



Electronic Decrementing in OSIIS

The following document explains the process for Electronic Decrementing related to HL7 data submission in the OSIIS database. To properly explain the process we need to first look at the difference between electronic decrementing and manual data entry in OSIIS.

Manual Data Entry

1. Authorized Provider- to enter data into OSIIS, the provider has to be authorized for access to OSIIS. This requires a signed OSIIS Authorized Site Agreement (ASA).
2. User Account- an OSIIS user account is required to manually enter data which requires the end user to sign an OSIIS user agreement. The user account has to also be associated with the correct provider.
3. Vaccine Inventory- vaccine inventory has to be entered into OSIIS (“On-Hand Inventory”) **and manually reconciled on a daily basis.**
4. Vaccine administration data has to be entered into the provider Electronic Health Record (EHR) **and then entered again into OSIIS (double entry).**
5. Once a vaccine administration has been entered into OSIIS (added and administered) the **individual administration will automatically be deducted (or decremented) from the total doses for that corresponding vaccine in your “on-hand” inventory.**

Electronic Decrementing (Auto-Decrementing)

1. Authorized Provider- to enter data into OSIIS (manually or through HL7), the provider has to be authorized for access to OSIIS. This requires a signed OSIIS Authorized Site Agreement (ASA).
2. User Account- an OSIIS user account is required for HL7 submission which requires the end user to sign an OSIIS user agreement. The user account has to also be associated with the correct provider.
3. Vaccine Inventory- vaccine inventory has to be entered into OSIIS (“On-Hand Inventory”) and a manual reconciliation completed before auto-decrementing will work properly (OSIIS requires a “last count date”). **Recommended that providers still monitor on-hand inventory on a daily basis.**
4. Vaccine administration data has to be entered into the provider Electronic Health Record (EHR) **and then submitted through HL7 messaging to OSIIS (no double entry).**
5. Once an HL7 message is sent from the EHR, there are 2 options for managing inventory in OSIIS: **daily manual inventory reconciliation (just like manual entry) or a provider can choose to turn on HL7 Electronic decrementing.**



How Electronic Decrementing (Auto-Decrementing) Works

The below section shows how electronic decrementing works through the HL7 submission process in OSIIS. All the steps below happen almost instantaneously as the HL7 message is processed. **NOTE: Electronic decrementing has to be turned-on in OSIIS for the individual provider (by request from provider).**

1. An HL7 message is sent from the provider EHR to OSIIS that includes patient demographic and vaccine administration data.
2. OSIIS then matches the HL7 message to the correct patient using the patient demographic information. If a match is found, the vaccine administration data is then added to the existing patient record. If a match is not found a new record is created for that patient. **Matching variables include (not all listed): patient first and last name, patient date-of-birth, and gender.**
3. Once an existing patient record is found (or created) OSIIS checks the vaccine information in the HL7 message to see if its an update to an existing administration or if a new one has to be created for that patient. **Matching variables include (not all listed): vaccine type (CVX code or NDC), lot number, administration date, manufacturer, and expiration Date.**
4. Once steps 1 thru 3 are completed above OSIIS then looks at vaccine inventory. If electronic decrementing is turned on in OSIIS for that provider, the system will match the vaccine administration data in the HL7 message to what is in the on-hand inventory for that provider. **OSIIS matches the following variables to on-hand inventory: vaccine type (CVX or NDC), lot number, expiration date, manufacturer, and funding source (VFC, private, state, public funding, etc...).** **NOTE: If the vaccine administration data in the HL7 message doesn't match to what is in on-hand inventory for that provider (using matching variables above) then that administration WILL NOT decrement from inventory and go to manual review. All the matching variables in step 4 (including funding source) need to be in the HL7 message and match what is in on-hand inventory for that provider.**
5. If an exact match is found in the provider on-hand inventory, the submitted administration will automatically decrement from the total doses for that vaccine. If an exact match is not found, the administration in the HL7 message will not decrement form the on-hand inventory and go to manual review. **NOTE: It cannot be stressed enough about the importance of data quality for electronic decrementing. Providers and vendors need to make sure the required matching elements are submitted and are accurate. Providers are responsible for fixing any inaccurate data submitted into OSIIS. Submitting inaccurate data can result in HL7 submission being turned off until the data quality issues are fixed.**



Electronic Decrementing (Auto-Decrementing) Process/Tips

The following sections gives a step-by-step guide to setting up Electronic decrementing in OSIIS. Providers are responsible for fixing any data entry errors in OSIIS. Provider's and vendors need to work with OSIIS personnel to ensure this process works as intended.

