Managing Inventory with an Interface
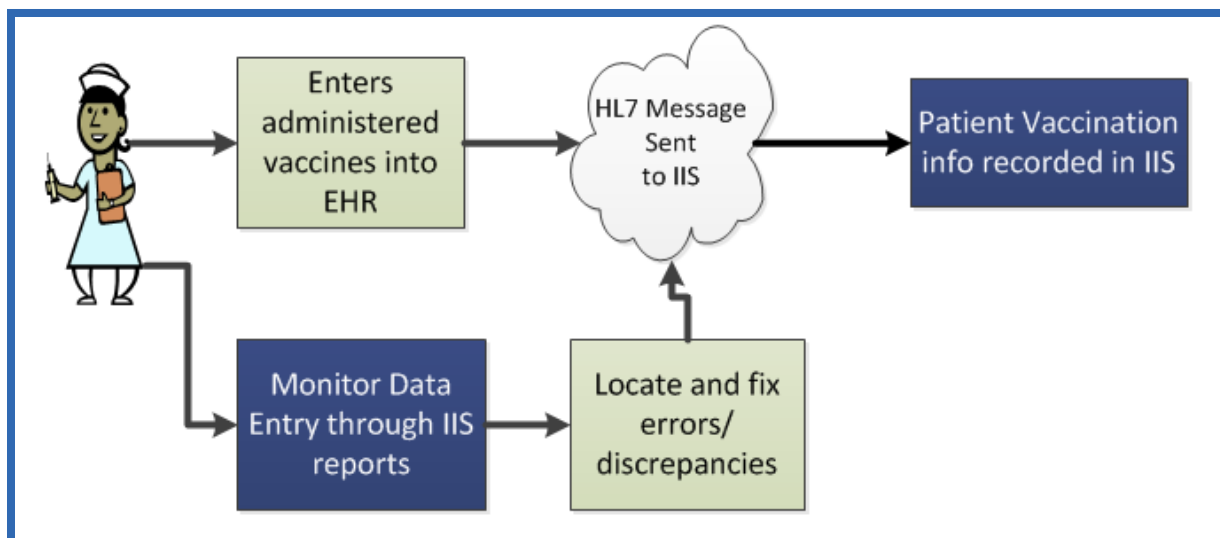
What Is an Interface?

An interface is a means of exchanging data electronically from one system to another. When your electronic health record (EHR) has an interface with the WA State Immunization Information System (IIS), your data is sent electronically to the IIS as a Health Level 7 (HL7) message.

How Does an Interface Work?

When you document patient information and vaccines in your EHR, this data is sent to the IIS through your interface. This means you need to enter data carefully in your EHR because any documentation errors will also be reflected in the IIS. When you send data to the IIS, your organization becomes the owner of this data and is responsible for its accuracy. The quality of your data in the IIS is a reflection of the quality of data in your EHR. Interfaces can be set up in many different ways and these differences may affect inventory management and troubleshooting.

How Do Vaccines Transfer from your EHR to the IIS?

