# Health Services

# Vaccine Accountability Procedure

# User Manual

The Baldwin Group, Inc.

7550 Lucerne Drive

Suite 306

Cleveland, OH 44130

(440) 891-9100

FAX (440) 891-9458

Disclaimer

All data examples containing personal names, company names (or companies), vehicle information, or locations that appear in this guide are fictitious in nature and do not refer to, or portray, in name or substance, any actual names, organizations, entities, or institutions. Any resemblance to any real person (living or dead), organization, entity, or institution is purely coincidental.

# Contents

## Vaccine Accountability Procedure

Health Departments will often do a count of the vaccine inventory currently on hand.  Such count of inventory is used to determine the need to order new inventory of vaccines, reconcile count of actual inventory against inventory levels calculated by HDIS, and update HDIS of vaccine inventory that is no longer in active circulation.

The **Vaccine Accountability** process consists of the following steps:

1.  Audit the inventory currently on hand, writing such figures on a **Vaccine Inventory On Hand Report** printed from the **Vaccine Inventory Maintenance** screen.

    This includes noting quantities for Expired and Wasted doses (if any)

2.  Enter current inventory levels in the vaccine lot details.

3.  Enter Transactions for quantities Expired, Wasted & other inflow/outflow of inventory.

4.  Generate the **Vaccine Accountability** report to gather the details for inflow / outflow of vaccines and calculation of remaining on hand inventory balances.

    The calculated on hand inventory balance is compared to the current on hand inventory levels entered in step #2, identifying any lots for which the inventory figures do not match.

5.  When one or more lots do not have matching inventory levels, research, identify and correct issues in the data leading to the inventory figures not matching.

    Upon modifying data to correct for issues of non-matching inventory levels, return to step 4 to generate the **Vaccine Accountability** report again, to verify the inventory figures match per the corrections.

    When inventory figures for **ALL** vaccine lots match, specify to update the vaccine lot details with the calculated on hand figures which balance with the actual inventory figures.

6.  When the current accountability cycle is closed and the inventory figures are reconciled and balanced and vaccine lots are updated with generated figures, run **Move End-of-Month to Beginning-of-Month** process to archive the On-Hand details for completed cycle and reset the details for the next cycle.

7.  For vaccine lots that show on hand inventory level of zero and no longer in active circulation, update such lots to remove them from active use in HDIS.

These steps are discussed in more detail on the following pages.

## On-Hand Inventory Count

The **On-Hand Balance Maintenance** screen is for managing the data details used to verify that the on-hand quantities reflected in HDIS match to the on-hand quantities obtained when auditing inventory.

This screen is reached by clicking the **On Hand Procedures** button at the bottom of the **Vaccine Inventory** Maintenance screen.



*Details for the On-Hand Balance of vaccine inventory*

**On-Hand Inventory Data Details:**

| Description | Name or description of what the classification definition is about. |
|---|---|
| Vaccine Name | Name of vaccine which lot detail record pertains to. |
| Type | Abbreviation associated with the vaccine name |
| Lot # | Vaccine Lot # value for the record |
| Calculated On-Hand | The On-Hand inventory level calculated by one or more of the following: Calculate On-Hand process, the Vaccine Accountability process, or Inventory Transaction entry. |
| On-Hand Previous | The On-Hand inventory level value last entered in the On-Hand Present column. |
| On-Hand Present | The actual inventory level obtained from the manual count of actual inventory. Values are entered in this column to then update the system via the Update Actual On-Hand process. |

### Updating On-Hand Inventory details

The on-hand inventory figures need to be updated to reflect the change in inventory levels per inflow / outflow of vaccine lot inventory.

Details per inflow / outflow resulting from transfer/exchange of inventory with another agency, along with inventory which has expired or been wasted, are entered in the **Transaction Screen**. The process of entering these details is discussed in the **Health Services Vaccine Maintenance User Manual**, beginning on page 33.

Details per outflow of inventory as result of vaccinations administered to patients are generated from the details of vaccination activity entered in the Health Services screen.

