

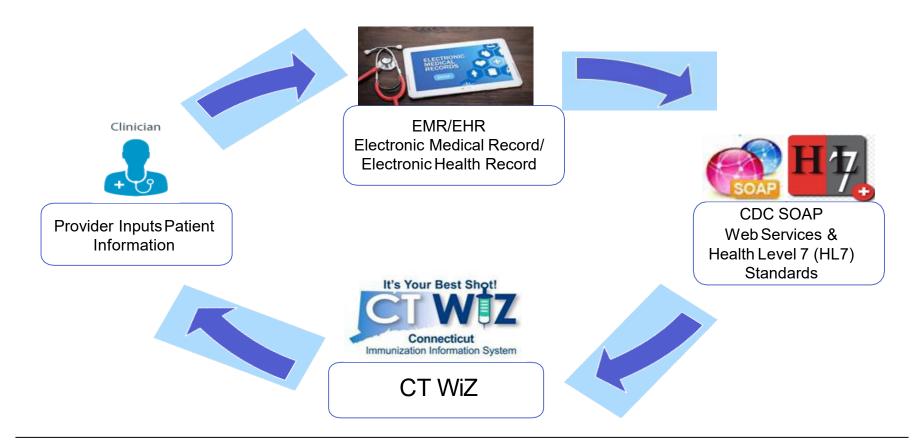
# **HL7 Management Guide in CT WiZ User Interface**

July 2025 V.2.0

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## **Introduction to EHR Interface (HL7) Cycle**



#### **Introduction to EHR Interface - HL7 Messaging**

How an EHR Interface - HL7 message works:

- HL7 (Health Level Seven) is a set of standards that facilitate the electronic transmission of healthcare data between applications. It is not an application or software, but it is a framework that supports interoperability between systems.
- EHRs creates an electronic message with patient demographics and immunization information using HL7 messages.
- CT WiZ receives the message and sends an acknowledgement (ACK) message back to the EHR saying "Got the Message" in the HL7 message format.
- CT WiZ reviews the message to ensure it has all the required information and it is correct.
- Any incorrect information triggers a warning or an Application Error message (AE) or Application Rejectmessage did not load (AR) that is sent back to the EHR for review.
- All the exchange of messages is done in the HL7 message format which is translated through the EHR.

### **Tools for Using HL7 in CT WiZ**

- As a part of ongoing data quality monitoring of HL7 message submissions, it is necessary to review ACK messages for errors and warnings. To help you with this process, CT WiZ includes:
- Tools: Message Log, Security Log, and Documentation.
- Reports for interface activity: Message Count and the Data Quality Analysis (DQA) for Patient's Vaccination reports, etc.
- On daily basis, the provider/vendor should review the ACK log to confirm messages are being transmitted to CT WiZ and to review all errors and warnings.

### **CT WiZ Login**



Please enter your Clinic's Username & Password provided for CT WiZ

Login		
Username	Password	
		<b>%</b>
Forgot Password?   Forgot Username?	Lo	gin
Trouble Logging in?		

#### Request User Account

By logging into CT WiZ, you agree to abide by the terms of the Connecticut Department of Health (DPH) that were outlined in your User Confidentiality Agreement. Users are responsible for ensuring they act in accordance with these terms and any other applicable policies. The recipient shall notify DPH of a violation of these policies in accordance with the terms outlined in the User Confidentiality Agreement. Only authorized users of this site may access this system. Monitoring may be conducted for the protection against improper or unauthorized use or access. Any unauthorized and improper use of this system may result in disciplinary action or criminal and civil penalties.

Need additional help with logging into your CT WiZ account?

