

# HL7 Messaging Tool – Group

## CIIS Resource Center User Guidance

The HL7 Messaging Tool, in the CIIS Resource Center, allows provider staff or an EHR vendor the ability to validate HL7 messages for a practice or group. This tool provides instantaneous, detailed error reporting, information necessary to correct formatting/content issues without delay.

The HL7 Messaging Tool accepts HL7 version 2.5.1. It can be used for validating VXU and QBP HL7 Message Types.

This guide describes how to produce and interpret the HL7 Messaging Tool in the CIIS Resource Center. It will focus on VXU Message Types, but the process for testing QBP Message Types follows the same process.

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## Getting Started

1. Log into the CIIS Resource Center (<https://www.ciisresources.com/>) using your username and password.
  - a. If you cannot log into the CIIS Resource Center because you do not have an account, please contact your CIIS Clinic Administrator to create an account (they can reference the User Enrollment Guidance Document).
  - b. If you have forgotten your password, click the “Forgot Password” link and follow the instructions.
  - c. If you have forgotten your username, you will need to contact the CIIS Help Desk.

Returning Users

Username:

Password:

Login Clear

[Forgot Password.](#) ← Forgot Password Link

Not Registered? [Register Now.](#)

### CIIS Help Desk

Phone: 303-692-2437 option 2

Toll Free: 1-888-611-9918 option 1

Fax: 303-758-3640

Send us an email:

[cdphe.ciis@state.co.us](mailto:cdphe.ciis@state.co.us)

2. On the Main Screen, click on the Validate Group HL7 Messaging icon to test messages for the group or on Validate Practice HL7 Messaging icon to test messages for an individual clinic site. These widgets will take you to the HL7 Messaging Tool. If you do not have access to these widgets, contact the CIIS Help Desk at 303-692-2437 (option 2) or 1-888-611-9918 (option 1).

Get Started . . .

 <b>Data Exchange</b> ✓ Set Mode of Connectivity ✓ Set Data Exchange Mode ✓ Set Data Exchange Type ✓ Set Frequency	 <b>Validate Practice HL7 Messaging</b>
 <b>Validate Group HL7 Messaging</b>	 <b>Interface Projects</b>