Once all data for activity pertaining to the inflow / outflow of inventory has been entered, we are ready to generate the updated inventory level figures based on data activities entered in Health Services. The sequence of actions to accomplish this is detailed below.

### Current on-hand inventory levels

By default, as you enter the **Vaccine Inventory On-Hand Maintenance** screen, the on-hand figures for all vaccine lots will be displayed. If you wish to only view the details for lots with a specific prefix, you can do so by selecting the desired prefix in the **Lot Prefix** selection in the top right section of the screen.

Lot Prefix [ ▼ ] (Blank for All)

When you take inventory, you will probably need to write down the current inventory levels counted for each lot. You can generate a printout of all active vaccine lots which will show the previous inventory level and provide space to write in the current inventory level as well as quantity of inventory that has **Expired** or was **Wasted**. A small sample of the on-hand report is shown here.

**Vaccine Inventory On Hand Report**                                              10/20/2020

| Type | Lot | Manufacturer | VIS | Expires | Doses Expired | Doses Wasted | On Hand Inventory Details Previous | As Of | Current |
|------|-----|--------------|-----|---------|---------------|--------------|----------|-------|---------|
| DHI | AUJ013AAA | Sanofi Pasteur | 11/05/2015 | 10/10/2020 | | | 15 | 11/01/2019 | |
| DHI | MC5298AA | Sanofi Pasteur | 05-17-07 | 03/18/2018 | | | 18 | 07/05/2017 | |
| DHI | PC5336AA | Sanofi Pasteur | 05-17-07 | 03/04/2018 | | | 7 | 07/05/2017 | |
| DI | MAF543 | GlaxoSmithKline | 05-17-07 | 11/10/2018 | | | 20 | 07/05/2017 | |

The lots will be printed in the same order that they are displayed on screen.

**Recommendation**:

When you are unable to do the Vaccine Accountability process in a timely manner at the end of the regular cycle, at least perform the task of printing the inventory list and auditing the current inventory levels so we will have accurate figures of Actual On Hand inventory at end of the cycle. This will enable running the Vaccine Accountability process for such cycle period when you are able to perform such tasks.

**Current on-hand inventory levels** (continued)

As the tally for each lot in inventory is done, you can write in the figure for current on-hand inventory levels, along with quantity of inventory that has expired and/or wasted. Additionally, you can make note of lots which are no longer in inventory, for updating as such after the accountability cycle is closed.

Enter the current on-hand inventory figures in the **Actual On-Hand Present** column of the grid display. The cell currently selected for entry will be highlighted in green. As the current on-hand inventory figures are entered, the color of the **On-Hand Present** entries which are modified will show in yellow, as shown here:

| Vaccine Name | Type * | Lot # | Calculated On-Hand | Actual On-Hand Previous | Actual On-Hand Present |
|---|---|---|---|---|---|
| DTaP-Hib-IPV | DHI | MC5298AA | 0 | 19 | 15 |
| DTaP-Hib-IPV | DHI | PC5336AA | 0 | 7 | 7 |
| DTaP-IPV | DI | M43HB3 | 0 | 18 | 12 |
| DTaP-IPV | DI | MAF543 | 0 | 20 | 20 |
| DTaP-IPV | DI | P43HB3 | 0 | 10 | 10 |
| DTaP-IPV | DI | P7574T | 0 | 10 | 10 |

Upon entry to update the **On-Hand Present** figure, the cursor will automatically advance down to the cell for the next lot. Upon entering the figure for the last lot displayed, the screen display will automatically advance to display the next page of lots and show the first lot on new page as selected.

One additional detail to be specified about the **On-Hand Present** figures is the **As Of** date which the inventory audit took place. This defaults to the current date. If entry of such present on-hand figures does not occur the same day the inventory was done, user can change the **As Of** date to the appropriate date value.

This accommodates the case that user was unable to complete the vaccine accountability process in a timely manner due to performing other tasks or the data details for vaccinations pertaining to the accountability cycle were not entered to completion in a timely manner.

Once all figures are entered and verified to be correct, click the **Update Actual On-Hand** button located below the lower right corner of the on hand inventory grid display.

