks length of date sent.
is before the patient's date of birth			Raised when the patient's date of birth is after the expiration date.

7. INSURANCE TAB

Issue Resolution Name	Code Table	HL7 Field	Description
Insurance Company		IN1-3	
is missing			Raised when value is missing.
is unwanted			Raised if the value is sent, but unwanted. Used when the State does not want to collect a field.
is invalid			Raised if the code is recognized, but it is either inactive or marked invalid in the Code Value table.
is unrecognized			Raised if the value sent is an unusual code value but can be mapped in the Code Value table.

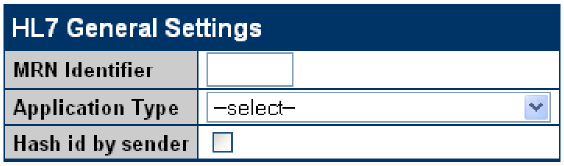
8. DIFFERENCES VS TEMPLATE TAB

The Differences vs. Template tab is based upon the differences between the profile and its immediate template parent. You can see which profile (template) this is by editing the profile and looking at the "Based On" field. If it says "HL7 version 2," then you will see the settings on which the profile differs from the "HL7 version 2" template.

9. HIDE ALL

This tab is used to collapse all the issue/Resolution fields from the display.

HL7 General Settings



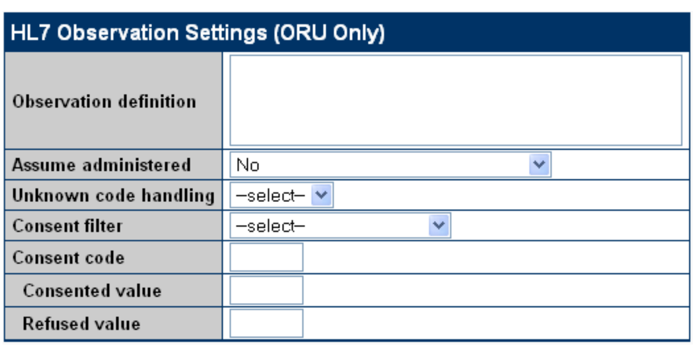
The fields are described in the table below:

Field	Description
MRN Identifier	The PID-3 field may include one or more IDs of which one should be the MRN. To differentiate between different IDs, each is given an identifier. Common identifiers include: • MR - Medical Record Number • PT - Patient Identifier • [blank] No identifier is sent • Other value Defined by sender Enter the correct identifier for the messages this account will receive.

Field	Description
Application Type	Indicate what kind of application will be sending data by clicking the drop-down menu: • CDC Standard Messages only include fields explicitly defined by CDC standard docs • McKesson DFT messages are formatted to newer standards • Misys DFT messages are formatted to older standards • QS-Insight messages standards are the same as the CDC Standard • STC-IWeb Includes support for IWeb-specific fields and data • STC-CDR
Hash ID by sender	This option is rarely used. Sending systems are required to submit unique MRNs. Some sending systems may collect data from different systems and send them in one account. This is not preferred but in these rare cases the MRN id can be "hashed" to make it unique. The sending facility (MSH-4) and sending application (MSH-3) are concatenated together and then hashed to generate a unique sequence of characters (the hash) and it is pre-pended to the MRN listed in the record using a colon. For instance, if the MRN provided for the patient was 975779 and the resulting hash was 3780937371, the registry will store the MRN as 3780937371:975779. This new id is then submitted to IWeb as the patient's MRN. This method insures that even if two entities within the data stream assign the same MRN, they will appear as different MRNs after they are hashed. **Note**: This option will make user searches by MRN in IWeb difficult as the MRN will not include a strange set of characters unique to the sending facility.

HL7 Observation Settings (ORU Only)

These settings support the GE Centricity® EHR product. There are older versions of GE Centricity® that don't support standard immunization messages. See Appendix B: Workaround for GE Centricity®.



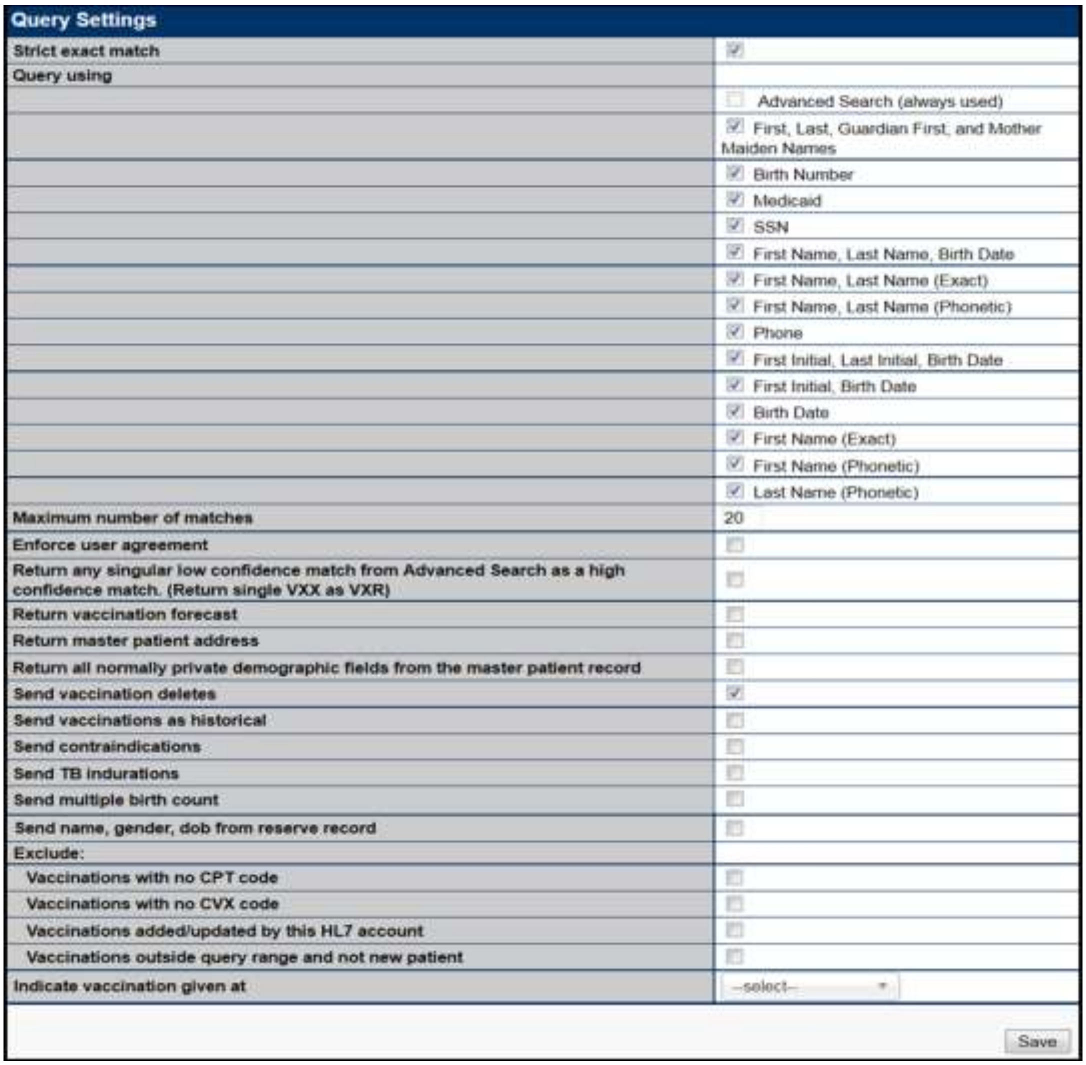
HL7 Observation Settings (ORU Only)	
Observation definition	
Assume administered	No
Unknown code handling	--select--
Consent filter	--select--
Consent code	
Consented value	
Refused value	

The fields are described in the table below:

Field	Description
Observation definition	Observation messages that contain vaccinations must have an XML mapping to define how the vaccinations are mapped into CPT codes. If this observation message contains lead lab data, leave this field blank.
Assume administered	Observation messages that contain vaccination data do not indicate whether a particular vaccination was administered or historical, but it does indicate when the vaccination was recorded in the sending system. This option allows for marking historical vaccinations that were given long before they were recorded; the assumption being that vaccinations given previous to the data entry date were not administered by this submitter. This option allows you to control this behavior. • Yes - Assume that all observations are administered regardless of the data entry date. • If recorded today - Assume administered only if recorded on the same day as it was given. • If recorded today or yesterday - Assume administered only if recorded on the same or next day as it was given. • If recorded today or in the last 2 days - Assume administered only if it was recorded within two days of being administered.
Unknown code handling	If an observation code is not recognized, it may be rejected or ignored (skipped). There are four options but three have the same behavior • Default, Always Add, Always Ignore - All indicate that the observation should be skipped and not processed. • Always Reject - Indicates that the unrecognized observation should cause the message to be rejected and an error be generated.
Consent filter	The consent filter is used by states that require consent before accepting data into the registry and can only be used for filtering observation messages. **Note**: This setting will only affect observation (ORU) messages and not other messages (e.g., VXUs, DFTs, or ADTs) even though they may have observation segments in them. • No filter - All messages are accepted. This value is appropriate for states that accept all records. • Assume consented, ignore non-consented - The sending system has marked the patients that have not consented to be in the registry. Skip updates for patients that explicitly indicate that they are not consented. • Assume non-consented, ignore consented - The sending system has marked the patients that have consented to be in the registry. Only accept those patients that explicitly indicate that they are consented.
Consent code	This is the observation code that the consent is recorded under. This code is defined by the sender and may differ from one system to the next.

Field	Description
Consented value	The value that indicates that the patient has consented. This value need only be set when the "Consent Filter" is set to assume non-consented, ignore consented.
Refused value	The value that indicates that the patient has refused. This value need only be set when the "Consent Filter" is set to assume consented, ignore non-consented.

Query Settings



Query Settings	
Strict exact match	☑
Query using	
	☐ Advanced Search (always used)
	☑ First, Last, Guardian First, and Mother Maiden Names
	☑ Birth Number
	☑ Medicaid
	☑ SSN
	☑ First Name, Last Name, Birth Date
	☑ First Name, Last Name (Exact)
	☑ First Name, Last Name (Phonetic)
	☑ Phone
	☑ First Initial, Last Initial, Birth Date
	☑ First Initial, Birth Date
	☑ Birth Date
	☑ First Name (Exact)
	☑ First Name (Phonetic)
	☑ Last Name (Phonetic)
Maximum number of matches	20
Enforce user agreement	☐
Return any singular low confidence match from Advanced Search as a high confidence match. (Return single VXX as VXR)	☐
Return vaccination forecast	☐
Return master patient address	☐
Return all normally private demographic fields from the master patient record	☐
Send vaccination deletes	☑
Send vaccinations as historical	☐
Send contraindications	☐
Send TB indurations	☐
Send multiple birth count	☐
Send name, gender, dob from reserve record	☐
Exclude:	
Vaccinations with no CPT code	☐
Vaccinations with no CVX code	☐
Vaccinations added/updated by this HL7 account	☐
Vaccinations outside query range and not new patient	☐
Indicate vaccination given at	--select--
	Save

The fields are described in the table below:

Field	Description
Strict exact match	Queries that contain a MRN or an IIS patient ID are first matched with a patient with the same ID. If this option is checked, then this match is returned as an exact match only if the first name, last name, and date of birth match; otherwise, this is returned as a possible match. If the querying system is IWeb, this may be left checked. For other systems this may need to be unchecked.
Query using	After querying by ID and finding no match, the advanced search is run. The advanced search uses the following fields to find a set of matches: first name, middle name, last name, date of birth, SSN, Medicaid number, birth number, guardian's first name, guardian's last name, guardian's social security number, mother's maiden name, address street, city, state, zip, and phone. This is the same search that is run in IWeb before adding a new patient record. If an exact match is returned, then the query process stops and this match is returned; otherwise these additional queries may be run: • First, Last, Guardian First, and Mother Maiden Names • Birth Number • Medicaid • SSN • First Name, Last Name, Birth Date • First Name, Last Name (Exact) • First Name, Last Name (Phonetic) • Phone • First Initial, Last Initial, Birth Date • First Initial, Birth Date • Birth Date • First Name (Exact) • First Name (Phonetic) • Last Name (Phonetic) Each of these queries is run sequentially and as matches are found, they are added to the list. The querying stops when either all queries have been run or the maximum number of matches has been reached. Selecting more query options will return more results and will cause queries to take longer to run. The advanced search is good at finding close matches, but may miss other matches. The additional queries may find possible matches that have little relevancy to the query search. (For example, the phone query may match someone based on the same phone number even though the patient has a different name and birth date.)

Field	Description
Maximum number of matches	The maximum number of matches returned is the lower of (a) the value entered here or (b) the value indicated in the query (VXQ) message. Once the maximum number of matches is found, they will be returned. Any other matches beyond this point will not be returned and no indication will be given that there are more matches beyond the maximum. (For example, if the maximum number of matches was 20 and 20 matches were returned, it is impossible to know whether or not there were any more matches beyond the 20 returned.)
Enforce user agreement	Some states require that out-of-state query users accept a user agreement before completing a state-to-state query. If your state requires this, then check this box for incoming connections from other states. Do not check this box for in-state systems that do not have to accept the agreement before querying. The user agreement must be setup in the HL7 Interface options on the administrator properties page.
Return any singular low confidence match from Advanced Search as a high confidence match. (Return single VXX as VXR)	If a single patient is returned from the query and is low confidence, it will be made a high confidence match and returns a VXR. This functionality will not work unless Strict Exact Match is disabled.
Return vaccination forecast	Since some systems will not handle the new forecasting information that is returned in an VXR, this setting allows the vaccination forecast queries to be returned. Click the checkbox to enable the return of vaccination forecast (queries only); unchecked is the default which turns the vaccination forecast off. **Note**: The return message will contain the forecasting in the OBX segment.
Return master patient address	Will return the address from the master patient table.
Return all normally private demographic fields from the master patient record	Will return all the demographics fields from the master patient table.
Send vaccination deletes	Deleted vaccinations can be indicated in HL7 but they look very similar to valid updates. Systems that do not look for the delete "flag" may incorrectly add vaccinations when receiving deletes. Before sending deletes, make sure the receiving system is ready to accept them.
Send vaccinations as historical	Check this box to force all vaccinations to be marked as historical.

Field	Description
Send contraindications	Send contraindications with vaccinations as observation segments.
Send TB indurations	Send TB indurations.
Send multiple birth count	The HL7 Standard supports reporting the birth position and whether the birth is a multiple birth or not (e.g., 1st in a multiple birth, 1st in a single birth). Both IWeb and WIR store the birth position and the birth count (e.g., 1st of triplets, 1st of a single birth). Checking this box indicates to the IIS that it can send the multiple birth count (1, 2, 3, etc.) instead of just the multiple birth indicator (Y or N) and the receiving system will process it properly.
Send name, gender, DOB from reserve record	Some receiving systems match on name, gender, and DOB. This can cause problems when patients are updated by other systems. Both IWeb and WIR will always report back the most up-to-date name which may be different from what was originally reported. Checking this box forces these data items to reflect what was originally reported, if it is available. In this way if "Billy" was originally reported, then "Billy" will be sent back even if someone else updated the name to "William." For WIR, this feature is only available when the profile is linked to a reciprocal batch export profile.
Exclude:	These options are used to exclude specific vaccinations from being sent with the record. By default all vaccinations are sent with each record unless excluded for the reasons further defined in the table rows below.
• Vaccinations with no CPT code	If the receiving system stores the immunizations by CPT code, then it is no use to send vaccinations that do not have CPT codes since the receiving system will not be able to accept them. Standard vaccinations have CPT codes.
• Vaccinations with no CVX code	If the receiving system stores the immunizations by CVX code, then it is no use to send vaccinations that do not have CVX codes since the receiving system will not be able to accept them. Standard vaccinations have CVX codes.
• Vaccinations added/updated by this HL7 account	IWeb tracks who adds/updates vaccinations by user account. Every HL7 account is a user account and so every update by an HL7 user account is tracked. This option removes immunizations that were reported by this account. This stops IWeb from updating this user with information that it already reported to IWeb. If the HL7 account is used for regular IWeb use and patient records are modified using this account, then changes done by this account will be filtered out with this option. This parameter is only active for IWeb integration.

Field	Description
• Vaccinations outside query range and not new patient	The previous option was not complete because if a patient was already in IWeb, but just newly added as a new patient to the provider, only a part of the record within the query range would be returned even though the entire record was needed. This option limits the previous exclusion by not excluding the vaccinations if the patient has just been associated with this provider, whereby in this situation the provider can get a full patient record. This parameter is only active for IWeb integration.
Indicate vaccination given at	Determines whether the Facility or Organization information is sent as the vaccination location.

Select Import Profile

This option allows you to select the Import Profile from a list.

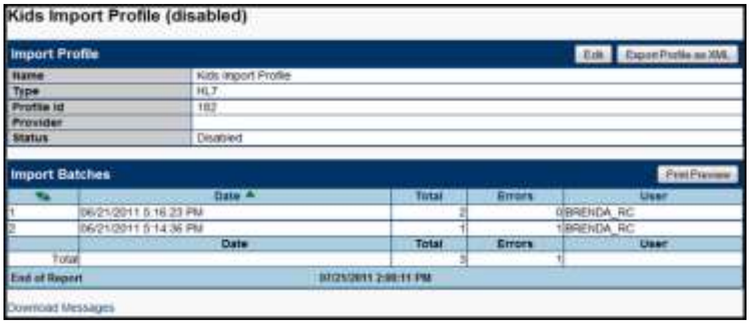
1. Click on the **SELECT IMPORT PROFILE** option. The "Available Profiles" pop-up window appears which overlays the screen you were previously using.

Available Profiles

Name	Id	Type	Status
SP Import	181	HL7	Disabled
Kids Import Profile	182	HL7	Disabled
another test	180	HL7	Disabled
My Test Import	160	HL7	Enabled
second test	161	HL7	Disabled
Sherri	221	HL7	Disabled
SherriImpProfile	223	HL7	Disabled
Sherri2	224	HL7	Disabled

2. Locate the Import Profile you want to access and click it. The "Import Batches" screen appears.

Note: This is the same screen that the **PROFILES & BATCHES** option displays.



3. You may perform the following on this screen:
   - Edit the Import Profile by clicking the **EDIT** button. Continue to the section titled, "Create New Profile" for instructions.

- Export the Import Profile by clicking the **EXPORT PROFILE AS XML** button.
  - The "File Download" dialog box appears. Choose to **OPEN**, **SAVE**, or **CANCEL** the data.
  - These instructions assume you chose OPEN. The "XML" file appears.


```xml
<?xml version="1.0" encoding="UTF-8"?>
<prof:profileDetails xmlns:prof="http://openuri.org/profileDetails">
  <prof:Name>WA PHC-Hub Demo Master Template</prof:Name>
  <prof:BasedOn>HL7 Version 2</prof:BasedOn>
  <prof:ProfileType>HL7</prof:ProfileType>
  <prof:Enabled>true</prof:Enabled>
  <prof:Template>true</prof:Template>
  <prof:LogLevel>V</prof:LogLevel>
  <prof:SaveImportText>A</prof:SaveImportText>
  <prof:ReturnResponses>AL</prof:ReturnResponses>
  <prof:InsertUnrecognizedVaccines>false</prof:InsertUnrecognizedVaccines>
  <prof:ProcedureCodeClassification/>
  <prof:HasPatientData>false</prof:HasPatientData>
  <prof:hasVaccineData>false</prof:hasVaccineData>
  <prof:AssumeConsented>false</prof:AssumeConsented>
  <prof:NewbornNameMatcher/>
  <prof:InitialMergeStatus>N</prof:InitialMergeStatus>
  <prof:ForceVaccinationsHistorical>false</prof:ForceVaccinationsHistorical>
  <prof:PickOutMiddleInitialFromFirstName>false</prof:PickOutMiddleInitialFromFirstName>
```


- Display the **PRINT PREVIEW** of the file providing the option to **PRINT**. A new window opens with the same data as shown under step 2 above except with a **PRINT** button versus **PRINT PREVIEW**.
- Display the **IMPORT LOG** for a batch. Click on the Import Batch you want to display. The "Import Log" appears.

Import Batch

Date	06/21/2011 5:14:36 PM
Id	62
Total	1 received / 1 error
Imported By	
Status	Unknown

Import Logs Print Preview

	Time	Status	Response
1	5:14:36 PM	Errors	line 9 (9), column 83: Message must have a MSH header segment

End of Report 07/21/2011 2:27:42 PM

- Download the Import Messages by clicking on the **DOWNLOAD MESSAGE** hyperlink. The "Import Message Download" screen appears.

Import Message Download

Date Range

From

To

☐ Include Timestamp

☐ Include Acknowledgement Message

Download

  - Enter the **From and To Date Range** and **From and To Time Range** (if needed).
  - Check boxes for **Include Timestamp** and **Include Acknowledgement Message** if needed.
  - Click the **Download** button. The "File Download" dialog box appears.

- If no messages were downloaded based on date and time range, this message will appear at top of screen.

- Choose to **OPEN**, **CANCEL**, or **SAVE**.
- These instructions assume you chose OPEN. The "Message Import - Notepad" screen appears.

- Determine what you want to do with the file; i.e., Save, Edit, or Close it.

Profiles & Batches

The Profiles & Batches option displays the Profile and Imported Batches screen. Please refer to the section above titled, "Select Import Profile - Steps 2 and 3" for details.