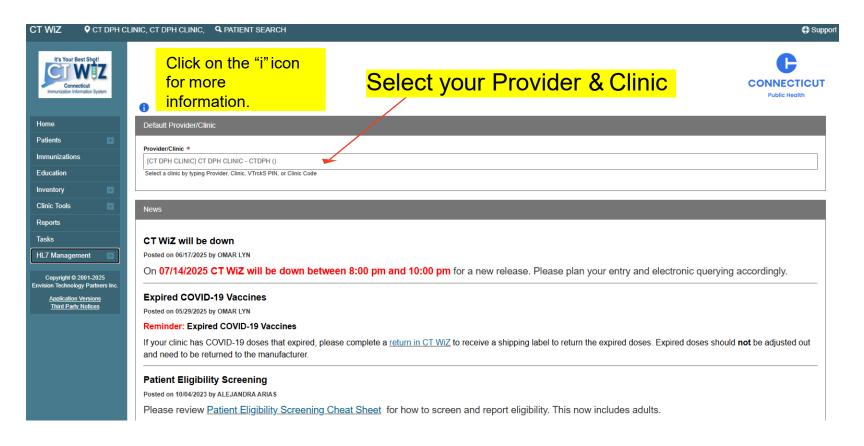
- Submit a help desk ticket at: https://dph-cthelpdesk.ct.gov/Ticket and select:
- · System "Immunizations (CT WiZ)"
- · Category "CT WiZ Login (Username or Password Issues)"
- . Topic "Existing CT WiZ user Username or Password Issues' or topic 'Update CT WiZ Account"



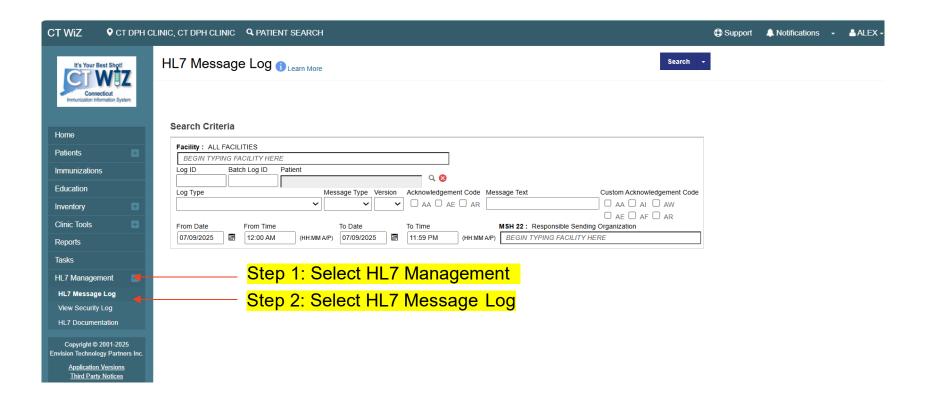
**Public Health** 

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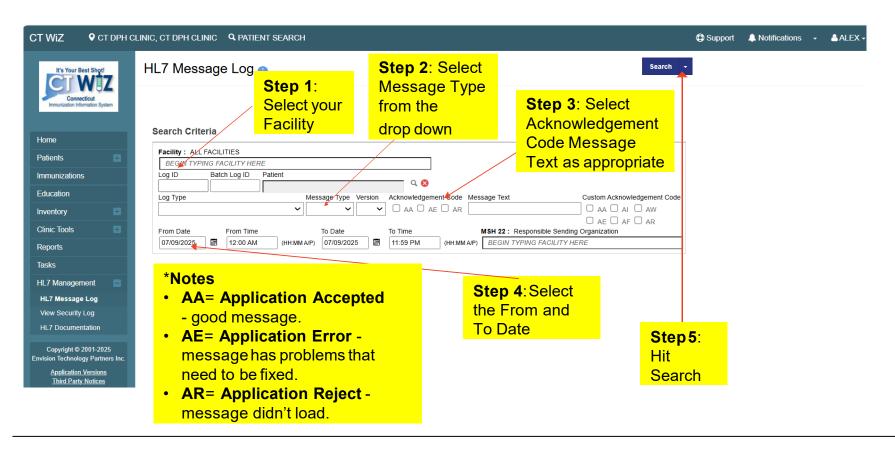
#### **Provider & Clinic**