The process starts with clinic staff entering vaccines in your EHR. Then, your EHR sends this data in an HL7 message to the IIS. The IIS receives and then accepts or rejects the HL7 message. For accepted messages, the data goes through deduplication (a record matching process), and the vaccination shows up in the patient's IIS record. If the IIS rejects the HL7 message, this vaccine will not show up in the IIS record. You need to correct whatever caused the IIS to reject the message and then resend the data.
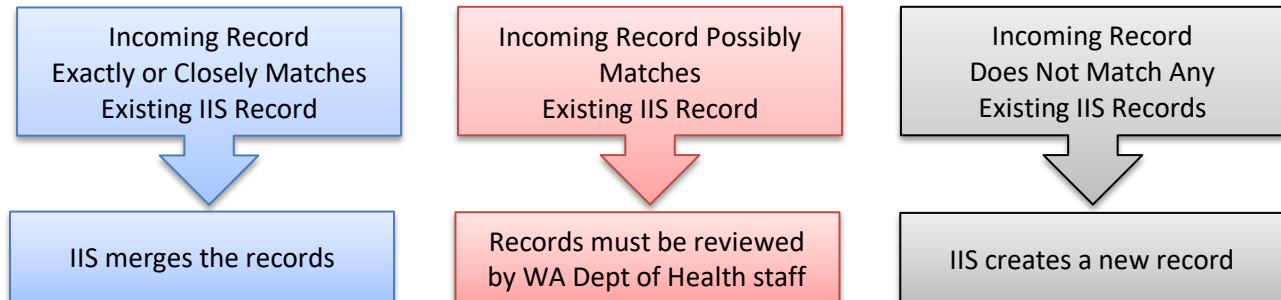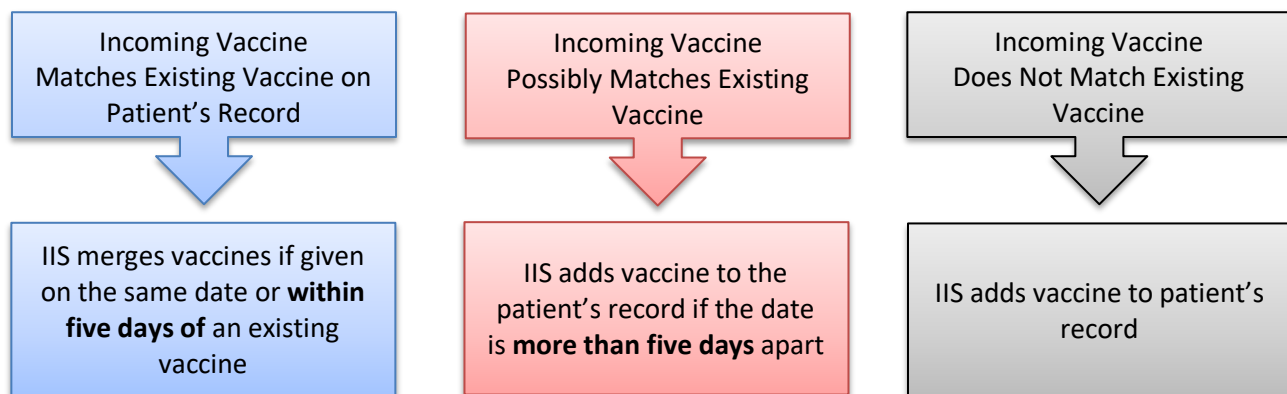
Managing Inventory with an Interface

What Is Deduplication?

Deduplication is the process of matching an incoming record from your EHR to an existing record in the IIS. Records go through two types of deduplication: patient-level and vaccination-level.

Possible <u>Patient</u> Deduplication Outcomes

Incoming Record Exactly or Closely Matches Existing IIS Record	Incoming Record Possibly Matches Existing IIS Record	Incoming Record Does Not Match Any Existing IIS Records
↓	↓	↓
IIS merges the records	Records must be reviewed by WA Dept of Health staff	IIS creates a new record

Possible <u>Vaccine</u> Deduplication Outcomes

Incoming Vaccine Matches Existing Vaccine on Patient's Record	Incoming Vaccine Possibly Matches Existing Vaccine	Incoming Vaccine Does Not Match Existing Vaccine
↓	↓	↓
IIS merges vaccines if given on the same date or **within five days of** an existing vaccine	IIS adds vaccine to the patient's record if the date is **more than five days** apart	IIS adds vaccine to patient's record

How Long Does it Take for Vaccines to Show on Patient Records in the IIS?

This depends on several factors:

- How often you send data from your EHR to the IIS.
- The amount of data coming in and the volume of other processes running in the system.
- How easily the system deduplicates your EHR data. If the IIS can't automatically deduplicate a record, it goes into manual deduplication. This means it takes longer for the vaccine to show up on the patient's record in the system and longer to decrement from your IIS inventory.

TIP: Providing complete and accurate patient demographic data helps the system match your data to existing patient records in the IIS.

Managing Inventory with an Interface

What If a Vaccine Documented in your EHR does not Show Up in the IIS?

Check with your IT or EHR lead to see if any messages sent from your EHR were rejected by the IIS because these vaccines will not show up in the system.

- If you receive the Provider Detail Error Report ("warnings & errors report"), any messages listed with an **error** were rejected. We recommend that clinics prioritize errors because those messages never made it into the IIS.
- Warnings on messages are different. A **warning** means the data will show up on patient records in the IIS, but some data was inaccurate or inconsistent with IIS data quality standards. We expect clinics to review messages with warnings and correct those issues to help maintain data quality in the IIS.