Code Values

Certain message data fields are expected to contain coded values, which are values that are defined by a standard code table. Examples of coded values include: CPT code, Provider ID, Physician ID, Anatomical Route, Race, etc. Code values are organized into tables. Selecting a code table shows all values that have ever been received by this profile whether or not the value was recognized. Code values that are recognized as standard values are automatically mapped to the correct value. Unrecognized values are mapped to the default. Each Code Value has a status that indicates what should be done when this value is received. The statuses are:

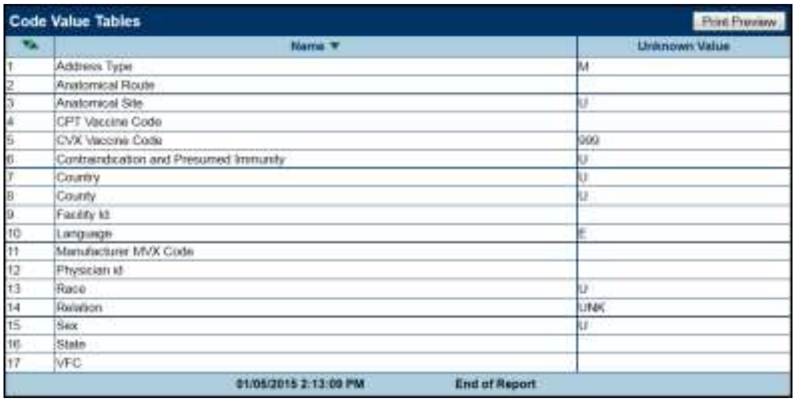
- **Active** - Code value is valid and should be processed normally.
- **Invalid** - Code value is known to be an incorrect value.
- **Unrecognized** - Code value could not be found in standard mapping.

New Code Values are marked as either active or unrecognized, depending on if they are contained in the master code value list. If the value is unrecognized, the profile can be configured to "reject" the record or "ignore" the issue. All values, including unrecognized values can be configured as invalid. The profile can then be configured to either "reject" or "accept" invalid values for a given field. In addition, the Code Value can be configured to map to any valid code. In this way, Code Value mapping and handling procedures can be tightly handled for each import profile.

Viewing the Code Values

To view the Code Values, perform the following:

1. Click the **CODE VALUES** option. The "Code Value Tables" list appears.

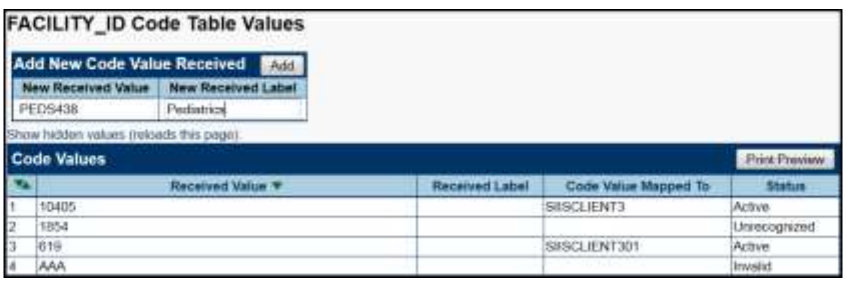


Code Value Tables — Print Preview

	Name	Unknown Value
1	Address Type	M
2	Anatomical Route	
3	Anatomical Site	U
4	CPT Vaccine Code	
5	CVX Vaccine Code	999
6	Contraindication and Presumed Immunity	U
7	Country	U
8	County	U
9	Facility Id	
10	Language	E
11	Manufacturer MVX Code	
12	Physician Id	
13	Race	U
14	Relation	UNK
15	Sex	U
16	State	
17	VFC	

01/05/2015 2:13:09 PM End of Report

2. You may perform the following on this screen:
   - Display the Code Value Details by clicking on the row. The "Code Value Details" appear.



FACILITY_ID Code Table Values

Add New Code Value Received — Add

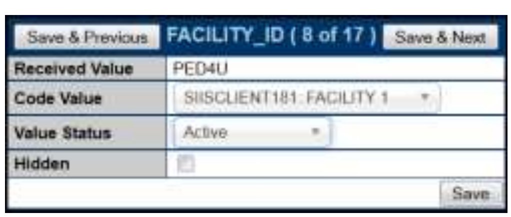
New Received Value	New Received Label
PEDS438	Pediatrics

Show hidden values (reloads this page).

Code Values — Print Preview

	Received Value	Received Label	Code Value Mapped To	Status
1	10405		SIISCLIENT3	Active
2	1854			Unrecognized
3	619		SIISCLIENT301	Active
4	AAA			Invalid

   - Map values, add new values, and activate/inactivate them. For example, Facilities within the Organization that the profile is associated with. New received values can be added through the UI instead of only the values that have come through an imported message. This is accomplished by performing the following:
     - Type a Facility Name that needs to be mapped in the "New Received Value" field.
     - Type anything to help clarify the facility in the "New Received Label" field.
     - Click the **ADD** button.
     - Click on the newly added Facility.



Save & Previous — FACILITY_ID (8 of 17) — Save & Next

Received Value	PED4U
Code Value	SIISCLIENT181: FACILITY 1
Value Status	Active
Hidden	

Save

- Set it to "Active."
- Select the actual Facility Name that this facility intends to be mapped to
- If you have a value that you no longer want to show in the table, you can check **HIDDEN.** The value will not show in the table.
- Click Save. Now any data that has been and will be imported with the mapped values will populate in their respected Facilities.

Note: These steps can be used to map any value listed in the Code Tables.

- If you select **SHOW HIDDEN VALUES (RELOADS THE PAGE),** the hidden values will show up along with normal "not-hidden" values.

Note: When "Unrecognized Historical" issues are raised against Vaccination Facility ID (RXA-11) the received value will be hidden by default.

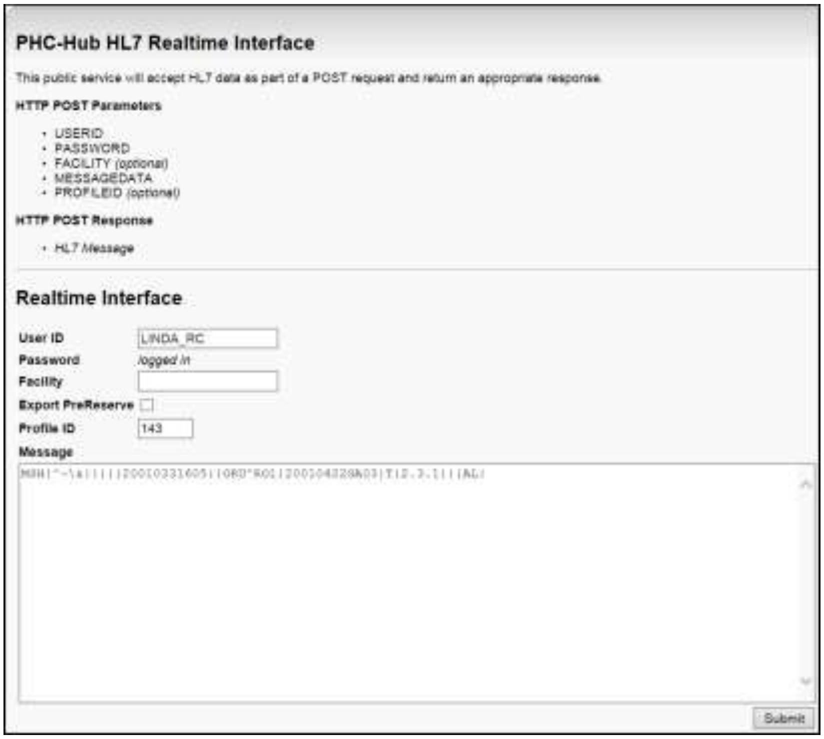
- Display the **PRINT PREVIEW** of the Code Values providing the option to **PRINT**. A new window opens with the same data as shown except with a **PRINT** button versus **PRINT PREVIEW**.
- Print the Code Value Tables List by clicking the **PRINT PREVIEW** button. A new window opens with the Code Value Tables as shown above except with a **PRINT** button versus **PRINT PREVIEW**.

Realtime Interface

This option provides a simple web page for manually submitting one or more messages. It is also the same URL that is used for HTTPS Post submissions. There are two options to access the Realtime Interface.

To access and use the Realtime Interface if you are logged into PHC-Hub, perform the following:

1. Click the **REALTIME INTERFACE** option. The "PHC-Hub HL7 Realtime Interface" screen appears.



The fields and their descriptions are listed below.

- **USER ID** - Automatically fills in with the user currently logged into the application.
- **PASSWORD** - Displays "Logged In" since you are already logged in and entered your password.
- **FACILITY** - Allows the Facility ID/Name to be entered.
- **EXPORT PRERESERVE** - This checkbox returns the imported HL7 message with the response.
- **PROFILE ID** - Automatically fills in with the "Selected Import Profile" identification number.
- **MESSAGE** - The HL7 Message to send.

Select **SUBMIT** to import the message(s).

Note: If this page is closed or the user logs out of PHC-Hub before the processing is complete, all messages not processed will be stored in the system with an error message and not be processed.

If you are not logged into PHC-Hub and want to submit messages or provide this URL to providers/vendors for their realtime interface, perform the following:

1. Enter the URL for the Realtime Interface. The "PHC-Hub HL7 Realtime Interface" screen appears.

The fields and their descriptions are listed below.

- **USER ID** - Enter **USERID.**
- **PASSWORD** - Enter **PASSWORD**.
- **ORGANIZATION** - Allows the Organization ID/Name to be entered.
- **FACILITY** - Allows the Facility ID/Name to be entered.
- **MESSAGE** - The HL7 Message to send.

Select **SUBMIT** to import the message(s).
Note: If this page is closed before the processing is complete, all messages not processed will be stored in the system with an error message and not be processed.

File Upload

This option provides a method for simple manual uploads. After uploading, select "View Batch File Processing Results" to see the response message. Processing is complete when the last line of the output indicates "Processing completed ...". Refreshing the page will show updated results. Once data is loaded, the batch results can be seen under Profile & Batches.

Note: If this the user logs out or closes PHC-Hub before the processing is complete, all messages not processed will be stored in the system with an error message and not be processed.

To upload a file, perform the following:

1. Click the **FILE UPLOAD** option. The "File Upload" screen appears.

2. Type or **BROWSE** for the File Name to upload and click the **UPLOAD NOW** button. The file begins to upload and when complete, the last line indicates, "Processing Completed."
3. Refresh the page to display the updated results.
4. Once the data is loaded, the batch results can be seen using the **PROFILE & BATCHES** option.

Chapter 10: Export Profiles Menu

Export Profile

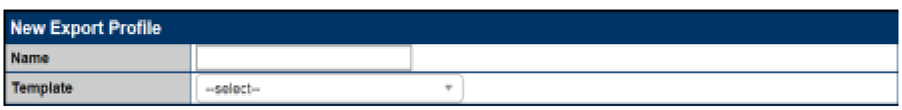
For data to be exported out of the IIS, it is necessary to create an Export Profile. The export profile defines what data should be exported and how it should be formatted. Exports can be requested immediately or scheduled for a later date. Each profile has some common basic attributes:

Attribute	Description
Name	The display name for the interface. This is the name that is displayed for interface users and reporting.
Based On	Each profile extends from and inherits settings from a parent profile. Any profile may be configured to be a template and thus, become the starting position for new profiles.
Type	Defines the basic structure of the data, for example: HL7 or flat file.
Enabled	Profiles that are enabled may receive data.

Create New Export Profile

To create a new profile, perform the following:

1. From the Export Menu, click the **CREATE NEW PROFILE** option. The "New Export Profile" screen appears.



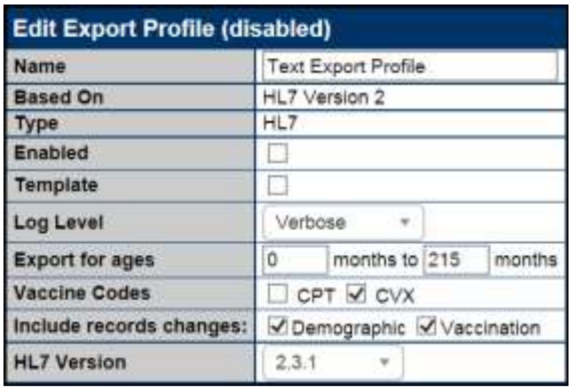
2. Type a **NAME** (usually a name to match the receiving system data) and press the **TAB** key.
3. Click the **TEMPLATE** drop-down menu arrow to select an existing export profile as a template (normally HL7 Version 2).
4. Click the **CREATE** button. The "Edit Export Profile" screen appears with several sections (shown below). Each screen section will be described. Once an export profile has been created, more menu options appear. The menu options are:
    - **Select Export Profile**: Switch to a different profile. Used when there are one or more profiles created.
    - **Profile & Batches**: Shows a summary of the profile, a button to edit the file, and a list of batches that have been created and exported previously. To see more details on the batches, click the line for the export batch.
    - **Code Values**: The code values show the values that have been exported by past exports. While the import interface allows mapping to a standard

code set, this interface allows for mapping to a user-defined value. In this way non-standard code sets can be specified for export.

- **Schedule for Later**: Exports are normally scheduled to occur on a regular basis. Several options control how this is done.
- **Export Download**: Allows for custom downloading of data.

General Settings (Edit Export Profile)

The first section is titled, "Edit Export Profile." It contains the General Settings that were initially selected during creation.



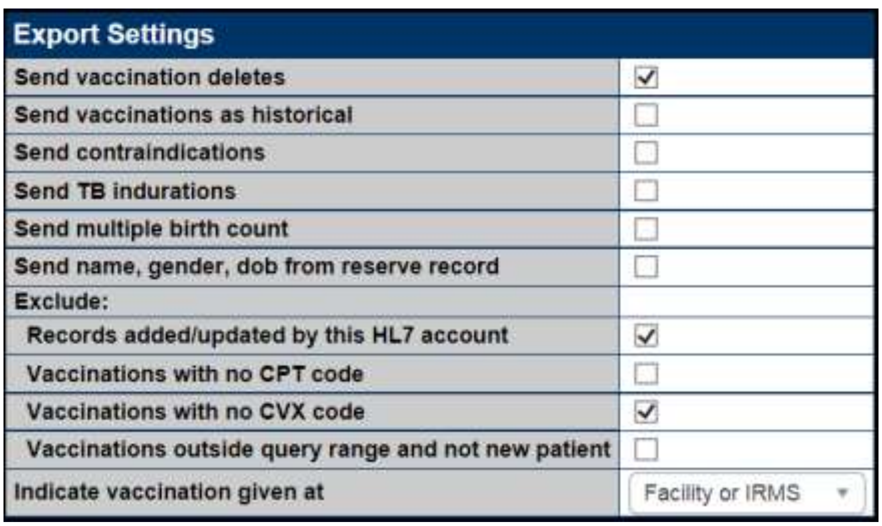
Edit Export Profile (disabled)	
Name	Text Export Profile
Based On	HL7 Version 2
Type	HL7
Enabled	☐
Template	☐
Log Level	Verbose
Export for ages	0 months to 215 months
Vaccine Codes	☐ CPT ☑ CVX
Include records changes:	☑ Demographic ☑ Vaccination
HL7 Version	2.3.1

The fields are described in the table below:

Field	Description
Name	This is the human readable description for this profile. Often this is named to match the system that this data will be sent to. Pick a short name that will make sense to the registry and provider staff.
Based On	Lists the name of the profile that this one extends from. All settings on this parent profile flow by default into this one. This was decided at the time of profile creation and cannot be modified at this point.
Type	All profiles have a basic type. This controls how the messages are constructed. This was defined at the time of profile creation and cannot be modified at this point.
Enabled	Indicates that this profile can send data. If not enabled, then the data will not be exported or sent.
Template	Indicates that this profile can be extended and become a parent to other profiles. Normally most profiles are not templates, but if this is marked as a template, it will be listed as a profile that can be extended from when creating new profiles.

Field	Description
Log Level	The level of messages that should be saved for each message exported. A verbose level indicates that all information messages should be saved. • Verbose - All issue messages should be saved. • Information - All informational, warning, and error issue messages are saved. • Warning - All warning, and error issue messages are saved. • Error - Error issue messages are saved. • None - No messages are saved.
Export for ages	Defines the minimum and maximum ages of the patients to be exported. Use this option to limit exports to narrow a pediatric population.
Vaccine codes	Indicates which vaccine codes to send. It is recommended to indicate at least one of these options; otherwise, no vaccine code will be sent.
Include records changes:	Indicates what kind of data you are exporting. It is recommended to indicate at least one of these options; otherwise, no data will be sent.
HL7 Version	Allows the user to configure which HL7 version they wish to use.

<u>Vaccination Level Settings</u>



The fields are described in the table below:

Field	Description
Send vaccination deletes	Deleted vaccinations can be indicated in HL7 but they look very similar to valid updates. Systems that do not look for the "delete flag" may incorrectly add vaccinations when receiving deletes. Before sending deletes, make sure the receiving system is ready to accept them. (not supported in WIR)
Send vaccinations as historical	Check this box to force all vaccinations to be marked as historical.
Send contraindications	Send contraindications with vaccinations as observation segments.
Send TB indurations	Send TB indurations.
Send multiple birth count	The HL7 Standard supports reporting the birth position and whether the birth is a multiple birth or not (e.g., 1st in a multiple birth, 1st in a single birth). Both IWeb and WIR store the birth position and the birth count (e.g., 1st of triplets, 1st of a single birth). Checking this box indicates to the IIS that it can send the multiple birth count (1, 2, 3, etc.) instead of just the multiple birth indicator (Y or N), and the receiving system will process it properly.
Send name, gender, DOB from reserve record	Some receiving systems match on name, gender, and DOB. This can cause problems when patients are updated by other systems. Both IWeb and WIR will always report back the most up-to-date name which may be different from what was originally reported. Checking this box forces these data items to reflect what was originally reported, if it is available. In this way if "Billy" was originally reported, then "Billy" will be sent back even if someone else updated the name to "William."
Exclude	These options are used to exclude specific vaccinations from being sent with the record. By default, all vaccinations are sent with each record unless excluded for the reasons below (listed in the next four rows of this table).
Vaccinations added/updated by this HL7 account	IWeb tracks who adds/updates vaccinations by user account. Every HL7 account is a user account and so every update by an HL7 user account is tracked. This option removes immunizations that were reported by this account. This stops IWeb from updating this user with information that it already reported to IWeb. If the HL7 account is used for regular IWeb use and patient records are modified using this account then changes done by this account will be filtered out with this option. This parameter is only active for IWeb integration.

Field	Description
Vaccinations with no CPT code	If the receiving system stores the immunizations by CPT code then it is no use to send vaccinations that do not have CPT codes since the receiving system will not be able to accept them. Standard vaccinations have CPT codes. IWeb vaccinations without CPT codes usually represent items that are modeled in IWeb as vaccinations, but are not really vaccinations and thus, do not have an assigned CPT code.
Vaccinations with no CVX code	If the receiving system stores the immunizations by CVX code, then it is no use to send vaccinations that do not have CVX codes since the receiving system will not be able to accept them. Standard vaccinations have CVX codes. IWeb vaccinations without CVX codes usually represent items that are modeled in IWeb as vaccinations, but are not really vaccinations and thus, do not have an assigned CVX code.
Vaccinations outside query range and not new patient	The previous option was not complete because if a patient was already in IWeb, but just newly added as a new patient to the provider, only a part of the record within the query range would be returned even though the entire record was needed. This option limits the previous exclusion by not excluding the vaccinations if the patient has just been associated with this provider whereby, in this situation the provider can get a full patient record. This parameter is only active for IWeb integration.
Indicate vaccination given at	Determines whether the Facility or Organization information is sent as the vaccination location.

Issue Resolution

Before exporting a message it is reviewed for potential data quality issues. Not every issue listed here is necessarily a data quality issue, instead these issues should be reviewed for each interface and a determination made about how each issue should be handled. The options appear in the far-right column in a drop-down menu.

The options are listed in the table:

Option	Description
Ignore	Do no pay attention to this issue; okay to export.
Skip	Do not export the vaccination (if issue at vaccination level) or skip the entire message (if issue at the patient level), do not warn or error because of this issue.
Warn	Log a message for later review; okay to export.
Error	Log a message for later review; do not export the message.

Issue Resolution	
Guardian Name is missing	Warn
Guardian Name is invalid	Ignore
Next of Kin Skip	Skip
Next of Kin Phone Invalid	Warn
Next of Kin Phone Missing	Error
Next of Kin Relationship Invalid	Warn
Next of Kin Relationship Missing	Warn
Next of Kin Relationship Unrecognized	Warn
Patient Address is invalid	Warn
Patient Address is missing	Warn
Patient Address City is missing	Warn
Patient Address County is missing	Warn
Patient Address County is invalid	Warn
Patient Address County is unrecognized	Warn
Patient Address State is invalid	Warn
Patient Address State is missing	Warn
Patient Address State is unrecognized	Warn
Patient Address Zip is invalid	Warn
Patient Address Zip is missing	Warn
Patient Birth Date is in future	Error
Patient Birth Date is invalid	Error
Patient Birth Date is missing	Error
Patient Birth Date is too old	Warn
Patient Consent is invalid	Ignore
Patient Consent is missing	Ignore

Patient Consent is unrecognized	Warn
Patient Facility Id is invalid	Warn
Patient Facility Id is missing	Ignore
Patient Facility Id is unrecognized	Warn
Patient Facility Name is missing	Warn
Patient First Name is invalid	Error
Patient First Name is missing	Error
Patient First Name is too long	Warn
Patient First Name is too short	Error
Patient Language is invalid	Warn
Patient Language is missing	Warn
Patient Language is unrecognized	Warn
Patient Last Name if invalid	Error
Patient Last Name is missing	Error
Patient Last Name is too long	Warn
Patient Last Name is too short	Error
Patient Medicaid Number is invalid	Warn
Patient Medicaid Number is missing	Warn
Patient Middle Name is invalid	Warn
Patient Id is invalid	Error
Patient Id is missing	Error
Patient Phone is invalid	Warn
Patient Phone is missing	Warn
Patient Race is missing	Warn
Patient Race is invalid	Warn
Patient Race is unrecognized	Warn
Patient Sex is invalid	Error

Patient Sex is missing	Error
Patient Sex is unrecognized	Warn
Patient skip	Warn
Patient SSN is invalid	Warn
Patient SSN is missing	Warn
Patient Vaccinations missing	Warn
Vaccination Action Code is missing	Warn
Vaccination Action Code is invalid	Warn
Vaccination Action Code is unrecognized	Warn
Vaccination Code is missing	Error
Vaccination Code is unrecognized	Warn
Vaccination Code is invalid	Warn
Vaccination Date before Date of Birth	Error
Vaccination Date is in future	Error
Vaccination Date is invalid	Error
Vaccination Date is missing	Error
Vaccination Facility Id is invalid	Warn
Vaccination Facility Id is missing	Ignore
Vaccination Facility Id is unrecognized	Warn
Vaccination Facility Name is missing	Warn
Vaccination Given By is missing	Warn
Vaccination Entered By is missing	Warn
Vaccination Lot is invalid	Warn
Vaccination Lot is missing	Warn
Vaccination Lot Expiration Date is invalid	Warn
Vaccination Lot Expiration Date is missing	Warn
Vaccination Lot Expiration Date before Immunization Date	Ignore
Vaccination Manufacturer Code is invalid	Warn
Vaccination Manufacturer Code is missing	Warn
Vaccination Manufacturer Code is unrecognized	Warn
Vaccination Site is invalid	Ignore
Vaccination Site is missing	Warn
Vaccination Site is unrecognized	Warn
Vaccination skip	Warn

HL7 Options

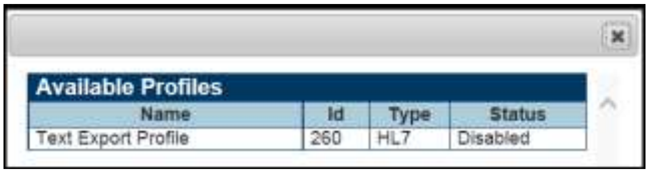
The fields are described in the table below

Field	Description
Patient Id Type	The PID-3 field may include one or more ids of which one should be the MRN. To differentiate between different IDs, each is given an identifier. Common identifiers include: • MR Medical Record Number • PT Patient Identifier • [blank] No identifier is sent • Other value Defined by sender Enter the identifier that the receiving system is expecting to receive.
Application Type	Indicate what kind of application will be receiving data: • CDC Standard Messages only include fields explicitly defined by CDC standard docs • McKesson DFT messages are formatted to newer standards • MiSys DFT messages are formatted to older standards • QS-Insight messages standards are the same as the CDC Standard • STC-IWeb Includes support for IWeb-specific fields and data • STC-CDR
Consent Field Location	Select from the drop down the field location of the consent.

