



EMR Integration with ImpactSIIS (Ohio's Statewide Immunization Information System at the Ohio Department of Health)

Version 1.4

Last Updated: 2/25/2016 (Updated links)

EMR Integration with ImpactSIIS

(Step by Step Processes)

I. Data Exchange Type

1. Batch files preferred over real time for Inbound/VXU
2. Outbound/Bi-directional in real-time
2. Inbound for all HL7 versions 2.3-2.5.1
3. Outbound/Bi-directional for HL7 version 2.5.1

II. Frequency

4. Recommendation is no more frequent than every 12 hours and no less frequent than weekly for most organizations.

III. Connectivity

5. The mode of connectivity between the sender and ODH must be defined.
Refer to our "[Mode of Connectivity](#)" document.
6. Testing the connectivity if SFTP is chosen and requested.
 - a. In this process the sender will send testing file / data through newly established connectivity
 - b. ODH will verify and confirm receipt.

IV. Impact SIIS Practice Identification

7. We must identify the existence of the practice in the Immunization Registry. This action is required since in ImpactSIIS every patient, shot, and provider will be associated with one practice that oversees the data and its accuracy. In data exchange patients and shots will be associated with the same practice for future queries.

Practice registration also allows ImpactSIIS staff to train and support on-site users in a practice who will have access to add / edit / view immunization data of all patients in the system.

- a. ODH will ask the sender to send information about all the locations with providers who might order immunizations before any data exchange begins.
- b. If a practice(location) is not in ImpactSIIS, ODH will initiate the following process:
 - i. Request that the practice [register online](#) and submit a Security Agreement from the practice with an original signature
 - ii. Create a Practice Profile in ImpactSIIS and train employees at that practice
 - iii. Help the practice to load the providers into the Immunization Registry
- c. If a practice is already an ImpactSIIS user, then ODH will initiate the following

process

- i. Verify that all the providers are in ImpactSIIS.

V. Message Types

Vocabulary

8. The following are the possible message segments which can be sent between Sender and ODH
 - a. VXU
 - b. QBP
 - c. RSP
 - d. ACK
 - f. ADT (not yet developed)
 - g. DFT (not yet developed)

To create and send HL7 Messages, refer to our implementation guides for HL7 messages, segments and fields listing.

- a. For our preferred method, [HL7 version 2.5.1](#).
- b. For HL7 versions [2.3.1 through 2.5](#).

File Name Convention

9. Sender should follow the following file naming convention while forwarding data to ODH Immunization Registry.
 - a. File name should be unique. A date/time stamp can be used in the filename to make it unique; a sequence number/MSH-10 can also be used as an alternate to date/time stamp.
 - b. Do not rename the file after sending / placing the file to ODH network, since ODH will start processing the sent file immediately and re-naming will lead to conflicting errors after processing.
 - c. File extension should be either .txt or .hl7
 - d. Sending facility abbreviation or sender's telephone number should be used in the file name, for example "HA" for Health Alliance.
 - e. Message type should be used in the file name, for example 'VXU'.
 - f. Example of file name is HA_VXU_200803111106.txt or HA_VXU_200803111106.hl7

Practice / Provider Identification

10. ODH Immunization Registry shall identify these through sending facility, Provider NPI and Clinic NPI fields.
 - a. **Sending Facility:** Sender / ODH shall pass the state generated ID in MSH-4 segment to uniquely identify the sending facility. Vaccine inventory will only be affected at the practice identified in MSH-4. RXA-11 is used only to identify a sub-clinic, not a separate location with a separate inventory.

- b. **Provider NPI (National Provider Identifier) as provider identifier:** Sender / ODH shall pass Provider NPI in the RXA-10.1 segment, to identify the ordering provider of the shot. The word “NPI” shall be passed in RXA 10.13 as identifier type code. The same information could also be included in ORC 12.1 and ORC 12.13, which is the expectation for HL7 version 2.5.1.
- c. **Clinic NPI as location identifier:** Sender / ODH shall pass Clinic NPI in the RXA-11 segment, to identify the administered at location for the shot if desired.

Validation / Field Verification

11. VXU messages can be validated online through a web-based engine. This requires registration at [our online format evaluation tool](#) and then upload of a file. The tool will supply feedback for format about each field submitted. ODH prefers that no live data be submitted here. Files submitted and the feedback will be purged.
12. Fields that shall be validated for data correctness include:
 - a. **Administered Code:** The Immunization Registry prefers passing CPT Code for the vaccine administered as it is more brand specific. CVX code can be passed alone as vaccine identifier if CPT code is not available.
 - i. Submitting only the CPT code: |^^^90700^DTaP^C4|
 - ii. Submitting only the CVX code: |20^DTaP^CVX|
 - iii. Submitting both CPT and CVX codes: |20^DTaP^CVX^90700^DTaP^C4|
 - b. **PID Segment:** PID -3 Patient Identifier list should be unique at Patient Level and is required. Our preference is ‘MR’.
 - c. **Phone Format:** The phone numbers should be formatted as (614)567-8910 or 614 in PID 13.6 and 5678910 in PID 13.7.
 - d. **RXA Segment:** In RXA-15, Lot number should not be combined with Manufacturer code or any other numbers. It should be the lot number on the external package.
 - e. **GT1 Segment:** GT1 is not accepted. To send contact information, senders should use an NK1 segment.
 - f. **PV1 Segment:** PV1 segment is used to determine if the Patient is VFC eligible at the visit level. At the dose level, this information can be sent in an OBX segment, which is the expectation for HL7 version 2.5.1.
 - g. **Blank Spaces:** Leading and trailing spaces should be trimmed out before constructing HL7 messages in all segments.

VI. Testing with Data - Sender

13. Sender shall create test scenarios for each message type (VXU, QBP) they may send to ODH.
 - a. Sender should also test scenarios for Immunization Delete messages. Updates will be performed by a ‘D’ message followed by a new ‘A’ message.
 - b. Sender shall construct the message with sample data and send it to ODH to be loaded in the ImpactSIIS test environment.

VII. Testing with Data - ODH

14. ODH Immunization Registry shall do the following testing / validation once it receives the Message from the sender before loading
 - a. Is Unique file name
 - b. Is Valid HL7 Message
 - c. HL7 Code set validation
 - i. Sex
 - ii. Ethnicity
 - iii. Race
 - iv. Language
 - v. Country
 - vi. Relationship
 - vii. VFC Eligibility
 - viii. CVX
 - ix. MVX
 - x. CPT
 - xi. Body Site
 - xii. Route
 - xiii. Identifier Type
 - xiv. Action Code for Add / Delete Immunization.

VIII. Results / Outputs

15. ODH will load data, including the first production data file that is sent, into a Testing Environment.
 - a. Immunization Registry staff can load the data from VXU messages upon notification of file(s) being sent.
 - i. File should contain all immunizations entered in a defined time period.
 - ii. ODH will review results and assist clinical staff in doing the same.
 - iii. Clinical staff should validate that all immunizations on all patients are found with the correct product names and VFC eligibility, if applicable, is recorded properly.
 - b. Immunization Registry HL7 message handler will read the query (QBP) and create RSP messages as output.
16. ODH admin shall provide access to sender to open the Web application and see the uploaded file status and a report regarding loaded and rejected data. It is highly recommended that clinical staff review the data to give feedback and understand how uploading data will affect their use of the registry.