

Automating Monthly Provider Error Reports

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Background

NDIIS

First web-based version available in 1996

Completed major modernization project in November 2024

Lifespan system with records for 100% of ND residents

More than 90% of immunizations are reported within 1 day of administration

IIS-VFC partnership

- VFC and IIS team members met together with development team to detail current process and brainstorm new functionality
- VFC team worked with IIS team to test the functionality and provide feedback
- Worked collaboratively to refine specific errors and report layout in the IIS user interface for provider and immunization program use
- VFC and IIS team worked together to create training tip sheets and conduct provider outreach
- VFC team gathered provider feedback to pass along to the IIS manager

Evolution of the Error Report



Manual Process

- ✓ IIS team manually queried IIS database to extract doses administered
- ✓ Used SAS to calculate errors by provider
- ✓ VFC team reviewed errors and identified which errors required follow-up
- ✓ IIS and VFC teams pulled patient/dose lists for each provider and each error needing follow-up
- ✓ VFC team sent lists to providers
- ✓ Process repeated 2 weeks later to verify data entry corrections

Errors

- Publicly Funded to Not Eligible Kids 0-18 Yrs
- Publicly Funded Birth Dose HBV to Not Eligible
- Publicly Funded Zoster/Var/Men B/MMRV/RSV to 19+
- Publicly Funded HAV/HBV/HPV/INFL/IPV/MCV4/MR/Td/Tdap to NE 19+
- Publicly Funded PCV/PPSV23 to 65+
- Publicly Funded PCV/PPSV23 to 50-64 Yrs
- Publicly Funded PCV/PPSV23 to NE 19-49 Yrs
- Invalid Doses Administered
- Combo and Single Antigen given same day
- Expiration date has been exceeded for the specified lot number
- Administered Doses Entered as Historical
- Unspecified Vaccine Entered as Administered
- Public Doses to Underinsured Kids
- Non-Routine Vaccines Entered as Publicly Funded
- Vaccine not on Market
- Dose Date Equals Birth Date
- OPV Administered After 4/1/2016
- DTaP after 6 Years
- Hep A Before 1 Yr
- Hep A or Hep B Adult to 0-18 Yrs
- Hib After 5 Years
- HPV After 45 Yrs
- HPV Before 9 Yrs
- MMR Before 1 Yr
- PPSV23 Before 2 Yrs
- Rotavirus After 8 Months
- Td or Tdap Before 7 Yrs
- Varicella Before 1 Yr
- Mpox Before 18 Yrs
- RSV mAB after 19 Months
- RSV Abrysvo to Males Under 50 Yrs
- RSV Arexvy or mRNA Before 50 Yrs

Goals

Identify and correct data entry errors in the IIS

Provide education to prevent further data entry or administration errors

Identify provider sites potentially misusing public vaccine

Error Report Thresholds

- Each error is assigned a threshold based on:
 - provider size based on the CDC VFC PEAR provider size
 - programmatic priority of error
 - For example, errors looking at potential inappropriate use of public vaccine or duplicate vaccines administered on same day, are higher priorities
- Additional factors are also considered when setting thresholds and following up with providers
 - For example, adult patients receiving pediatric vaccines due to stem cell transplants and MMR vaccines being given prior to age 1 during measles outbreaks.

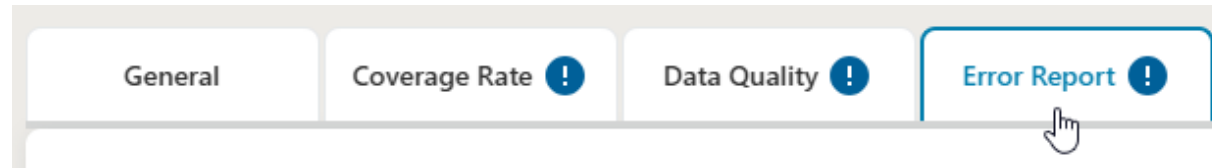
Error Report Criteria and Thresholds

Error Number	NDIIS Error Description	Provider Size-Based Threshold Levels				
		XS 0-100 doses	S 101-200 doses	M 201-750 doses	L 751-3500 doses	XL 3500+ doses
1	Publicly Funded to Not Eligible Kids 0-18 Yrs	>5	>5	>10	>15	>15
2	Publicly Funded Birth Dose HBV to Not Eligible	>5	>5	>10	>15	>15
3	Publicly Funded Zoster/Var/Men B/MMRV/RVS to 19+	>5	>5	>10	>15	>15
4	Publicly Funded HAV/HBV/HPV/INFL/IPV/MCV4/MMR/Td/Tdap to NE 19+	>5	>5	>10	>15	>15
5	Publicly Funded PCV/PPSV23 to 65+	≥1	≥1	≥1	≥1	≥1
6	Publicly Funded PCV/PPSV23 to 50-64 Yrs	>5	>5	>10	>15	>15
7	Publicly Funded PCV/PPSV23 to NE 19-49 Yrs	≥1	≥1	≥1	≥1	≥1
8	Invalid Doses Administered	>5	>5	>5	>5	>5
9	Combo and Single Antigen given same day	≥1	≥1	≥1	≥1	≥1
10	Expiration date has been exceeded for the specified lot number	>5	>5	>5	>5	>5
11	Administered Doses Entered as Historical	>5	>5	>5	>5	>5
12	Unspecified Vaccine Entered as Administered	>5	>5	>5	>5	>5
13	Dose Date Equals Birth Date	>5	>5	>5	>5	>5
14	DTaP After 6 Yrs	>5	>5	>5	>5	>5
15	Hep A Before 1 Yr	≥1	≥1	≥1	≥1	≥1
16	Hep A or Hep B Adult to 0-18 Yrs	>5	>5	>5	>5	>5
17	Hib After 5 Years	>5	>5	>5	>5	>5
18	HPV After 45 Yrs	>5	>5	>5	>5	>5