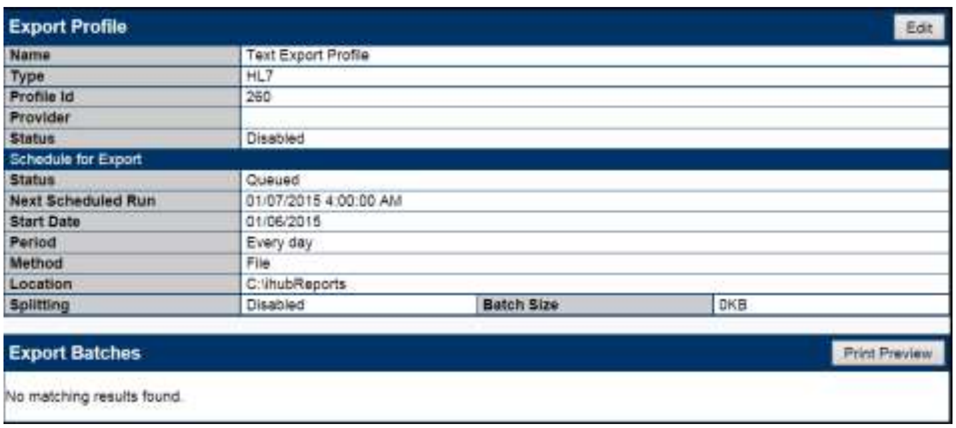
Select Export Profile

This option allows you to select the Export Profile from a list.

1. Click on the **SELECT EXPORT PROFILE** option. The "Available Profiles" pop-up window appears which overlays the screen you were previously using.



2. Locate the Export Profile you want to access and click it. The "Export Batches" screen appears.



3. You may perform the following on this screen:
   - Edit the Export Profile by clicking the **EDIT** button. Continue to the section titled, "Create New Profile" for instructions.
   - Display the **PRINT PREVIEW** of the file providing the option to **PRINT**. A new window opens with the same data as shown under step 2 above except with a PRINT button versus PRINT PREVIEW.

Profiles & Batches

This option shows a summary of the profile, a button to edit the file, and a list of batches that have been created and exported previously. To see more details on the batches, click the line for the export batch. Please refer to the section above titled, "Select Export Profile - Steps 2 and 3" for details.

Code Values

Similar to the import interface the code values show the values that have been exported by past exports. While the import interface allows mapping to a standard code set, this interface allows for mapping to a user-defined value. In this way non-standard code sets can be specified for export. Each exported code has a status; the statuses are:

- **Active:** Code value is valid and is exported normally.
- **Invalid:** Code value is known to be an incorrect value.
- **Unrecognized:** Code value could not be found in standard mapping.

When a code is invalid or unrecognized, the interface can be configured to generate an error, skip the immunization or message, or ignore the issue.

To view the Code Values, perform the following:

1. Click the **CODE VALUES** option. The "Code Value Tables" list appears.

Code Value Tables — Print Preview

	Name	Unknown Value
1	Address Type	M
2	Anatomical Route	
3	Anatomical Site	U
4	Birth Order	
5	CPT Vaccine Code	
6	CVX Vaccine Code	999
7	Consent	U
8	Contraindication and Presumed Immunity	U
9	Country	U
10	County	U
11	Facility Id	
12	Insurance Company ID	
13	Language	E
14	Lot Number	
15	Manufacturer MVX Code	
16	Physician Id	
17	Race	U
18	Relation	UNK
19	Sex	U
20	State	
21	VFC	
22	VIS Barcode	U
23	Vacc Action Code	A

01/08/2015 11:51:21 AM — End of Report

2. You may perform the following on this screen:
   - Display the code Value Details by clicking on the row. The "Code Value Details" appear.

     Code Values — Print Preview

	Code Value	Send Value	Status
1	61	61	Unrecognized
2	62	62	Unrecognized

     End of Report — 07/22/2011 2:11:18 PM

   - Display the **PRINT PREVIEW** of the Code Values providing the option to **PRINT**. A new window opens with the same data as shown except with a **PRINT** button versus **PRINT PREVIEW**.
   - Print the Code Value Tables List by clicking the **PRINT PREVIEW** button. A new window opens with the Code Value Tables as shown above except with a **PRINT** button versus **PRINT PREVIEW**.

Schedule for Later

Once a profile has been created, it can be scheduled for export on a regular basis.
To schedule an export for later, perform the following:

1. From the Export Menu, click on the **SCHEDULE FOR LATER** option. The "Edit Schedule for Export" screen appears.

The fields are described in the table below:

Field	Description
Status	Indicates the current operating status of this scheduled export. • **New** Default state, export is not scheduled to run. • **Queued** Export is ready to run and will run the next time scheduled. • **Disabled** Will not run, has been disabled. • **Errored** Will not run, the last export resulted in an unexpected error. Must be manually restarted. • **Stopped** Export has stopped.
Period	Indicates how often to run the export. The export will run with a start date equal to the last run date and the end date being the current time; thus, if an export is scheduled Every Day it will run at the time scheduled for the application on the App settings and export all changes since the last export.
Start Date	The initial start date that should be used the first time this export runs, or the next start date that will be used if this export is currently running. This value may be back-dated at any time in order to increase what is exported the next time. Either type the date using the format mm/dd/yyyy or click the calendar icon to pick a date. **Note**: Remember that the "Start Date" is the start of the export window and not when the export will begin to run.
Method	Indicates what should be done with the export once it is complete. All data exported is saved in the database for future retrieval. If another option besides "Saved" is selected, the data will be exported to the location defined in the field "Location." At this time the only other option available is "File" in which case the export will be saved to a local file directory. Even if the data is saved to a File, it is always available for download again at a later time.
Location	The location where the export should be sent. Must be defined if a value besides "Saved" is selected for Method.
Name	This is an optional value that is used to specify a name that may be used when sending the data. For the file method the name is used to make part of the file name.

Field	Description
Enable Splitting	A checkbox that allows you to turn Reciprocal Batch splitting on (checked) or off (unchecked). If the checkbox is checked, type the size of the batch size in Batch Size field in Kilobytes.
Batch Size	Allows you to specify the Reciprocal Batch size when the "Enable Splitting" checkbox is checked/enabled. The field should be disabled and ignored if reciprocal batch is turned off. It should be grayed-out in the GUI. **Note**: If Enable Splitting is turned off, this field will be disabled and grayed out.

2. At a minimum, set the **STATUS** as "Queued," select an appropriate **PERIOD**, and set the **START DATE**.
    - Remember that the start date is the start of the export window and not when the export will be run.
    - For example, if you want the initial export to include data for the last three (3) months, you should set the start date to 3 months ago. Once the first export is completed the start date will be set to the current date.
    - At any time you may edit this export file to set the date back in time again for a new initial export.
3. Click the **SAVE** button.

Export Download

The Export Download option allows for custom downloading of data. The export is generated on-demand. To start the export, the starting and ending dates must be selected. These dates are the date range for the changes you are looking for. If the user has the right permissions, they may also select which Organization they wish to export for.

To download data, perform the following:

1. From the Export Profiles Menu, click the **EXPORT DOWNLOAD** option. The "Export Download" screen appears.

2. Select the **FROM** and **TO** dates.
3. Select the **PROVIDER** from the dropdown**.**
4. Click the **DOWNLOAD** button.

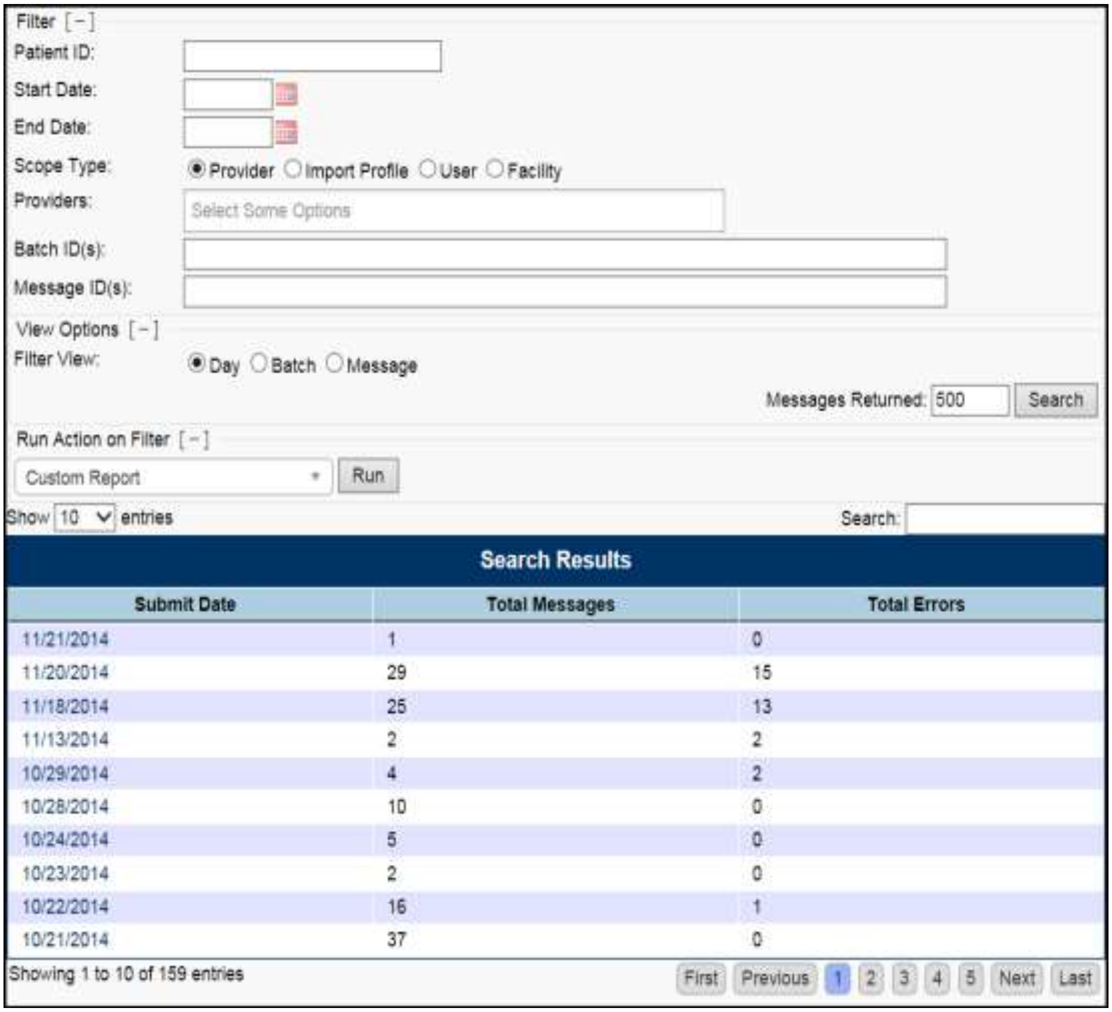
Chapter 11: Imports Menu

The Imports Menu contains utilities to help review data that has come into the system in general through HL7 interfaces.

Message Search

To search for imported messages, perform the following:

1. From the Imports Menu, click the **MESSAGE SEARCH** option. The "Message Search" criteria screen appears.



2. The fields are described in the table below:

Field	Description
Filter	As needed, filter by any of the fields identified below.
Patient ID	Enter **Patient ID** (MRN)
Start Date	**Start** Submission Date
End Date	**End** Submission Date
Scope Type	To further drill down the search criteria by **Provider**, **Import Profile**, **User**, and **Facility** **Note**: Providers, import profiles, users, and facilities are restricted by the user's allowed view of data in the IIS and by entities that have had data imported under them.
Providers	Select from the drop down the **Provider(s)**
Batch ID(s)	Enter the **Batch ID** of imported messages; multiple values can be entered separated by commas.
Message ID(s)	Enter the **Message ID** that PHC-Hub assigned once imported; multiple values can be entered separated by commas.
View Options	
Day	Each search result represents a day on which messages were imported matching the search criteria. The total number of matching messages imported and how many of those messages erred are displayed. Clicking one of the result rows will result in another search being executed limited to the selected day and displaying the results in Message view.
Batch	Each search result represents an electronic submission that matches the search criteria. The submitting user, import profile, and associated provider are displayed along with message aggregates. Clicking one of the result rows will result in another search being executed limited to the selected batch and displaying the results in Message view.
Message	Each search result represents a message received that matches the search criteria. The submitting user, import profile, and associated provider are displayed along with (if they were parsed) the patient's MRN, first and last name, and the status of the imported message. Clicking one of the results will display the Message Review page with imported message, response message text, and issues raised upon import. A link back to your search is provided at the top left of the Message Review screen.

Field	Description
Messages Returned	A text field on the **Message Search** screen to limit the messages returned in the search results. The default value is 500. For optimal performance, it is recommended that users specify less than 100 results for Day View and less than 500 results for Batch or Message View. In rare circumstances when a large number of results are required, a maximum of 9,999 results may be specified. Caution should be used when specifying more than 1,000 results to ensure that your hardware can handle the load.
Run Action on Filter	Runs two reports, **Trial Patient Deduplication Report** and **Trial Lot Matching Report** (neither reports are working at this time).

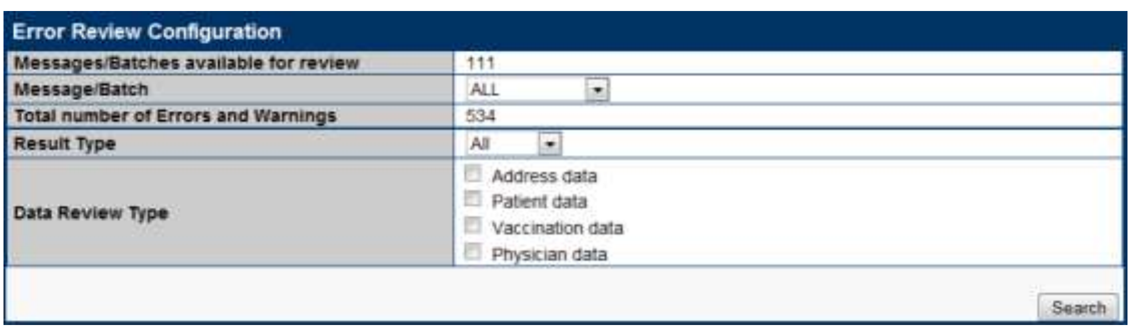
3. Execute a search with your specified criteria by clicking the **Search** button.
4. From the **Search Results** screen,
   - Top right hand side there is the option to Search by any of the table entries, i.e., Message ID, Status, Patient Last Name, etc.
   - Bottom right hand side there is the option to toggle between the pages of the search results.

Review Errors and Warnings

The Review Errors and Warnings option provides a simple interface for quickly viewing errors and warnings received. To explore this functionality, click the "Imports" area on the left-hand menu and select "Review Errors and Warnings."

To review Errors and Warnings, perform the following:

1. Click the **ERRORS AND WARNINGS** option. The "Error and Review Configuration" screen appears.



Error Review Configuration

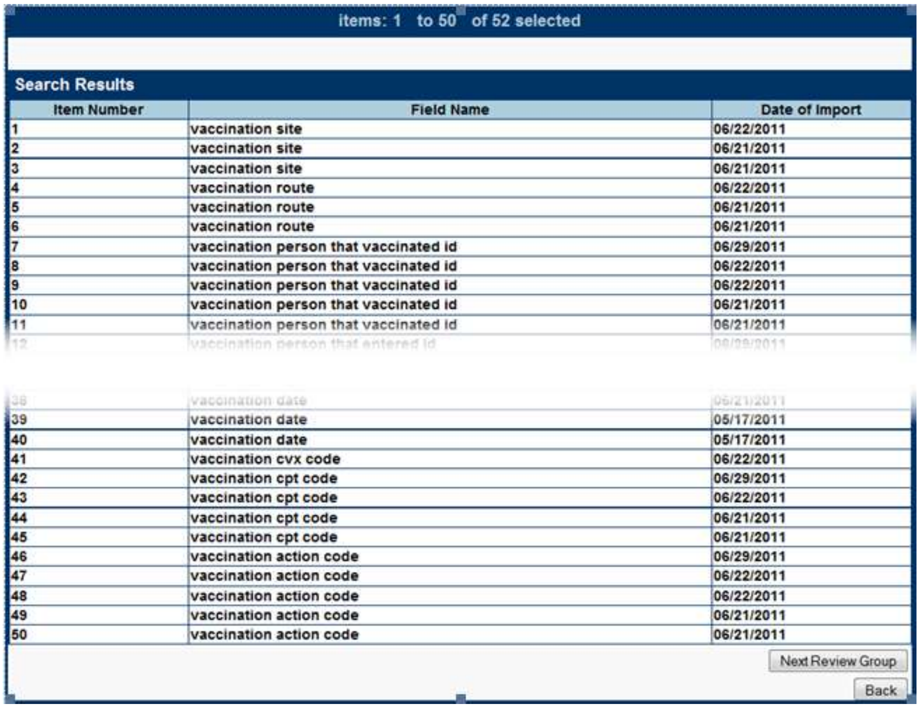
Messages/Batches available for review	111
Message/Batch	ALL
Total number of Errors and Warnings	534
Result Type	All
Data Review Type	Address data Patient data Vaccination data Physician data

Search

2. The fields are described in the table below:

Field	Description
Messages/Batches available for review	This will display the total number of messages you can review.
Message/Batch	Select the specific message you would like to review. The messages are organized into numbered batches, which you can see in the "Profile & Batches" section of the selected import profile.The drop down lists the batch number's associated with messages that contain errors/warnings along with the date of submission. This drop down does not list the message IDs themselves.
Total number of Errors and Warnings	This will display the total number of errors and warnings present for your import profile.
Result Type	If you would like to limit your review to only errors or only warnings, select that option here.
Data Review Type	All errors and warnings are grouped into one of four types - **Address Data**, **Patient Data**, **Vaccination Data**, and **Physician Data**. If you would like to limit your error reviews to a particular data type, select them here.

3. Select the search criteria by clicking the drop-down menus and/or check boxes, and click the **SEARCH** button. The "Search Results" appear.


items: 1 to 50 of 52 selected

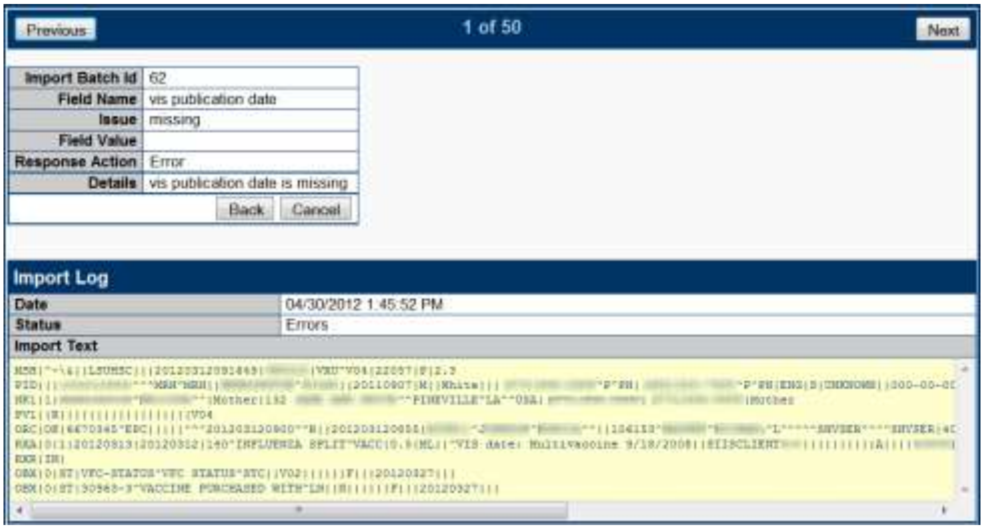
Search Results

Item Number	Field Name	Date of Import
1	vaccination site	06/22/2011
2	vaccination site	06/21/2011
3	vaccination site	06/21/2011
4	vaccination route	06/22/2011
5	vaccination route	06/21/2011
6	vaccination route	06/21/2011
7	vaccination person that vaccinated id	06/29/2011
8	vaccination person that vaccinated id	06/22/2011
9	vaccination person that vaccinated id	06/22/2011
10	vaccination person that vaccinated id	06/21/2011
11	vaccination person that vaccinated id	06/21/2011
12	vaccination person that entered id	06/29/2011
38	vaccination date	06/21/2011
39	vaccination date	05/17/2011
40	vaccination date	05/17/2011
41	vaccination cvx code	06/22/2011
42	vaccination cpt code	06/29/2011
43	vaccination cpt code	06/22/2011
44	vaccination cpt code	06/21/2011
45	vaccination cpt code	06/21/2011
46	vaccination action code	06/29/2011
47	vaccination action code	06/22/2011
48	vaccination action code	06/22/2011
49	vaccination action code	06/21/2011
50	vaccination action code	06/21/2011

Next Review Group

Back

4. The top part of the screen lists the total errors located and the group you are viewing. To view the next group, click the **NEXT REVIEW GROUP** button or click the **BACK** button to return to the "Error Review Configuration" screen. When you click the **NEXT REVIEW GROUP** button and you have reached the last group, the **PREVIOUS REVIEW GROUP** button appears.
5. To view the **DETAILS**, click on the row. The "Error Details - Import Log" screen appears.