Click icon to test individual site messages

Click icon to test group messages

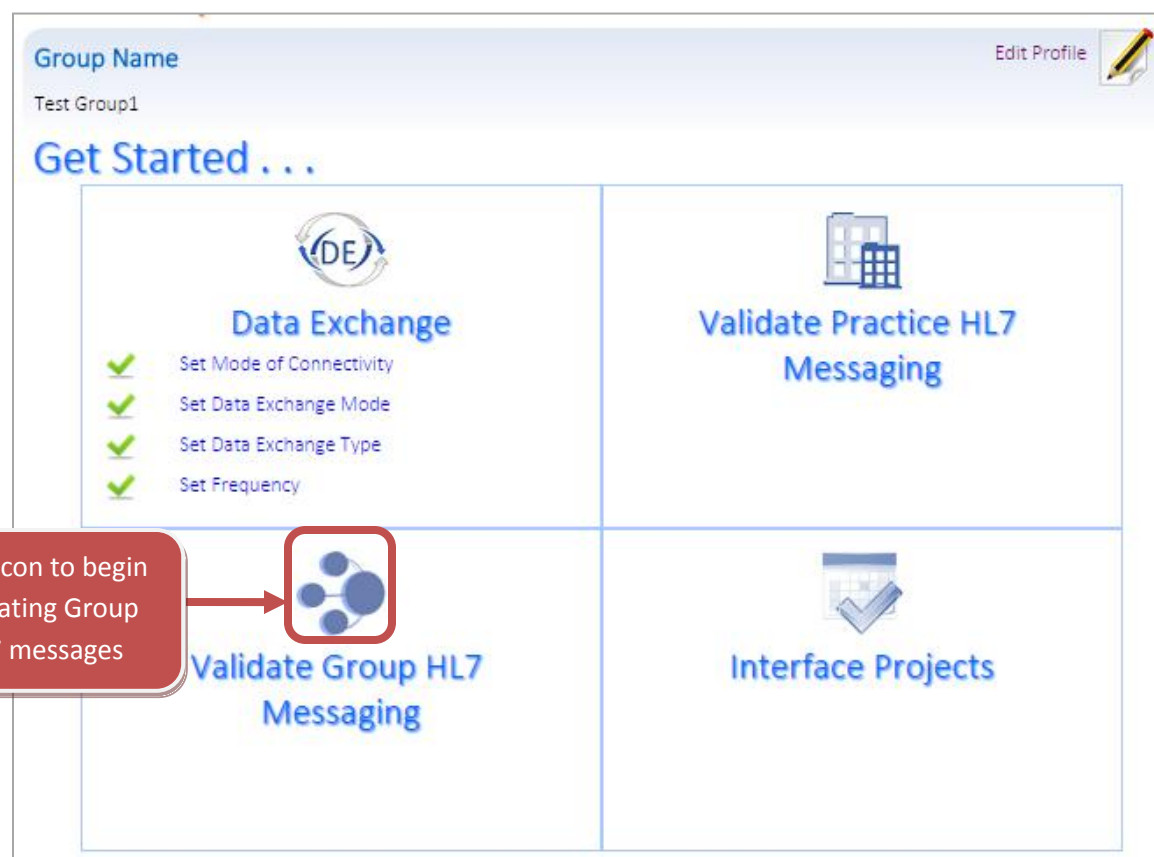
## Validating HL7 Messages

This section will go into detail on how to validate Group HL7 Messages and Practice HL7 Messages.

**Note:** This guidance document will focus on submitting VXU messages, but testing query messages will follow the same process.

### *Validating Group HL7 Messages*

1. On the Main Screen, click on the Group icon on the Validate Group HL7 Messaging widget.






2. The Group VXU Validation sub tab will be highlighted. Click on Validate under the icon for the group you want to test.



### Group VXU Message Validations




Click Validate

☐ Hide 




#	Group	Facility Count	Tested by	Validation Date	HL7 Version	Status	
1	Test Group PM	3	Test.ProviderSite	04 09 2015 09:45	2.5.1		 Validate

3. You can validate messages for the entire group or for each individual facility. To validate all sites at once, click on the Select to Validate All box.

Facility VXU Validation Status Upload New VXU File

#	Sending ID	Facility Name	Product	Version	Tested by	Validation Date	HL7 Version	Status	Select to Validate <input checked="" type="checkbox"/> All
1		Test Clinic of Colorado	123 EHR Site	10	Kim.Gulliver20	03 12 2015 15:35	2.5.1		<input checked="" type="checkbox"/>
2		Child Test Clinic	EpicCare Ambulatory	2010					<input checked="" type="checkbox"/>
3		Test Provider Type Site							<input checked="" type="checkbox"/>



File Validation History

#	Date	Tested by	Message Type	File Name	Product	Version	HL7 Version	VXU Status	
1	11 19 2014 14:44	Darrin.Test GPerson	VXU	vxu3_2.4_valid_multiple.txt	RAPID	7.1	2.4		View
2	11 19 2014 14:40	Darrin.Test GPerson	VXU	vxu2_PD1alt.txt	RAPID	7.1	2.3.1		View

Click Select to Validate All to begin validating messages for the group

4. Click Upload New VXU File.

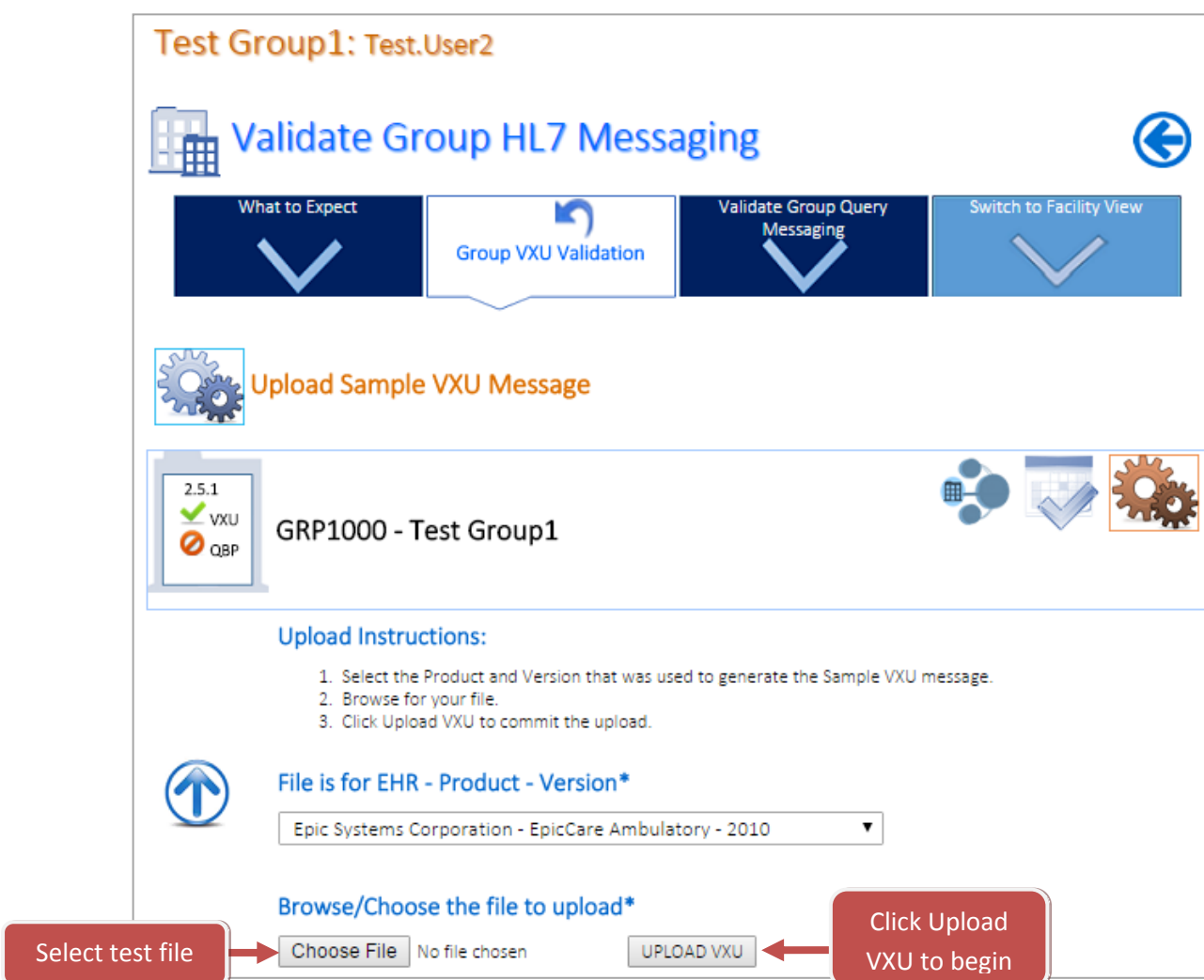
Facility VXU Validation Status Upload New VXU File

