

HL7 Reports

Objective: At the completion of this section, the learner will know the:

- reports HL7 sites are required to run routinely
- site personnel responsible for running HL7 reports
- vendor specific HL7 reports available in ImmPRINT

HL7 reports are tools to ensure the data being transmitted to ImmPRINT through an HL7 interface maintains a high level of quality and integrity. There are five available HL7 reports, and each will be discussed:

- Connectivity Report
- Vaccine Report
- Error Report
- Ongoing Data Submission by Site
- Ongoing Data Submission by Medical Authority (MA) NPI

These reports should be run on a routine basis. Each site will have to determine the frequency in which the reports are ran based on their immunization practices and patient volume. For example, a busy pediatric clinic may need to run these reports either daily or weekly all year, while an adult or seasonal vaccinator may only need to run their reports monthly. Again those decisions are left to the discretion of the site. The HL7 team recommends the reports to be run as much as possible to ensure errors and problems can be found and addressed promptly. This increases ImmPRINT's data quality and integrity, and the completeness of patient records.

Accessing HL7 Reports

All users associated with an HL7 site will have access to their site's HL7 reports. Under the "Reports" tab on the left side of the screen select "HL7 Report" to open the "HL7 Detailed Site Report" page.



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Click on the “Select Report” drop down arrow, and all five reports name will appear.

Choose the desired report. If the user has access to only one site, then the site field will automatically pre-populate with the site’s name. If the user has more than one site, then they will need to click the drop down arrow and choose the correct site. Depending on the selected report, the National Provider Identifier (NPI) Number may or may not be a required field. Lastly, the user will need to enter the starting and ending date (mmddyyyy) for the desired time period and click “Run Report”. These reports will be appear as a PDF and can be downloaded, saved, and/or printed.

Connectivity Report

The “Connectivity Report” provides details about the site’s connectivity history with ImmPRINT through an HL7 interface. This report will list previous and current electronic



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health record (EHR) vendors, as well as the dates in which the interface was created, deactivated, if applicable, and the date the first successful HL7 message was received.

Alabama Immunization Registry (ImmPRINT)				
HL7 Connectivity History Report				
As of: 4/30/2018 3:47:24 PM				
IMMPRINT TEST CLINIC				
100 ImmPRINT Drive				
Montgomery, AL 36104				
(334) 123-4567				
EHR Vendor	Credentials Created	First Successful HL7 Message	Credentials Deactivated	Notes
EHR Vendor A	01/08/2018	01/15/2018		
EHR Vendor B	12/14/2011	01/15/2018	09/02/2016	

Vaccine Report

The “Vaccine Report” gives an account of the vaccines that were accepted and entered into the registry during the identified timeframe. The image below is an excerpt of a “Vaccine Report”.

Alabama Immunization Registry (ImmPRINT)		
HL7 Connectivity History Report		
As of: 4/30/2018 3:47:24 PM		
IMMPRINT TEST CLINIC		
100 ImmPRINT Drive		
Montgomery, AL 36104		
(334) 123-4567		
22 Vaccines Received		
Local Chart No.	Patient Name	DOB
ABC123	JOHN ALAN DOE	07/13/1993
CVX Code	Vaccination Date	Vaccine Name
115	04/01/2018	TDAP
Local Chart No.	Patient Name	DOB
DEF456	JANE ALICE DOE	01/12/1983
CVX Code	Vaccination Date	Vaccine Name
115	04/01/2018	TDAP



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Error Report

The “Error Report” is one of the most important reports for an HL7 site. This report shows users issues that occurred when submitting data through the interface. There are four types of issues that can be addressed in the report: warnings, data errors, technical errors, and rejected. The first page gives a summary of the different errors.