This process will update the values displayed in the **On-Hand Previous** column as well as in the **Actual Inventory** and **As Of** date values displayed in the main **Vaccine Inventory** screen. Examples of these updates are displayed on the next page.
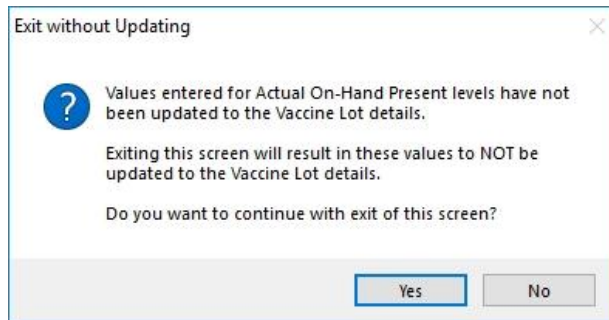
**Current on-hand inventory levels** (continued)

| Vaccine Name | Type * | Lot # | Calculated On-Hand | Actual On-Hand Previous | Actual On-Hand Present |
|---|---|---|---|---|---|
| DTaP-Hib-IPV | DHI | MC5298AA | 0 | 18 | 18 |
| DTaP-Hib-IPV | DHI | PC5336AA | 0 | 7 | 7 |
| DTaP-IPV | DI | M43HB3 | 0 | 12 | 12 |
| DTaP-IPV | DI | MAF543 | 0 | 20 | 20 |

*On-Hand details after Update*

| On-Hand Details | Beginning | 19 | As Of | 06/29/2017 | Actual Inventory | 18 |
|---|---|---|---|---|---|---|
| | Calculated | | Last Calculated | | As Of | 07/05/2017 |

*On-Hand details Updated in Maintenance screen per lot # MC5298AA*

When the user has entered new values in the **On-Hand Present** column for one or more lots and then clicks the **Exit** button, a message about not having updated such **On-Hand Present** levels will be displayed, as shown here:

**Exit without Updating**

Values entered for Actual On-Hand Present levels have not been updated to the Vaccine Lot details.

Exiting this screen will result in these values to NOT be updated to the Vaccine Lot details.

Do you want to continue with exit of this screen?

Yes    No

Upon clicking 'Yes', all modifications to **On-Hand Present** levels will be discarded and reset to previous values in the main inventory data details.

Entering details per Expired and Wasted inventory

Details per expired / wasted inventory are to be entered in the Transactions screen accessed from the main Vaccine Inventory screen.

The process of entering these details is discussed in the **Health Services Vaccine Maintenance User Manual**, beginning on page 33.

Entry of transaction details for the last days of an accountability cycle

As the time periods from one accountability cycle to the next are sequential, the starting date for a cycle will be the day **AFTER** the ending date for the previous cycle.

The extraction of data details to be processed for an accountability cycle is specific to the time period of the cycle.

Therefore,

Entry of details for Expired and Wasted inventory with the date being specified the same as the ending date for the accountability cycle <u>must</u> be entered **PRIOR** to generating the report and running the Move End of Month to Beginning of Month process. This will insure that such quantities are reflected in the current report.

As new vaccine inventory is often received among the last days of the accountability cycle, entry of the vaccine lot details and transactions for the incoming inventory with the date for the current accountability cycle <u>should</u> be done **PRIOR** to generating the report and running the Move End of Month to Beginning of Month process.

The entry of transactions for date(s) which pertain to the timeframe for a <u>closed</u> accountability cycle must be entered with the transaction date <u>amongst the first days</u> of the subsequent accountability cycle. A note can be entered in the comments indicating that the inventory was actually received in the preceding days.

This will most frequently pertain to inventory that is received on the last day of the accountability cycle after such cycle has been closed. This would also pertain to activity in the last days of the cycle which is not entered in a timely manner to be included in the process for the accountability cycle.

Entry of transactions with a date value pertaining to a closed accountability cycle will lead to the transactions to be excluded from the data extraction when processing the subsequent accountability cycle.

