

## Duplicate Client and Dose Records in the NDIIS

North Dakota Department of Health (NDDoH) immunization program staff are getting an increasing number of requests to combine duplicate client records and to delete duplicate dose records from the North Dakota Immunization Information System (NDIIS). Duplicate records are being created 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 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, providers should type the word “DUPLICATE” into the second address line of the client demographics page. If that line contains address information, type “DUPLICATE” in another empty field on the demographics page. DO NOT DELETE ANY CLIENT DEMOGRAPHIC INFORMATION. Every Thursday, NDDoH staff will run a report looking for clients marked as duplicate in the NDIIS and will combine those records every Friday. The report will only look for the word “DUPLICATE” so if the word is spelled wrong or if there is another word used instead, the records will not fall on our weekly report. There is no need to notify NDDoH staff by phone or email of duplicates, as long as “DUPLICATE” is in the second line of the address in the NDIIS client demographics page.

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 by immunization program staff. 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, the NDDoH has a separate report 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 NDDoH 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 NDIIS. This system evaluates all doses added to NDIIS client records by direct data entry users and from provider EHR systems that send data to the NDIIS 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 NDDoH has completed an evaluation of all historical dose records that were in the NDIIS prior to April 2014 to remove previously added vaccine duplicates. Duplicate dose not previously removed can be reported to the immunization program via phone and the records will be corrected every Tuesday and Thursday by the immunization program.

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