6. The fields are described in the table.

Field	Description
Import Batch ID	This will display the import batch ID for the current error or warning.
Field Name	This will display the name of the field that contains the error or warning. If the error or warning was generated because of a violation to the HL7 specification, the field name will read "HL7."
Issue	The error/warning reason will be displayed here.
Response Action	This will display either "Error" or "Warning" based on the severity of the issue raised. This severity can be defined in your import profile.
Details	Any additional details about the error/warning will be displayed here.

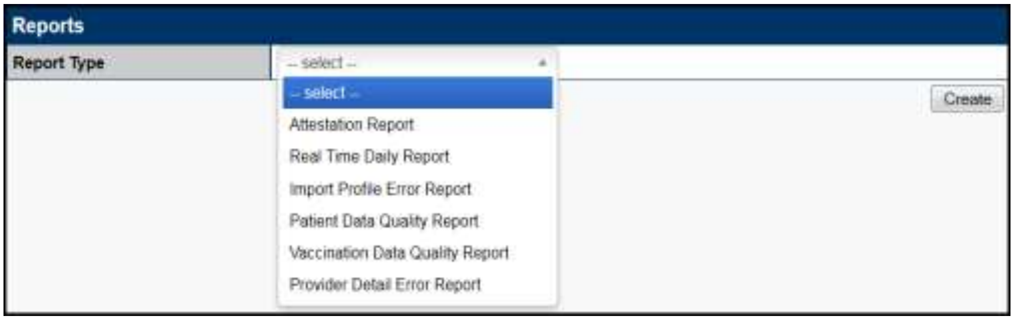
7. The Import Log information displays the **Date**, **Status**, and actual **Import Text** of the message that generated the error or warning.
8. Click one of the available buttons:
    - **PREVIOUS** - to view the previous Import Error.
    - **NEXT** - to view the next Import Error**.**
    - **BACK** - to return to the Errors list.
    - **CANCEL -** to return to the Search screen.

Chapter 12: Reports Menu

Stock Report

To create a report, perform the following:

1. From the **REPORTS** menu, click the **STOCK REPORT** option. The "Reports" screen appears.



2. Click the drop-down menu and select the desired report.
3. Click **CREATE**.
4. The "Report Parameters" screen for the selected report appears.

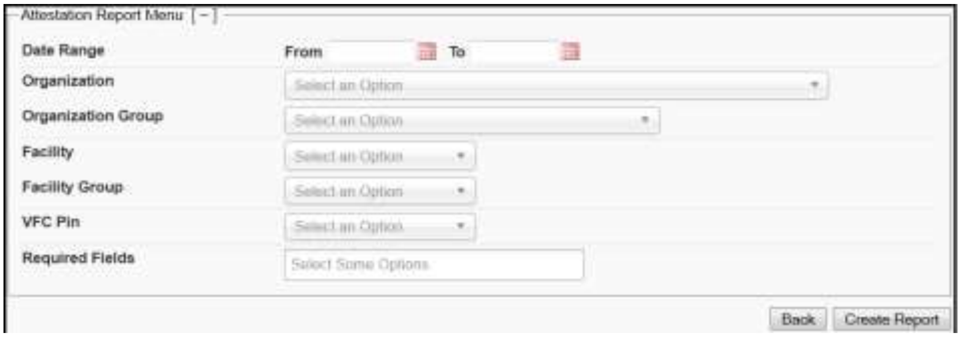
Attestation Report

The report is for Registry Client Users only and is not available to WIR clients.
The purpose of the Attestation Report is to display providers that have met one of the three levels of Meaningful Use Attestation:

1. Communication has been established with an electronic vaccination registry.
2. HL7 messages have been sent from a provider to the registry, but the message may have been rejected by the registry.
3. HL7 messages have been sent from a provider to the registry, and the message has been accepted by the registry.

The conditions for attestation can be configured as shown below.

1. From the **REPORTS** Menu, click the **ATTESTATION REPORT** and then click **CREATE**. The "Attestation Report Menu" appears.



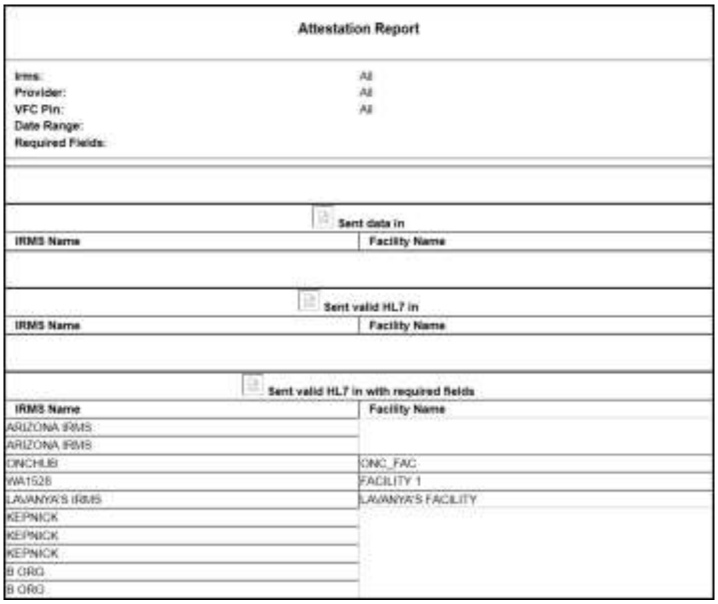
2. The fields are described in the table below:

Field	Description
Date Range	The date range is to check for attestation from providers.
Organization Organization Group	To limit the report by the Organization or Organization Group, click the drop-down menu arrow to select a specific Organization/Organization Group. You may also choose to not limit by Organization by not selecting an Organization or Organization Group. **Note**: An Organization Client (or View) user can only run the report for either an Organization or Organization Group when they are assigned to an Organization/Organization Group. If they aren't assigned to an Organization Group, the Organization select drop-down will not display.
Field	**Description**

Facility Facility Group	To limit the report by the Facility or Facility Group, click the drop-down menu arrow to select a specific Facility/Facility Group. You may also choose to not limit by Facility by not selecting a Facility or Facility Group. **Note**: A Facility Client (or View) user can only run the report for either a Facility or Facility Group when they are assigned to a Facility/Facility Group. If they aren't assigned to a Facility Group, the Facility select drop-down will not display.
VFC Pin	To narrow the report to a particular VFC PIN.
Required Fields	These fields are used to choose which HL7 fields are required to meet Meaningful Use Level Three Attestation. If a provider sends a message to PHC-Hub without one of the fields defined here, the provider will not meet level three attestation requirements. The selectable fields do not include fields required by the HL7 specification, such as patient name or patient date of birth. To select a field, simply click on it and the field will be added to the box. • Zip Code • Patient SSN • Patient Death Indicator • Country • Patient Birth Place • Phone • Patient Primary Language • Physical Address • Patient Immunization Registry Status • City • VFC Status • Patient Race • Patient Alias • Patient Birth Order • Patient Mothers Maiden Name • Street Address1 • Patient Primary Facility ID • Patient Medicaid Number • State • Patient Gender • Patient Primary Physician ID • Patient Primary Facility Name • Patient Death Date • County • Patient Middle Name • Patient VFC Effective Date • Patient Publicity Code • Street Address2

3. Select the report criteria.

4. Click one of the available buttons:
    - **BACK** - To return to the previous screen.
    - **CREATE REPORT** - To display the report in a new browser window. These instructions assume you clicked the CREATE button (Illustration is shown below).
        - Once the report displays the output, there are three separate collapsible tables that appear with a + or - in a square (outlined in red below).
        - Click the + to expand the data, click the - to collapse the date.



Attestation Report

Irms: All
Provider: All
VFC Pin: All
Date Range:
Required Fields:

Sent data in

IRMS Name	Facility Name

Sent valid HL7 in

IRMS Name	Facility Name

Sent valid HL7 in with required fields

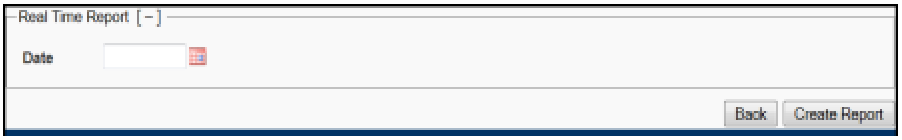
IRMS Name	Facility Name
ARIZONA IRMS	
ARIZONA IRMS	
ONCHUB	ONC_FAC
WA1528	FACILITY 1
LAVANYA'S IRMS	LAVANYA'S FACILITY
KEPNICK	
KEPNICK	
KEPNICK	
B ORG	
B ORG	

Real Time Daily Report

The report is for Registry Client Users only. The Real Time Daily Report lists totals for the following categories:

- DOB's all same
- All names same
- Medical Record Number not unique
- Patient and Responsible Party are same
- Submissions Rejected
- Truncated Names
- Different Vaccine Types

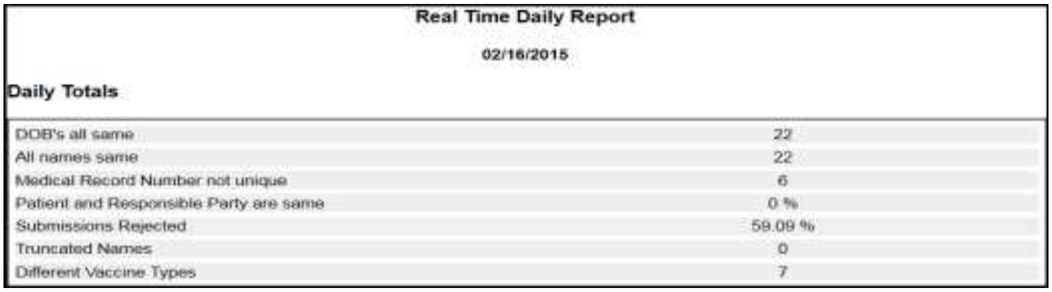
1. From the **REPORTS** Menu, click the **REAL TIME DAILY REPORT** option and then click **CREATE**. The "Real Time Report" screen appears.



2. The fields are described in the table below: Type the **DATE** for the report; e.g., 07012011 would submit a report for July 1, 2011.

Field	Description
Date	Enter the date for the report; e.g., 07012011 would submit a report for July 1, 2011.

3. Select the report criteria.
4. Click one of the available buttons:
    - **BACK** - To return to the previous screen.
    - **CREATE REPORT** - To display the report in a new browser window. These instructions assume you clicked the CREATE button (Illustration is shown below).


Real Time Daily Report

02/16/2015

Daily Totals

DOB's all same	22
All names same	22
Medical Record Number not unique	6
Patient and Responsible Party are same	0 %
Submissions Rejected	59.09 %
Truncated Names	0
Different Vaccine Types	7

Import Profile Error Report

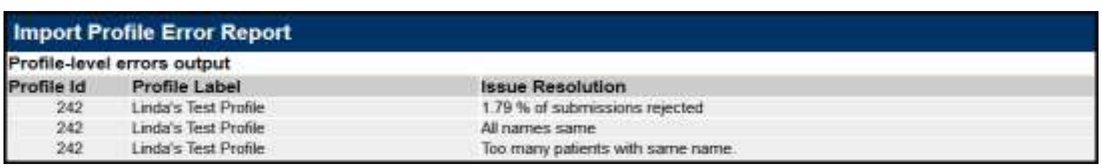
The Import Profile Error report lists the Import Profile errors by batch or by a specific data range. The report can be run now or scheduled to run later and includes the Profile ID, Profile Label, and Issue Resolution (percentage rejected).

1. From the **REPORTS** menu, click the **IMPORT PROFILE ERROR REPORT** and then click **CREATE**. The "Import Profile Error Report" screen appears.

2. The fields are described in the table below:

Field	Description
Batch	Lists all the batches that experienced errors. Click the drop-down menu arrow to view a specific batch number.
Date Range	The date range to check for batch import errors. Type the FROM and TO dates.

3. Select the report criteria.
4. Click one of the available buttons:
   - **BACK** - To return to the previous screen.
   - **CREATE REPORT** - To display the report in a new browser window. These instructions assume you clicked the CREATE button (Illustration is shown below).



Import Profile Error Report

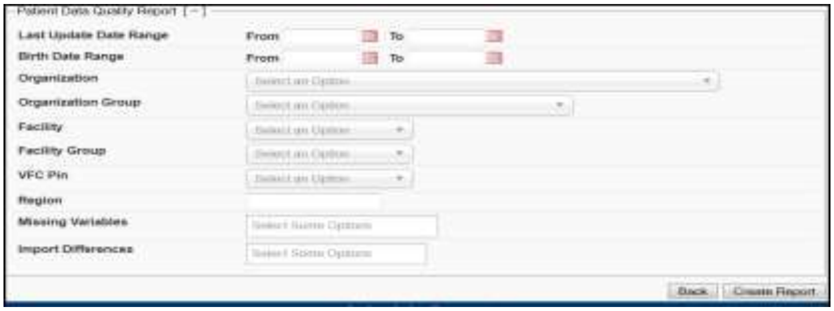
Profile-level errors output

Profile Id	Profile Label	Issue Resolution
242	Linda's Test Profile	1.79 % of submissions rejected
242	Linda's Test Profile	All names same
242	Linda's Test Profile	Too many patients with same name.

Patient Data Quality Report

This report is available to WIR clients. The Patient Data Quality report lists the individual Patient Names and Birth Dates for Patients with missing data elements so that these Patients can be reviewed and fixed.

1. From the **REPORTS** menu, click the **PATIENT DATA QUALITY REPORT** and then click **CREATE**. The "Patient Data Quality Report" screen appears.



2. The fields are described in the table below:

Field	Description
Last Update Date Range	To limit the report by the Last Update Date Range, type the FROM and TO date in using the format MM/DD/YYYY. **Note**: After clicking a selection, the checkbox automatically selects.
Birth Date Range	To limit the report by the Birth Date Range, type the FROM and TO dates in using the format MM/DD/YYYY. **Note**: After clicking a selection, the checkbox or radio button automatically selects.
Field	**Description**
Organization Organization Group	To limit the report by the Organization or Organization Group, click the drop-down menu arrow to select a specific Organization/Organization Group. You may also choose to not limit by Organization by not selecting an Organization or Organization Group. **Note**: An Organization Client (or View) user can only run the report for either an Organization or Organization Group when they are assigned to an Organization/Organization Group. If they aren't assigned to an Organization Group, the Organization select drop-down will not display.
Facility Facility Group	To limit the report by the Facility or Facility Group, click the drop-down menu arrow to select a specific Facility/Facility Group. You may also choose to not limit by Facility by not selecting a Facility or Facility Group. **Note**: A Facility Client (or View) user can only run the report for either a Facility or Facility Group when they are assigned to a Facility/Facility Group. If they aren't assigned to a Facility Group, the Facility select drop-down will not display.
VFC PIN	To limit the report by a specific VFC PIN, click the drop-down menu arrow to view/select a valid choice. **Note**: After clicking a selection, the checkbox or radio

	button automatically selects.
Region	To limit the report by a specific District/Region, type the name/number in the field.
Missing Variables	To select a field, simply click on it and the field will be added to the box. The missing variables can be one or more of the following: • Patient Medicaid Number • Street Address 1 • Patient SSN • Physical Address • Patient Gender • Patient Middle Name • Phone • VFC Status • County • State • Patient Race • Zip Code • City The report output displays only those patients missing one or more of the variables selected from this multi-select list.
Import Differences	Includes the "Import Differences" with one or more of the available differences. • Birth Order Differences • Birth Count Differences

3. Select the report criteria
4. Click one of the available buttons:
    - **BACK** - To return to the previous screen.
    - **CREATE REPORT -** To display the report in a new browser window. These instructions assume you clicked the CREATE button (Illustration is shown below).


Registry Patient Data Quality Detail Report
August 05, 2011

This Patient Data Quality Detail Report is used to enable identification of the patient records with incomplete information.

FACILITY UNDEFINED

Date of Birth [illegible]
MISSING VALUES: patient address street
Date of Birth [illegible]
MISSING VALUES: patient address street

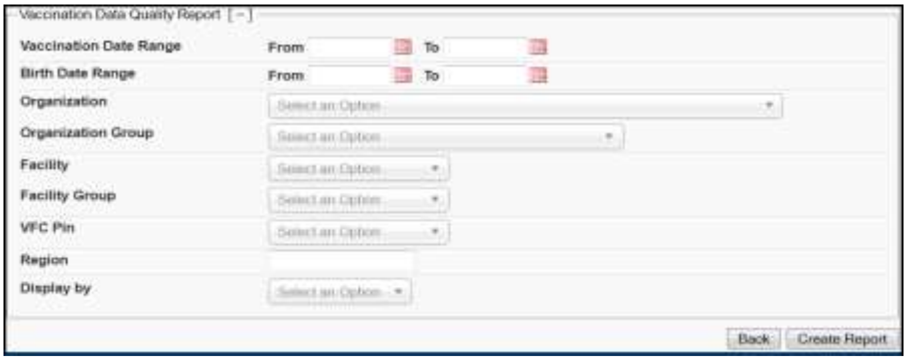
Import Differences

No import differences found

Vaccination Data Quality Report

This report is available to WIR clients.The Vaccination Data Quality report displays the Names, IDs and Birth Dates of the Patients with suspect Vaccinations so their records can be examined and corrected, when necessary. It summarizes vaccinations outside of recommended administration age or administered vaccinations that were given from unspecified vaccine types. It includes all applicable vaccination warnings.

1. From the **REPORTS** menu, click the **VACCINATION DATA QUALITY** report and then click **CREATE**. The "Vaccination Data Quality Report" screen appears.



2. The fields are described in the table below:

Field	Description
Vaccination Date Range	To limit the report by Vaccination Date Range, type the FROM and TO date in using the format mm/dd/yyyy. **Note**: After clicking a selection, the checkbox automatically selects.
Birth Date Range	To limit the report by the Birth Date Range, type the FROM and TO dates in using the format mm/dd/yyyy. **Note**: After clicking a selection, the checkbox or radio button automatically selects.
Organization Organization Group	To limit the report by the Organization or Organization Group, click the drop-down menu arrow to select a specific Organization/Organization Group. You may also choose to not limit by Organization by not selecting an Organization or Organization Group. **Note**: An Organization Client (or View) user can only run the report for either an Organization or Organization Group when they are assigned to an Organization/Organization Group. If they aren't assigned to an Organization Group, the Organization select drop-down will not display.
Facility Facility Group	To limit the report by the Facility or Facility Group, click the drop-down menu arrow to select a specific Facility/Facility Group. You may also choose to not limit by Facility by not selecting a Facility or Facility Group. **Note**: A Facility Client (or View) user can only run the report for either a

	Facility or Facility Group when they are assigned to a Facility/Facility Group. If they aren't assigned to a Facility Group, the Facility select drop-down will not display.
VFC PIN	To limit the report by a specific VFC PIN, click the drop-down menu arrow to view/select a valid choice. **Note**: After clicking a selection, the checkbox or radio button automatically selects.
Region	To limit the report by a specific District/Region, type the name/number in the field.
Display By	To limit the report to display by Vaccine or Vaccine Group. Click the drop-down menu arrow to view/select a valid choice.

3. Select the report criteria
4. Click one of the available buttons:
    - **BACK** - To return to the previous screen.
    - **CREATE REPORT** - To display the report in a new browser window. These instructions assume you clicked the CREATE button (Illustration is shown below).

Vaccination Data Quality Detail Report
December 06, 2011

This Vaccination Data Quality Detail Report is used to enable identification of the patient and vaccination records which were outside of the administration age or administered vaccinations that were given from unspecified vaccine types.

* Denotes an orphaned vaccination record. This ID is the patient's Medical Record Number as was imported with this vaccination by the registry. There is no associated patient record in the registry and, therefore, no SIIS Patient Number has been generated.

