

North Dakota Immunization Information System Monthly Error Report



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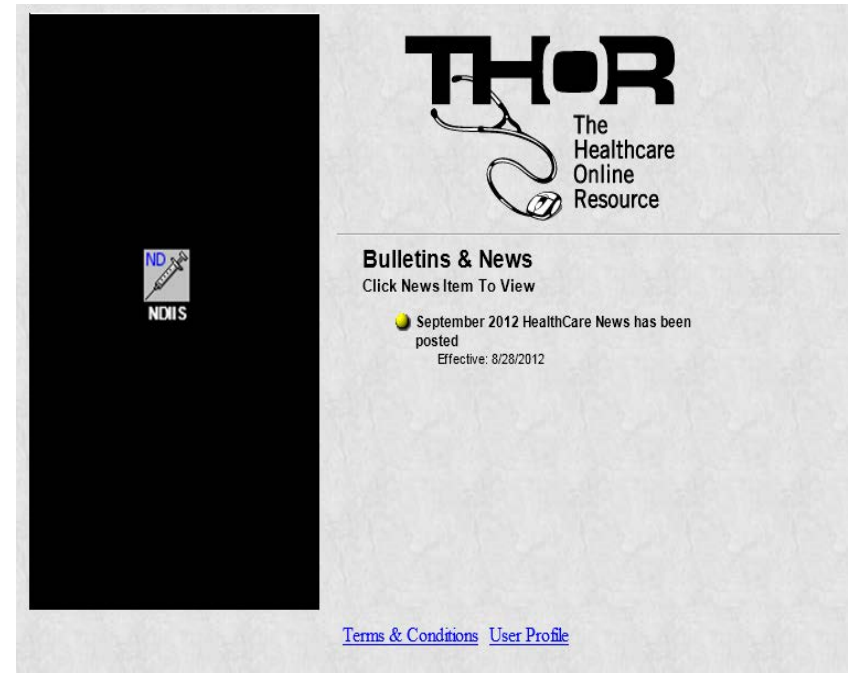
Background



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NDIIS Background

- The North Dakota Immunization Information System (NDIIS) is a confidential, population-based, computerized information system that attempts to collect vaccination data for all North Dakotans.
- Established in 1988 as a modem, dial-up system
- The ND Department of Health contracted with BCBSND in 1996 to develop the current web-based system.
 - NDIIS is located on their THOR (The Healthcare Online Resource) network
- ND Century Code requires North Dakota providers enter all childhood (under 18 years of age) immunizations into the NDIIS within 4 weeks of administration.



NDIIS continued...

- In 2010, the NDDoH contracted with Software Partners to implement forecasting functionality into the NDIIS
 - Forecasting uses the recommendations of the Advisory Committee for Immunization Practices (ACIP) to determine the recommended and minimum valid dates for vaccine administration
 - The forecaster looks at:
 - minimum ages
 - maximum ages
 - minimum intervals between live and inactivated vaccines

North Dakota Immunization Information System

Client/Provider Lookup: TEST CLIENTONE

Demographics Immunizations Comments Birth Record Maintenance

Client: TEST CLIENTONE

Dose Date	Provider	Lot	Reaction	VFC	Vaccine	Valid
08/10/2010	6006 - SCOTT	ZOSTER (SHINGLES)	NONE	NOT ELIGIBLE	ZOSTER (SHINGLES)	No

Vaccination Exemptions Forecast VAERS Add Change Delete



NDIIS continued...

- North Dakota participates in the Vaccines For Children (VFC) federal entitlement program
- VFC eligibility is screened for each administered dose of vaccine and the NDIIS requires that dose-level VFC status be recorded for each administered dose
- Vaccine lot inventory in the NDIIS also differentiates between privately purchased and state-supplied vaccine which needs to be matched with the appropriate VFC status when doses are added to a client record in the NDIIS
 - State-supplied lot numbers are automatically entered into the NDIIS from McKesson and should only go to kids whose VFC status is: “NO INSURANCE,” “UNDER INSURED,” “MEDICAID,” “AMERICAN INDIAN,” or “OTHER STATE ELIGIBLE”
 - Privately purchased lot numbers are entered into the NDIIS by the provider which results in the NDIIS adding the word “Private” behind the lot number and should only go to kids whose VFC status is: “NOT ELIGIBLE”

Provider: 7007 - JIM TEST

Dose Date: 08/29/2012 Valid Dose: YES

☒ Exclude Expired Lots

Lot #: 00001THTEST - Private

Reaction: NONE

VFC: NOT ELIGIBLE

Vaccine: MCV4 (Meningococcal)

Correct entry for dose of privately purchased vaccine

Provider: 7007 - JIM TEST

Dose Date: 08/29/2012 Valid Dose: YES

☒ Exclude Expired Lots

Lot #: 00001THTEST

Reaction: NONE

VFC: NO INSURANCE

Vaccine: MCV4 (Meningococcal)

Correct entry for dose of VFC vaccine



NDIIS continued...