#	Sending ID	Facility Name	Product	Version	Tested by	Validation Date	HL7 Version	Status	Select to Validate <input checked="" type="checkbox"/> All
1		Test Clinic of Colorado	123 EHR Site	10	Kim.Gulliver20	03 12 2015 15:35	2.5.1		<input checked="" type="checkbox"/>
2		Child Test Clinic	EpicCare Ambulatory	2010					<input checked="" type="checkbox"/>
3		Test Provider Type Site							<input checked="" type="checkbox"/>

5. On the Upload Sample VXU Message screen, do the following steps:
  - a. File is for EHR – Product – Version\* - Select the Product and Version that was used to generate the Sample VXU message.
  - b. Click **Choose File** to select the message to be uploaded. Once the file is found, click **Upload VXU**.

**Note: The HL7 Messaging Tool only accepts .txt and .hl7 file formats. All other file formats will result in an error message.**

**Note: The HL7 Messaging Tool has a built in anonymizer that will allow for real-patient data to be submitted. The system will change all identifying information.**



**Test Group1: Test.User2**

**Validate Group HL7 Messaging**

What to Expect | **Group VXU Validation** | Validate Group Query Messaging | Switch to Facility View

**Upload Sample VXU Message**

GRP1000 - Test Group1

**Upload Instructions:**

1. Select the Product and Version that was used to generate the Sample VXU message.
2. Browse for your file.
3. Click Upload VXU to commit the upload.

File is for EHR - Product - Version\*

Epic Systems Corporation - EpicCare Ambulatory - 2010

Browse/Choose the file to upload\*

Select test file → Choose File No file chosen → UPLOAD VXU ← Click Upload VXU to begin

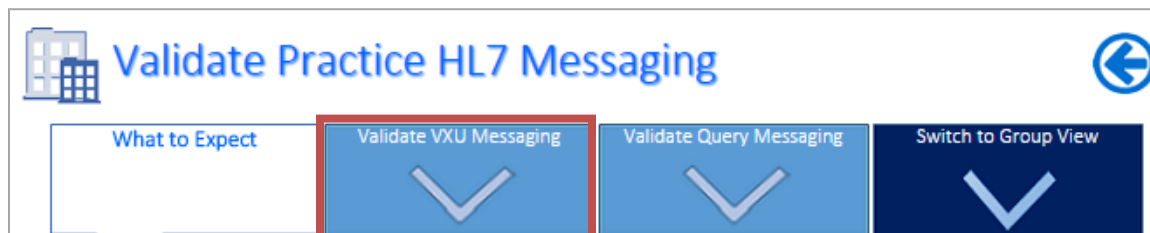
6. For next steps on running the validation go to the **Running a HL7 Validation** section.

