



HL7 Messaging Tool – Individual Site

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. 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.

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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.
 - 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.

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:

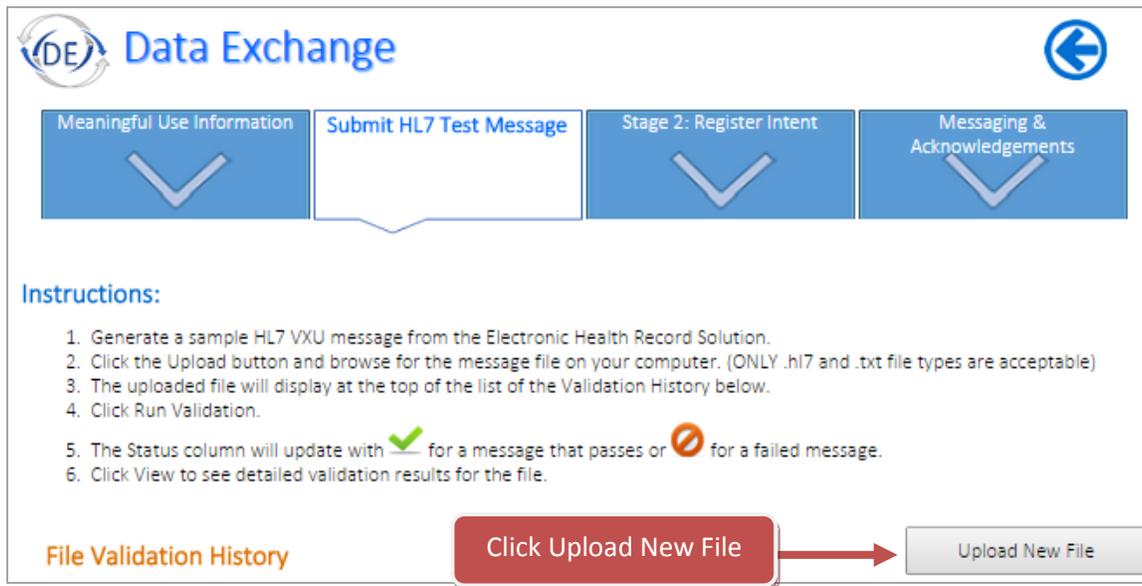
cdphe.ciis@state.co.us

2. On the Main Screen, click on Submit an HL7 message to prove submission capability under the Meaningful Use Immunization Reporting widget. This will take you to the HL7 Messaging Tool. If you do not have access to this widget, contact the CIIS Help Desk at 303-692-2437 (option 2) or 1-888-611-9918 (option 1).

Uploading a HL7 Test Message

This section will go into detail on how to upload a HL7 test message.

1. On the Data Exchange screen, the Submit HL7 Test Message sub tab should be highlighted. Click on Upload New File.



Data Exchange

Meaningful Use Information | **Submit HL7 Test Message** | Stage 2: Register Intent | Messaging & Acknowledgements

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

Click Upload New File → Upload New File

2. On the Upload New File >> screen, select the appropriate information for HL7 Message Type, EHR Product-Version, and Provider Site.
 - a. HL7 Message Type* - Select VXU or QBP based on message type that is being tested.
 - b. File is for EHR – Product – Version* - Select the correct EHR product and version being used.
 - c. File is for Provider Site* - Select the radio button for the Provider Site that matches the data being submitted in the test file.
 - d. Click **Choose File** to select the message to be uploaded. Once the file is found, click **Upload File**.
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.



Upload New File >>

HL7 Message Type*

File is for EHR - Product - Version*

File is for Provider Site*
 Kim's Test Clinic

Browse the file to upload*
 iSIS 251 SSN Test.txt **Selected test file** **Click Upload File to begin**

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.

- Once the file has been uploaded (covered in the Uploading a HL7 Test Message section), the system returns to the Data Exchange screen. The new file will be listed under "File Validation History" (the newest submitted file will be listed at the top of the list). In the View Detail column click on **Run Validation**.

Data Exchange

Immunization Reporting Policy | **Stage 1: Submit Test Message** | Stage 2: Register Intent | Messaging & Acknowledgements

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**

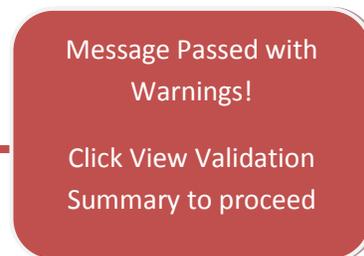
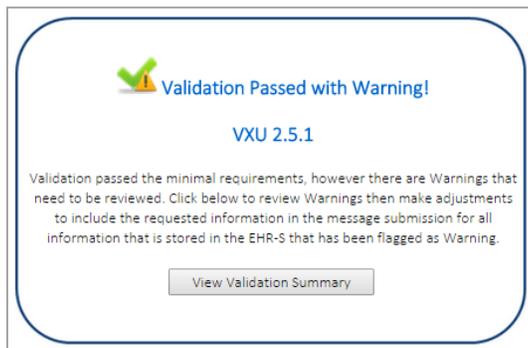
#	EHR Product/Version	File Type	File Name	Evaluation Date	Status	View Detail
1	Allscripts ED - 6.3 Service Release 4	VXU	iSIS 251 SSN Test.txt	11 06 2014 11:06		Run Validation

Click Run Validation to view results

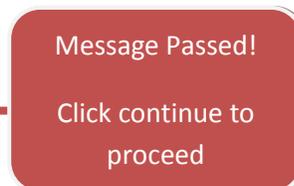
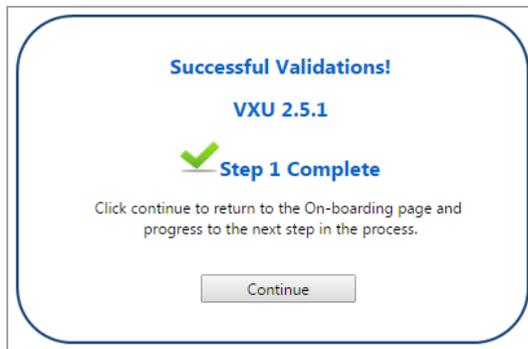
- The Validation Results will be immediately posted with a Validation Passed or Validation Failed notification. See Validation Passed and Validation Failed sections for status and next steps.