What You Need to Know About your Interface

Below is a list of things that you should know about your interface when considering the best vaccine inventory management workflow for your practice. Your IT staff or EHR vendor may be able to answer these questions.

How often does your EHR send data to the IIS?	
Real time	Your EHR sends data to the IIS as soon as it is documented in your EHR. Typically, this data shows up on the patient's IIS record within 24 hours.
Batch	Your EHR sends data to the IIS daily, weekly, or on some other timeframe. This means vaccines show up on records in the IIS after your EHR sends the batch of data to the system. So, if you send data to the IIS every Friday, you will not see the vaccines you document throughout the week in the IIS. These vaccines will show up in the IIS the following week.

Does your EHR send vaccinator names and credentials?	
Yes	Vaccinator names and credentials show up on patient records and reports in the IIS if you manage your vaccinators in the system and your EHR sends the correct ID for each vaccinator.
No	Vaccinator names and credentials do not show up on patient records or reports in the IIS. You still need to document this information in your EHR or elsewhere because the vaccinator name and credentials are required by federal law.

Does your EHR send update messages when vaccines are edited?	
Yes	Edits made in your EHR update the patient's IIS record.
No	Edits made in your EHR do not update patient records in the IIS. This means you also need to edit vaccination records in the IIS in order for doses to subtract (decrement) from your inventory.

Does your EHR send delete messages?	
Yes	Vaccinations deleted in your EHR are removed from the patient's IIS record.
No	Vaccinations deleted in your EHR still show up on the patient's IIS record. This means you also need to manually delete the vaccine from the IIS.

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DOH 348-610 January 2023

Managing Inventory with an Interface

| Does your EHR send historical* vaccines? *Doses administered at a different clinic	
Yes	Historical vaccines entered in your EHR also show up on the patient's IIS record. Historical records in the IIS, show up with an * after the date.
No	Historical vaccines entered in your EHR do not show up on the patient's IIS record. You may want to consider manually entering historical vaccines in the IIS to make the patient's record more complete.

Back to Top

How Does your Interface Affect Vaccine Inventory Management?

Vaccination information sent in HL7 messages directly impacts your inventory managed in the IIS. Managing IIS inventory is required for all publicly supplied inventory received from Federal Pandemic Programs, the Childhood Vaccine Program, and the Adult Vaccine Program. Some sites also choose to manage privately purchased inventory in the IIS as well. Making sure all clinic staff consistently enter accurate and complete vaccination data helps your inventory decrement from the system correctly. Errors or missing information causes issues with your inventory counts in the IIS vs. physical quantity on hand, because doses do not subtract when data elements are not aligned.

Best Practice Vaccine Management Staffing & Workflow

It is important to discuss staff roles and possible workflows prior to your interface going live. Some staff members interact with the IIS frequently, some rarely, and some not at all. Clinics participating in the Washington State Childhood Vaccine Program (CVP) and Adult Vaccine Program (AVP) must have primary and backup vaccine coordinators to manage vaccine ordering, troubleshooting, and monthly reporting.

This diagram shows the best practice workflow for managing publicly supplied vaccine in the IIS. The vaccine management workflow starts with receiving vaccine orders and transfers in the IIS or manually adding vaccines to your IIS inventory (for privately-purchased and some publicly-supplied vaccines). Once the vaccine is in your IIS inventory, you may start administering the vaccine and documenting it in your EHR.
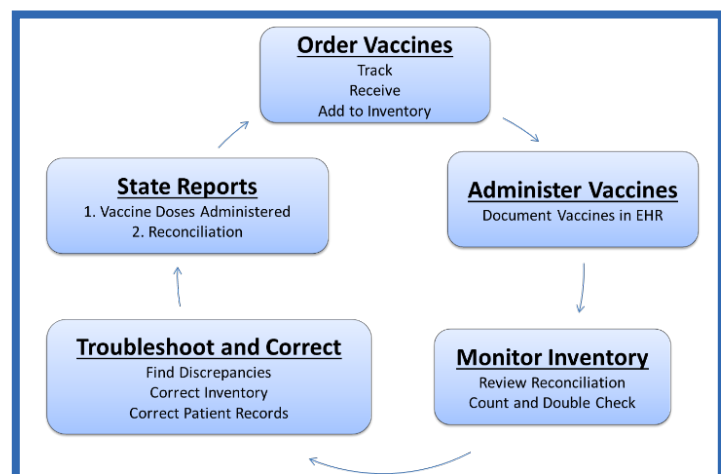
Monitoring your Inventory

Throughout the month or at least once a month (for CVP/AVP providers), you need to count your physical inventory and compare it to your IIS inventory counts.