#### **HL7 Message Log**

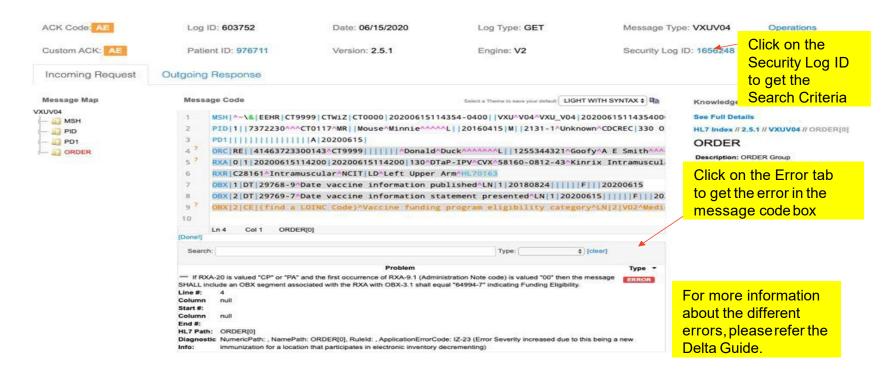


#### **HL7 Message Log**



#### **HL7 Message Log - Analyzer**

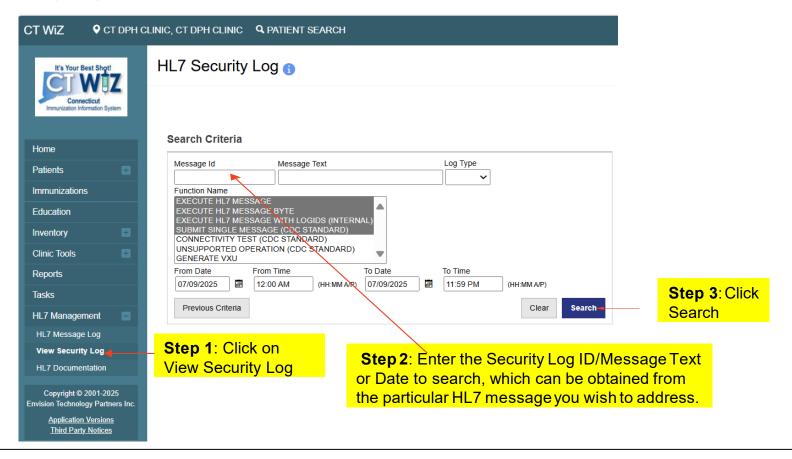
You are directed to a pop-up. If you do not see the pop-up, check the pop-up blocker setting in your internet browser. Errors and more details about the HL7 message are displayed.



#### **View Security Log**

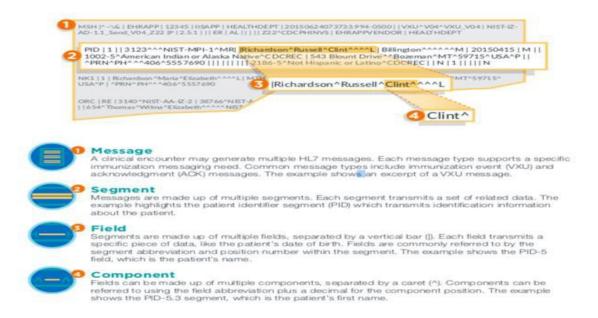
- The Security Log gives more detailed information on the HL7 message.
- This screen allows for the monitoring of connections to the web service (CT WiZ HL7 Message Analyzer).
- It can be used to search a particular message using the Message ID, Message Text or/and Date Range.
- It can be used to view all the data, monitor the connections to the web services and to view who is submitting the messages.

#### **View Security Log - How It Works?**



#### **HL7 Documentation**

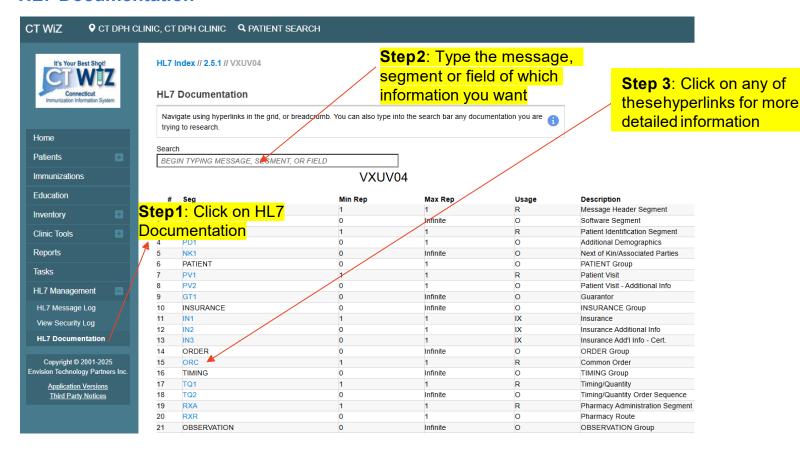
- The HL7 Documentation screen provides a quick reference regarding HL7 messages, including field definitions and validation tables.
- It can be used to search for a specific message, field, or a component.