Generate system calculation of inventory levels

The updating of inventory levels can be accomplished with either of the following manners:

- **Vaccine Accountability Process in Health Services Reports**

  The **Vaccine Accountability** process is performed by generating the **Vaccine Accountability Report** located in the **Health Services -> Reports menu**.  Select the **Current (Up to Date)** option.

  This report extracts the details of the beginning on-hand inventory levels and generates tallies for all inflow / outflow of inventory, calculating the updated inventory figures.

  The calculated inventory figures are compared to the actual on-hand inventory figures entered in step 1 above.

  The report shows any inventory for which the calculated figures and the actual on-hand figures do not match.  This imbalance is reflected in the column titled **Doses Unaccounted.**

  A positive figure indicates that the actual inventory level counted in step 1 is less than the calculated on-hand level.

  A negative figure indicates that the calculated on-hand level is lower than the actual inventory level.

  In the example below, the entry error of a vaccination detail where a private lot was selected when a public lot should have been selected is identified by the system calculating the public lot as having one unit more in inventory than actually is.

| TYPE OF VACCINE | BAL LAST RPT AS OF | DOSES ADDED SINCE LAST REPORT | | | | TOTAL DOSES AVAIL | DOSES SUBTRACTED SINCE LAST REPORT | | | | TOTAL SUB-TRAC-TED DOSES | BOX 1 MINUS BOX 2 | END OF REPORT INVEN-TORY (DOSES) | DOSES UNACC-COUN-TED | ACTUAL INVENTORY (LOT INFO) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IN FROM ODH | IN FRM OTHER HD'S | IN FRM NON-HD PROVID | PUR-CHASED | | TOTAL DOSES ADMIN | OUT TO OTHER HD/ODH | OUT TO NON-HD PROVID | A)EXP. B)WAS. | | | | | # OF DOSES AS OF | LOT NUMBER | DATE EXPIRES | THOSE EXPIRE WITHIN 90 DAYS |
| CODE | A | B | C | D | E | BOX 1 | (*F) | G | H | I | BOX 2 | BOX 3 | | | | | | |
| TDAP 907 | 7 | | | | | 7 | 4 | | | a) b) | 4 | 3 | 3 | 1 | 2 | 9L39Z | 10/08/2021 | |
| TDAP | 30 | | | | | 30 | | | | a) b) | | 30 | 30 | | 30 | FN74Z | 11/28/2021 | |

When the report is completed, the user will be prompted on whether or not to continue with updating the vaccine inventory records with new, updated figures generated.
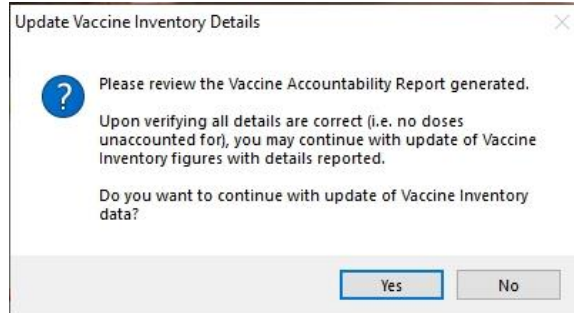


**If any inventory lots have inventory figures which do not balance, select 'No' to prevent the vaccine inventory records being updated with incorrect details.**

Inventory lots showing a discrepancy is typically due to an error in data entry. Examples of data entry include:

- Vaccination(s) administered not being entered into the system
- Vaccination(s) entered with incorrect date that does not fall within the vaccine accountability period being reported.
- Incorrect selection of lot(s) per Adult/Adolescent specification (due to incorrect Age Group specification for the lot in the Inventory Maintenance screen)
- Incorrect lot # specified in a health services record.
- Incorrect details entered in one or more transaction records (lot, date, etc).
- No transaction detail entered.
- Incorrect On-Hand levels entered

Upon identifying and fixing the error(s), generate the Vaccine Accountability report again to verify that all discrepancies have been corrected.

When the On-Hand inventory figures for **all** inventory lots balance, you may confirm the selection 'to continue with update of Vaccine Inventory data' with newly generated figures from the just completed Vaccine Accountability process.