Before Doing Physical Inventory Counts:

- Review your **IIS Reconciliation** screen and make sure all of the vaccine in your clinic's storage units show up on the screen (if you only manage publicly supplied vaccines in the IIS, just make sure the **Reconciliation** screen includes all of your publicly supplied vaccines).
- If any lot numbers in your vaccine storage units are missing on the IIS Reconciliation screen, look for any **Inbound Orders/Transfers** on the **Create/View Orders** screen that show a status of **"Shipped" or "Approved"**. If these orders have already arrived at your clinic, click receive on the order in the IIS to add the inventory to your **Reconciliation** screen. Click here for guidance on Ordering & Receiving in the IIS.
    - If you have privately supplied vaccine at your clinic, you can manage these in the IIS by manually adding this vaccine to your IIS inventory. Click here for guidance on manually adding vaccine inventory in the IIS.
- Print out the **Reconciliation** worksheet and take it to your storage units to count your vaccine.

After Doing Physical Inventory Counts:

- Note any differences between your physical inventory counts and the counts on the IIS **Reconciliation** screen.
- Note any lot numbers with 0 doses left in your physical inventory. Inactivate these lot numbers by selecting the check box to the far right of the line item and clicking save after reconciling your inventory and submitting any vaccine returns associated with these lot numbers.
    - If your IIS user permissions need to be updated to perform this task, please reach out to your IIS System Administrator or WAIISHelpDesk@doh.wa.gov.

Back to Top

Troubleshooting Inventory Issues in the IIS

If your physical inventory counts do not match your IIS inventory counts, use the tools described below to identify why.

Reconciliation Screen	Patient Detail Report	Lot Usage and Recall
Reasons for Use:	**Reasons for Use:**	**Reason for Use:**
Missing Lot Numbers	Lot Number Typo	Negatives on Reconciliation screen
Incorrect Lot Choice	Incorrect Eligibility Status	Compare with EHR Records
Negatives After Lot Runs Out	Administered Before Inventory Received in IIS	

Reconciliation Screen

This screen displays your current inventory in the IIS and serves as an "early warning system" to help you quickly identify inventory issues, like:

- Lot numbers in your clinic's physical inventory that are missing from your IIS inventory.
- Negative quantities on hand for any lot numbers.

Patient Detail Report

Run this report when your inventory counts in the IIS are larger than your physical counts. This means some of the doses documented in your EHR did not subtract from your IIS inventory. This report helps identify vaccine documentation errors and patient eligibility status issues. Access patient detail report instructions here.

Lot Usage and Recall Report

Run this report when you have negative counts on the **Reconciliation** screen. This report helps identify all patients who received a certain lot number. Compare this report to your EHR records to identify any discrepancies. Access lot usage and recall report instructions here.

To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email doh.information@doh.wa.gov.

DOH 348-610 January 2023

Other Troubleshooting Tools

Provider Detail Error Report ("Warnings & Errors Report")
Organizations with interfaces designate which users should receive this report via email. The report shows warnings and errors produced by data sent from your EHR to the IIS. It is meant to help you identify and resolve data issues throughout the month (including issues that impact your inventory). This report allows you to monitor the quality of your electronic data and identify any issues that need to be corrected. This report looks at data sent for all ages, not just pediatric patients.

What Impacts your IIS Inventory?

Timing	• Lot numbers must be received through the **Create/View Order** screen **OR** manually entered in the IIS before any doses are sent from your EHR. Doses won't decrement unless your inventory is in the IIS before messages are sent from your EHR. • **Do not receive an order AND manually add the lot numbers or you will double your inventory.**
Accuracy	• The "right medication" for the "right patient" and the "right documentation" every time. • You must document the correct vaccine type, lot number, manufacturer, vaccine CVX code or product (https://doh.wa.gov/sites/default/files/2022-02/348-580-ConsolidatedBestChoicesGuide.pdf) , and eligibility status. • If you have multiple lot numbers of the same vaccine in your inventory, only use one lot at a time and make sure you type or select the correct lot number in your EHR. • If you have staff that float between multiple clinics, they need to be logged in under the correct
Matching	• The vaccine type, lot number and manufacturer entered in your EHR must exactly match the information for that vaccine in your IIS inventory. **Make sure you document lot numbers from the box of vaccine, not the vial.** • You must document the correct patient eligibility status for the age and insurance status of your patient. If your EHR sends a funding source, the funding source must match the eligibility status (e.g. Eligibility status: Medicaid and Funding Source: Public).