## Validating Practice HL7 Messages

1. On the Main Screen, click on the Practice icon on the Validate Practice HL7 Messaging widget.




2. Click the Validate VXU Messaging sub tab. Click on Validate under the icon for the practice you want to test.





### Practice VXU Message Validations

#	Sending ID	Facility Name	Product	Version	Tested by	Validation Date	HL7 Version	Status	
1		Test Clinic of Colorado	123 EHR Site	10	Kim.Gulliver20	03 12 2015 15:35	2.5.1	✓	Validate
2		Child Test Clinic	EpicCare Ambulatory	2010				✗	Validate
3		Test Provider Type Site						✗	Validate

Click Validate

### 3. Click Upload New VXU File.



### Practice VXU Message Validations



#### - Child Test Clinic

789 Child Street, , Test City, CO, 80108

Primary Contact: Kim Test1 Email: [xqrch+5lc3amw93ziok@sharklasers.com](mailto:xqrch+5lc3amw93ziok@sharklasers.com) Phone: (789) 456 1233

Technical Contact: Kim Test1 Email: [xqrch+5lc3amw93ziok@sharklasers.com](mailto:xqrch+5lc3amw93ziok@sharklasers.com) Phone: (789) 456 1233



#### VXU - Validation Status

Description	Valid Historical Immunization	Valid Current Immunization
Total valid messages must be received:	3	10
Total valid messages uploaded so far:	0	0

#### Instructions:

1. Generate a sample HL7 VXU message from the Electronic Health Record Solution.
2. Click the Upload button and browse for the message file on your computer. (ONLY .hl7 and .txt file types are acceptable)
3. The uploaded file will display at the top of the list of the Validation History below.
4. Click Run Validation.
5. The Status column will update with ✓ for a message that passes or ✗ for a failed message.
6. Click View to see detailed validation results for the file.