#### **HL7 Documentation**

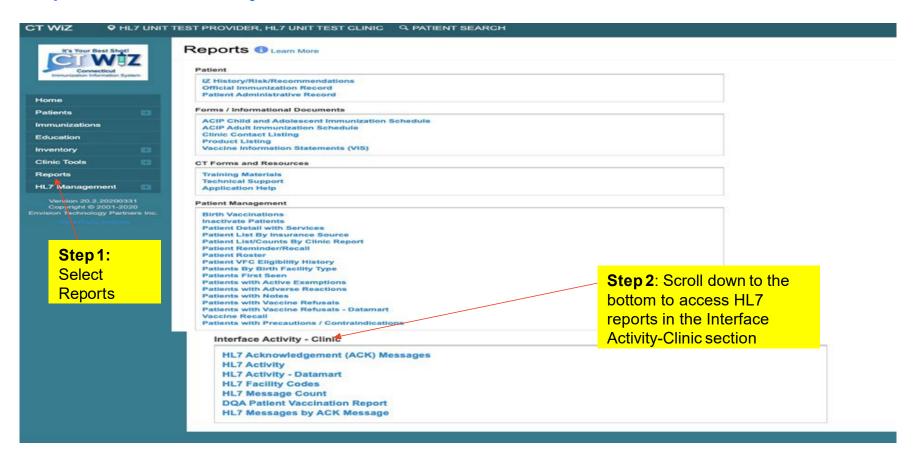
- For each message searched, the HL7 Documentation tab breaks down to each field and component of the message with more details.
- For each field searched, the HL7 Documentation tab breaks down to each component of the field with more details.
- For each component searched, the HL7 Documentation tab gives more details about the component.
- For more information on the HL7 message breakdowns, please refer to the delta guide on the CT WiZ Onboarding website.

#### **HL7 Documentation**



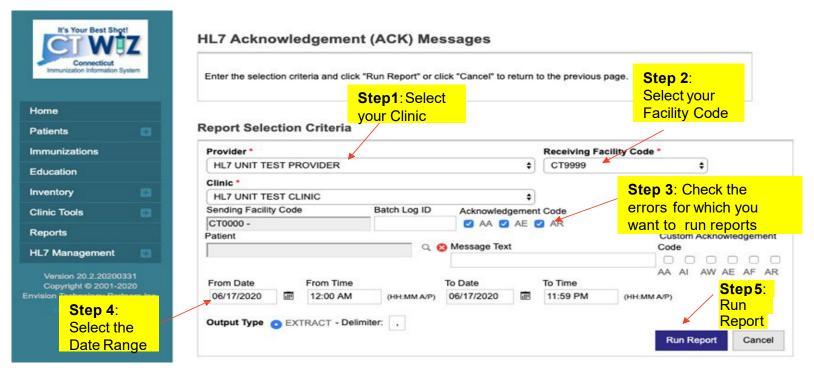
# Reports

#### **Reports: Interface Activity-Clinic**



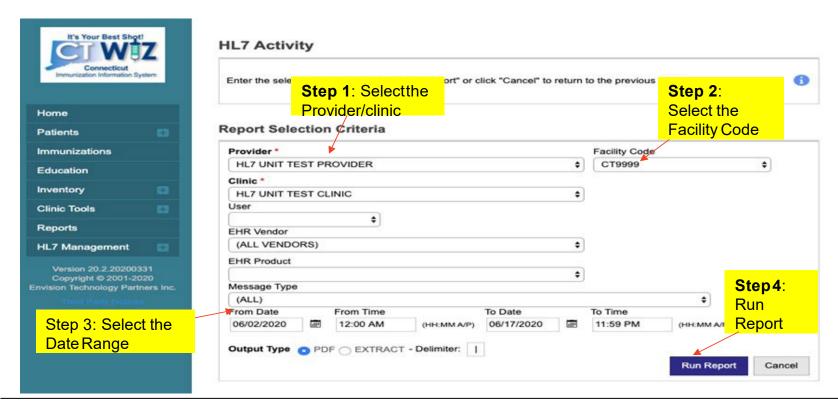
#### **HL7 Acknowledgement Messages (ACK) Report**

- Generates a list of ACK messages based on the selection criteria.
- This report searches the HL7 Message Log for any Acknowledgement (ACK) messages that match the search criteria.