1. Providers need to make sure their vendor is sending HL7 messages to OSIIS. If providers are not currently sending HL7 messages and are interested, send an email to the [OSIIS help desk](#) to request HL7 submission. There is an onboarding process and those materials will be sent upon request.
2. If submitting through HL7 messaging, request auto-decrementing be turned on for your provider through your vendor and the [OSIIS help desk](#). **NOTE: It is vital that the vendor and provider are both aware that auto-decrementing has been requested or turned-on. See point 5 in previous section.**
3. The provider and vendor then need to set a go-live date for auto-decrementing to start. **Once auto-decrementing is turned on, manual entry of vaccine administrations is not allowed unless it's a history shot.** A go-live date gives the provider time to notify data entry personnel about the change.
4. Before the go-live date, data quality checks need to occur to make sure the provider and vendor are submitting accurate data through HL7. **See point 5 in previous section. This is an extremely important step as inaccurate data can cause the auto-decrementing to not work properly.**
5. Once steps 1 thru 4 are complete and verified, a manual reconciliation is required in OSIIS before auto-decrementing will work. Log into OSIIS and go to Inventory>Vaccines>Reconciliation and then press "Search". This will tell you if a manual reconciliation has been completed for your provider site. **It is recommended to complete a reconciliation (even if one has been done recently) as close to the go-live date as possible (or even the same day auto-decrementing is turned on) to make sure the on-hand inventory is correct before turning auto-decrementing on.**

Vaccine Inventory Reconciliation Add Reconciliation

Search Criteria

Info: When searching for reconciliations, the Begin Date Range applies only to legacy reconciliations. The End/Physical Count Date Range will return legacy reconciliations based on the legacy End Date and new reconciliations based on the new Physical Count Date.

Inventory Location	Inventory Location Status	Reconciliation Status
(ALL)	(ALL)	(ALL)

Begin Date Range: From: [MM/DD/YYYY] Through: [MM/DD/YYYY] End/Physical Count Date Range: From: [MM/DD/YYYY] Through: [MM/DD/YYYY]

Sort by: Audit Date (descending) Inventory Location, Begin Date (descending)

Previous Criteria Clear Search



6. If a reconciliation has been completed (see Aggregate Inventory Reconciliation tip sheet if it has not been completed), OSIIS personnel will turn-on auto-decrementing **at the provider's request**. Once turned on the Electronic decrementing tab will appear.

7. The Electronic decrementing tab is the place where the auto-decrementing is monitored (OSIIS location: Inventory>Vaccines>Electronic Decrementing). If a manual reconciliation is completed, the provider inventory location will appear in the Inventory Location field on the Electronic decrementing page. Now press the “search” button. **NOTE: Providers need to monitor the electronic decrementing on a daily basis to make sure doses are being deducted from their on-hand inventory.**



8. You should now be on the Electronic decrementing screen. You should see 6 columns: Incoming Inventory Transaction, Matched Inventory On-Hand, Match Confidence, Doses, Match, and Match Status. **NOTE: Only HL7 messages that do not match 100% with a vaccine in your on-hand inventory will show up on this screen. Vaccines not in your on-hand inventory will give the following message: UNABLE TO FIND ANY MATCHES WITH 90% CONFIDENCE under the Matched Inventory On-hand column.**
 - a. Incoming Inventory Transaction- this is the actual message being sent through HL7 messaging.
 - b. Matched Inventory On-Hand- this column looks at possible matches to vaccines in your on-hand inventory in OSIIS.
 - c. Match Confidence- gives a match percentage (0 to 100%) to vaccines in your on-hand inventory. Basically how confident the system is that the message is a match.
 - d. Doses- gives the number of doses that need to be reviewed or didn't match.
 - e. Match- this columns asks the question if the incoming HL7 is a match. Providers can check that the message is a match (if check-box is present).
 - f. Match Status- gives the initial match status based on the HL7 message and your on-hand inventory. There are 3 status available: *No Match*, *Review*, and *Review Multiple Match*.

Electronic Decrementing

Electronic Decrementing Search

Immunization From: 03/26/2021 Immunization Through: 04/29/2021

After Last Reconciliation Count Date
 Up to the Last Reconciliation Count Date

Inventory Location: INV: UTICA PARK CLINIC - BIXBY (COUNT DATE - 03/26/2021) Vaccine Group: [Dropdown] Decrementation Status: No Match, Review, Review Multiple Match

Review Multiple Locations, Auto, Manual

Minimum Match Confidence 90%

Exclude matching to Private Inventory
 Exclude Private Immunizations

Show Clean-up Options >>

Search Results - 38 entries (351 Doses)

Showing 1 to 38 of 38 entries Auto-check Match checkbox if confidence is >=95% [Accept Checked] [Report]

Incoming Inventory Transaction	Matched Inventory On-Hand	Match Confidence	Doses	Match?	Match Status
DTAP-IPV : SKB : Y297N : 08/31/2022 : VFC	UNABLE TO FIND ANY MATCHES WITH 90% CONFIDENCE		8	<input type="checkbox"/>	NO MATCH
PCV13 : PFR : DX8303 : 01/31/2023 : PRIVATE	UNABLE TO FIND ANY MATCHES WITH 90% CONFIDENCE		8	<input type="checkbox"/>	NO MATCH