#### File Validation History

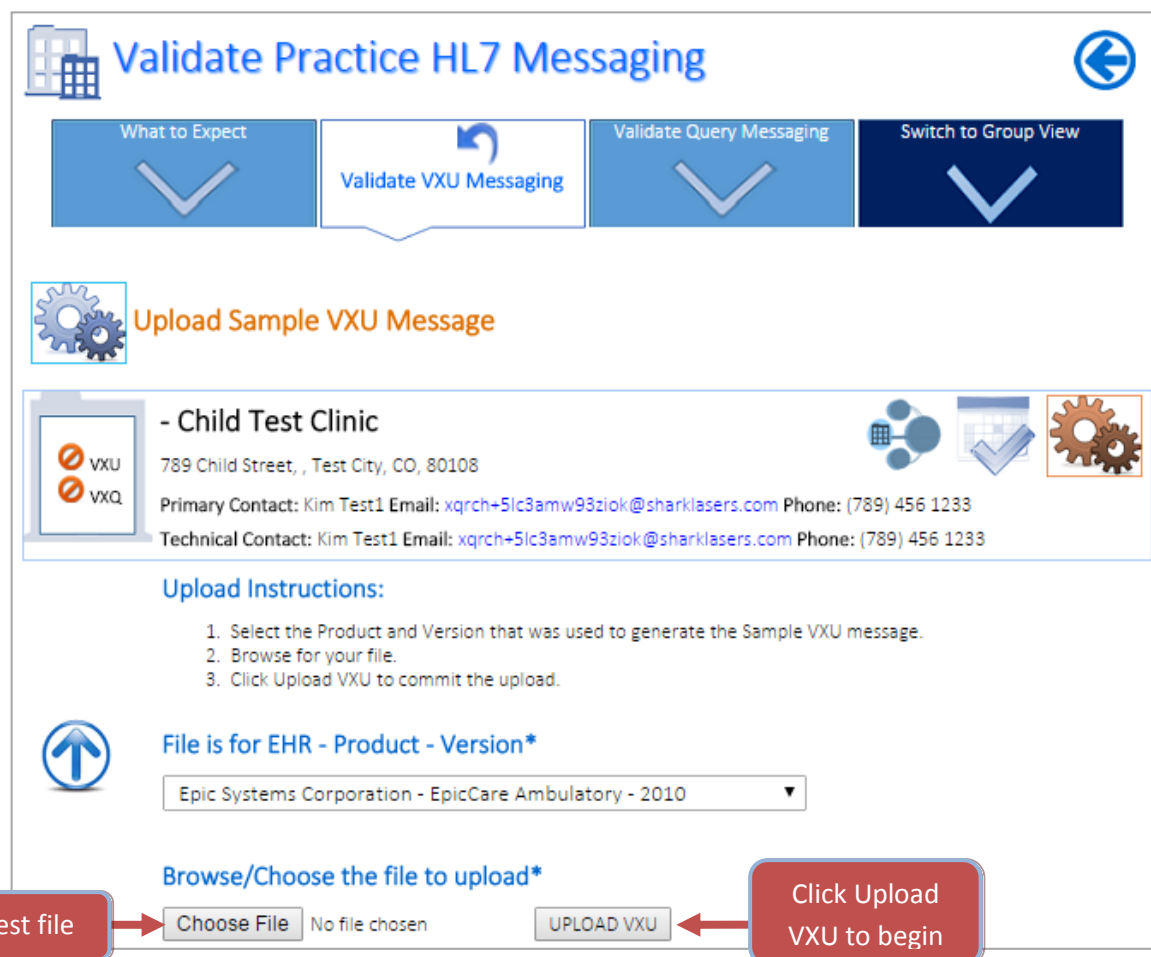
Upload New VXU File

#	Date	Tested by	Message Type	File Name	Product	Version	HL7 Version	VXU Status	
No Records Found.									

4. On the Upload Sample VXU Message screen, do the following steps:
  - a. File is for EHR – Product – Version\* - Select the Product and Version that was used to generate the Sample VXU message.
  - b. Click **Choose File** to select the message to be uploaded. Once the file is found, click **Upload VXU**.

**Note: The HL7 Messaging Tool only accepts .txt and .hl7 file formats. All other file formats will result in an error message.**

**Note: The HL7 Messaging Tool has a built in anonymizer that will allow for real-patient data to be submitted. The system will change all identifying information.**



**Validate Practice HL7 Messaging**

What to Expect | **Validate VXU Messaging** | Validate Query Messaging | Switch to Group View

**Upload Sample VXU Message**

**- Child Test Clinic**  
789 Child Street, , Test City, CO, 80108  
Primary Contact: Kim Test1 Email: xqrch+5lc3amw93ziok@sharklasers.com Phone: (789) 456 1233  
Technical Contact: Kim Test1 Email: xqrch+5lc3amw93ziok@sharklasers.com Phone: (789) 456 1233

**Upload Instructions:**

1. Select the Product and Version that was used to generate the Sample VXU message.
2. Browse for your file.
3. Click Upload VXU to commit the upload.

**File is for EHR - Product - Version\***  
Epic Systems Corporation - EpicCare Ambulatory - 2010

**Browse/Choose the file to upload\***

Select test file → Choose File No file chosen UPLOAD VXU ← Click Upload VXU to begin

5. For next steps on running the validation go to the **Running a HL7 Validation** section.







## Running a HL7 Validation



This section will go into detail describing how to run a validation, the immediate results displayed, and the next steps based on the outcome.

1. Once the file has been uploaded (covered in the Validating HL7 Messages section), the system returns to the VXU Messaging Product Validation screen. The new file will be listed under the “File Validation History” section (the newest submitted file will be listed at the top of the list). Click on **Run Validation** in the last column.

 **Practice VXU Message Validations**

  
VXU  
VXQ



**- Child Test Clinic**  
789 Child Street , Test City, CO, 80108  
Primary Contact: Kim Test1 Email: [xqrch+5lc3amw93ziok@sharklasers.com](mailto:xqrch+5lc3amw93ziok@sharklasers.com) Phone: (789) 456 1233  
Technical Contact: Kim Test1 Email: [xqrch+5lc3amw93ziok@sharklasers.com](mailto:xqrch+5lc3amw93ziok@sharklasers.com) Phone: (789) 456 1233




**VXU - Validation Status**

Description	Valid Historical Immunization	Valid Current Immunization
Total valid messages must be received:	3	10
Total valid messages uploaded so far:	0	0




**Instructions:**


1. Generate a sample HL7 VXU message from the Electronic Health Record Solution.
2. Click the Upload button and browse for the message file on your computer. (ONLY .hl7 and .txt file types are acceptable)
3. The uploaded file will display at the top of the list of the Validation History below.
4. Click Run Validation.
5. The Status column will update with  for a message that passes or  for a failed message.
6. Click View to see detailed validation results for the file.

**File Validation History** 

**File Validation History**

Upload New VXU File

#	Date	Tested by	Message Type	File Name	Product	Version	HL7 Version	VXU Status	
1	05 11 2015 11:31	Test.User2	VXU	HL7 251 Test No DOB.txt	EpicCare Ambulatory	2010			

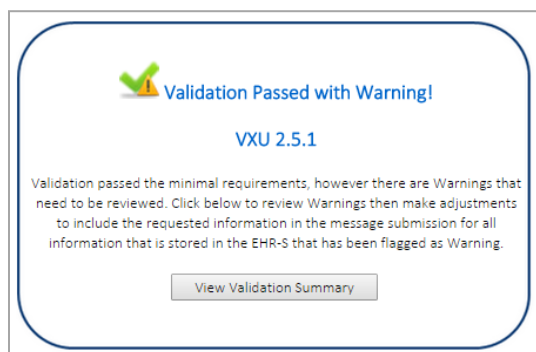
**Click Run Validation to view**  


2. The Validation Results will be immediately posted with a Validation Passed or Validation Failed symbol under the VXU Status column. See the *Validation Passed* and *Validation Failed* sections for status and next steps.



