



# NMSIIS HL7 Error Troubleshooting Guide

## Version History:

Version	Date	Notes
1.0	February 2024	K Cruz

## General strategies to reduce data entry errors:

- The IIS will only accept codes that are valid and known to it. You can find a complete list of acceptable fields and submission in the most recent version of the [CDC HL7 2.5.1 Specification Guide](#).
- Talk to your Electronic Health Record (EHR) system administrator or vendor about configuring alerts or highlights when potential data entry errors occur.
- Talk to your EHR system administrator or vendor about how your EHR-IIS interface is configured.
- Ask users to review data entry resources
- Utilize New Mexico Department of Health (NMDOH) Immunization Program Resources <https://www.nmhealth.org/about/phd/idb/imp/siis/dte/>

## Assure that the following minimum data exists:

Minimum data elements required to report (based on CDC Core Data Elements)

	Administered Vaccination Event + Demographic	Historical Vaccination Event + Demographic
Vaccinating Organization	X	
Recording Organization		X
Submitting Organization	X	X
Patient First Name	X	X
Patient Last Name	X	X
Patient Date of Birth	X	X
Patient Sex		
Vaccination Event Date	X	X
Vaccine Type	X	X
Administered/Historical Indicator	Administered	Historical

## Top HL7 Application Errors and How to Resolve:

HL7 Application Error	Resolution
Table value not found (ERR-5)	Check the corresponding table to find the acceptable values, update the HL7 message and resubmit
Required observation missing (ERR-6)	Complete the missing data from the HL7 message and resubmit
Invalid value (ERR-4)	Check the corresponding table to find the acceptable values, update the HL7 message and resubmit

**Acknowledgement Code:**

- AA: Application Accept
  - If no ERR segments, or all severities are information (I)
- AE: Application Error
  - If at least one severity is Warning (W) or Error (E)
- AR: Application Reject
  - Missing required fields, data did not land in patient vaccination record

**Severity Sets Expectation for Sender:**

ERR-4 Severity Value	Sender Must Correct:	Sender Must Resubmit?
I	NO	NO
W	YES	NO
E	YES	YES

**Cross Validation Field:**

Data Element 1	Condition	Data Element 2
Vaccine Code (CVX, NDC and CPT)	Must match	Manufacturer (MVX)
Patient Date of Birth	Must be equal or before	Date of Death
Patient Date of Birth	Must be equal or before	Date of Vaccination
Patient Date of Death is Present	Conflicts when...	Patient death indicator set to N – “Not Deceased”
Next of Kin Name is Present	Conflicts when...	Relationship type (i.e. MTR – Mother) is empty. NMSIIS will change relationship to OTR – “Other” when not submitted.
Birth Order >1	Must match	Multiple Birth Indicator or set to Y – “Yes Multiple Birth Event”
Vaccine completion status is CP (complete)	Conflicts when...	A refusal reason (i.e. Parental Decision) is present
Vaccine completion status is RE – “Refused”	Conflicts when...	Vaccination refusal reason is missing

**Most common errors that cause messages to be rejected:**

For a list of acceptable values for each table please refer to the CDC HL7 2.5.1 Specification Guide:

<https://www.nmhealth.org/publication/view/help/8593/>

Field Name of Error	Plain Language	End-User Strategies
QPD-3 (PatientIdentifierList)	Value submitted is not supported. Must include patient identifier information such as local ID, MRN, Medicaid number, social security number, etc.	Verify that value was submitted.  Verify that the value is accurate and allowable per the value table.
QPD-5 (MothersMaidenName)	Value submitted is not supported.	Verify that value was submitted.