9. Any vaccine that comes in through HL7 that matches 100% to your on-hand inventory should automatically deduct (decrement) from the total doses for that specific vaccine (**shouldn't show-up on the electronic decrementing page**). If the incoming vaccine is missing any of the electronic decrementing matching variables (see point 4 under "[How Electronic Decrementing \(Auto-Decrementing\) Works](#)") then that vaccine will still be entered into OSIIS but will go to manual review for Electronic decrementing and not decrement from the total doses (**will show-up on the electronic decrementing page**). **NOTE: If a vaccine is submitted through HL7 and that vaccine has not been entered (includes transfers from other providers) into your on-hand inventory then those vaccine administrations will go to manual review on the Electronic decrementing page. It is imperative that providers accept any incoming vaccines (including transfers) to their on-hand inventory as soon as possible to avoid this issue.**
10. If a vaccine submitted through HL7 doesn't match your on-hand inventory then it will still be entered into OSIIS but will not decrement from your on-hand inventory. At that point the provider needs to look at the Electronic decrementing page to look at what the issue is with the incoming HL7 message (see point 8 and 9 above). **Once again, data quality is a key component to ensure that auto-decrementing works properly.**



Vaccine Administrations Not Decrementing: The Next Steps

If a vaccine doesn't match to your on-hand inventory (therefore not auto-decrementing) then that HL7 message (vaccine administration) will go to manual review on the Electronic decrementing page. Below are the steps you can take to fix any decrementing issues.

1. Make sure electronic decrementing is turned-on for your provider site in OSIIS. See points 1 and 2 under "[Electronic Decrementing \(Auto-Decrementing\) Process/Tips](#)".
2. Look at the Electronic decrementing page and compare the *Incoming Inventory Transaction* and *Matched Inventory On-Hand* columns. Usually you can see right away what didn't match. Below are some common data errors that cause issues with auto-decrementing (not all listed):
 - a. *Funding Source*- This is the most common data entry error or vendor error. For example, if a vaccine has "VFC" as the funding source and the incoming HL7 message has "Private" then the vaccine administration will go to manual review.
 - b. *Lot Number*- Second most common data error. If the lot number is different than your on-hand inventory, that message will go to manual review.
 - c. *Expiration Date*- Third most common data error. If the expiration date is different than your on-hand inventory, that message will go to manual review.



3. Once you figure out what the matching issue is, contact your Electronic Health Record (EHR) vendor to see how to fix the issue. Below are the most common issues with HL7 messages before they are sent to OSIIS:
 - a. Provider enters the wrong funding source- work with your vendor and state OSIIS personnel to ensure you have all the right funding sources available for data entry. End user education about funding source differences might be necessary to fix this issue.
 - b. Provider enters the right funding source but EHR (vendor) submits the wrong funding source- This is a mapping issue with your EHR software. Work with your vendor to make sure they are mapping funding source correctly to **what is available in OSIIS**.
 - c. General Data Entry Errors- sometimes end users (providers) enter an expiration date, vaccine name, or manufacturer wrong (that's okay, it happens). Make sure that the on-hand inventory in your EHR matches to what is in inventory for OSIIS. This will help to alleviate some of the common data entry errors.
4. There are 2 ways to fix wrong vaccine administration data in OSIIS: manually fixing the vaccine data in OSIIS or resending the message to OSIIS with the fixed data through HL7.
 - a. Manual fix- log into OSIIS and search for the specific patient, find the vaccine administration that has the wrong data, and the update the record with the correct information. Access to OSIIS (an OSIIS account) is required for this method.
 - b. Resending fixed patient/vaccine administration data through HL7- Vendors can re-send HL7 messages to OSIIS to update records in the system. Work with your vendor to fix any data issues and have them resend the message(s) with the RXA-22 field blank (System Entry Date/Time). OSIIS will consider any messages with the RXA-22 filed blank as the most up-to-date record and update the vaccine administration data for that patient. **NOTE: When re-sending data through HL7, do not change the patient demographic data or administration date as that would create a duplicate patient or vaccine administration in OSIIS. Please read "How Electronic Decrementing (Auto-Decrementing) Works" section before using this method. If there are too many vaccine administration data issues (more than one data element that is wrong or missing) then the manual fix is preferred.**

Conclusion

As with any database, data quality is essential to ensure timely and accurate submission of patient/vaccine administration data. Providers and vendors need to work with OSIIS personnel to make sure any data submitted into OSIIS accurately describes vaccine administration events. Providers are responsible to fix any data entry errors in OSIIS. If a provider or vendor has any issue with auto-decrementing or the HL7 submission process please contact the [OSIIS Help Desk](#).