## Validation Passed – Status & Next Steps

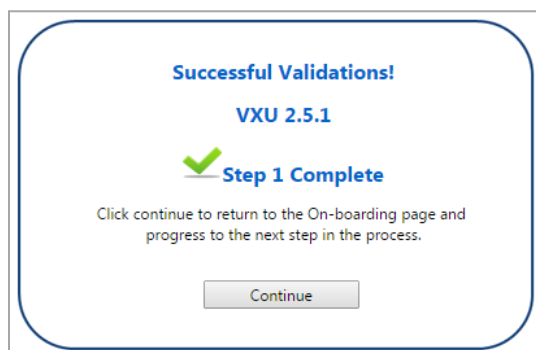
1. If your message meets the CIIS HL7 File Specifications a Validation Passed icon will display after the validation processes. One of two messages will be displayed.
  - a. Validation Passed with Warning – The message passed but has Warnings! CIIS staff would like the Warnings reviewed and corrected, if possible. Click View Validation Summary to be directed to the Message Summary Report. For more information on interpreting this report review the *Viewing Summary Report* under the **Running and Interpreting Reports** section.



Message Passed with  
Warnings!

Click View Validation  
Summary to proceed

- b. Validation Passed – The message passed and has NO Warnings. Click Continue proceed and to receive an update on message status.



Message Passed!

Click continue to  
proceed



### Practice VXU Message Validations

2.5.1  

✓

VXU

✗

QBP

**- Test Site Darrin**

123 Nowhere Ct, , Nottacity, CO, 45333

Primary Contact: Dtest Rosebrook Email: dtestthis@this.com Phone:

Technical Contact: Email: Phone:

VXU Validation Status shows total valid messages uploaded. To meet criteria need to validate 3 historical and 10 administered vaccinations

**VXU - Validation Status**

Description	Valid Historical Immunization	Valid Current Immunization
Total valid messages must be received:	3	10
Total valid messages uploaded so far:	0	4


2. The next steps include:
  - a. If this is the first message submitted, then repeat the process, under the **Uploading a HL7 Test Message** section, to submit 10 distinct administered and 3 distinct historical test vaccinations for review (if testing Group or Individual Practice messages).
  - b. Once all 13 distinct messages have passed then the process is finished and the organization will be listed in the CIIS Resource Center as having met the CIIS HL7 messaging requirements. The organization will be placed on the interface wait list and will be invited to onboard when resources are available.

**Note: If there are Warnings within the message, review each segment and correct for the next round of testing.**

### *Validation Failed – Status & Next Steps*

1. If your message does not meet the CIIS HL7 File Specifications a Validation Failed icon will display after the validation processes. Click View to proceed.

Validation Failed


VXU 2.5.1

Click View Error Report to view necessary corrections to meet state messaging requirements.

View Error Report

Message Failed!

Click View Error Report to proceed



2. The next steps include:

- a. After clicking View Error Report a Message Summary screen displays. You will be able to see the results, broken down by number of valid, error, and warning segments.

Kim.Gulliver [View Messages](#)

**Kim's Test Clinic** [Edit Main Profile](#)

123 Test Lane      Primary Contact: Linda Stremming  
(123) 123 1233      EHR: Allscripts-Allscripts ED-6.3 Service Release 4  
Test City, CO 80108      EHR Contact: Jane Doe

### HL7 Message Validation

#### Message Summary

Evaluation Date: 11 06 2014 11:20      File Status:      Tested By: Kim Gulliver  
File Type: VXU      File Name: iSIIS 251 SSN Test.txt  
Result: 115 Valid 3 Errors 1 Warnings      HL7 Version: 2.5.1

#### Messages Information

#	Message	Status	View Detail	View Summary
1.	MSH ^~\& ExampleEHR CO9876^ABC Clinic CIIS CDPHE 2...		<a href="#">View</a>	<a href="#">View</a>

Display showing  
results: Number of  
Valid, Error and  
Warning Segments

	No Changes Needed – Segment Passed
	Changes Required for Segment to Pass
	Changes May Be Required Based on CIIS Requirements

- b. Review the *Viewing Summary and Detailed Report* section, explained in the **Running and Interpreting Reports** section, to find out where the errors occurred.
- c. Resubmit a new test file, including the changes, by repeating the process under the **Uploading a HL7 Test Message** section.