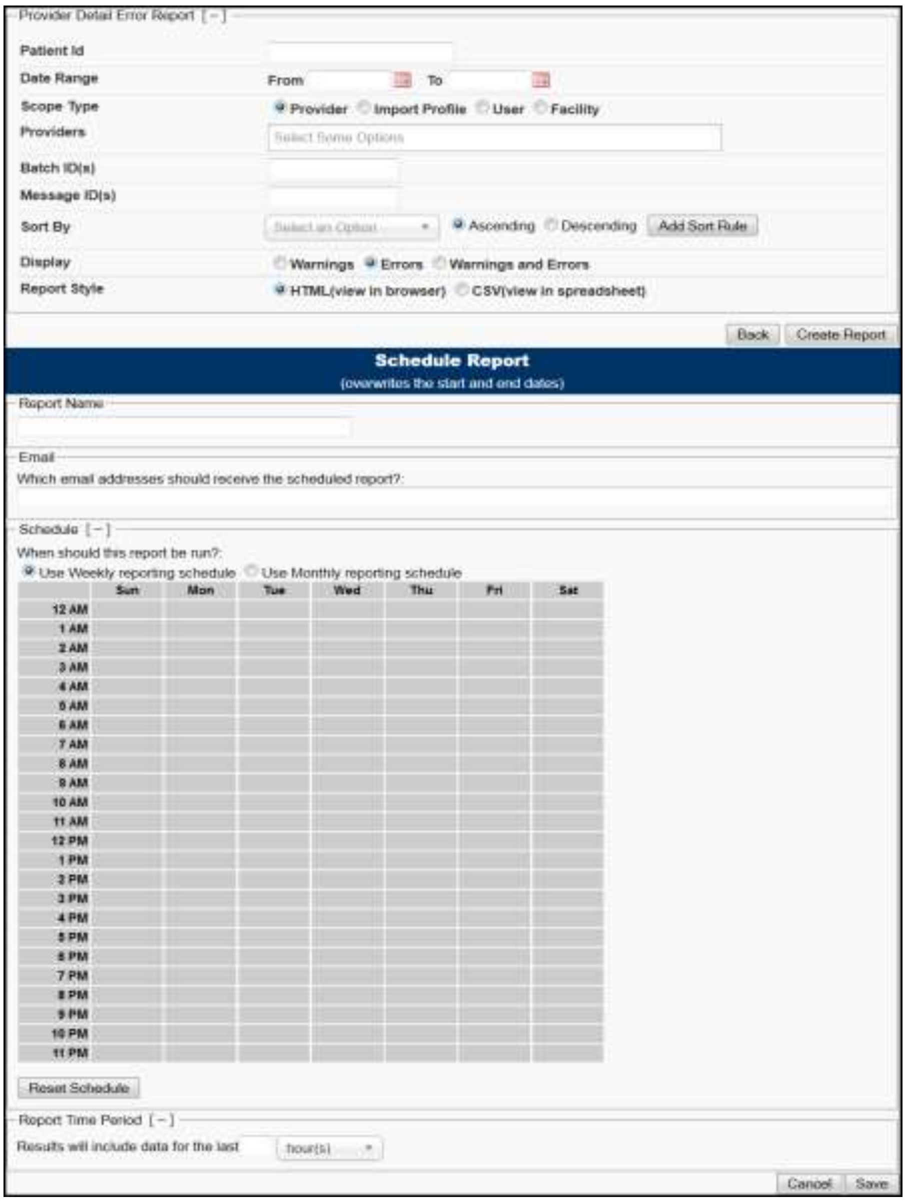
Vaccination Date Range: 06/01/2011 to 12/01/2011

Your request found no invalid vaccinations. Your input: IRMS: 1000, Facility: TEST FAC, VFC Pin: None.

Provider Detail Error Report

The Provider Detail Error Report will detail message errors for providers after they are live so they can continue to monitor their data accuracy and completeness. This report will detail the various errors and warnings that are identified by the PHC-Hub validations set-up by the state. The report includes date of message import and message error type by medical record number, message ID and vaccine date if available in message.

1. From the **REPORTS** menu, click **PROVIDER DETAIL ERROR REPORT** and then click **CREATE.** The "Provider Detail Error Report" screen appears.



2. The fields are described in the table below.

Field	Description
Patient ID	To limit the report by a Patient ID, enter the ID. **Note**: After clicking a selection, the checkbox automatically selects.
Date Range	To limit the report by the FROM and TO dates in using the format MM/DD/YYYY. **Note**: After clicking a selection, the checkbox or radio button automatically selects.
Scope Type	Search at the Provider, Import Profile, User or Facility level.
Providers	Select provider(s) from the drop down list.
Batch ID(s)	Enter batch ID(s) to search on.
Message ID(s)	Enter PHC-Hub assigned message ID(s) to search on.
Sort By	To select a field to sort by, simply click on it and the field will be identified in the box. The fields available to sort on can be one of the following: • Provider • Facility ID • User • Import Profile ID • Error/Warn • Date Sent • MRN • Issue • Historical • Message Control ID • Vaccination Date • Vaccine Name The results can be sorted by Ascending or Descending order. A Sort Rule can also be entered. Once you select the **ADD SORT RULE** button, another line will be added for the capability to add another field to sort on. To delete the additional sort on, select the "X". 
Display By	To limit the report to display Errors, or Warnings and Errors, or Warnings.
Report Style	HTML (view in web browser) or CSV (view in spreadsheet)
SCHEDULE REPORT OPTIONS (Overwrites the start and end dates)	
Report Name	Name the report.

Email	Enter email(s) for who is to receive the report. If there is more than one email address, separate each with a comma.
Field	**Description**
Schedule	Run the report Weekly or Monthly If Weekly is selected • Click one box corresponding to day/time • Click on several boxes by holding the CTRL key • Hold the left mouse and highlight several boxes If Monthly is selected • Select a run time from the drop down • Click one box corresponding to day/time • Click on several boxes by holding the CTRL key • Hold the left mouse and highlight several boxes
Reset Schedule	Click on this button to clear any selections that have been made to schedule the report.
Report Time Period	The results will include data for the last number of hours, days, weeks, or months.

3. Select the report criteria
4. Click one of the available buttons:
    - **CREATE REPORT** button to display the report in a new browser window. These instructions assume you clicked the CREATE button (Illustration is shown below).
    - **CANCEL** button returns to **Reports** screen
    - **SAVE** button to schedule the report.

Report Criteria

- Start Date: March 4, 2014
- End Date: March 11, 2014
- Facilities: Ped4U
- Display: Warnings and Errors

Provider	Representative Facility ID	User	Profile	# Messages	# unique MRN	# Errors	# Warnings
14629	Ped4U	PHC_ASU	175	1	1	1	0

Message level issues

Provider	Representative Facility ID	User	Profile	Issue	Error / Warn	Date Sent	MRN	Import Log ID	Message Control ID
14629	Ped4U	PHC_ASU	175	HL7 ISSUE	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848
14629	Ped4U	PHC_ASU	175	guardian address street2 missing	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848
14629	Ped4U	PHC_ASU	175	guardian name middle missing	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848
14629	Ped4U	PHC_ASU	175	guardian ssn missing	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848
14629	Ped4U	PHC_ASU	175	next of kin name middle missing	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848
14629	Ped4U	PHC_ASU	175	next of kin ssn missing	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848
14629	Ped4U	PHC_ASU	175	patient address country missing	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848

Vaccination issues

Provider	Facility ID	User	Profile	Issue	Error / Warn	Date Sent	MRN	Import Log ID	Message Control ID	Vaccination Date	Vaccine Family
14629	Ped4U	PHC_ASU	175	vaccination cpt code missing	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848	07/23/2010	HepA
14629	Ped4U	PHC_ASU	175	vaccination date more than 30 days ago	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848	07/23/2010	HepA
14629	Ped4U	PHC_ASU	175	vaccination facility id unrecognized	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848	07/23/2010	HepA
14629	Ped4U	PHC_ASU	175	vaccination lot unrecognized	W	Mar 10, 2014 2:45:43 PM	FF0001	3484	20100723094848	07/23/2010	HepA

Custom Report

This report allows an administrator to easily monitor whether or not an interface is meeting certain expectations. The results of these reports can be automatically emailed to one or more recipients, either conditionally (i.e., only if an interface fails to meet an expectation) or unconditionally. The most basic, and arguably the most important, function that this tool can serve is to immediately alert immunization program staff to problems with an interface (i.e., an interface is down).

At the heart of the **Custom Report** are one or more *expectations*. These are conditions that are expected to be met by the specified provider import(s). There are two types of expectation: *Frequency Timing* and *Issue Occurrences*. These are conditions that check the number of specified message type (error status) sent in within a specified period of time. These expectations are configured using a set of drop-downs that construct a human-readable sentence describing what the expected outcome should be. Each report can have multiple expectations associated with it, and they will be broken down on the report output.

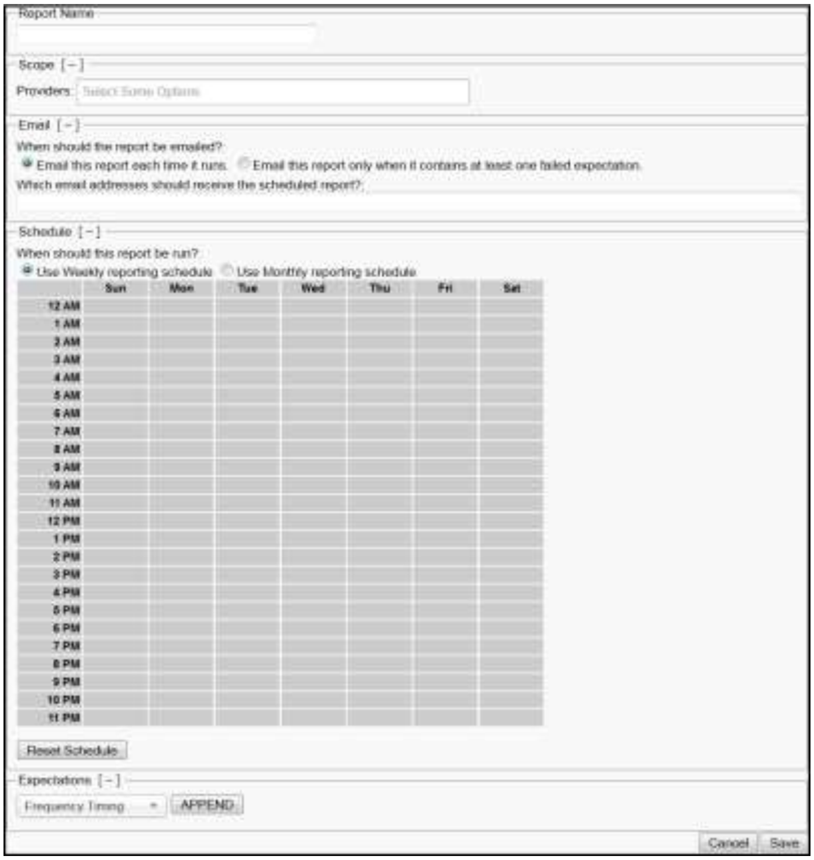
1. From the **REPORTS** menu, click **CUSTOM REPORT.** The "Custom Report" screen appears.

2. The fields are described in the table below.

Field	Description
Patient ID	To limit the report by a Patient ID, enter the ID. **Note**: After clicking a selection, the check box is automatically checked.
Start Date	To limit the report by the Start Date of the messages imported, type the FROM and TO dates in using the format MM/DD/YYYY. **Note**: After clicking a selection, the check box or radio button is automatically checked.
End Date	To limit the report by the End Date of the messages imported, type the FROM and TO dates in using the format MM/DD/YYYY. **Note**: After clicking a selection, the check box or radio button is automatically checked.

Scope Type	Search at the Provider, Import Profile, User or Facility level.
Provider	Select provider(s) from the drop down list.
Batch ID(s)	Enter batch ID(s) to search on.
Message ID(s)	Enter PHC-Hub assigned message ID(s) to search on.

3. New Report - user creates report by selecting the required expectations.



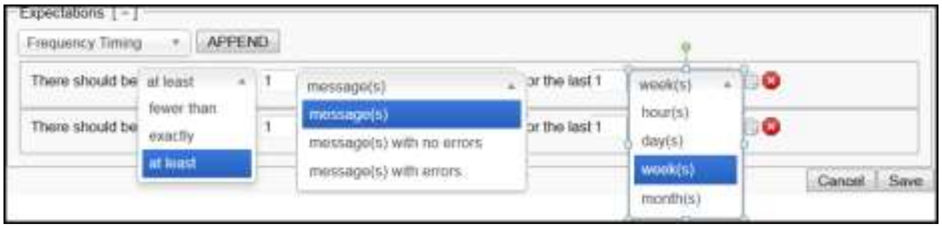
4. The fields are described in the table below.

Field	Description
Report Name	Name the report.
Scope	Select the provider(s) from the drop down.
Email	Enter email(s) for who is to receive the report. If there is more than one email address, separate each with a comma.
Schedule	Run the report Weekly or Monthly If Weekly is selected • Click one box corresponding to day/time • Click on several boxes by holding the CTRL key • Hold the left mouse and highlight several boxes

	If Monthly is selected • Select a run time from the drop down • Click one box corresponding to day/time • Click on several boxes by holding the CTRL key • Hold the left mouse and highlight several boxes
Reset Schedule	Erase newly selected dates/times.
Expectations	Select *Frequency Timing* or *Issue Occurrences*
Append	Adds another line to enable user to select

5. Select the Expectations

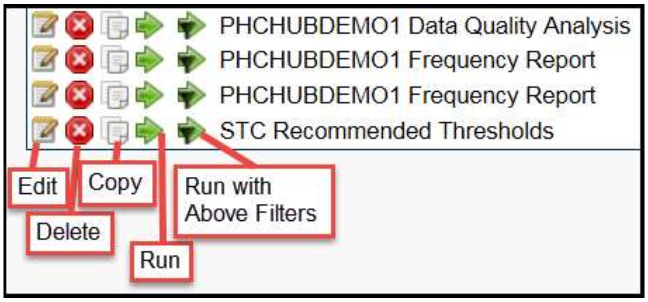
- Frequency Timing



- Issue Occurrences

6. STC Recommended Thresholds - user begins with predetermined expectations, but can change or delete expectations.

7. Click one of the available buttons:
   - **CANCEL** button returns to **Reports** screen
   - **SAVE** button to schedule the report.
8. From the main **Custom Report** page, users can edit, delete, copy, run as is and run with above filters reports as necessary. Users can manually trigger reports for immediate execution from this page as well.



Show Scheduled Reports

A list of reports will be displayed that have been scheduled and their current status. You may also delete a scheduled task from the list.

1. From the **REPORTS** menu, click the **SHOW SCHEDULED REPORTS** option. The "Scheduled Reports" screen appears.

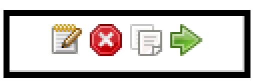
Scheduled Reports

Name	Created By	Created On	Last Modified	Actions
Sample Custom report	RC	2015-02-16 18:43:30.0	2015-02-16 18:43:30.0	
Sample Provider Detail Error	RC	2015-02-16 18:43:02.0	2015-02-16 18:43:02.0	

Showing 1 to 2 of 2 entries

2. Each column can be sorted on by selecting the arrow at the end of each column heading.

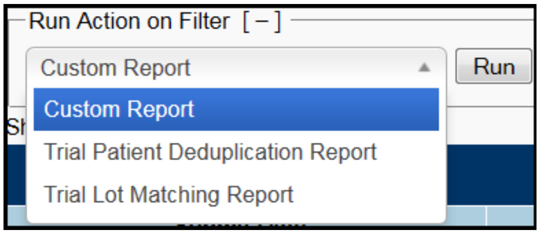
3. The following **ACTIONS** can be taken:



- Edit
- Delete
- Copy
- Run

Show Report Tasks

This is similar to the scheduled reports but it really only deals with two reports, Trial Patient De-duplication Report and Trial Lot Matching Report. Neither of these reports are working at this time.



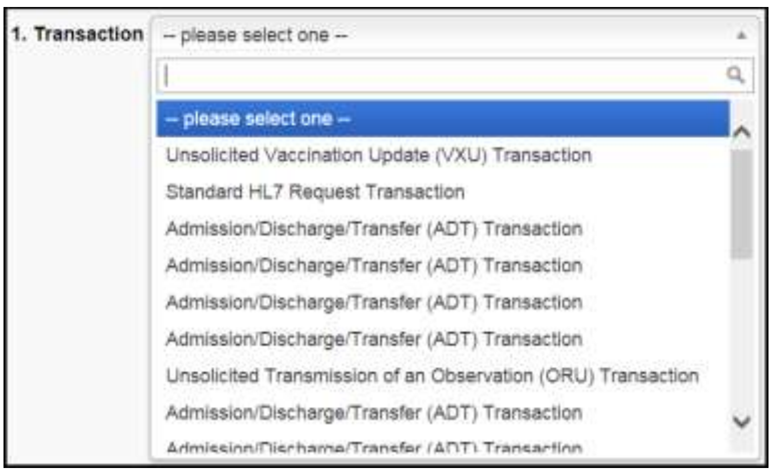
Chapter 13: Test Menu

The Test Menu provides a sand box for HL7 developers to validate the format and content of HL7 messages. There are two windows for HL7 testing. The first is when the HL7 interface is created, and the second is when a provider starts to send data. This testing area has been designed for the first test window.

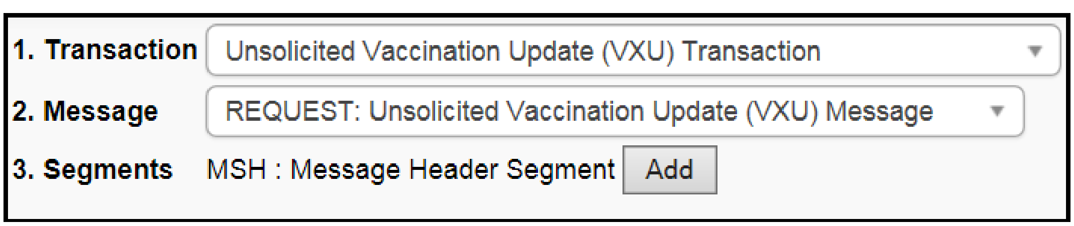
Message Constructor

The message constructor allows for rapid creation of sample messages based on the STC HL7 API. To create a sample message follow these steps:

1. From the **TEST** Menu, click on the **MESSAGE CONSTRUCTOR** option. The "Transaction" drop-down menu appears.
2. Click on the drop-down menu to view/select a transaction. A transaction is a defined request/response. For example VXU/ADT is an Unsolicited Vaccination Update (VXU) Transaction.

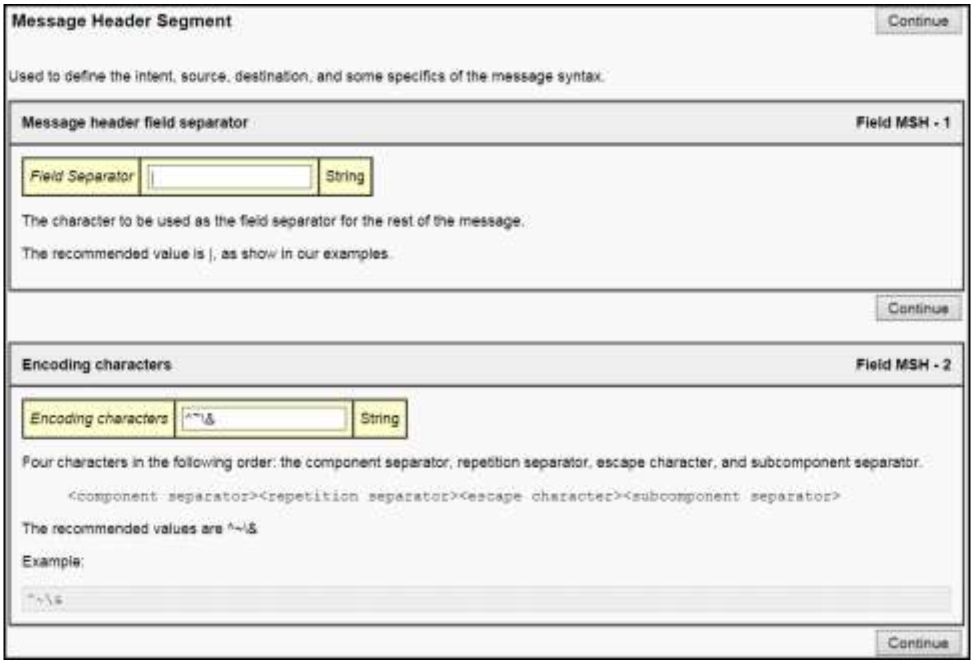


3. Once you select a Transaction, two additional lines appear (Line 2 and Line 3):



4. Click the **MESSAGE** drop-down menu to view/select a message to build.

5. In the **SEGMENT** field, click the **ADD** button. The "Message Header Segment" screen appears.



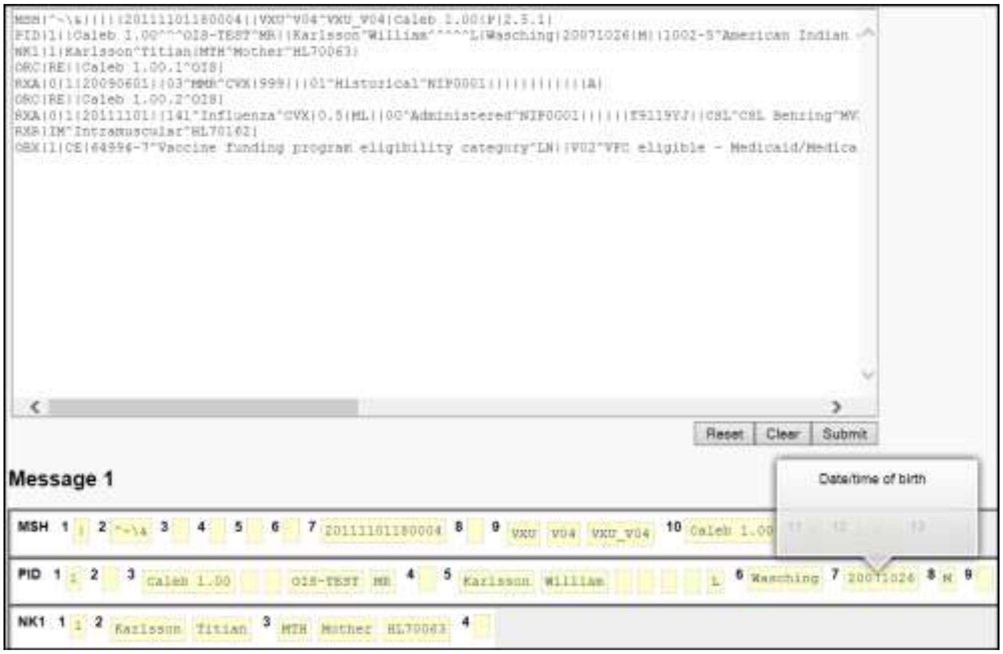
6. Review all the fields, enter the required information, and click **CONTINUE**. If there are warnings or errors, correct them and resubmit. You may ignore errors and warnings if you wish; the new segment is displayed in the text box below.
7. Repeat previous steps until the message is built.

Note: Please refer to the CDC HL7 Version 2.5.1 Implementation Guide for Immunization Messaging to get the most current acceptable values for the message fields to be populated.

Quick View

Quick view shows an HL7 message broken into its segments, fields, repeats, and sub-components. This view only shows how the message is parsed by a generic HL7 parser and does not account for required fields or values. Use this instead of counting pipes in a text editor.