Validation Passed – Status & Next Steps

1. If your message meets the CIIS HL7 File Specifications a Validation Passed message 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**.



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



Data Exchange

Next Step: Click the step below to get started

Data Exchange Profile | HL7 Validation Tool | Interface Project

The step-by-step on-boarding process is represented below. The status indicators provide an update on each step based on your actions. Clicking on the step will navigate you to the area within the system to view information or perform the appropriate actions to complete the step. Click Step 1 to begin or if a step is marked as incomplete to progress through the onboarding process.

VXU - Validation Status

Description	Valid Historical Immunization	Valid Current Immunization
Total valid messages must be received:	5	10
Total valid messages uploaded so far:	0	22

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

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.
 - 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 message will display after the validation processes. Click View Error Report 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.

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

#	Message	Status	View Detail	View Summary
1.	MSH ^~\& ExampleEHR CO9876^ABC Clinic CIIS CDPHE 2...		View	View

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

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.

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...		View	View

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 – Segment Passed
	Changes Required for Segment 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 changed 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.



IDx HL7 Message Validation Summary Close

Kim's Test Clinic

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

Message Summary

Evaluation Date: 11/06/2014 11:54 File Status: Tested By: Kim Gulliver
File Type: VXU File Name: iSIS 251 SSN Test.txt
Result: 115 Valid 3 Errors 1 Warnings HL7 Version: 2.5.1

Messages Information

#	Message	Status
1.	MSH ^~\&[ExampleEHR CO9876^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				
2.	NK137	Contact person social security #	Do not send complete SSN, only last 4 digit should be sent.	
Value Sent: 523-74-9378				
3.	IN22	Insured Social Security Number	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:

← Message Summary

← Messages Information

← Error Section

← Warning Section

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



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

Click Close to return to
Message Summary
Screen

IDx HL7 Message Validation Summary

Kim's Test Clinic

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: Kim Gulliver

Message Summary

Close

Viewing Detailed Report

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

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 Type: VXU

Result: ✔ 115 Valid ✘ 3 Errors ⚠ 1 Warnings

File Status: ✘

File Name: ISIIS 251 SSN Test.txt

Tested By: Kim G

HL7 Version: 2.5.1

Messages Information

#	Message	Status	View Detail	View Summary
1.	MSH ^~\& ExampleEHR CO9876^ABC Clinic CIIS CDPHE 2...	✘	View	View

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...		View	View

Message Detail Validations

[View Summary](#) [Export Data](#)

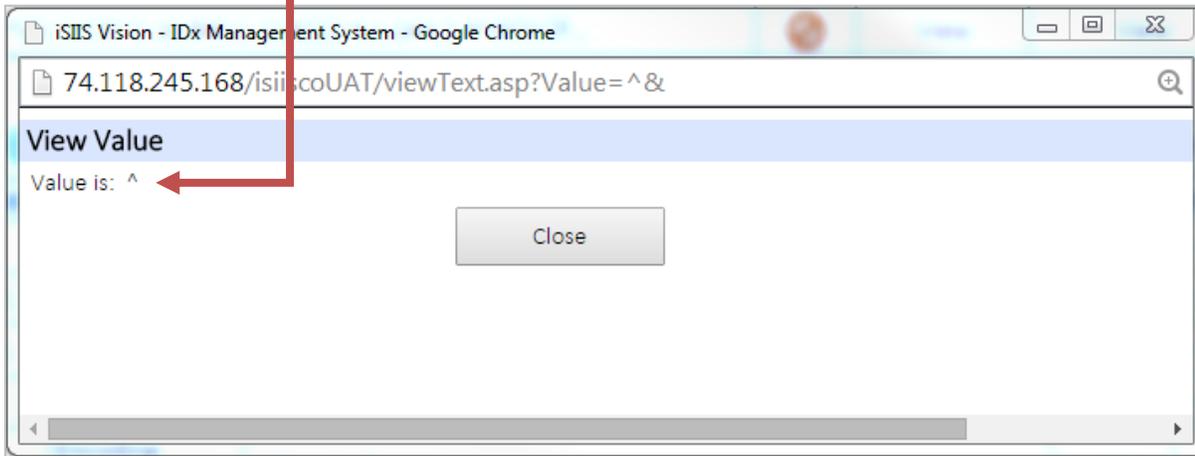
#	Segment	Field Name	Validation	Value	Status
1.	MSH	MSH Segment	New line separator is present.	See Value	
2.	ORC	Order Request Segment	Each RXA segment must be associated with one ORC segment.	See Value	
3.	RXA1	Give sub-ID counter	Is Required. Default value is 0	See Value	
4.	RXA2	Administration sub-ID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



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.

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

Click See Value to display information submitted in





- 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.

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

HL7 2.5.1 - Route Codeset - HL7 0162

#	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.