## Running and Interpreting Reports

This section will go into detail describing how to view summary and detailed reports, how to interpret each of these reports, and next steps.

### Viewing Summary Report

1. On the HL7 Message Validation Message Summary screen, click on View under the View Summary column to view a Message Validation Summary Report. This will present a screen that highlights only the fields with issues. This is the quickest way to discover and address any issues with the test message.

**HL7 Message Validation**  
**Message Summary**

Evaluation Date: 05/11/2015 11:31      File Status:      Tested By: Test User  
File Type: VXU      File Name: HL7 251 Test No DOB.txt  
# Messages in File: 1      # Messages Passed: 0      # Messages Failed: 1

**Message(s) sent in the file**

#	Message	Status	View Detail	View Summary
1.	MSH ^~\& ExampleEHR 123^ABC Clinic CIIS CDPHE 2010...		<a href="#">View</a>	<a href="#">View</a>

Upload New

Click View to display summary report

2. After clicking View under View Summary, a Message Validation Summary report is displayed with the following information:
  - a. Message Summary - displays the number of segments in the following categories: passed, errors, and warnings.

	No Changes Needed – Message Passed
	Changes Required for Message to Pass
	Changes May Be Required Based on CIIS Requirements

- b. Messages Information – displays information about the message and the status.
- c. Errors – displays detailed information showing the segment, field name, and validation/information for each error. It is required for these to be corrected before the segment will pass and meet CIIS HL7 Messaging Specifications.
- d. Warnings – displays detailed information showing segment, field name, and validation/information for each warning. Changes may be required, based on CIIS requirements, before this segment will pass and meet CIIS HL7 Messaging Specifications. These issues are usually caused because CIIS desired data elements are left



blank. If the data for these fields is entered into the EHR and available, CIIS requires it be populated in the message.

## IDx HL7 Message Validation Summary

Close

### Message Summary

Evaluation Date: 02/04/2015 13:09      File Status:      Tested By: Kim Test EHR  
File Type: VXU      File Name: HL7 251 NK1 Test.txt  
Result: 94 Valid 1 Errors 1 Warnings      HL7 Version: 2.5.1

### Messages Information

#	Message	Status
1.	MSH ^~\& ExampleEHR C09876^ABC Clinic CIIS CDPHE 2...	

### Errors

#	Segment	Field Name	Validation	Status
1.	PID19	SSN number - patient	Do not send complete SSN, only last 4 digit should be sent.	

Value Sent: 523-74-9378

### Warnings

#	Segment	Field Name	Validation	Status
1.	PID24	Multiple birth indicator	Should be populated if relevant data exists in the EHR	

Value Sent:

Close

Message Summary

Messages Information

Error Section

Warning Section

3. Click Close to be taken back to the Message Summary screen.

## IDx HL7 Message Validation Summary

Close

### Message Summary

Evaluation Date: 02/04/2015 13:09      File Status:      Tested By: Kim Test EHR  
File Type: VXU      File Name: HL7 251 NK1 Test.txt  
Result: 94 Valid 1 Errors 1 Warnings      HL7 Version: 2.5.1


Click Close to return to Message Summary Screen

## Viewing Detailed Report

1. On the HL7 Message Validation Message Summary screen, click on View under the View Detail column to view a Message Validation Detailed Report.

### HL7 Message Validation Message Summary

Evaluation Date: 02/04/2015 11:27


File Status: 


Tested By: Kim Test EHR

File Type: VXU


File Name: HL7 251 Test Err Phone.txt

# Messages in File: 1

# Messages Passed:  0




# Messages Failed:  1

### Message(s) sent in the file

#	Message	Status	View Detail	View Summary
1.	MSH ^~\& ExampleEHR 123^ABC Clinic CIIS CDPHE 2010...		<a href="#">View</a>	<a href="#">View</a>

Click View to display report

2. After clicking View under View Detail, a Message Validation Summary report is displayed and includes the following sections.
  - a. Message Summary - displays the number of segments in the following categories: passed, errors, and warnings.