Alabama Immunization Registry (ImmPRINT) HL7 Connectivity History Report	
As of: 4/30/2018 3:47:24 PM	
IMMPRINT TEST CLINIC	
100 ImmPRINT Drive	
Montgomery, AL 36104	
(334) 123-4567	
Warnings	93
Data Errors (VXU)	26
Technical Errors	0
Rejected Messages	0
Data Errors (QBP)	0

Warning Message Types	# of Occurrences
- Vaccine accepted but is not within acceptable age	93

Data Error Types (VXU)	# of Occurrences
Inactive Vaccine	18
Vaccination date cannot be same as patient's date of birth	4
Patient Name is Invalid	4

Subsequent pages provide the details about the individual issues reflected in the summary.

Warnings				
563	JOHN ALAN DOE	06/01/2000	VARICELLA with CVX Code 21 given on 03/05/2001 was accepted but is outside the acceptable age	04/24/2018

Data Errors				
2191	SALLY ANN SUE	04/18/1993	DTP with CVX Code 1 given on 04/06/2018 was rejected as the vaccine was not active during that time	04/06/2018
100	JANE ALICE DOE	11/09/1982	OPV with CVX Code 2 given on 04/06/2018 was rejected as the vaccine was not active during that time	04/06/2018

Technical Errors		
20180327110834163	EDI Message Validation fails with 1 validation error(s).Error 1014 Field value not found in validation table ORDER[0]/RXR/AdministrationSite/Identifier	03/27/2018
20180327113709463	EDI Message Validation fails with 1 validation error(s).Error 1014 Field value not found in validation table ORDER[0]/RXR/AdministrationSite/Identifier	03/27/2018



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We will now discuss each type of issue or error and how each should be addressed.

Error Types

Warnings are alerts showing that a vaccination was documented outside of the standard recommendations (i.e. out of age range). Although warnings appear on the error report, these vaccines have been accepted into the registry. Warnings are merely a courtesy to users to make sure that the entered vaccine was indeed the correct immunization documented. If the vaccine was documented accurately, then no further action is needed, but if this was inaccurate, please find the warning details in the report to make the necessary corrections.

There are two types of data errors: VXU and QBP. VXU errors occur when there is a discrepancy in the vaccine information being transmitted to the registry. Examples of VXU data errors are in the error report below. QBP errors occur when there is a discrepancy with the query message being transmitted to the registry. Site users are responsible for correcting data errors. Errors are not accepted by the registry. The user will need to find the data error details and make the necessary corrections. Unfortunately, once an error is made, the error will always appear on the error report. So to ensure the correction is made and accepted by ImmPRINT, the user is encouraged to run the “Vaccine Report”. If the error is fixed, then the number of vaccines should be increased. Another way to check to see if the error is corrected, is to log into ImmPRINT, search for the patient, and verify the immunization appears in the patient’s vaccination history.

Technical errors are the responsibility of the EHR vendor. After registering in the appropriate ImmPRINT environment (pilot or production), the EHR vendors will have access to these reports for the sites they provide services to. It is to the discretion of individual sites



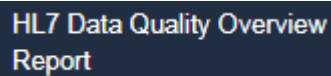
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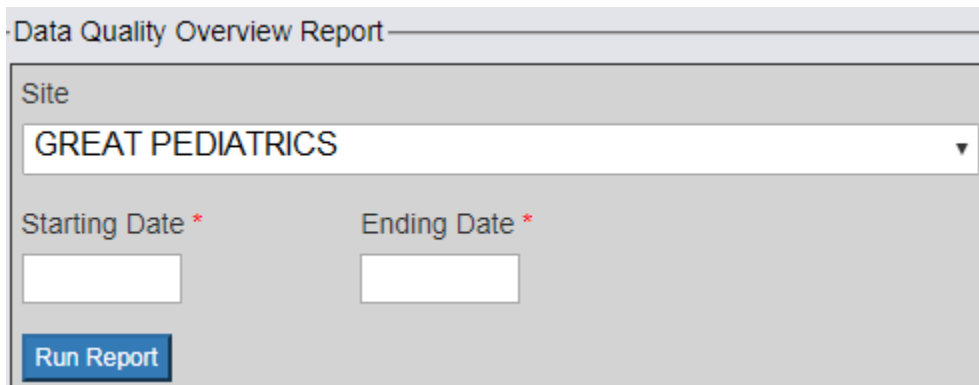
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and vendors to determine the appropriate workflow to address technical errors in a timely manner.