This will result in the On-Hand details displayed on the main Vaccine Inventory screen being updated, as shown on the next page.

*Vaccine Accountability Report details in balance*



*Vaccine Inventory On Hand updated from Vaccine Accountability Report*

You can see that the On-Hand details in the vaccine lot record have been updated to reflect the 10 units purchased and 4 units administered, as reported in the **Vaccine Accountability** report. In addition, the on hand inventory figure **calculated** by adding/subtracting the total incoming/outgoing doses to the beginning balance matching the Actual Inventory level counted.

**Vaccine Accountability snapshot**

The vaccine accountability cycle typically coincides with the calendar month.

The vaccine accountability process can be executed multiple times during the cycle, such as on a weekly basis.

This serves two purposes:

1. Identify any discrepancies in data entry errors, transactions not entered, etc. as early as possible. Per there being an error of incorrect vaccine lot selected in entry of vaccination details, the quantity of data to search and find the error is much smaller (i.e. one week's data vs the full month of data) and thus should be much easier to find.

2. By generating the Vaccine Accountability figures and updating the vaccine lot details, the user can see the latest inventory levels as result of vaccination activity since the close of the previous cycle.

==When generating the Vaccine Accountability report in the middle of a cycle, be sure to specify the first day of the cycle as the start date for the reporting period.==

This is necessary because generation of the current on hand inventory levels is a cumulative process, reflecting the vaccine activity since the start of the cycle.

- **Overlooked Vaccine Accountability Cycles**

There may be times when a health department is unable to perform the vaccine accountability procedures for one or more cycles in a timely manner. One example that this can result from is the case of unusually high vaccination activity preventing timely entry of vaccination details and hindering staff from being able to perform their regular duties.

Before the vaccine accountability process for the most recent cycle can be performed, the vaccine accountability process for each overlooked cycle must be performed. This is because the beginning on hand figures for each cycle result from the ending on hand figures for the prior cycle.

If there are overlooked cycles, and the user simply enters the on hand figures for the end of the most recent cycle and runs the Vaccine Accountability Report for the timeframe of the most recent cycle, the accountability report is most likely to show the inventory as out of balance. This will be due to the beginning on hand figure in the lot detail applies to a different accountability cycle, along with the figure not reflecting the activities prior to the current accountability cycle.

Fortunately, by recording the vaccine accountability process dates for all data details pertaining to vaccine accountability, we are able to perform the vaccine accountability process in HDIS for previous cycles that were overlooked.

The most important factor for being able to perform the vaccine accountability process for previous cycles is having performed the on hand inventory audit and writing down the on hand inventory counts on the final day of each cycle.

If such on hand inventory audits were not performed, then the vaccine accountability process for multiple cycles will need to be consolidated into a single cycle per the next time the audit was performed.

When performing the accountability process for cycles prior to the most recent cycle, the most important factor is that when entering the On Hand Inventory levels, ==be sure to specify the 'On Hand As Of' date as **the date the inventory audit was performed**==.

This is because the **On Hand As Of** date is compared to dates such as when the lot was first received in determining which lots are to be included when processing the prior vaccine accountability period.

- **Calculate On-Hand in the On-Hand Maintenance screen.**

  **If you use the Vaccine Accountability process as discussed above, do not run this function.**

  This function performs the same calculation as the Vaccine Accountability. However, this function automatically updates the On-hand detail figures without generating a report and providing an opportunity to abort the process and not update the details.

## Move End of Month inventory figures to Beginning of Month

This process is equivalent to 'closing the books' for a completed cycle.

The cycle for the vaccine accountability period is typically a calendar month. However, the **Vaccine Accountability** process is flexible to handle accountability periods of any length, such as weekly, semi-monthly, etc.

When all the activities for a cycle have been entered and the on-hand inventory levels reflected in Health Services match those of the actual inventory, we are ready to run the procedures in preparation for the activities in the next cycle.

If no lot prefix is selected at the time the **Move End of Month to Beginning of Month** is run, the current details for all vaccine lots are processed, copying the figures to an archive data detail.