#### **HL7 Activity Report**

This report generates a summary of HL7 activity per provider/clinic. It calculates all the types of messages processed from the provider/clinic specified.



#### **HL7 Activity Report (Output)**

This report displays and explains the number of HL7 messages of different types that were sent and received.



#### CT WiZ HL7 Activity

June 17, 2020

Provider = HL7 UNIT TEST PROVIDER, Clinic = HL7 UNIT TEST CLINIC, HL7 Facility = CT9999, EHR Vendor = (ALL VENDORS), From Date = 06/02/2020, From Time = 12:00 AM, To Date = 06/17/2020, To Time = 11:59 PM

#### **HL7 UNIT TEST PROVIDER (2)**

HL7 UNIT TEST CLINIC (2) - HL7\_UNIT\_TST

HL7 Facility Code: CT9999

Username:

HL7\_UNIT\_TEST\_USER

Message Type	Log Type	# of Calls	First Call	Last Call		
VXQV01	Received	0				
VXRV03	Sent	0				
VXXV02	Sent	0				
VXUV04	Received	12	Jun 9 2020 10:43AM	Jun 16 2020 9:53AM		
QBPQ11	Received	0				
QCKQ02	Sent	0				
RSPK11	Sent	0				
ORUR01	Received	0				
ACK - AA	Sent	4	Jun 9 2020 10:45AM	Jun 12 2020 12:49PM		
ACK - AE	Sent	8	Jun 9 2020 10:43AM	Jun 16 2020 9:53AM		
ACK - AR	Sent	0				
BATCH	090.0000	0				
	HL7 Facility Code CT9999 Total	al: 24				
Clinic	HL7 UNIT TEST CLINIC (2) Total	al: 24				

Provider HL7 UNIT TEST PROVIDER (2) 24

Total:

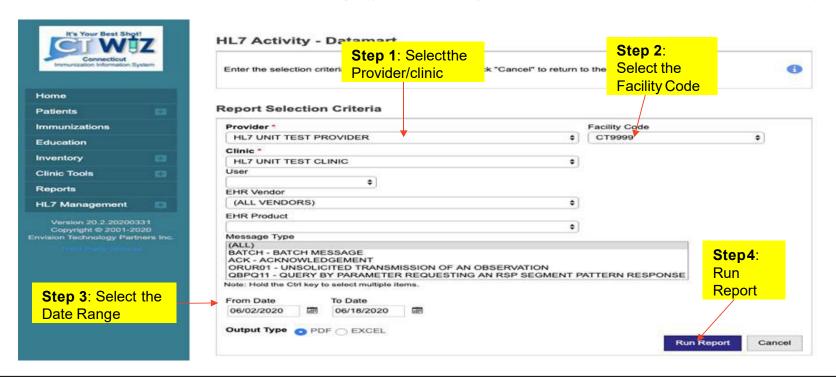
# **HL7 Activity Report Message Type Definitions**

Message Type	<b>Definition</b>
VXQV01	N/A
VXRV03	N/A
VXXV02	N/A
VXUV04	Unsolicited vaccination record update
QBPQ11	Bi-directional Query – Query Parameter Definition
QCKQ02	N/A
RSPK11	Bi-directional Response - Segment pattern response
ORUR01	N/A
ACK-AA	Acknowledgement for Application Accepted
ACK-AE	Acknowledgement for Application Error
ACK-AR	Acknowledgement for Application Reject

#### **HL7 Activity- Datamart**

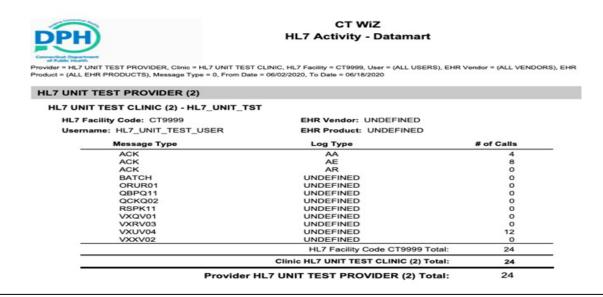
This report generates a summary of HL7 activity per Provider/Clinic.

- Calculates all the types of messages processed from the Provider/Clinic specified.
- Data for this report is refreshed nightly and will only reflect information as of the previous day.