SAs have access to the HL7 Data Quality Overview Report. This report is a comprehensive summary of the vaccination information submitted to ImmPRINT in the specified time frame. This is not a required report, but it is a helpful tool for sites to understand details about the data their EHR system is transmitting to ImmPRINT.

A dark blue rectangular button with white text that reads "HL7 Data Quality Overview Report".

Under reports, the SA can click the icon. The site's name will be pre-populated in the Site field, but if the SA functions as the SA for other ImmPRINT sites, they will need to select the correct site.

A screenshot of a web form titled "Data Quality Overview Report". The form has a light gray background. At the top, the title "Data Quality Overview Report" is displayed. Below the title is a "Site" label followed by a dropdown menu containing the text "GREAT PEDIATRICS". Underneath the dropdown are two input fields: "Starting Date *" and "Ending Date *", each with a red asterisk. Below these fields is a blue button labeled "Run Report".

Enter the appropriate dates and click “Run Report”.



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Data Quality Overview Report

Report Data Ranges From 07/01/2018 to 07/11/2018

Site Name : GREAT PEDIATRICS

Total HL7 Messages: 2009

Description	Value
Number of Administered Immunizations given to patients >= 19	3
Number of Historical Immunizations given to patients >= 19	21
Number of Administered Immunizations given to patients < 19	764
Number of Historical Immunizations given to patients < 19	1221
Total # of Administered Immunizations	767
Administered Immunizations with lot number	739 (96.3%)
Administered Immunizations with vaccine manufacturer	767 (100%)
Administered Immunizations with Route of Administration	763 (99.5%)
Administered Immunizations with Site of Administration	0 (0%)
Total # of Administered Immunizations for each CVX code	
DTAP (20)	36 (4.7%)
DTAP, 5 PERTUSSIS ANTIGENS (106)	4 (.5%)
DTAP-HEP B-IPV (110)	65 (8.5%)
DTAP-HIB-IPV (120)	3 (.4%)
DTAP-IPV (130)	28 (3.7%)
HEP A, PED/ADOL, 2 DOSE (83)	82 (10.7%)
HEP B, ADOLESCENT OR PEDIATRIC (8)	8 (1%)
HIB (PRP-OMP) (49)	1 (.1%)
ROTAVIRUS, PENTAVALENT (116)	69 (9%)
TD (ADULT) PRESERVATIVE FREE (113)	1 (.1%)
TDAP (115)	19 (2.5%)
VARICELLA (21)	53 (6.9%)
Total # of Data errors for this site	127
Total # of Technical errors for this site	73
Total # of Rejected messages for this site	144

Ongoing Data Submission by Site

Sites wishing to ensure that they are successfully transmitting data on an on-going basis will find the “Ongoing Data Submission by Site” report beneficial. This report gives a



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snapshot of the number of HL7 messages and vaccines that were submitted. Additionally, it lists the site's medical authority registered with ImmPRINT.

Alabama Immunization Registry (ImmPRINT)
HL7 Ongoing Data Submission Report
25 April 2018

To Whom It May Concern,

IMMPRINT TEST CLINIC at 100 ImmPRINT Drive Montgomery successfully submitted HL7 messages regarding 241 patients and 4,330 vaccinations between 1 April 2018 and 25 April 2018.

Medical Authority Information	
Medical Authority	NPI Number
HEALTH, PUBLIC	0123456789

Ongoing Data Submission by Medical Authority (MA) NPI

Similar to the “Ongoing Data Submission by Site” report, the “Ongoing Data Submission by Medical Authority (MA) NPI” report is another way to evaluate the amount of vaccines being transmitted to ImmPRINT according to a provider’s NPI.