1. From the **TEST** Menu, click the **QUICK VIEW** option. The "Message View" appears.

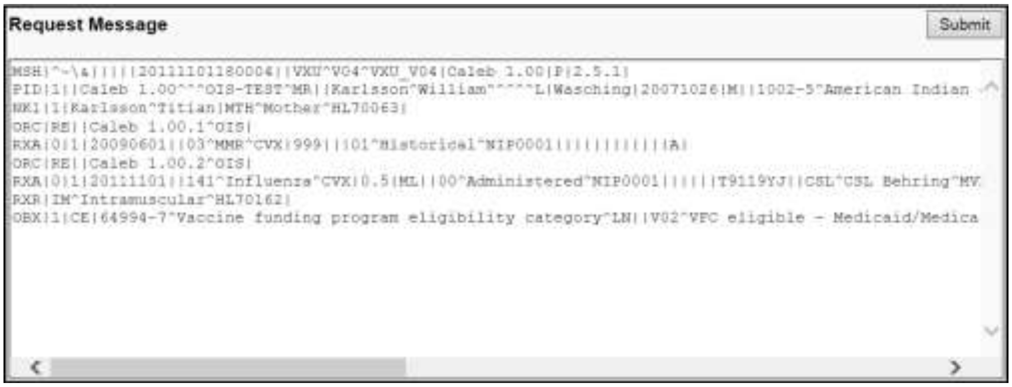


2. Cut and paste your message in the Message Content and then click one of the available buttons:
   - **RESET** - erases any new content that was entered.
   - **CLEAR** - erases all content from the view.
   - **SUBMIT** - sends the message and displays the appropriate deconstructed field values in yellow fields.
3. Observe the yellow fields below the screen that display the appropriate HL7 field value. If you hover your mouse on top of the field, a tool-tip appears with the description for the field value. Refer to the illustration above to see the Date/Time of birth tool-tip.

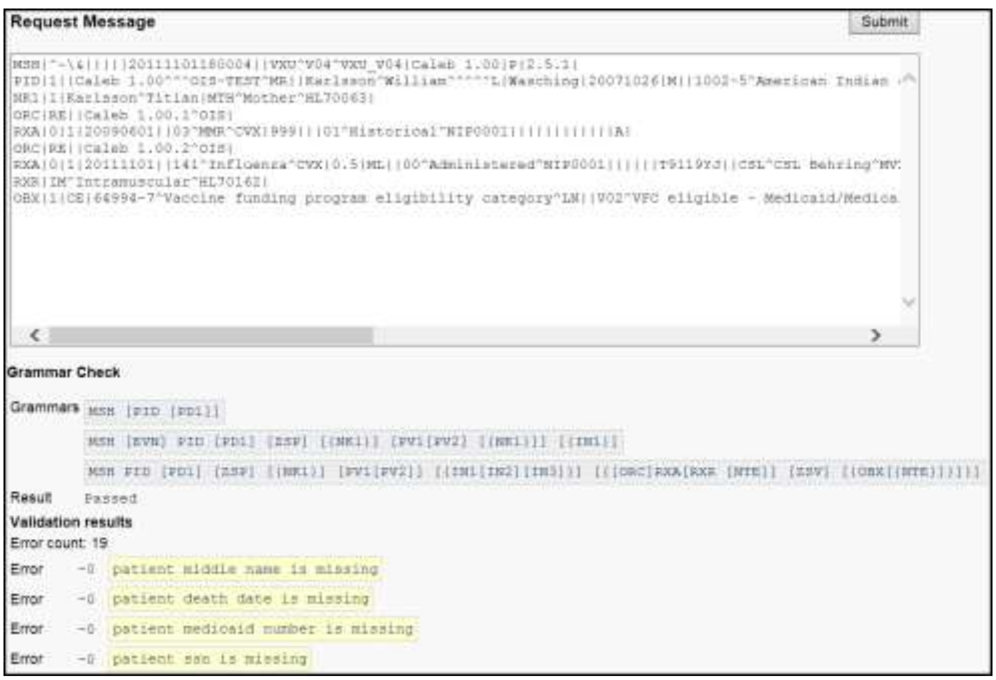
Request Debug

Request debug allows a test message to be processed through the STC HL7 API and displays the grammar and validation checks performed in line with comments from the documentation. To use this option, perform the following:

1. From the **TEST** menu, click the **REQUEST DEBUG** option. The "Request Message" screen appears (similar to the screen shown above but with only a SUBMIT button).



2. Paste a sample HL7 message in the Request Message area and click the **SUBMIT** button. The "Grammar Check" screen appears.



3. Review the Grammar Check section and verify that it passed all grammar checks. Grammar checks verify that the segments are in the correct order according to the HL7 specification for that message. Most messages have more than one

applicable grammar; each one is applied in order to ensure correct message structure.

4. If the message passes the grammar check, it is validated. Validation gives specific details about each field and what issues were identified.

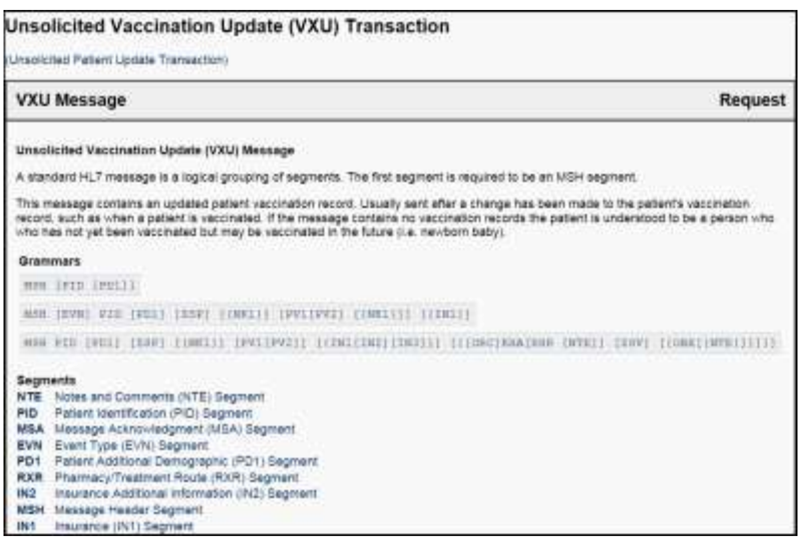
Transaction Handlers

Transaction handlers provide a view of the HL7 message structure which is similar to the Request Debug except there is no test data to compare to. The documentation associated with the transaction handlers gives a window into the world of the STC HL7 API. View the message structure by performing the following:

1. From the **TEST** menu, click the **TRANSACTION HANDLERS** option. The "Transaction Handler" screen appears.

Transaction Handler	Name	Message Type	Message Trigger	Sending Application	Sending Facility	HL7 Version
Unsolicited Vaccination Update (VXU) Transaction	VXU	VXU				All Versions
Standard HL7 Request Transaction	GENERAL					All Versions
Admission/Discharge/Transfer (ADT) Transaction	ADT^A16	ADT	A16			All Versions
Admission/Discharge/Transfer (ADT) Transaction	ADT^A28	ADT	A28			All Versions
Admission/Discharge/Transfer (ADT) Transaction	ADT^A15	ADT	A15			All Versions
Admission/Discharge/Transfer (ADT) Transaction	ADT^A14	ADT	A14			All Versions
Unsolicited Transmission of an Observation (ORU) Transaction	ORU	ORU	R01			All Versions
Admission/Discharge/Transfer (ADT) Transaction	ADT^A31	ADT	A31			All Versions

2. From the "Transaction Handler" column, click the **TRANSACTION HANDLER** hyperlink. The "Transaction" screen appears (a sample is shown below; however, each transaction's information will differ).



3. Review the Grammars and list of Segments.
4. Select the appropriate segment by clicking it.
5. Review the documentation for each field.

Code Tables

The Code tables option displays the internal code tables of the STC HL7 API that reflect the standard code values as defined by HL7 and the CDC that are applicable in the immunization domain. To see code values, perform the following:

1. From the **TEST** menu, click the **CODE TABLES** option. The "Code Tables" list appears.

HL7-RXA-10	User-defined Table - Vaccination administering provider type code
HL70001	User-defined Table 0001 - Sex
HL70005	User-defined Table 0005 - Race
HL70008	HL7-defined Table 0008 - Acknowledgment code
HL70038	HL7-defined Table HL70038 - Order status
HL70048	HL7-defined Table HL70048 - What subject filter
HL70063	User-defined Table 0063 - Relationship
HL70064	User-defined Table 0064 - Financial class
HL70070	HL7-defined Table HL70070 - Specimen source codes
HL70078	HL7-defined Table HL70078 - Abnormal flags
HL70080	HL7-defined Table HL70080 - Nature of abnormal testing
HL70091	HL7-defined Table 0091 - Query priority

2. Review the list of code tables and select the appropriate code to view by clicking it. The "Code Table" contents appear.

User-defined Table 0001 - Sex

Value	Description	Notes
F	Female	
M	Male	
O	Other	
U	Unknown	

Depreciated Values
Use the new values listed below instead of old values.

Old Value	New Value
T	U
H	U

3. View the User-Defined Table (at the top of the screen, also referred to as the base table), followed by Depreciated Values. (The HL7 API automatically translates "old codes" into "new codes.")

Chapter 14: Actions Menu

Actions Menu

Actions are steps that need to be taken to move projects forward. They could be as simple as "call John" or as complex as "write a change request document for the provider." Actions are performed by contacts in the context of a project. You cannot create actions directly, but you can create them in a project. A "project" represents all the steps (referred to as "actions") to onboard and take a Provider live. This includes initial discovery steps all the way up to installing and maintaining the provider relationship with the registry.

The Action menu provides quick links to help project contacts to keep on top of tasks. Once an option is selected, you can print the tasks using the **PRINT PREVIEW** button which opens up a new window providing the option to **PRINT**. Since the **PRINT PREVIEW** and **PRINT** buttons appear for each option, this option is only illustrated once.

Note: The Actions menu is one of the elements of the "Interface Status Manager." The elements that comprise the Interface Status Manager include:

- **Projects** - Consists of all the information needed to take a provider live. For example, Client Name, Provider Name, System Name, etc.
- **Contacts** - These are the people you need to work with in order to complete a project. For example, a representative from the provider site, a state registry worker, or EHR representative.
- **Actions** - The steps needed to move a project toward completion. For example, "Call John," or "write a change request document for the provider." Actions are performed by contacts; thus, a project must have a contact before an action can be performed.
- **Phases** - Represent how "close" a project is to completion and all refer to the status of a project. For example, "Discovery," or "Training,"

Each element has a dedicated menu chapter. A "project" must be created first in order for the other elements to make any sense. Refer to the devoted chapters titled for each of the menus for instructions on creating/editing project details.

Due Today

Action items that are scheduled to be started, reviewed, expected, or completed today. To display all the Action Items due today, perform the following:

1. From the **ACTIONS** menu, click the **DUE TODAY** option. The "Project Actions Due Today" screen appears with or without any actions.

Project Actions Due Today — Print Preview

	Client	Project	Date Due	Description
1	PRO	Onboard Provider Organization	01/07/2015	Join the call please.
		01/07/2015 8:31:11 AM	End of Report	

2. To print the actions, click the **PRINT PREVIEW** button to open a new window, and then press the **PRINT** button.

Over Due

Action items that should have been completed but have not. To display all the Action Items that are Overdue, perform the following:

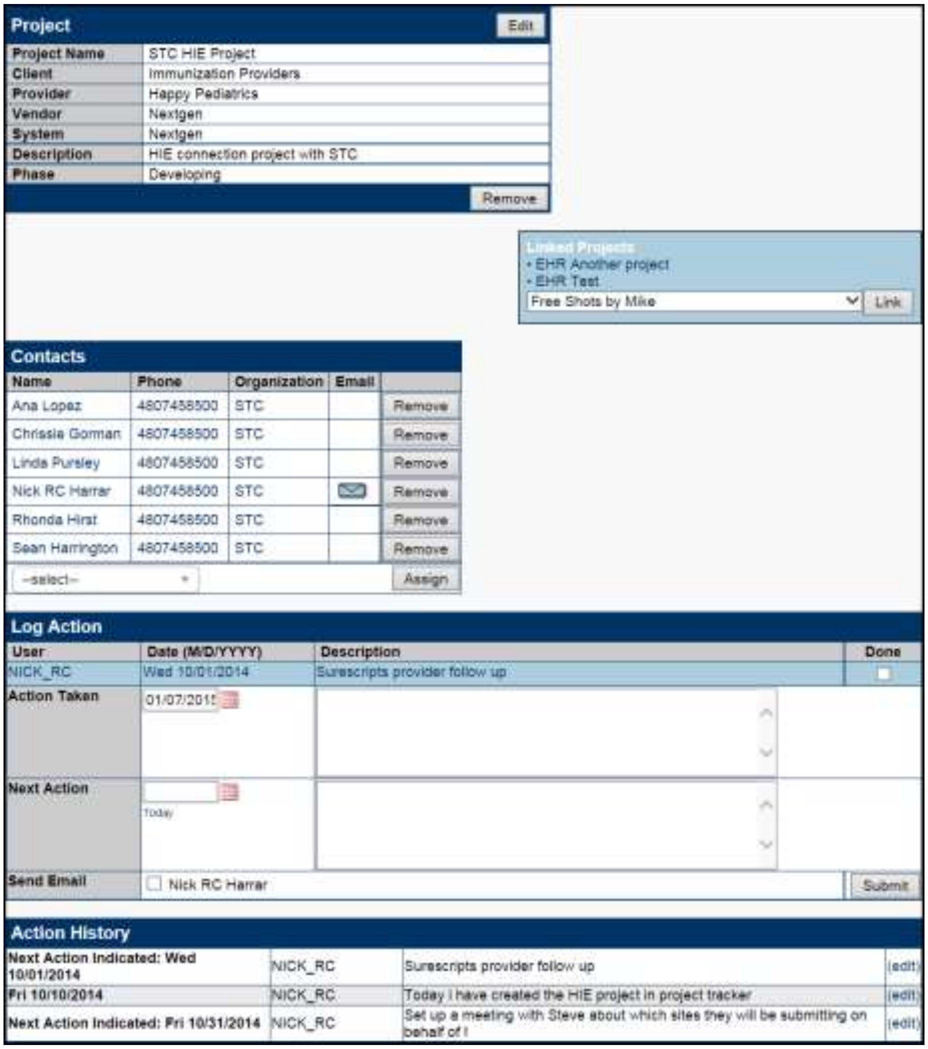
1. From the **ACTIONS** menu, click the **OVER DUE** option. The "Project Actions Over Due" screen appears with or without any actions.

Project Actions Over Due — Print Preview

	Client	Project	Date Due	Description
1	EHR	Another project	06/09/2014	afdaRER
2	EHR	Another project	07/27/2014	afdgdfg
3	PRO	STC HIE Project	10/01/2014	Surescripts provider follow up
4	EHR	Another project	10/08/2014	and then
5	PRO	Project Blue	10/10/2014	done
6	PRO	Project Blue	10/23/2014	Testing next action
7	PRO	Project Blue	11/05/2014	dfsdfadf
8	PRO	Second Test Project for Linking	11/07/2014	Next Action 2
		01/07/2015 9:23:15 AM	End of Report	

2. To print the actions, click the **PRINT PREVIEW** button to open a new window, and then press the **PRINT** button.

3. To view the details of the project, which include Project Information, Contacts, Actions, and Phase, click on the Project Action row. The "Project Details" appear.



4. To edit the "Project Details," refer to the menu for the task you want to do. For example, to edit a Contact, refer to the "Contacts Menu" chapter.

Pending

Action items that will need to be completed at a later date or have not been completed. To display all the Action Items that are Pending, perform the following:

1. From the **ACTIONS** menu, click the **PENDING** option. The "Project Actions Pending" screen appears with or without any actions.

Project Actions Pending — Print Preview

	Client	Project	Date Due	Description
1	EHR	Another project	06/09/2014	afdaRER
2	EHR	Another project	07/27/2014	afdgdfg
3	PRO	STC HIE Project	10/01/2014	Surescripts provider follow up
4	EHR	Another project	10/08/2014	and then
5	PRO	Project Blue	10/10/2014	done
6	PRO	Project Blue	10/23/2014	Testing next action
7	PRO	Project Blue	11/05/2014	dfsdfadf
8	PRO	Second Test Project for Linking	11/07/2014	Next Action 2
9	PRO	Onboard Provider Organization	01/07/2015	Join the call please.

01/07/2015 9:30:19 AM End of Report

2. To print the actions, click the **PRINT PREVIEW** button to open a new window, and then press the **PRINT** button.

Complete

Actions that have been completed. To display all the Action Items that are Complete, perform the following:

1. From the **ACTIONS** menu, click the **COMPLETE** option. The "Project Actions Complete" screen appears with or without any actions.

Project Actions Completed — Print Preview

	Date	Client	Project	Action
1	01/07/2015	PRO	Onboard Provider Organization	Completed call today.

01/07/2015 9:34:19 AM End of Report

2. To print the actions, click the **PRINT PREVIEW** button to open a new window, and then press the **PRINT** button.

Chapter 15: Projects Menu

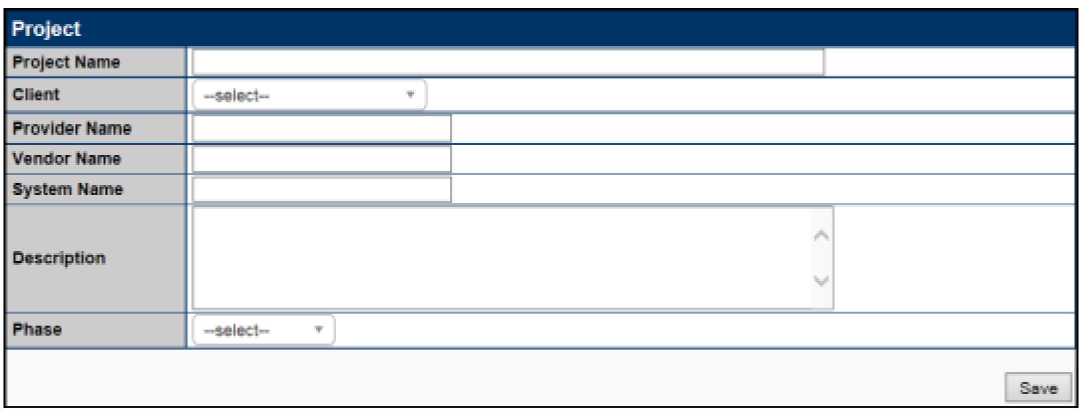
Keeping track of projects is the single most important activity to speed implementation of interfaces. All interface projects should be tracked by projects. Typically there is one project for each interface or provider. The actual division of activities into projects depends on how the efforts are organized.

A project represents all the steps needed to take a provider live. This includes initial discovery steps all the way up to installing and maintaining the provider relationship with the registry.

New Project

A new project is created here to keep track of the provider information. To create a new project, perform the following:

1. From the **PROJECTS** menu, click the **NEW PROJECT** option. The "Project" screen appears.



2. The fields are described in the table below.

Field	Description
Project Name	This is the name of the project. You want to type a name that is intuitive to the provider and project.
Client Name	Name of the client which is more of a type. For example, EHR Vendors or Immunization Providers. Click the drop-down menu arrow to view/select a type.
Provider Name	Name of the Provider.
Vendor Name	Name of the Vendor.
System Name	Name of the System.
Description	Any other information that describes the project you are creating.

Phase	Phase the project is currently in. Click the drop-down menu arrow to view/select a valid phase. Examples are: • Discovery • Planning • Developing • Testing • Training • Installing • Live • Suspended • Closed • Unknown

3. Type/select data for the fields and then click the **SAVE** button. The "Project Details" screen appears. Continue to the section titled, "Project Details" for additional information.

Select Project

After a project is created, it will display in this list. To select and use a project, perform the following:

1. From the **PROJECTS** menu, click the **SELECT PROJECT** option. The "All Projects" list appears.

All Projects — Print Preview

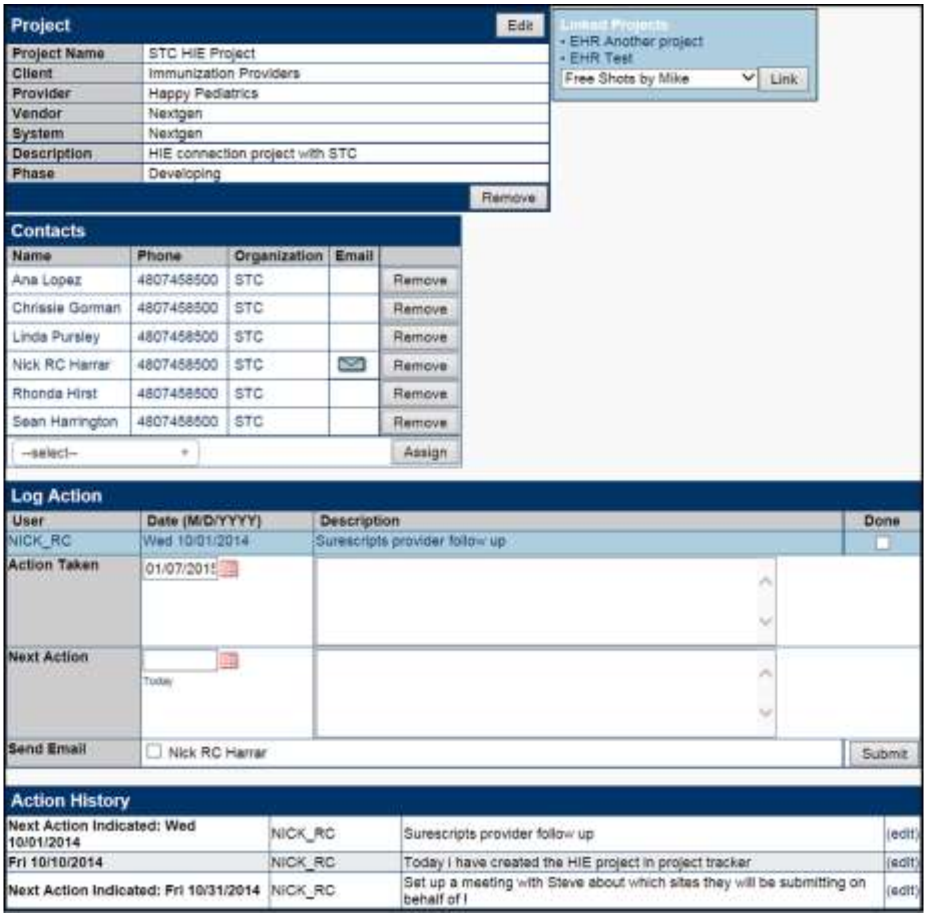
	Client	Project	System	Phase
1	PRO	Brenda's Test	My System	TEST
2	PRO	Sherri's Project		DISC
End of Report		07/27/2011 4:12:25 PM		

2. You can **SORT** the projects by clicking on a column header (Client, Project, System, and Phase). Columns will sort in ascending/descending order.
3. To view the **PROJECT DETAILS**, click the project row. The "Project Details" screen appears. Continue to the section titled, "Project Details" for more information.
4. You can print the project list by clicking the **PRINT PREVIEW** button. A new window appears with the list and a PRINT button. Click the **PRINT** button to submit the list to the printer.