If the **Vaccine Accountability** does not balance for one or more lot prefix groups, you must select the lot prefix that is balanced so that the details for only that group of data are moved. When this occurs, the move will need to be performed separately for each lot prefix.

Reminder:

The **Move End of Month to Beginning of Month** process simply copies the current data values, with no calculations, to the vaccine accountability history data file.

Be sure that you clicked 'Yes' to the prompt for updating the vaccine inventory data with the figures generated by the **Vaccine Accountability** report once all discrepancies have been resolved.

If you haven't, return to the **Vaccine Accountability** report and (re)generate the report for the current cycle, click **Yes** to update the inventory records with the details generated.

The following tasks are carried out in the Move End of Month process:

- Save a copy of the current On-Hand data details in a historical data file.

    This provides the ability to generate the final accountability report for a cycle anytime thereafter.

- Reset the on-hand detail figures.

    The End of Month value for the just closed cycle is moved to Beginning of Month value for the next cycle.  All remaining figures per activities of inventory are reset to 0.

- Update records in main data files with pertinent details of the just closed accountability cycle, indicating that the records have been processed and posted per final detail values for cycle being closed.

    Data files include Health Services details, Vaccine Inventory Transactions, etc.

    This insures that the records are not included in the procedures for subsequent cycles.

    It also logs which historical record the data pertains to so if any modifications to such data require rectifying the historical record, the correct record(s) are updated.

## Update Vaccine Lots No Longer in Inventory

With the **Vaccine Accountability** process for the just completed cycle balanced and closed, we are ready to edit the details for vaccine lots that are no longer in active inventory.

By specifying such lots as no longer in active inventory, they will no longer show in the list of lots for selection when entering details of new vaccinations. Additionally, they are removed from being included in processes pertaining to current inventory, such as Vaccine Accountability.

This helps insure the accuracy in data by preventing incorrect selection of a vaccine lot which is no longer in inventory.

Removing Lot from Active Inventory

The updating of vaccine lots as no longer in active inventory is done by editing the vaccine lot and unchecking the **Active in Inventory** specification, and then saving the modification.

As you enter the Vaccine Inventory Maintenance screen, the display defaults to only show the inventory lots that are in Active Inventory, as shown here



One requirement for updating vaccine lots as no longer in active inventory is that **ALL** of the On Hand inventory details must be 0, as shown here.
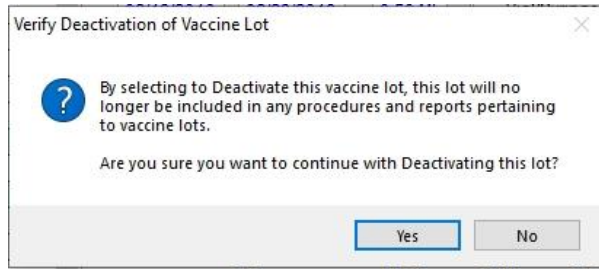


To remove a vaccine lot from active inventory, select the lot from the list and click to edit the vaccine lot detail.

Next, find the **Active in Inventory** specification in the center of the screen just right of the vaccine lot list.



Click on the checkbox to remove the lot from active inventory.  You will receive a prompt verifying that you want to remove the vaccine lot from active inventory.



Click Yes to confirm the removal from active inventory and the check mark will disappear, as shown here.



Upon clicking to save the change to the lot detail, the vaccine lot list display will update to reflect that the lot is no longer in active inventory.

The following reflects the updated display of the vaccine lot list for active inventory after having edited vaccine lot PC4778BA as no longer in active inventory, as compared to the lot list displayed on the previous page.



As stated previously, removing a lot from active inventory requires that all on hand inventory levels show as to be 0.  If a user attempts to remove a lot from active inventory in which at least one on hand inventory figure is greater than zero, the following message will be displayed and the modification of the active status is discarded.

## Restoring Lot into Active Inventory

After the entire inventory previously received for a vaccine lot has been administered and the lot updated as no longer in active inventory, you may receive new inventory for the same vaccine lot. As a result, the vaccine lot needs to be edited so as to return it back to **Active in Inventory**.