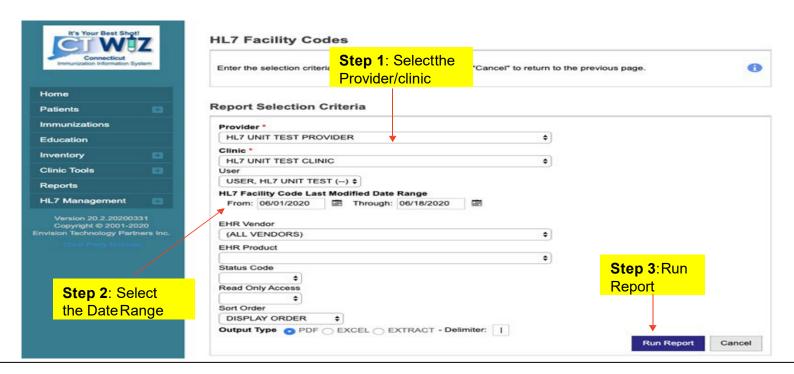
#### **HL7** Activity- Datamart (Output)

- PDF output includes totals by Message Type, Facility Code, Clinic, and Provider.
- The report calculates all the types of messages processed from the Provider/Clinic specified.
- This report runs against the CT WiZ DataMart query database, which is refreshed the night before. Therefore, the data is not as current as the CT WiZ production database, but by querying a separate database, large amounts of data can be retrieved without impacting the performance of production.



#### **HL7 Facility Codes**

- The report generates a list of HL7 facility codes based on the criteria set.
- This unique code represents the setting where the encounter occurred. In this case, it is the facility who provided the vaccination service.



#### **HL7 Facility Codes (Output)**

- This report generates Provider, Clinic, Facility Code, Facility Name, HL7 User, Status, User created/last updated by with date/time, read-only flag, and EHR Product.
- It shows the status of the clinic: whether it is active, in read-only mode, and whether the data is received in batches.



CT WiZ HL7 Facility Codes

June 18, 2020

Provider = (ALL PROVIDERS), Clinic = (ALL CLINICS), Sort Order = DISPLAY ORDER, EHR Vendor = (ALL VENDORS)

						Read	Receives
Provider	Clinic	Facility Code	Facility Name	HL7 User	Status	Only	Batches
HL7 UNIT TEST PROVIDER	HL7 UNIT TEST CLINIC	CT9999	CONNECTICUT TEST FACILITY	HL7 UNIT TEST USER	Α	N	N
EHR Vendor:		EHR Produc	t:				

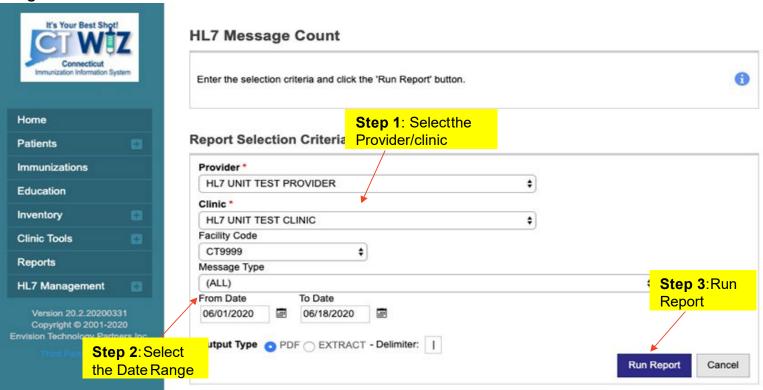
Created By: SYSTEM ADMINISTRATOR on 09/14/2018

Modified By: ALEJANDRA ARIAS on 09/17/2019 08:45:5

Comments: HL7 UNIT TEST FACILITY

#### **HL7 Message Count**

This report queries the selected facility to display the number of HL7 messages sent during the defined date range.