Project Details

The Project Details option displays all the information about the project. It lists the Project information, Contacts, Actions, and Action History. To view the Project Details, perform the following:

1. From the **PROJECTS** menu, click the **PROJECT DETAILS** option. The "Project Details" screen appears for the project you were viewing previously. A sample is shown below.



2. The following tasks can be performed on this screen:
   - **EDIT** the Project Information - Continue to the section titled, "New Project" for instructions.
   - **PRINT PREVIEW** of the Project Information - Click the PRINT PREVIEW button and then click the PRINT button.
   - **REMOVE the Project** by clicking the **REMOVE** button. There is no warning when you remove a project; it immediately is removed.
   - **REMOVE A CONTACT** from the project by clicking the REMOVE button in the Contacts section. Continue to the chapter titled, "Contacts Menu" for more information.

- **ASSIGN A CONTACT** to a project by clicking the ASSIGN button in the Contacts section. Continue to the chapter titled, "Contacts Menu" for more information.
- **LOG AN ACTION** by typing the information in the **DESCRIPTION** column and/or **SEND AN EMAIL**. Type/select the data and click the **SUBMIT** button.

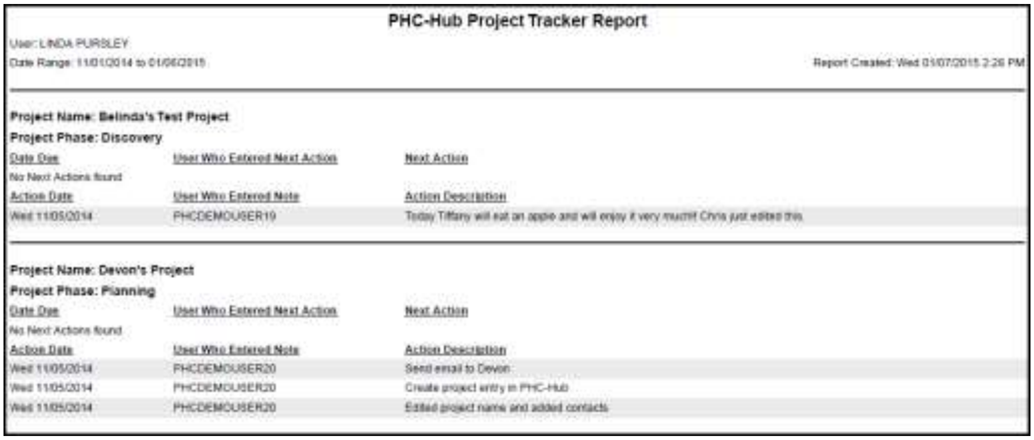
Project Tracker Report

This report will display information in a PDF file for a specified date range regarding the activities and status of projects identified in the Project Tracker module. The information will contain a summary view of one or more projects that has new note entries within the time period entered. **Note**: In order for the Project Tracker Report to run, a project must exist within the specified date range.

To run the report, perform the following:

1. From the **PROJECTS** menu, click the **PROJECT TRACKER REPORT** option. The "Project Tracker Report" parameters screen appears.

2. Type the **FROM** and **TO** dates using the format mm/dd/yyyy or click the Calendar Icon to select a date. Once the dates are entered, the "Date Range" checkbox automatically selects.
3. Click the **CREATE REPORT** button. The report displays in PDF format. A sample is shown below.



PHC-Hub Project Tracker Report

User: LINDA PURSLEY
Date Range: 11/01/2014 to 01/06/2015
Report Created: Wed 01/07/2015 2:26 PM

Project Name: Belinda's Test Project
Project Phase: Discovery

Date Due	User Who Entered Next Action	Next Action
No Next Actions found		

Action Date	User Who Entered Note	Action Description
Wed 11/05/2014	PHCDEMOUSER19	Today Tiffany will eat an apple and will enjoy it very much!! Chris just edited this

Project Name: Devon's Project
Project Phase: Planning

Date Due	User Who Entered Next Action	Next Action
No Next Actions found		

Action Date	User Who Entered Note	Action Description
Wed 11/05/2014	PHCDEMOUSER20	Send email to Devon
Wed 11/05/2014	PHCDEMOUSER20	Create project entry in PHC-Hub
Wed 11/05/2014	PHCDEMOUSER20	Edited project name and added contacts

4. Click the Browser's **BACK** button to return to the application.

Chapter 16: Contacts Menu

New Contact

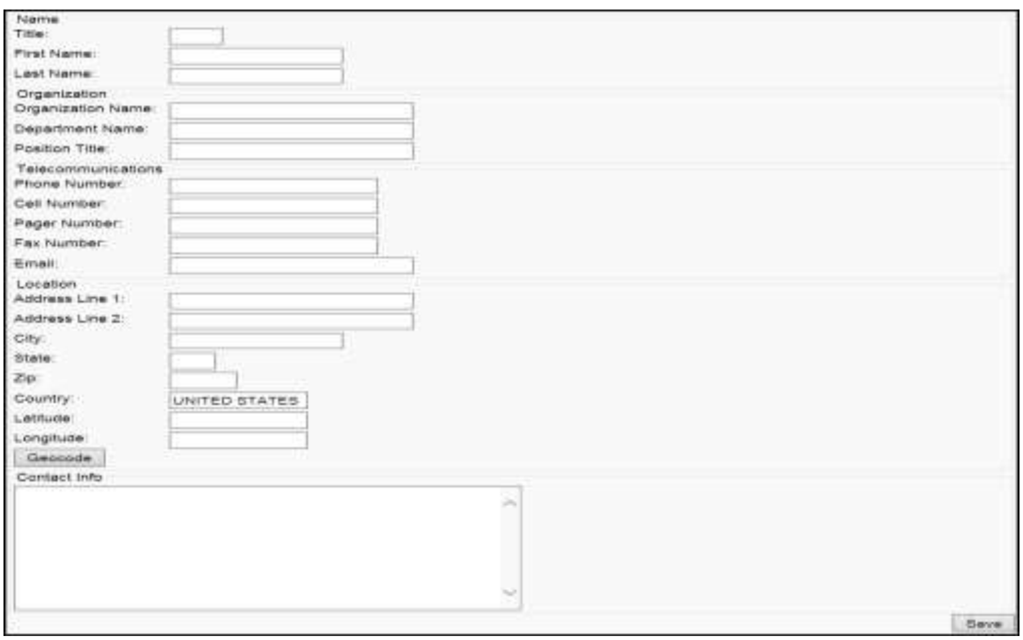
Contacts are people you need to work with in order to complete a project. They may include a representative at the provider site, a state registry worker, or an EHR representative. Multiple contacts will be necessary for every project you create.

Keeping track of Project Contacts is crucial to the success in integration projects. This section allows users to add, edit, and view Project Contacts. A few important points should be remembered:

- The only required fields are contacts first and last name. All other fields are optional.
- Search the list before adding a contact. It is easy to add a duplicate.
- To speed data entry of new contacts, the new contact will have certain fields automatically filled in from the last selected contact.
- Once a contact has been created, click on a project and associate the contact to the project.
- A contact can be associated with as many projects as desired.

To create a New Contact, perform the following:

1. From the **CONTACTS** menu, click the **NEW CONTACT** option. The "Project Contact Add" screen appears.



2. The fields are described in the table below:

Field	Description
Name	
Title	Title of Contact
First Name	First Name **(Required)**
Last Name	Last Name **(Required)**
Organization	
Organization Name	Name of the Contact's Organization.
Department Name	Name of the Contact's Department.
Position Title	Name of the Contact's Position Title.
Telecommunications	
Phone Number	Contact's telephone number.
Cell Number	Contact's cellular number.
Pager Number	Contact's pager number.
Fax Number	Contact's facsimile number.
Email	Contact's Email Address.
Location	
Address Line 1	Line one of the Contact's Address.
Address Line 2	Line two of the Contact's Address.
City	Contact's City
State	Contact's State
Zip	Contact's Zip.
Country	Contact's Country name.
Latitude	No functionality at this time.
Longitude	No functionality at this time.
Geocode	No functionality at this time.
Contact Info	Any additional information about the Contact.

3. At a minimum, enter the **FIRST** and **LAST NAMES**. All other fields are optional.
4. Click the **SAVE** button.
5. The "Project Contact" screen appears.

Project Contact	Edit
Name	Dr. Thomas Biggey
Organization Name	Biggey Pediatrics
Department Name	
Position Title	Doctor
Phone Number	756-903-3563
Cell Number	756-764-4231
Pager Number	
Email	tbiggey@gmail.com
Fax Number	756-903-3564
Address Line 1	238 Harper Valley Rd
Address Line 2	Suite 103
City, State, Zip	Somewhere, KY42141
Country	UNITED STATES

T. Biggey is the only doctor working in practice.

5. **EDIT** the Contact information by clicking the EDIT button.

View Contacts

The View Contacts option displays a list of Contacts. To view the list, perform the following:

1. From the **CONTACTS** menu, click the **VIEW CONTACTS** option. The "Projects Contacts List" appears.

Project Contacts — Print Preview

	First Name	Last Name	Organization	Phone Number	City	State
1	Mohammad		e-MDs			
2	Dr.		Allcare Medical Clinic			
3	Gina		Jefferson Healthcare			

2. The following tasks can be performed on this screen:
   - **PRINT PREVIEW** - to display a new window with the displayed list. Click the **PRINT** button to submit your list to a printer.
   - **DISPLAY CONTACT DETAILS** - to display the "Contact Details" screen. First, position your cursor on the row to display and click it.

Chapter 17: Phases Menus

View Phases

To view the phases' list, perform the following:

1. From the **PHASES** menu, click the **VIEW PHASES** option. The "Phases" list appears.

Phases — Print Preview

	Code	Phase
1	Closed	1
2	Developing	2
3	Discovery	8
4	Installing	0
5	Live	2
6	Planning	6
7	Suspended	1
8	Testing	2
9	Training	0
10	Unknown	0

01/07/2015 3:07:38 PM End of Report

2. The fields are described in the table below:

Field	Description
Seq #	Although the column is untitled, it is a placeholder for each row and is in numerical order.
Code	Phase name.
Phase	Total number of Projects in the phase.

3. To view the projects that are in the phase selected, click on the applicable row. The "Project Phase" list appears.

Project Phase: Testing View

Projects by Phase — Print Preview

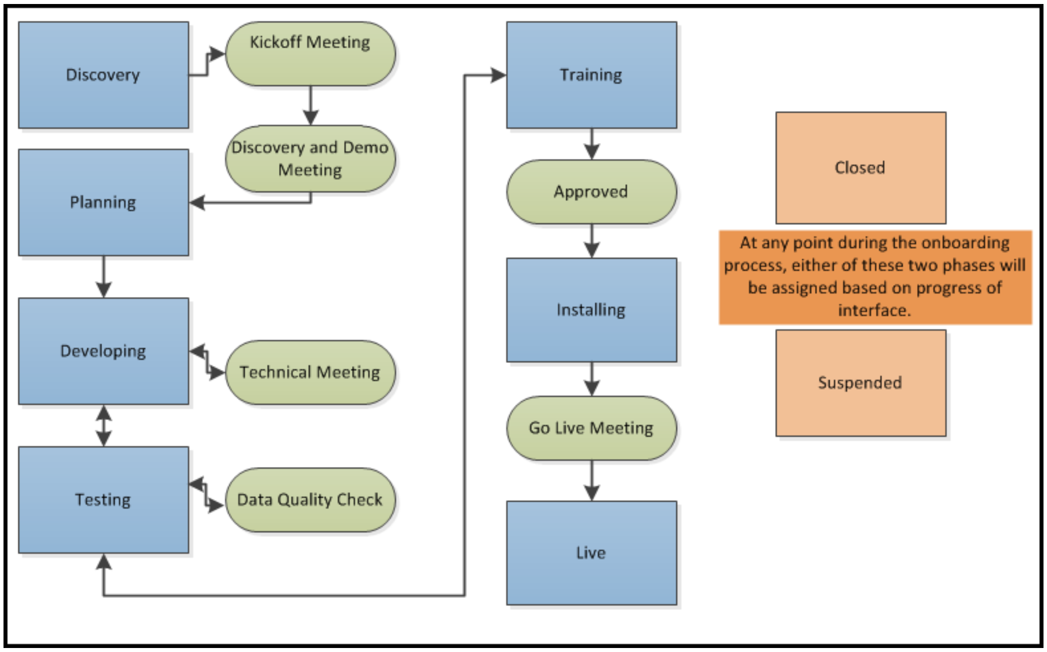
	Client	Project	System
1	EHR	Another project	
2	EHR	Test	test

01/07/2015 4:05:31 PM End of Report

4. Tasks you can perform on this screen are:
   - **To view another phase**, select from the drop down and click View.
   - **To view a Project's Details** - Click on a row. The "Project Details" screen appears.
   - **PRINT PREVIEW -** Click the PRINT PREVIEW button to open a new window providing the option to print using the **PRINT** button.
5. An interface project should be broken up into phases. Tracking by phases will help participants focus on what needs to be done next. Here are the phases:

- **Discovery** - The project is proposed, but the details are not known at this point. This is the phase initial, no work has been completed.
- **Planning** - After it is decided that an interface would be a good idea, a Kickoff Meeting is held and plans are made for the new interface. This meeting must include technical and management people. If the project is complicated, the planning stage may include formal documents, technical meetings, and presentations. Simple projects may get by with less planning.
- **Developing** - If there is technical work involved in this project, it will have to be developed. This technical work can happen on either or both sides of the interface. Developers will take the requirements that were created in the Planning phase to make changes.
- **Testing** - The developers will need to test their new interface before declaring their work to be done. They will have to go back and forth to the Developing phase until the interface is working properly. Once the interface is working properly, the data quality coming from the source system needs to be certified that it meets the data quality standards of the receiving system. For registries receiving data this means that they are doing the data quality check. If the data is going from the registry to another system, then that system is doing the data quality check.
- **Training** - This phase entails any training that needs to be completed by the provider (workflow issues within the practice) or registry staff (trained on troubleshooting lot decrementing).
- **Installing** - Now that the software and the data has passed inspection, the interface can be installed. A meeting should be held with the same participants as the Kickoff Meeting and the final decision to go live should be made.
- **Live** - The interface is now live. The certification process should be repeated regularly to ensure data quality.
- **Closed** - If it is determined that the issues with the interface cannot be resolved, the project can be closed.
- **Suspended** - If an interface has begun and issues arise that need to be resolved, the project can be suspended until those issues have been resolved.

6. By tracking projects in these stages it can be easier to show progress to highlight the areas of effort that need focus. It also prevents discouragement by creating a clear road map that can be used to gauge success.



Chapter 18: Master Client Index (MCI) Web Service Interface

MCI Web Interface Summary

In order to support an electronic interface between the immunization registry (such as VacTrAK) and the Master Client Index (MCI), MultiView, a web service is available at <context path>/soa/getPatientListingRequest/getPatientListing.wsdl. This web service allows user accounts with the "PHC-Hub Run Web Service Export" permission to query the registry for all patient demographic updates that have occurred since the last time a query was made from that account. Optionally, a date can be passed to the web service causing the query to return all updates that have occurred since that date rather than since the last time a query was made.

Making an MCI Patient Information Request

Patient information request parameters:

1. date (optional; YYYYMMDD format)
2. username (user account created in VakTrAK)
3. password

MCI Patient Information Returned

The patient information returned consists of the following information:

1. SIIS ID Number
2. Medicaid ID Number
3. SSN
4. first name
5. middle name
6. last name
7. suffix
8. birth date
9. gender
10. mother's maiden name
11. race
12. inactive code
13. physical address
14. secondary address

In addition to the patient information, a reply code may be returned if there is a problem processing the request. The codes include "Invalid username or password" and "internal error."

MCI Restrictions on Patient Data Returned

1. Medicaid ID has a maximum length of 16 characters.
2. SSN has a maximum length of 11 and must be a valid SSN.
3. First, last,and middle names have a maximum length of 48 characters.
4. Suffix has a maximum length of 5 characters.
5. Birth date will be returned in YYYYMMDD format.
6. Gender must match one of the following codes:
   - M
   - F
   - U
   - O
7. Mother's maiden name has a maximum length of 48 characters.
8. Race must match one of the following values:
   - Multi-racial
   - Native Hawaiian or Other Pacific Islander
   - Other
   - Unknown
   - *American Indian
   - *Alaskan Native
   - Asian
   - Black or African American
   - White
   - Hispanic-Latino
   - *These two race codes are separated for AK, but combined for all other states.
9. Inactive code must match one of the following values:
   - ACTIVE
   - REMOVED
   - MERGE
10. Addresses consist of the following components:
    - Address line 1
    - Address line 2
    - City name
    - State
    - Zip code
11. Address components have the following restrictions:
    - Address Line 1 and Line 2 have a maximum length of 45 characters.
    - City Name has a maximum length of 30 characters.

- State is a two-character postal code.
- Zip code must be between 5 and 10 characters long and must consist of only numbers.

Appendix A: Sample Messages

Sample VXU Message

2.3.1

```
MSH|^~\&|EPIC|SIISCLIENT818^LINDAS TEST
ORGANIZATION|||||VXU^V04^VXU_V04|225|P|2.5.1||||AL|
PID|1||E46749^^^^MR^||DOE^JOHN^C^JR^^^L|SMITH|20140515|M|SMITH^JOHN|210
6-3^WHITE^HL70005|115 MAIN
STREET^^GOODTOWN^KY^42010^USA^L^010||^PRN^PH^^^270^6009800||EN^ENGLISH^
HL70296||||523968712|||2186-5^NOT HISPANIC OR LATINO^HL70012||||||||N|
PD1|||LINDAS TEST
ORGANIZATION^^SIISCLIENT818|^^^^^^^^^^^^MR||||||02^Reminder/recall-any
method^HL70215|||||A^Active^HL70441|20150202^20150202
NK1|1|DOE^MARY|MTH^MOTHER^HL70063|

PV1||R||||||||||||||||||V02^20150202|

ORC|RE||9645^SIISCLIENT001||||||20150202111146|2001^HARVEY^MARVIN^K|
RXA|0|1|20150202|20150202|20^DTaP^CVX^90700^DTAP^CPT|.5|ML^mL^ISO+||00^
New immunization record^NIP001|JONES^MARK|^^^SIISCLIENT818||||A7894-
2|20161115|PMC^SANOFI PASTEUR^MVX||||A
RXR|ID^INTRADERMAL^HL70162|LD^LEFT DELTOID^HL70163

OBX|1|CE|64994-7^VACCINE FUNDING PROGRAM ELIGIBILITY CATEGORY^LN|1|
V02^MEDICAID^HL70064||||||F|||20150202|||VXC40^ELIGIBILITY CAPTURED AT
THE IMMUNIZATION LEVEL^CDCPHINVS
OBX|2|CE|30956-7^VACCINE TYPE^LN|2|88^FLU^CVX||||||F|||20150202102525
OBX|3|TS|29768-9^Date vaccine information statement
published^LN|2|20120702||||||F
OBX|4|TS|29769-7^Date vaccine information statement
presented^LN|2|20120202||||||F

RXA|0|1|20141215|20141115|141^influenza, SEASONAL
36^CVX^90658^Influenza Split^CPT|999|||01^HISTORICAL INFORMATION -
SOURCE UNSPECIFIED^ NIP001||||||||||||A
```

2.5.1

```
MSH|^~\&|EPIC|SIISCLIENT818^LINDAS TEST
ORGANIZATION|^SIIS||20150202115044||VXU^V04^VXU_V04|225|P|2.5.1||||AL|
PID|1||E46700^^^^MR^||DOE^JOHN^C^JR^^^L|SMITH|20140515|M|SMITH^JOHN|210
6-3^WHITE^HL70005|115 MAIN
STREET^^GOODTOWN^KY^42010^USA^L^010||^PRN^PH^^^270^6009800||EN^ENGLISH^
HL70296||||523968712|||2186-5^NOT HISPANIC OR LATINO^HL70012||||||||N|
PD1|||||||||||02^Reminder/recall-any
```

```
method^HL70215|||||A^Active^HL70441|20150202^20150202
NK1|1|DOE^MARY|MTH^MOTHER^HL70063|

ORC|RE||9645^SIISCLIENT818||||||20150202111146|2001^HARVEY^MARVIN^K|
RXA|0|1|20150202|20150202|20^DTaP^CVX^90700^DTAP^CPT|.5|ML^mL^ISO+||00^
New immunization record^NIP001|JONES^MARK|^^^SIISCLIENT818||||A7894-
2|20161115|PMC^SANOFI PASTEUR^MVX||||A
RXR|ID^INTRADERMAL^HL70162|LD^LEFT DELTOID^HL70163

OBX|1|CE|64994-7^VACCINE FUNDING PROGRAM ELIGIBILITY CATEGORY^LN|1|
V02^MEDICAID^HL70064||||||F|||20150202|||VXC40^ELIGIBILITY CAPTURED AT
THE IMMUNIZATION LEVEL^CDCPHINVS

OBX|2|CE|30956-7^VACCINE TYPE^LN|2|88^FLU^CVX||||||F|||20150202102525
OBX|3|TS|29768-9^Date vaccine information statement
published^LN|2|20120702||||||F
OBX|4|TS|29769-7^Date vaccine information statement
presented^LN|2|20120202||||||F

RXA|0|1|20141215|20141115|141^influenza, SEASONAL
36^CVX^90658^Influenza Split^CPT|999|||01^HISTORICAL INFORMATION -
SOURCE UNSPECIFIED^ NIP001||||||||||||A
```