Alabama Immunization Registry (ImmPRINT)
HL7 Ongoing Submission Report by NPI
25 April 2018

To Whom It May Concern,

PUBLIC HEALTH [0123456789] has successfully submitted HL7 messages regarding 3 patients and 4 vaccinations between 1 April 2018 and 25 April 2018.

List of locations where EP has submitted vaccines
IMMPRINT TEST CLINIC
PUBLIC HEALTH CLINIC



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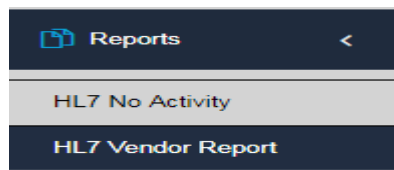
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Responsible Parties

Although all users of an HL7 site will have the capacity to run the reports, the SA is ultimately responsible for ensuring the reports are run and addressed promptly. The delegation, process, and frequency in which the reports are run are to the discretion of the sites.

Vendor Specific Reports

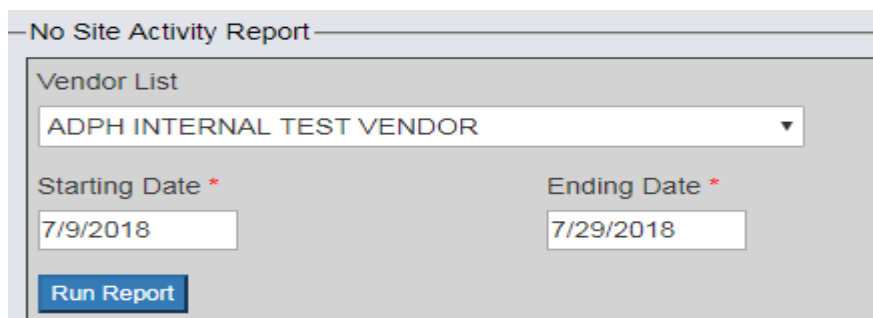
EHR vendors have vendor specific reports available in ImmPRINT. The “HL7 No Activity” and “HL7 Vendor Report” allow vendors to monitor the connectivity actions and patterns of their assigned sites. A vendor user accesses these reports by clicking on the



“Reports” tab on.

HL7 No Activity

The HL7 No Activity report gives a synopsis of the vendor’s assigned sites HL7 activities in a specified timeframe. Depending on the circumstances, the vendor may have to select a particular EHR product. If there is only one EHR product, then the vendor product will be pre-populated in the Vendor List field. The vendor should enter the specific start and end dates, and click “Run Report”.

A screenshot of a web form titled "No Site Activity Report". The form has a light gray background. At the top, there is a "Vendor List" section with a dropdown menu showing "ADPH INTERNAL TEST VENDOR". Below this are two date input fields: "Starting Date *" with the value "7/9/2018" and "Ending Date *" with the value "7/29/2018". At the bottom left of the form is a blue button with the text "Run Report".

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A report will be generated listing all of the assigned vendor's sites' information.

HL7 Sites No Activity Report					
Report Data Ranges From 07/09/2018 to 07/29/2018					
Run Date: 11 July 2018					
VENDOR NAME	VENDOR CONTACT	VENDOR PHONE			
ADPH INTERNAL TEST VENDOR	PETER JONES	334-123-4567			
SITE ID	SITE NAME	LAST ACTIVITY/ CREATE DATE	SITE CONTACT	SITE PHONE	
4000	ADPH INTERNAL SITE	06/21/2017	KATHY LONG	4694599	
4253	GREAT PEDIATRICS	07/11/2018	SUSAN COLE	5683368	
5799	MONTGOMERY CITY	05/25/2018	JOHN HENRY	2256874	

HL7 Vendor Report

The HL7 Vendor Report is the same report as the Error Report for site users. Vendors are able to generate the list according to the site's county or name. Once the criteria are set, enter the date range and click Run Report. Refer to the Error Report section for further details on this report.

HL7 Vendor Report

County

Site

Starting Date * Ending Date *



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