Integrated Error Report Dashboard

Automated Process

- Error report is now available for all users upon logging in to the IIS



- Report shows errors based on doses administered during the previous calendar month
- Report is refreshed daily
- Includes all 31 errors from the previous manual report process
- If any error has a count >0 , Error Report dashboard shows the exclamation point icon

Error Report - March 2026
as of 04/09/2026, 12:00 AM

Provider View

	Count	Description
+	6	Publicly Funded to Not Eligible Kids 0-18 Yrs
+	0	Publicly Funded Birth Dose HBV to Not Eligible
+	1	Publicly Funded Zoster/Var/Men B/MMRV/RVS to 19+
+	1	Publicly Funded HAV/HBV/HPV/INFL/IPV/MCV4/MMR/Td/Tdap to NE 19+
+	0	Publicly Funded PCV/PPSV23 to 65+
+	0	Publicly Funded PCV/PPSV23 to 50-64 Yrs
+	0	Publicly Funded PCV/PPSV23 to NE 19-49 Yrs
+	1	Invalid Doses Administered

- Each error includes a description and count of doses
- Users can click the + next to the count to view specific patient and dose details
- Users can also export the report



Error Report - March 2026
As of 04/09/2026 02:14:24 PM

Error Number	Error Description	Patient Last Name	Patient First Name	Patient Date of Birth	Dose Date	Vaccine Name	Lot Number	Funding Source	VFC
1	Publicly Funded to Not Eligible Kids 0-18 Yrs				3/19/2026	Tdap		Public	Not Eligible (privately insured)
1	Publicly Funded to Not Eligible Kids 0-18 Yrs				3/23/2026	IPV		Public	Not Eligible (privately insured)
1	Publicly Funded to Not Eligible Kids 0-18 Yrs				3/19/2026	IPV		Public	Not Eligible (privately insured)
1	Publicly Funded to Not Eligible Kids 0-18 Yrs				3/19/2026	MMR		Public	Not Eligible (privately insured)
1	Publicly Funded to Not Eligible Kids 0-18 Yrs				3/16/2026	HBV Pediatric		Public	Not Eligible (privately insured)
1	Publicly Funded to Not Eligible Kids 0-18 Yrs				3/16/2026	HBV Pediatric		Public	Not Eligible (privately insured)
3	Publicly Funded Zoster/Var/Men B/MMRV/RVS to 19+				3/23/2026	VARICELLA (CHICKENPOX)		Public	Not Eligible (privately insured)
4	Publicly Funded HAV/HPV/HPV/INFL/IPV/MCV4/MMR/Td/Tdap to NE 19+				3/20/2026	Tdap		Public	Not Eligible (privately insured)
8	Invalid Doses Administered				3/19/2026	ZOSTER Shingrix		Private	Not Eligible (privately insured)

☰ Search...

Patient Last Name	Patient First Name	Patient Date of Birth	Dose Date	Vaccine Name	Lot Number	Funding Source	VFC
			03/19/2026	ZOSTER Shingrix		Private	Not Eligible (privately insure...

Immunization Program View

- Immunization program staff can:
 - view each individual provider's error report
 - export an individual provider's error report
 - view error counts and details for all providers
 - export all errors for all providers
- All provider view is defaulted to only show VFC/VFA-enrolled providers but can be viewed for all NDHHS provider sites

Error Report - March 2026

as of 04/09/2026, 12:00 AM

Show only VFC/VFA-enrolled providers

EXPORT CSV

Immunization Program View

Search...

Provider	Count
+ 4920 - CHI ST A WILLISTON	15
+ 34 - Richland County Health	2
+ 2863 - Medical Arts Pediatrics	8
+ 1082 - CHI - St Alexius Med Center	7
+ 29 - Pembina County HD	2

- All providers with at least one error with a count >0 are listed
- Immunization program staff can expand each provider's error details by clicking the + next to the provider's name
- Expanded view provides a dose count for each error and the error description

Count	Description
1	Publicly Funded to Not Eligible Kids 0-18 Yrs
4	Publicly Funded HAV/HBV/HPV/INFL/IPV/MCV4/MMR/Td/Tdap to NE 19+
1	Invalid Doses Administered
1	Administered Doses Entered as Historical

VFC Team Follow-up

- VFC teams follow up with providers that have errors meeting set thresholds
- Follow up now instructs providers to their NDIIS dashboard to review error report and see specific patient and dose information
 - When the automated error report was first released in the IIS, VFC coordinators were sending error report data to providers.
- More extensive follow up will occur if certain providers are consistently being triggered on monthly error reports

Summary

- Significantly less IIS and VFC staff time needed with the error report now automated and available to all IIS users
- No longer sending password protected Excel® files via secure email
- Providers have more real-time access to their own error report details
- Increased provider buy-in with improved information access and delivery
- Functionality has identified interoperable and data entry issues faster
- More time to focus on education to facilities now that less time is needed to run the reports and complete initial follow up

Questions



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Thank you!

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