Sample ACK Message

```
MSH|^~\&|^^|DOE^^|DCC^^|DOE^^|20050829141336||ACK^|1125342816253.100000
055|P|2.3.1|
MSA|AE|00000001|Patient id was not found, must be of type
'MR'|||^^HL70357|
ERR|PID^1^3^^^HL70357|
```

Sample VXQ Message

```
MSH|^~\&|DBO^QSInsight^L|QS4444|5.0^QSInsight^L||20030828104856+0000||V
XQ^V01|QS444437861000000042|P|2.3.1|||NE|AL|
QRD|20030828104856+0000|R|I|QueryID01|||5|000000001^Bucket^Pail^^^^^^^^
^^MR|VXI|SIIS|
QRF|QS4444|20030828104856+0000|20030828104856+0000||100000001~19460401~
~~~~~~~~~1 Somewhere Lane Boulevard^Indianapolis^IN~10000|
```

Sample QCK Message

```
MSH|^~\&|5.0^QSInsight^L|^^|DBO^QSInsight^L|QS4444^^|20051019154952||QC
K^|1129754992182.100000002|P|2.3.1|
MSA|AA|QS444437861000000042|No patients found for this query|
QAK||NF|
```

Sample VXX Message

```
MSH|^~\&|5.0^QSInsight^L|^^|DBO^QSInsight^L|QS4444^^|20051019163235||VX
X^V02|1129757555111.100000025|P|2.3.1|
MSA|AA|QS44443786100000004 2||
QRD|20030828104856|R|I|QueryID01|||5|10^SNOW^MARY^^^^^^^^^^SR|VXI^Vacci
ne Information^HL70048|SIIS|
QRF|QS4444|20030828104856|20030828104856||100000001~20021223|
PID|1||41565^^^^SR~2410629811:72318911||SNOW^MARY^^^^^L||20021223|F|||2
NORTH WAY RD^^MOORESVILLE^INDIANA^46158^^M||(317)123-
4567^^PH||EN^English^HL70296|||||||||||||||N|
PID|2||28694^^^^SR~2663391364:111111111||FROG^KERMIT^^^^^L||20021223|
NK1|1|PIGGY^MISS|GRD^Guardian^HL70063|
```

Sample VXR Message

```
MSH|^~\&|5.0^QSInsight^L|^^|DBO^QSInsight^L|QS4444^^|20051019163315||VX
R^V03|1129757595953.100000029|P|2.3.1|
MSA|AA|QS44443786100000004 2||
QRD|20030828104856|R|I|QueryID01|||5|41565^SNOW^MARY^^^^^^^^^^SR|VXI^Va
ccine Information^HL70048|SIIS|
QRF|QS4444|20030828104856|20030828104856||100000001~20021223|
PID|1||41565^^^^SR~2410629811:72318911||FROG^KERMIT^^^^^L||20021223|F||
|3 SOUTH WAY RD^^MOORESVILLE^INDIANA^46158^^M||(317)222-
1234^^PH||EN^English^HL70296|||||||||||||||N|
PD1|||^^^^^^SR|^^^^^^^^^^^^SR|||||||02^Reminder/recall -any
method^HL70215|||||A^Active^HL70441|
PV1||R|
```

Sample ORU Message

```
MSH|^~\&|LinkLogic-2149|2149001^BMGPED|CHIRPS-
Out|BMGPED|20060915210000||ORU^R01 |1473973200100600|P|2.3|||NE|NE
PID|1||00000-0000000|000000|AAAAAAAA^AAAAAA^A||00000000|M||U|00000 A AA
AA AAA^^AAAAAA^AA^00000 ||(000)000-0000|||S|||000-00-0000
PV1|1|O|^^^BMGPED||||dszczepaniak
OBR|1|||5^Preload|||20060915095920|||||||||donaldduck||ZZ
OBX|1|ST|CPT-90707.2^MMR #2||given||||||R|||20040506095950
OBX|2|ST|CPT-90737.4^HEMINFB#4||given||||||R|||19931103100050
OBX|3|ST|CPT-90707.1^MMR #1||given||||||R|||19931103095950
OBX|4|ST|CPT-90731.3^HEPBVAX#3||given||||||R|||19930712100120
OBX|5|ST|CPT-90731.2^HEPBVAX#2||given||||||R|||19930112100120
OBX|6|ST|CPT-90737.3^HEMINFB#3||given||||||R|||19930112100050
OBX|7|ST|CPT-90731.1^HEPBVAX#1||given||||||R|||19921027100120
OBX|8|ST|CPT-90737.2^HEMINFB#2||given||||||R|||19921027100050
OBX|9|ST|CPT-90737.1^HEMINFB#1||given||||||R|||19920826100050
```

Sample QBP Message

```
MSH|^~\&||GA0000||MA0000|199705221605||QBP^Q11^QBP_Q11|19970522GA40|T|2
.5.1|||NE|AL|||||Z34^CDCPHINVS|
QPD|Z34^Request Immunization
History^CDCPHINVS|19970522GA05|25^^^STATE_IIS^MR|FLOYD^FRANK^R^^^^L|MAL
```

```
LARD^F|20030123|M|8444 N. 90th Street^Suite
100^Scottsdale^AZ^85258^USA^L|^PRN^PH^^^480^7458554
RCP|I|20^RD|R
```

Sample RSP Message - Exact Match

```
MSH|^~\&|^^|MA0000^^|^^|GA0000^^|20111105122535||RSP^K11^RSP_K11|132052
1135996.100000002|T|2.5.1|||||||||Z32^CDCPHINVS^^|
MSA|AA|19970522GA40||
QAK|||Z34^Request Immunization History^HL70471|
QPD|Z34^Request Immunization
History^HL70471|19970522GA05||FLOYD^FRANK^^^^^L|MALIFICENT|20030123|M|L
|
PID|1||25^^^^SR~0001||FLOYD^FRANK^^^^^L||20030123|M|||612 S WRIGHT
CT^^KENNEWICK^WASHINGTON^99366^United States^M||(509)421-
0355^^PH^^^509^4210355^|||||||||||||||||N|
PD1|||^^^^^^SR|21^MATT^SHAKY^K^^^^^^^^^SR~1679652135|||||||02^Reminder/
recall -any method^HL70215|||||A^Active^HL70441|
NK1|1|FLOYD^MALIFICENT|GRD^Guardian^HL70063|
PV1||R|
ORC|RE||25.34.20100723|
RXA|0|999|20100723|20100723|83^Hep A, ped/adol, 2 dose^CVX^90633^Hep A
2 dose - Ped/Adol^CPT~34^Hep A 2 dose - Ped/Adol^STC0292|
999|||00^New immunization record^NIP001||IRMS-
1000||||AHAVB379AA||SKB^GlaxoSmithKline^HL70227||||A|20111105122536|
RXR|IM^Intramuscular^HL70162|LT^Left Thigh^HL70163|
OBX|1|CE|VFC-STATUS^VFC Status^STC||V02||||||F|
OBX|1|CE|30963-3^Vaccine purchased with^LN||PBF^Public
funds^NIP008||||||F|
OBX|1|CE|VFC-STATUS^VFC Status^STC||||||||F|
OBX|1|DT|29768-9^date vaccine information statement
published^LN||20100120||||||F|
OBX|1|DT|29769-7^date vaccine information statement
presented^LN||20100723||||||F|
ORC|RE||25.34.20100728|
```

Sample RSP Message - Multiple Matches

```
MSH|^~\&|^^|MA0000^^|^^|GA0000^^|20111104153354||RSP^K11^RSP_K11|132044
6034070.100000002|T|2.5.1|||||||||Z31^CDCPHINVS^^|
MSA|AA|19970522GA40||
QAK|||Z34^Request Immunization History^HL70471|
QPD|Z34^Request Immunization
History^HL70471|19970522GA05||^JOHN^^^^^L|Que^MALIF^^^^^M|20030123|M|L|
PID|1||25^^^^SR||FLOYD^FRANK^^^^^L||20030123|
PD1|||^^^^^^SR|^^^^^^^^^^^^^SR|
NK1|1|FLOYD^MALIFICENT|GRD^Guardian^HL70063|
PID|2||85^^^^SR||HENRY^JOHN^^^^^L||20011010|
PD1|||^^^^^^SR|^^^^^^^^^^^^^SR|
NK1|1|^MARY|GRD^Guardian^HL70063|
PID|3||26^^^^SR||KENNEDY^JOHN^FITZGERALD^^^^L||19900607|
```

```
PD1|||^^^^^^SR|^^^^^^^^^^^^SR|
NK1|1|KENNEDY^JACQUELINE^LEE|GRD^Guardian^HL70063|
```

Sample RSP Message - With Forecast information

```
MSH|^~\&|^^|MA0000^^|^^|GA0000^^|20111105122535||RSP^K11^RSP_K11|132052
1135996.100000002|T|2.5.1|||||||||Z32^CDCPHINVS^^|
MSA|AA|19970522GA40||
QAK|||Z34^Request Immunization History^HL70471|
QPD|Z34^Request Immunization
History^HL70471|19970522GA05||FLOYD^FRANK^^^^^L|MALIFICENT|20030123|M|L
|
PID|1||25^^^^SR~0001||FLOYD^FRANK^^^^^L||20030123|M|||612 S WRIGHT
CT^^KENNEWICK^WASHINGTON^99366^United States^M||(509)421-
0355^^PH^^^509^4210355^|||||||||||||||||N|
PD1|||^^^^^^SR|21^MATT^SHAKY^K^^^^^^^^^SR~1679652135|||||||02^Reminder/
recall -any method^HL70215|||||A^Active^HL70441|
NK1|1|FLOYD^MALIFICENT|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|
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^Pneumococcal^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||20151001||||||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|
```

Sample VXU Message - With Contraindications

```
MSH|^~\&||MA0000||GA0000|19970901||VXU^V04|19970522MA53|T|2.3.1|||NE|AL
|
PID|||1234^^^^SR^~1234-
12^^^^LR^~3872^^^^MR~221345671^^^^SS^~430078856^^^^MA^||KENNEDY^JOHN^FI
TZGERALD^JR^^^L| BOUVIER^^^^^^M|19900607|M|KENNEDY^BABYBOY^^^^^^B|2106-
3^WHITE^HL70005|123 MAIN ST^APT 3B^LEXINGTON^MA^00210^^M^MSA
CODE^MA034~345 ELM ST^^BOSTON^MA^00314^^BDL~^^^^^^BR^^MA002||(617)555-
1212^PRN^PH^^^617^5551212^^||EN^ENGLISH^ HL70296^^^|||||||N^NOT
HISPANIC OR LATINO^HL70189^2186-5^NOT HISPANIC OR
LATINO^CDCRE1|CHILDREN'S HOSPITAL|
PD1|||CHILDREN'S CLINIC ^L^1234^^^^FI^LEXINGTON
HOSPITAL&5678&XX|12345^WELBY^MARCUS^^^DR^MD^^^L^^^DN|||||||03^REMINDER/
RECALL - NO CALLS^HL70215|Y|19900607|||A|19900607|19900607|
NK1|1|KENNEDY^JACQUELINE^LEE|MTH^MOTHER^HL70063||||||||||||||||||||||||
||||||898666725^^^^SS|
NK1|2|KENNEDY^JOHN^FITZGERALD|FTH^FATHER^HL70063|||||||||||||||||||||||
||||||||822546618^^^^SS|
PV1||R|||||||||||||||A|||V02^19900607~H02^19900607|
RXA|0|1|19900607|19900607|08^HEPB-PEDIATRIC/ADOLESCENT^CVX^90744^HEPB-
PEDATRIC/ADOLESCENT^CPT|.5|ML^^ISO+||03^HISTORICAL INFORMATION - FROM
PARENT'S WRITTEN RECORD^NIP0001|^JONES^LISA|^^^CHILDREN'S
HOSPITAL||5|MCG^^ISO+|MRK12345|199206|MSD^MERCK^MVX|
RXA|0|4|19910907|19910907|50^DTAP-HIB^CVX^90721^DTAP-
HIB^CPT|.5|ML^^ISO+||00^NEW IMMUNIZATION
```

```
RECORD^NIP0001|1234567890^SMITH^SALLY^S^^^^^^^^^VEI~1234567891^O'BRIAN^
ROBERT^A^^DR^MD^^^^^^OEI|^^^CHILD HEALTHCARE CLINIC^^^^^101 MAIN
STREET^^BOSTON^MA||||W46932777|199208|PMC^PASTEUR MERIEUX
CONNAUGHT^MVX|||CP|A|19910907120030|
RXR|IM^INTRAMUSCULAR^HL70162|LA^LEFT ARM^HL70163|
RXA|0|5|19950520|19950520|20^DTAP^CVX|.5|ML^^ISO+|||1234567891^O'BRIAN^
ROBERT^A^^DR|^^^CHILD HEALTHCARE CLINIC^^^^^101 MAIN
STREET^^BOSTON^MA||||W22532806|19950705|PMC^PASTEUR MERIEUX
CONNAUGHT^MVX|
RXR|IM^INTRAMUSCULAR^HL70162|LA^LEFT ARM^HL70163|
OBX|1|CE|30963-3^Vaccine purchased with^LN||PBF^Public
funds^NIP008||||||F|
OBX|2|CE|VFC-STATUS^VFC Status^STC||V02||||||F|
OBX|3|TS|29768-9^DATE VACCINE INFORMATION STATEMENT
PUBLISHED^LN|1|19950520||||||F|||20100920
OBX|4|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED
^LN|1|19950520||||||F|||20100920
RXA|0|0|20090531132511|20090531132511|3^MMR^CVX|0||||^Sticker^Nurse|^^^
DCS_DC||||||
OBX|1|CE|30945-0^Vaccination
contraindication/precaution^LN|1|26^allergy to
thimerasol(anaphylactic)^STC||||||F|||20090415
RXA|0|1|20090531132511|20090531132511|3^MMR^CVX|999||||^Sticker^Nurse|^
^^DCS_DC||||||||8
```

Appendix B: Workaround for GE Centricity®

Older versions of the GE Centricity® EHR system (known as Logician) do not support the VXU message as required by the CDC to connect to registries; however, it does support the ORU message which is normally used to report lab test results. This format is unusual, but can be used to transfer the data.

Logician has a module called LinkLogic which includes LabLink. While LabLink's main use is for receiving test result data from labs it can be used to export data. Vaccination data is stored in Logician using OBSTERM codes, which can be grouped together into Flowsheets. An export interface is associated with a Flowsheet and all associated OBSTERM codes can then be exported.

Logician has a novel way of storing immunizations and this makes the interface quite a bit different from other HL7 interfaces. Here is a small subset of OBS TERM codes for one vaccine, DTaP:

Selected OBS TERM Codes

DTaP	CPT	Date	By	Lot	MVX
1st	90700	DTAP #1	DTAP #1BY	DTAP #1LOT	DTAP #1MFR
2nd	90700	DTAP #2	DTAP #2BY	DTAP #2LOT	DTAP #2MFR
3rd	90700	DTAP #3	DTAP #3BY	DTAP #3LOT	DTAP #3MFR
4th	90700	DTAP #4	DTAP #4BY	DTAP #4LOT	DTAP #4MFR
5th	90700	DTAP #5	DTAP #5BY	DTAP #5LOT	DTAP #5MFR

While most immunization applications use one code to represent a DTaP series, Logician uses nearly fifty (50). Each code represents a different aspect of a particular dose in a series.

To integrate with IWeb, these codes have to be translated into CPT codes. An XML document fragment must be pasted into the HL7 Server Settings page. To make creating and editing this XML easier, a spreadsheet named, "IWeb-Logician Code Map" has been created. This spreadsheet holds all the Logician codes and can automatically generate the XML

IWeb-Logician Code Map Spreadsheet

The code map spreadsheet should only be edited by someone who understands how MS Excel works and is able to create and edit formulas. If you are unfamiliar with MS Excel, you may wish to have someone review this spreadsheet with you to explain how to edit it properly.

The "CODES" tab in the spreadsheet holds the IWeb-Logician Code Table Mapping and has these columns:

- OBS TERM - The OBS TERM as assigned by Logician.
- TYPE - The type of data this code holds. Valid choices include:
  - DATE - Vaccination date. This field is required in order to add a vaccination in IWeb.
  - MVX - Manufacturer code.
  - BYID - Vaccinator ID.
  - BYNAME - Vaccinator name
  - LOT - Manufacturer lot number.
  - MVX - Manufacture MVX code.
  - ROUTE - Route of administration.
  - SITE - Site of administration (on body).
  - HIST - Vaccination was not administered here.
  - VACCVFC - Vaccination VFC status.
  - ATID - Facility where vaccination given.
  - EXP - Expiration date, not used.
  - VACCTYPE - Vaccination was publicly or privately supplied.
  - ACTION - Vaccination was added, updated, or deleted.
- CPT - This is the code that will be imported into IWeb. If no CPT code is specified, then this code will not be put in the XML.
- DOSE - The dose number this code belongs to. Although this is not imported into IWeb, it is important to know which dose number a code refers to so it can be distinguished when multiple doses are sent together. This must be filled in.
- OBS ID - Another internal representation of the OBS CODE. Both codes are sent in HL7 messages and IWeb only reads the OBS ID. The OBS CODE is the one seen by Logician users.
- DESCRIPTION - Short description of the code.
- ADDITIONAL DESCRIPTION - Longer description of the same code.

When working with a new interface, make sure that all the codes that they plan to send you are represented in the worksheet.

When you are ready to extract the XML, switch to the "XML" sheet and copy the contents in Column A and paste them into the observation settings box on the HL7 Server Settings page.

Important: The XML is automatically generated using Excel formulas. If rows are added or removed from the "CODES" spreadsheet it will affect the formulas on the "XML" spreadsheet. All the formulas, except the top and the bottom are the same. Make sure there is a formula for each row that you are putting into the XML. If you are having difficulty with the formulas, consult with someone familiar with MS Excel. Remember, the MS Excel spreadsheet has been created for your convenience; it is not required for creating the XML. There may be other ways of managing the codes that work better for you.

Exporting Logician Data

The Logician administrator configures the interface and specifies a Flowsheet that lists all the codes that are to be exported. This Flowsheet will contain the immunization codes they use and will correspond to the XML you have created.

Logician data is exported using the LabLink interface in LinkLogic. Data can be sent via TCP/IP (MLLP) or saved to a file. The HL7 Bridge can be configured to either accept the data by TCP/IP or file; either way works fine.

Appendix C: Frequently Asked Questions

1. When a VXX (RSP) message is sent what are the data elements that are included?

VXX(RSP) returns one or more patient records that are possible matches to the query. For each patient the following items are always sent if available: Guardian Name, Patient Birth Date, Patient Name, SIIS registry ID, MRN assigned by querying provider. If the query was a close match (according to the advanced searched) then the additional fields may be sent: Patient Address, Patient Birth Country, Patient Birth File Number, Patient Birth State, Email, Ethnicity, Sex, Primary Language, Medicaid Number, Mother Maiden Name, Phone, Race(s), Birth Order, Alias Name, SSN, Guardian SSN, and Guardian 2 Name. All fields are subject to registry Public/Private rules of visibility.

2. Are the data elements always the same?

If the patient is found with the "Advanced Search," then many different fields of data may be returned. If a patient is found with the additional searches, then only the minimum is returned.

3. Are only public values sent or are private values included as well?

Both public and private values are sent back, but the private fields will only have the data that was reported by the querying provider. If an SSN is returned, it will be the same SSN that was reported by this provider previously. See SIIS rules for public/private fields. These rules apply to the HL7 query interface as well.

4. **Is there a limit to the number of matches you send back in a VXX (RSP)?**

   The VXQ (QBP) message can indicate a limit and the HL7 account used to query is setup with a limit. The maximum number of matches sent back is the lower of these two limits. Any matches returned over this limit are not returned in the query and no message is given to indicate that this has occurred.

5. **What are the minimum required fields for an immunization record sent in a VXU?**

   What HL7 defines as a minimum set and what STC defines as a minimum set are different. STC defines more required fields than the HL7 specification does. Vaccination date and vaccination code (CPT or CVX) are required fields to submit a vaccination to IWeb or PHC-Hub.

6. **If a VXU was sent that didn't have the required minimum fields, would the message be dropped or would an ACK with an error message be sent back?**

   Normally IWeb or PHC-Hub will return a Negative ACK (N'ACK). This can be changed by either setting the connection preferences in IWeb as "never acknowledge" or by indicating in your HL7 message header to "never acknowledge". Under default set up, and with a normal HL7 message you should expect to always receive N'ACKs.

7. **When a VXR or a VXU is returned, are all data elements that are available for each immunization sent, or just some? If some, what are they?**

   Both the VXR (RSP Exact Match) and VXU return the same set of data. The only vaccination data that you may expect to see and will not get is Dose Number and Administered Amount.

8. **Are all validations in the same topic area mutually exclusive?**

   Yes, all validations are mutually exclusive.

9. **Why is there an issue resolution for Date of Death and how does it work?**

   The reason the issue resolution is there in and of itself is for reporting reasons. If a provider is sending in too few or too many death dates, then it may be indicative of a data quality issue. This only takes into account date of death, not any other fields.

10. Does the Vaccination VFC Status is missing issue resolution only apply to minors?

No, currently is applies to all vaccinations regardless of patient's age.

11. What is the difference between the Next of Kin issue resolutions and the Guardian issue resolutions?

The Next of Kin issue resolutions will validate ANY NK1 segment. The Guardian issue resolution only validates for those NK1s determined to be guardians (MTH, FTH, PAR, or GRD) or if the "Assume guardian for blank relationship" is enabled.
The Next of Kin issue resolutions will always trigger, but the Guardian issue resolution will only conditionally trigger. For Guardian NK1 segments, both sets of validations would trigger (Next of Kin first).

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Scientific Technologies Corporation (STC) provides this material "as is." The programmatic and technical staff used their best efforts to prepare and test this material.