## **HL7 Message Count (Output)**



# CT WiZ HL7 Message Count

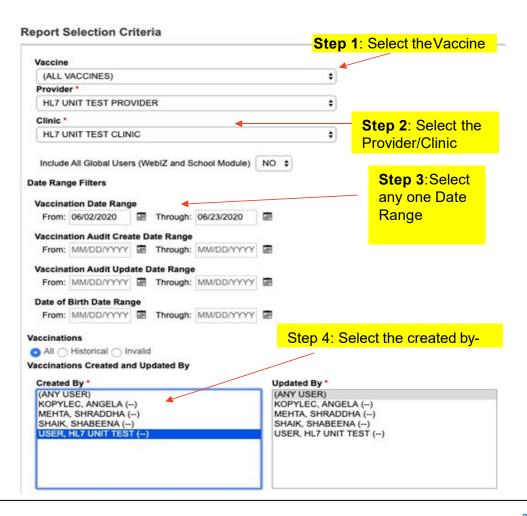
June 18, 2020

Provider = HL7 UNIT TEST PROVIDER, Clinic = HL7 UNIT TEST CLINIC, HL7 Facility = CT9999, Message Type = (ALL), From Date = 06/01/2020, To Date = 06/18/2020

Provider Facility Cod  EHR Vendor:		Facility Description	Message Count	VXQ	Connection Type
EHR Vendor:					
HL7 UNIT TEST PROVIDER	CT9999	CONNECTICUT TEST FACILITY	12	0	
EHR Vendor Total			12	0	
Report Total			12	0	

#### **DQA Patient Vaccination Report**

- The purpose of the DQA Report is to generate a list of any patient vaccination information that meets the criteria.
- Input criteria: vaccine, provider, clinic, include all global users, date range filters, vaccinations, created by, updated by and output type.
- Opted-out patients are not included.

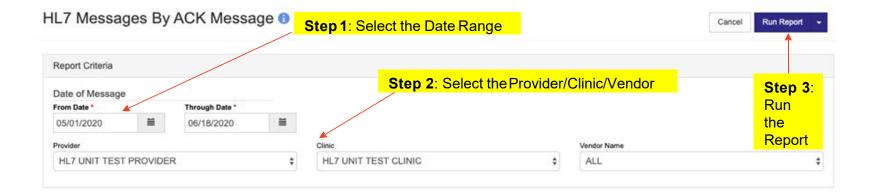


#### **DQA Patient Vaccination Report (Output)**

- DQA Report is generated in Excel. It includes the following information:
- Patient Information: Patient Default Clinic Code, Patient Default Clinic Name, Creation date of patient record, Last update date of patient record, Type of Patient, Patient ID, MRN, Name, DOB, Gender, Clinic Patient Status, Ethnicity, Language, Race(s), Patient Eligibility, Mother Name, Address, Primary Contact Information, Phone, Email.
- Vaccination Information: Creation date of the vaccination, Update date of the vaccination, HL7 Facility Code, Vaccination Clinic Code, Vaccination Clinic Name, Vaccination Code ID, NDC, Vaccination Description, Vaccination Date, Manufacturer, Lot number, Expiration date, Dosage, Historical (Y/N), Body Site, Body Route, Vaccine Funding source, Vaccination Eligibility, Administered (Y/N), Administered by, Prescribed by, VIS Given Date, VIS Name, Vaccination Created by User, Vaccination Updated by User.

#### **HL7 Messages by ACK Message**

- Generates a list of multiple Acknowledgement (ACK) messages based on the selection criteria and grouped by ACK message.
- This report searches the HL7 Message Log for any ACK messages that match the search criteria.