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		Verify that the value is accurate and allowable per the value table.
RXA-11 (AdministeredAtLocation)	Unrecognized or unsupported value entered as administering location (location that gave the vaccine).	Verify the value entered with the credentials for your location. Contact the NMSIIS DX Coordinator to verify correct value is being used.
RXA-20 (CompletionStatus)	Completion status submitted (complete, not administered, partially administered or refused) is missing or conflicts with other information (i.e. if completion status says completed but there is a refusal reason, the information is conflicting and must be reviewed).	Review completion status and verify it is accurate and allowable per the value table.
OBX-5 (ObservationValue)	Value listed for patient eligibility is not valid or is missing.	Verify that value was submitted.  Verify that the value is accurate and allowable per the value table.
MSH-7 (DateTimeOfMessage)	Date/Time of message is missing or formatted incorrectly.	Verify format of date/time is YYMMDDHHMMSS (year year, month month, day day, hour hour, minute minute, second second).
ORC-12 (OrderingProvider)	This should be the provider ordering the immunization. If it is a historical dose, the field should be left empty.	If it is an NPI being used, but is erroring out, please contact the NMSIIS program as it most likely needs to be updated in that user's profile before submitting.
MSH-4 (SendingFacility)	Unrecognized or unsupported value entered as sending facility.	Verify the value entered with the credentials for your location.  Contact the NMSIIS DX Coordinator to verify correct value is being used.
RXA-5 (AdministeredCode)	The CVX code is used to identify the vaccine administered.	Verify that a CVX code was submitted.  Verify that the value is accurate and allowable per the value table.  Ensure that the CVX code submitted coincides with the NDC value and vaccine manufacturer (MVX) submitted.  Confirm that the CVX and NDC crosswalks are set up correctly with your EHR vendor.  <a href="#">CDC CVX Code Table Crosswalk</a> <a href="#">CDC NDC Code Table Crosswalk</a>

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PID-13 (HomePhoneNumber)	Home number is missing or is not formatted properly.	Proper format is 10-digit phone, including area code, with no spaces or dashes.
PID-22 (EthnicGroup)	The patient's ethnicity code must be recognized by the IIS.	<p>Verify the patient's ethnicity is set to Unknown, Hispanic/Latino, or Non-Hispanic/Latino.</p> <p>Check with your EHR system administrator or vendor to make sure the EHR-IIS interface is configured properly to send ethnicity to the IIS.</p> <p>Verify that the value is accurate and allowable per the value table.</p>
RXA-10 (AdministeringProvider)	This should be the provider that administered the immunization. If it is a historical dose, the field should be left empty.	If it is an NPI being used, but is erroring out, please contact the NMSIIS program as it most likely needs to be updated in that user's profile before submitting.
PID-11 (PatientAddress)	Patient address is missing or is not formatted properly.	<p>Patient address should be complete and in the following format: Street Address, City, State, Zip.</p> <p>Double ensure spelling is correct (i.e. Bernalillo or Albuquerque)</p> <p>Zip code can be 5-digit or 5-digit+4-digit</p>
RXA-17 (SubstanceManufacturerName)	If a value is included in this field, it must be a valid MVX (manufacturer) code.	<p>Verify that the value is accurate and allowable per the value table.</p> <p>Ensure that the MVX code submitted coincides with the NDC value and CVX value submitted.</p> <p>Confirm that the MVX, CVX and NDC crosswalks are set up correctly with your EHR vendor.</p> <p><a href="#">CDC MVX Code Table Crosswalk</a></p>
PID-3 (PatientIdentifierList)	Include patient identifier information such as local ID, Medicaid number, social security number, etc.	<p>Verify the patient identifier is listed</p> <p>Confirm with your EHR system administrator the EHR-IIS interface is sending a patient identifier segment.</p>

## Examples of 2.5.1 HL7 Messages with Proper Formatting:

### 1) Search for Bart Simpson, DOB: 01/01/1999 (QBP)

#### QUERY FOR HISTORY ONLY

```
MSH|^~\&|TestApplication|NM9999|WebIZ|NMSIIS|20240123142224.536-0700||QBP^Q11^QBP_Q11|NM999938854000000232|T|2.5.1|||ER|AL|||Z34^CDCPHINVS QPD|Z34^Request Immunization History^CDCPHINVS|querytag||SIMPSON^BART^M^L||19990101||RCP||5^RD&records&HL70126|R^real-time^HL70394
```