- The NDIIS has borrow/return functionality that allows providers to borrow state-supplied vaccine to their private stock and vice versa

Name: 9990 - TEST Type: Borrow

To: 9990 - TEST Trans. Date: 08/31/2012

Lot Number	Vaccine	Expiration	On Hand	Borrow
0418U	MMR	03/02/2009	4	
1234X	CHICKENPOX	01/01/2018	1	
1234X - Private	CHICKENPOX	01/01/2018	9	4

- Borrowing between supplies with the same lot number will change the number of doses on hand for each supply
- When borrowing between supplies with different lot numbers, the NDIIS will create a new, identical lot number

Lot Number	Vaccine	Expiration	On Hand
1234X	CHICKENPOX	01/01/2018	5
1234X - Private	CHICKENPOX	01/01/2018	5

- Returning between supplies with the same lot number will change the number of doses on hand for each supply
- When borrowing between supplies with different lot numbers, the NDIIS will create a new, identical lot number

Name: 9990 - TEST Type: Return

To: 9990 - TEST Trans. Date: 08/31/2012

Lot Number	Vaccine	Expiration	On Hand	Return
1234X	CHICKENPOX	01/01/2018	5	
1234X - Private	CHICKENPOX	01/01/2018	5	
5678Z	CHICKENPOX	01/01/2018	8	4

Lot Number	Vaccine	Expiration	On Hand
1234X	CHICKENPOX	01/01/2018	5
1234X - Private	CHICKENPOX	01/01/2018	5
5678Z - Private	CHICKENPOX	01/01/2018	4
5678Z	CHICKENPOX	01/01/2018	4



Monthly Error Report



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Error Report

- In September 2010, the NDDoH Immunization Program developed an error report using the NDIIS that looks for errors in the administration of vaccine by enrolled VFC providers
- The report uses required data entry fields and the forecaster functionality in the NDIIS to determine if a provider has made one or more of the 26 errors on a monthly basis
- The errors are compiled and the report is run on a monthly basis
 - Report is run on the first working day after the first of each month for errors in vaccine administration during the previous month
- Report is reviewed by the VFC/AFIX manager who determines if follow-up is needed with any of the providers
 - Additional data is sometimes needed for follow-up and is requested from the ND Sentinel Site Coordinator



Error Report continued...

➤ How is the report compiled?

- 1) Using the NDIIS datamart, the Sentinel Site Coordinator runs a SQL statement to extract the raw data from the registry
- 2) The raw data pulled using each of the SQL statements are downloaded from the datamart and saved as text files
- 3) The saved text files are read into statistical analysis software (SAS) program
- 4) Once the SAS code has been run, the report results are compiled into an excel spreadsheet for easier analysis
- 5) The VFC/AFIX Manager reviews the saved report and determines if:
 - additional data is needed
 - a provider or providers require follow-up because of a high number of errors for the current month or for a pattern of errors over the course of a few months



Error Report continued...

➤ VFC errors

- doses of VFC vaccine administered to “NOT ELIGIBLE” kids 0 – 18 years of age
- dose of VFC vaccine administered to adults 19 years of age or older

➤ Forecaster Errors

- minimum interval violations between inactivated vaccines
- minimum interval violations between live virus vaccines
- potential duplicate doses
- dose date equals birth date
- expiration date has been exceeded for the lot number
- HPV2 administered to male

➤ Forecaster Errors continued...

- minimum/maximum age violations
 - DTaP after 6yrs of age
 - Hep A before age 1
 - Hib after 5yrs of age
 - HPV after 26 yrs of age
 - HPV before age 9
 - MMR before age 1
 - MCV4 before 9 months of age
 - PCV after 5 years of age
 - PPV23 before age 2
 - TD before age 7
 - Varicella before age 1
 - Zoster before age 50
 - Rotavirus after 8 months of age



Benefits and Challenges



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Benefits

❖ Data Quality

- Allows for an opportunity to educate providers on correct dose entry in the NDIIS to help prevent future errors
- Majority of errors found through the use of the monthly report are data entry errors and by identifying errors and working with providers to correct their data entry, we are maintaining the quality of data in the NDIIS

❖ VFC accountability

- Following up with providers gives VFC coordinators an opportunity to educate providers on the proper use of VFC vaccine
- Helps to increase interaction between Immunization Program staff and our VFC enrolled providers
- Allows for an opportunity for providers to take steps to correct previous incorrect action before it becomes a problem that requires legal action
- Can find providers who are intentionally misusing VFC vaccine so that the appropriate action can be taken



Challenges

❖ Data Quality

- Majority of errors found through the use of the monthly report are data entry errors and providers with limited time and resources may take an extended period of time to correct errors
- Having to do chart reviews to make sure that the errors are just due to incorrect data entry and not the actual misuse of vaccine is time consuming for providers and Immunization Program staff

❖ VFC accountability

- Going on site visits to follow up with providers and make sure they are adhering to their corrective action plan is time consuming
- Legal action that can result from the intentional misuse of VFC vaccine on the part of a provider is costly and time intensive for everyone involved



Examples

Clinic A

- There were consistent errors of administering state-supplied VFC vaccine to “NOT ELIGIBLE” kids found using the monthly error report
- Using additional information on the administration errors pulled from the NDIIS, the VFC/AFIX Coordinator visited the provider and reviewed a sample of 28 charts
- It was found that:
 - 23 of the 28 errors were due to incorrect data entry of a state-supplied lot number entered for VFC eligible kids when private vaccine was actually administered
 - 3 errors were due to incorrect data entry of private vaccine given to VFC eligible kids when state-supplied vaccine was actually given
 - 1 incorrect VFC eligibility
 - 1 incorrect administration of state-supplied vaccine given to a child who is not eligible for the VFC program
- The errors were corrected in the NDIIS and the NDDoH staff worked with the provider on education and corrective action to prevent future errors



Examples

Clinic B

- This provider's practices were reported to the NDDoH by another provider
- Repeated errors of administering state-supplied VFC vaccine to "NOT ELIGIBLE" kids were found using the monthly error report
- An audit of the clinic's practices and documentation was conducted
- It was found that the clinic was intentionally and consistently using VFC vaccine inappropriately
 - They did not maintain a private vaccine supply
- The provider was referred to the state's attorney's office for fraud and abuse



Questions?



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