# **HL7 Messages by ACK Message (Output)**

Vendor	Software	e HL7 Facility				Severity Of						Total			
lame	Name	Code	Clinic Code	Clinic Name	HL7 ACK Code	Error	Segment	HL7 Field Position	HL7 Field Name	Error Code	User Message	Errors	Action	Start Period	End Period
											valued "00" then the message SHALL include an OBX segment associated with the RXA with OBX-			122712	
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	E				Invalid value	3.1 shall equal "64994-7" indicating Funding Eligibility.	5		05/01/2020	06/18/202
											valued "00" then the message SHALL include an OBX segment associated with the RXA where				
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W				Required observation missing	OBX-3.1 shall equal "30963-3" indicating the Funding Source.	5		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W	ORC	ORC.17.1	EnteringOrganization	Required observation missing	ORC-17 (EnteringOrganization): Has a conditionally required element [Identifier]. Expectation:	5	Leave this field in bl	05/01/2020	06/18/202
											value is populated with a valid facility code when the first occurrence of RXA-9.1 is valued "00"				
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W	RXA	RXA.11.4	AdministeredAtLocation	Required observation missing	and RNA-20 (CompletionStatus) is valued "CP" or "PA".	5		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC								- 4		05/01/2020	06/18/202
											Expectation: value must be one of the following: (is null or empty or needs to be a valid email				
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W	PID	PID.13.4	HomePhoneNumber	Invalid value	address).	2		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	E	PID	PID		Required observation missing	The message will not load due to the PID segment missing required data. Expectation: value PID-	2		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	1	PID	PID.3.5	PatientidentifierList	Table value not found	PID-3 (PatientidentifierList[1]): Unsupported value [PI]. Expectation: value must be in the list of	2		05/01/2020	06/18/202
											Expectation: value is an incomplete address. Address will not load unless Street Address, City,				
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W	PID	PID.11.	PatientAddress	Required observation missing	State and a valid Zip are all entered for this address type.	1		05/01/2020	06/18/202
		CT9999		HL7 UNIT TEST CLINIC		1	P01	PD1.12.	Protection/indicator	Invalid value	The PD1-12 (Protection Indicator) has been set, the contents of this message will not be loaded.	1		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	E				Invalid value	Authorization Error: User does not have permission to send for this facility	1		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	E	MSH	MSH.6.1	ReceivingFacility	Invalid value	MSH-6 (ReceivingFacility): Unable to process this message: Expected value [CT0000] but found	1		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	E	MSH	MSH.6.1	ReceivingFacility	Table value not found	MSH-6 (ReceivingFacility): No matching facility found for [CT].	1		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CUNIC	AE	W	OBX	OBX		Table value not found	: Unrecognized/unsupported value []. Expectation: value element ./3/1 exists in table NIP003.	1		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W	OBX	OBX.10.	NatureOfAbnormalTest	Table value not found	OBX-10 (NatureOfAbnormalTest[1]): Unrecognized/unsupported value [F]. Expectation: value	1	Leave this field in bl	05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W	OBX	OBX.11.	ObservationResultStatus	Invalid value	OBX-11 (ObservationResultStatus): Unrecognized/unsupported value: []. Expectation: value is	1		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	W	OBX	OBX.16.3	ResponsibleObserver	Illogical Value error	Internal Parser Error: Field too long: 96 > 30	1	Leave this field in bl	05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CUNIC	AE	W	OBX	OBX.3.1	ObservationIdentifier	Table value not found	OBX-3 (Observationidentifier): Unrecognized/unsupported value [[find a LOINC Code]].	1		05/01/2020	06/18/202
		CT9999	HL7_UNIT_TST	HL7 UNIT TEST CLINIC	AE	w	OBX	OBX.5.	ObservationValue	Illogical Value error	[253088698300029511191030^HPV Vaccine VIS^cdgs1vis]. Expectation: value in OBX-5.1 (ObservationValue) must have a value in CDCGS1VIS when OBX-3.1 (ObservationIdentifier) is	1		05/01/2020	06/18/202

#### **Important Notes**

- All errors should be addressed. Use the Quick Reference to fix VXU Errors
   https://portal.ct.gov/-/media/Departments-and 

   Agencies/DPH/dph/infectious diseases/immunization/EHR HL7/CT WiZ HL7 Quick Reference to Fix VXU Errors.pdf for assistance with error correction.
- Some warnings can be ignored but not all. Refer to ACK Message Guidance for <u>Common Errors in CT WiZ https://portal.ct.gov/-/media/Departments-and- <u>Agencies/DPH/dph/infectious\_diseases/immunization/EHR-</u> HL7/CT ACK Guidance 042020.pdf
  </u>
- Please refer to the Delta Guide which provides guidance on HL7 message structure <u>and</u> requirements specific to CT WiZ. https://portal.ct.gov/-/media/Departments- and-Agencies/DPH/dph/infectious\_diseases/immunization/EHR- HL7/CTWIZ\_DELTA\_GUIDE-4 20.pdf

#### **How To Get Help**

- Visit the <u>CT WiZ Training</u> and <u>CT WiZ Onboarding</u> webpages for numerous trainings and videos.
- Click on the icon 1 located at the top of the CT WiZ pages to get a description of the screens.
- Click on the Learn More on top of some pages in CT WiZ to open up a short "How To" videos.
- Submit a help desk ticket at: <a href="https://dph-cthelpdesk.ct.gov/\_select Immunizations">https://dph-cthelpdesk.ct.gov/\_select Immunizations</a> (CT WiZ) and the applicable category, topic, and sub-topic.