Back to Top

Managing Inventory with an Interface

HL7 Message Data Elements & Inventory Decrementing

This section explains the data elements that must be documented correctly in your EHR and included in HL7 messages in order for doses to subtract from your clinic's IIS inventory.

Data element	Where is it in the HL7 message?	What's important to know?
Lot number	RXA-15	The combination of these four elements must be valid (no typos or extra spaces) and match the IIS inventory for the facility that administered the vaccine.
Manufacturer Code	RXA-17	
CVX Code	RXA-5	
Administering Facility ID	RXA-11	
Administered Vaccine	RXA-9	Must be documented as a newly administered vaccine (RXA-9 = "00") in order to subtract from inventory. Historical doses do not subtract from inventory.
Eligibility Status Code	If OBX-3 = 64994-7, then OBX-5 = eligibility status **If the eligibility code is invalid or blank, doses will not subtract from inventory.**	**Pediatric Patients** Eligibility Codes must be: V02, V03, V04, V05, V22 or V25 in order to subtract from public inventory. **Adult Patients** Eligibility Codes must be: V01, V23 or V24.
Funding Source Code	If OBX-3 = 30963-3, then OBX-5 = Funding Source **If sent, the funding source code determines which vaccine supply to decrement.** **If not sent, the eligibility status code determines which vaccine supply to decrement.**	**Administered Public (VFC/State-Supplied) Inventory** Funding Source must be a public code if public inventory was administered. **Administered Private Inventory** Funding Source must be a private code if private inventory was administered.

*Documentation should always reflect what actually took place. For example, if a pediatric patient receives vaccine from the clinic's private-purchased stock, they should document a private funding source.

Back to Top

Example

GreatShots Clinic (Facility ID: **SIISClient12345**) administered a dose from their **public** flu vaccine inventory for CVX **158** (Influenza, injectable, quadrivalent), lot number **123ABC**, manufacturer **Sanofi Pasteur** (Manufacturer Code: **PMC**) and this lot is currently active in the clinic's inventory.

- In order for doses to subtract from the clinic's IIS inventory, the HL7 message must include:
  - CVX code: **158**
  - Lot number: **123ABC**
  - Manufacturer code: **PMC**
  - Facility ID: **SIISClient12345**
  - Newly administered vaccine code: **00**
  - Eligibility Code: **V02, V03, V04, V05, V22, V23 or V25**
  - Funding Source Code (if sending this information): **Public funding source code**
- If GreatShots Clinic does not have lot number **123ABC** in their IIS inventory or they inactivated this lot number, these doses will not subtract from their inventory.

Correcting Patient Records

If you identify any issues in patient records, you need to correct the records so that:

- The patient's IIS record contains the correct information.
- The doses decrement from your inventory.
- Your monthly vaccine reports are accurate (for CVP/AVP providers).

Reminders about Correcting Records:

- If your EHR cannot send update messages to the IIS, you need to correct the records in your EHR **and** manually edit the records in the IIS.
- If you document the wrong vaccine administration date or vaccine type, you must **delete** the record and then re-enter. You will need to delete the record in your EHR and in the IIS if your EHR cannot send delete messages. Click here for more on Adding, Editing & Deleting vaccines in the IIS.

Submitting Monthly Reports for Publicly Supplied Vaccines:

After correcting any errors in patient records, you can submit your monthly reports.

Submit the following vaccine accountability reports every month:

- **Doses Administered Report**
  - If you see all 0's on this report, there may be an issue with your interface. Contact IISDataExchange@doh.wa.gov for help troubleshooting this issue. Click here for more on the Doses Administered Report.
- **Monthly Inventory Reconciliation Report**
  - You may need to reconcile your inventory by adjusting for any doses that were wasted or transferred during the month. Click here for more on Reconciling and Reporting Inventory.

Questions? Contact the IIS Help Desk at 1-800-325-5599 or WAIISHelpDesk@doh.wa.gov