**DO NOT** try to add a new data detail definition for such lots. If you do so, the system will display a message stating that the details for a vaccine lot can only be defined once.

To return a vaccine lot to Active in Inventory, you just simply need to edit the vaccine lot detail and click on the **Active in Inventory** checkbox and save the modification.

However, as the vaccine lot list defaults to only display lots that are **Active in Inventory**, it will not be displayed in the list of vaccine lots. You will need to indicate that you would also like to see the lots that are no longer in active inventory in the list. To do so, simply click the **Active Lots Only** checkbox above the vaccine lot list, on the left side, removing the check mark.

Upon unchecking the **Active Lots Only** checkbox, the vaccine lot list display will be refreshed to include displaying the lots marked as not in active inventory, as shown below.



When the vaccine lot list includes the lots not in active inventory, the lot # for those lots not in active inventory are highlighted in a cyan color. The text **Inactive Lots** above the vaccine lot list and highlighted in cyan color is provided to indicate that such lots are not in active inventory.

The vaccine lot is updated as to be active in inventory again by selecting the inactive lot in the vaccine lot list, clicking to edit the vaccine lot detail and clicking the **Active in Inventory** checkbox. Upon checking the box, the user will receive the prompt verifying the reactivation of the vaccine lot into inventory, shown on the next page.
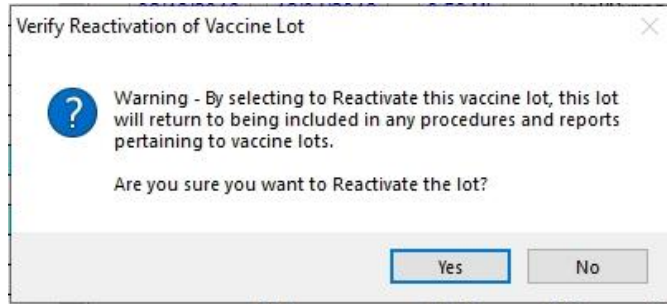
Upon confirming the update of the vaccine lot to be returned to active inventory, and saving the modification, the vaccine lot is managed as if it was just received and added to inventory for the first time.
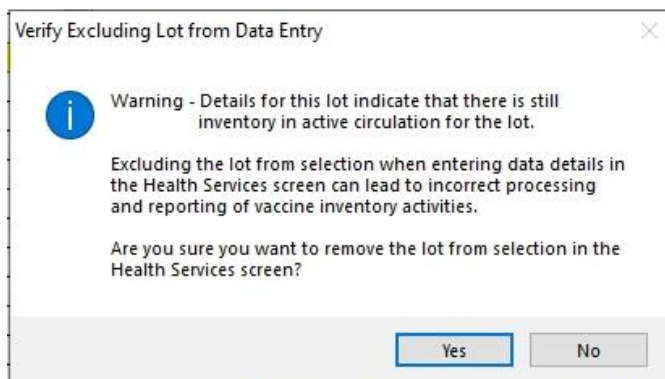
## Excluding Lot from Data Entry

As stated previously, the system will not allow updating a vaccine lot as no longer in active inventory as long as on hand figures indicate that the lot is still in inventory.

However, there may be times that a vaccine lot is to be removed from use but still remain in inventory.  As such, you will not want the vaccine lot to be available for selection when entering vaccination details.

The **Exclude from Data Entry** specification is provided to accommodate this situation.  The Exclude from Data Entry specification is found in the center of the screen, right of the vaccine lot list and above the **Active in Inventory** specification.



A vaccine lot is excluded from selection during data entry by editing the vaccine lot detail and checking the setting.  Upon doing so, the user will receive a prompt to confirm the exclusion from data entry, shown here.



Upon confirming the change to exclude the vaccine lot from data entry, the checkbox will show the checkmark, as shown here:

Upon saving the update of the vaccine lot to be excluded from data entry, the health services screen will not include the vaccine lot for selection when user is entering a vaccination detail.

When the matter which lead to marking the vaccine lot to be **Excluded from Data Entry** is resolved, and the lot is to be returned to active use in HDIS, simply edit such lot detail, unchecking the **Exclude from Data Entry** specification and save the change.