### 2) Update Bart Simpson, DOB: 01/01/1999 (VXU)

#### DEMOGRAPHIC UPDATE ONLY

```
MSH|^~\&|TestApplication|NM9999|WebIZ|NMSIIS|20240123142224.536-0700||VXU^V04^VXU_V04|NM999938854000000232|T|2.5.1|||ER|AL|||Z22^CDCPHINVS PID|1||00000002^^^NM9999^MR||SIMPSON^BART^M^L||19990101|M||2106-3^White^CDCREC~2054-5^Black or African American^CDCREC|1011 Winward^^Manhattan^KS^66502^^M||^PRN^^^864^1309701|
```

### 3) Update Bart Simpson, DOB: 01/01/1999 w/ Single Historical Vaccination (VXU)

#### UPDATE WITH HISTORICAL VACCINATION

```
MSH|^~\&|TestApplication|NM9999|WebIZ|NMSIIS|20240123142224.536-0700||VXU^V04^VXU_V04|NM999938854000000232|T|2.5.1|||ER|AL|||Z22^CDCPHINVS PID|1||00000002^^^NM9999^MR||SIMPSON^BART^M^L||19990101|M||1011 Winward^^Manhattan^KS^66502^^M||^PRN^^^864^1309701| ORC|RE||9999^NMSIIS RXA|0|1|19990101||45^hep B, unspec^CVX|999||01^historical^NIP001||^^^NM9999|||||CP|A
```

### 4) Update Bart Simpson, DOB: 01/01/1999 w/ Single Administered Vaccination (VXU)

#### UPDATE WITH ADMINISTERED VACCINATION

```
MSH|^~\&|TestApplication|NM9999|WebIZ|NMSIIS|20240123142224.536-0700||VXU^V04^VXU_V04|NM999938854000000232|T|2.5.1|||ER|AL|||Z22^CDCPHINVS PID|1||00000002^^^NM9999^MR||SIMPSON^BART^M^L||19990101|M| ORC|RE||9999^NMSIIS RXA|0|1|19990101||08^Hep B, ped/adol^CVX^58160-0820-11^ENGERIX-B^NDC|0.5|mL^^UCUM||00^New admin^NIP001|^Sticker^Nurse^^^^^^^^^^^^^^^^^^RN|^NM9999|||lotnum|20000101|SKB^GlaxoSmithKline^MVX|||CP|A RXR|C28161^Intramuscular^NCIT^IM^Intramuscular^HL70162|RT^Right Thigh^HL70163 OBX|1|CE|64994-7^Eligibility Status^LN|1|V02^Medicaid^HL70064|||F||19990101||VXC40^vaccine level^CDCPHINVS OBX|2|CE|30963-3^Vaccine funding source^LN|2|VXC51^Public VFC^NIP008|||F||19990101 OBX|3|CE|30956-7^vaccine type^LN|3|45^Hep B, UF^CVX|||F||19990101 OBX|4|TS|29768-9^VIS Publication Date^LN|3|19970101|||F||19990101 OBX|5|TS|29769-7^VIS Presentation Date^LN|3|19990101|||F||19990101
```

### 5) Request evaluated history and forecast for for Bart Simpson, DOB: 01/01/1999 (QBP)

#### QUERY FOR HISOTRY AND VACCINE FORECAST

```
MSH|^~\&|TestApplication|NM9999|WebIZ|NMSIIS|20240123142224.536-0700||QBP^Q11^QBP_Q11|NM999938854000000232|T|2.5.1|||ER|AL|||Z44^CDCPHINVS QPD|Z44^Request Evaluated History and Forecast^CDCPHINVS|querytag||SIMPSON^BART^M^L||19990101||RCP||5^RD&records&HL70126|R^real-time^HL70394
```

## Contact Us

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