



Duplicate Client and Dose Records in the NDIIS

The number of duplicate client and dose records being created in the North Dakota Immunization Information System (NDIIS) has increased significantly in the last few years due to the increasing number of providers submitting data to the NDIIS electronically from their electronic health record (EHR) system. The majority of duplicate clients are due to having hyphenated names, differences in name spelling and clients that have a name suffix (i.e., Jr., Sr.). The electronic messaging system looks for an exact match, based on first name, last name and birthdate, between the EHR and NDIIS or it will create a new NDIIS record. Additional changes have been made to try and increase the match rate for client records and reduce the overall number of duplicate records created, but it will continue to occur. Interoperable providers are also choosing to enter historical dose records from the NDIIS into their EHR system, which then sends the dose record back to the NDIIS creating duplicate doses. In an effort to standardize our process and to reduce the amount of Immunization Program staff time spent on de-duplication, the procedures and schedules for the correction of both client and dose level duplicates are outlined below.

Client Duplicates

When a duplicate client record is found in the NDIIS, users should check the *Possible Duplicate* checkbox at the top of the client demographics page. In situations where key demographic data (like the name or birthdate) is incorrect in one of the records, the users who finds the duplicate needs to update the information so both records have the correct name and birthdate.

Every Thursday, NDIIS team members will run a report looking for clients flagged with the *Possible Duplicate* box checked in the NDIIS and will combine those records every Friday. There is no need to notify the NDIIS team by phone or email of duplicates, as long as the record is flagged using the checkbox.



Demographics | Immunizations | Comments | Birth Record | Maintenance

Patient Information Possible Duplicate Last Updated 09/06/2023

* Last Name: <input type="text" value="BBFIFTYSEVEN"/>	* Address: <input type="text" value="123 TEST ST"/>
* First Name: <input type="text" value="TEST"/>	<input type="text"/>
* Middle Name: <input type="text" value="TEST"/>	<input type="checkbox"/> Air Force Base
Suffix: <input type="text"/>	* City: <input type="text" value="FARGO"/>
* Race: <input type="text" value="UNKNOWN"/>	* State: <input type="text" value="NORTH DAKOTA"/>
* Ethnicity: <input type="text" value="UNKNOWN"/>	* Zip: <input type="text" value="58103"/>
* Birth Date: <input type="text" value="01/01/1956"/>	County: <input type="text" value="CASS"/>
<input type="checkbox"/> Is Multiple Birth (twins, triplets, etc)	* Birth State/Country: <input type="text" value="NORTH DAKOTA"/>
* Gender: <input type="text" value="FEMALE"/>	* Primary Phone: <input type="text" value="555-555-5555"/>
Alias First Name: <input type="text"/>	* Phone Number Type: <input type="text" value="Mobile Phone"/>
Alias Middle Name: <input type="text"/>	Email Address: <input type="text"/>
Alias Last Name: <input type="text"/>	Primary Language: <input type="text" value="-- SELECT ONE --"/>
	<input type="checkbox"/> Opt client in for text reminder recall
	<input type="checkbox"/> Exclude client from reminder recall
	<input type="checkbox"/> Exclude client from client De-Duplication

Mother Information	Responsible Person
Last Name: <input type="text"/>	Last Name: <input type="text"/> Relationship to Patient:
First Name: <input type="text"/>	Middle Name: <input type="text"/> -- SELECT ONE --
Middle: <input type="text"/>	First Name: <input type="text"/>
Maiden Name: <input type="text"/>	

Fields Appearing with an Asterisk (*) Are Required.

In June 2016, an automated client deduplication system was implemented that searches for duplicate client records created in the NDIIS the previous day and places them for manual review the NDIIS team. This review is completed daily and records determined to be duplicates are merged. The automated system can only handle two matching records at a time, however. If there is a client that has more than 2 records, there is a separate report run by the NDIIS team to try and identify those and get them combined once per week.

In an effort to further reduce the number of duplicate records created, the NDIIS team suggests that providers use a space not a "-" for a hyphenated last name (i.e., Smith Johnson not Smith-Johnson), put a space between in the first name if a client has two first names (i.e. Mary Jane, not MaryJane) and putting Jr., Sr., III, etc. as a suffix and not as part of the last name.

Dose Duplicates

In April 2014, a vaccine level de-duplication system was implemented in the NDIIIS. This system evaluates all doses added to NDIIIS client records by direct data entry users and from provider EHR systems that send data to the NDIIIS electronically. The vaccine level de-duplication system will automatically remove duplicates that can be easily identified as a duplicate dose (i.e., same vaccine/type of vaccine with the same dose date). Those doses that cannot be automatically de-duplicated are evaluated by immunization program staff on a daily basis. At a minimum, doses with an add date from the previous day will be resolved by the end of the current business day.

The NDIIIS team completed an evaluation of all historical dose records that were in the NDIIIS prior to April 2014 to remove previously added vaccine duplicates. Duplicate dose not previously removed can be reported to the NDIIIS team and the records will be corrected every Tuesday and Thursday

In an effort to reduce the number of vaccine duplicates created, the NDIIIS team suggests that EHRs electronically consume, not just display, historical doses from the NDIIIS into the EHR. This will reduce the number of vaccine duplicates, because providers won't have to manually enter historical doses from NDIIIS into the EHR.