	No Changes Needed – Segment Passed
	Changes Required for Segment to Pass
	Changes May Be Required Based on CIIS Requirements

- b. Messages Information - displays information about the message, the status, and links to view detailed and summary reports.
- c. Message Detail Validations – detailed listing of each segment, field name, validation, value, and status.
  - Segment – displays the HL7 segment.
  - Field Name – displays the HL7 field name.
  - Validation – displays a message explaining how segment/field is validated based on standard HL7 messaging rules and CIIS local implementation guide.
  - Value – this field allows you to see what information was submitted in the HL7 test message.
  - Status – displays the passed, error, and warning explaining the status of that segment



## HL7 Message Validation



### Message Summary

Evaluation Date: 12/26/2014 12:51

File Status:

Tested By: Kim Gulliver

File Type: VXU

File Name: Questions HL7 Validations.txt

Result: 67 Valid 84 Errors 65 Warnings

HL7 Version:

### Messages Information

#	Message	Status	View Detail	View Summary
1.	- MSH-4 value?? - How to get link to code set in v...		<a href="#">View</a>	<a href="#">View</a>

### Message Detail Validations

[View Summary](#)

[Export Data](#)

#	Segment	Field Name	Validation	Value	Status
1.	MSH	MSH Segment	New line separator is present.	<a href="#">See Value</a>	
2.	ORC	Order Request Segment	Each RXA segment must be associated with one ORC segment.	<a href="#">See Value</a>	
3.	RXA1	Give sub-ID counter	Is Required. Default value is 0	<a href="#">See Value</a>	
4.	RXA2	Administration sub-ID counter	Is Required. Default value is 999	<a href="#">See Value</a>	
5.	RXA3	Date/time start of administration	Is Required.	<a href="#">See Value</a>	
6.	RXA3	Date/time start of administration	Validated for correct date format.	<a href="#">See Value</a>	
7.	RXA3	Date/time start of administration	Is not before patient DOB	<a href="#">See Value</a>	
8.	RXA5	Administered code	Either CVX or CPT Code is Required.	<a href="#">See Value</a>	
9.	RXA5	Administered code	CPT Code is not blank.	<a href="#">See Value</a>	
10.	RXA5	Administered code	Content validation for correctness of CPT HL7 Code set. Click to <a href="#">View Acceptable Codes</a>	<a href="#">See Value</a>	
11.	RXA5	Administered code	CVX Code is not blank.	<a href="#">See Value</a>	
12.	RXA5	Administered code	Content validation for correctness of CVX HL7 Code set. Click to <a href="#">View Acceptable Codes</a>	<a href="#">See Value</a>	





3. Review the status column and fix any segments with an error and warning (may not be required for all warnings) messages.
  - a. For any segments with an error or warning status click See Value under the Value column to view what value was submitted in the original message. After complete, click Close.

Message Detail Validations					
			<a href="#">View Summary</a>	<a href="#">Export Data</a>	
#	Segment	Field Name	Validation	Value	Status
1.	MSH	MSH Segment	New line separator is present.	<a href="#">See Value</a>	✓
2.	MSH1	Field separator	Is Required.	<a href="#">See Value</a>	✓
3.	MSH1	Field separator	Content of this field is valid. Should contain ^~\&	<a href="#">See Value</a>	✓
4.	MSH	MSH Segment	Is not repeating	<a href="#">See Value</a>	✓
5.	MSH2	Encoding characters	Is Required.	<a href="#">See Value</a>	✓
6.	MSH2	Encoding characters	Content of this field is valid.	<a href="#">See Value</a>	⊘

Click See Value to display  
information submitted in  
message

iSIIS Vision - IDx Management System - Google Chrome

74.118.245.168/isiiisicoUAT/viewText.asp?Value=^&

**View Value**

Value is: ^

[Close](#)



- b. If there is a HL7 Code Set available for the segment data, with an error or warning status, click on View Acceptable Codes under the Validation Column to display the appropriate HL7 Code Set. After complete, click Close.

116.	RXR1	Route	Administration Route should be populated if relevant data exists in the EHR.	<a href="#">See Value</a>	✓
117.	RXR1	Route	Content validation for correctness of HL7 Code set. Click to <a href="#">View Acceptable Codes</a>	<a href="#">See Value</a>	✓

### HL7 2.5.1 - Route Codeset - HL7 0162

Close

#	HL7 Version	CodeValue	Description
1	2.5.1	C28161	Intramuscular
2	2.5.1	C38238	Intradermal
3	2.5.1	C38276	Intravenous
4	2.5.1	C38284	Nasal
5	2.5.1	C38288	Oral
6	2.5.1	C38299	Subcutaneous
7	2.5.1	C38305	Transdermal
8	2.5.1	C38676	Percutaneous made done or effected through the skin.
9	2.5.1	ID	Intradermal
10	2.5.1	IM	Intramuscular
11	2.5.1	IV	Intravenous
12	2.5.1	NS	Nasal
13	2.5.1	OTH	Other/Miscellaneous
14	2.5.1	PO	Oral
15	2.5.1	SC	Subcutaneous
16	2.5.1	TD	Transdermal

Click Acceptable Codes to view HL7 Code Set

- c. Once changes have been made resubmit a new test message, including the changes, by repeating the process described under the **Uploading a HL7 Test Message** section.