eClinicalWorks
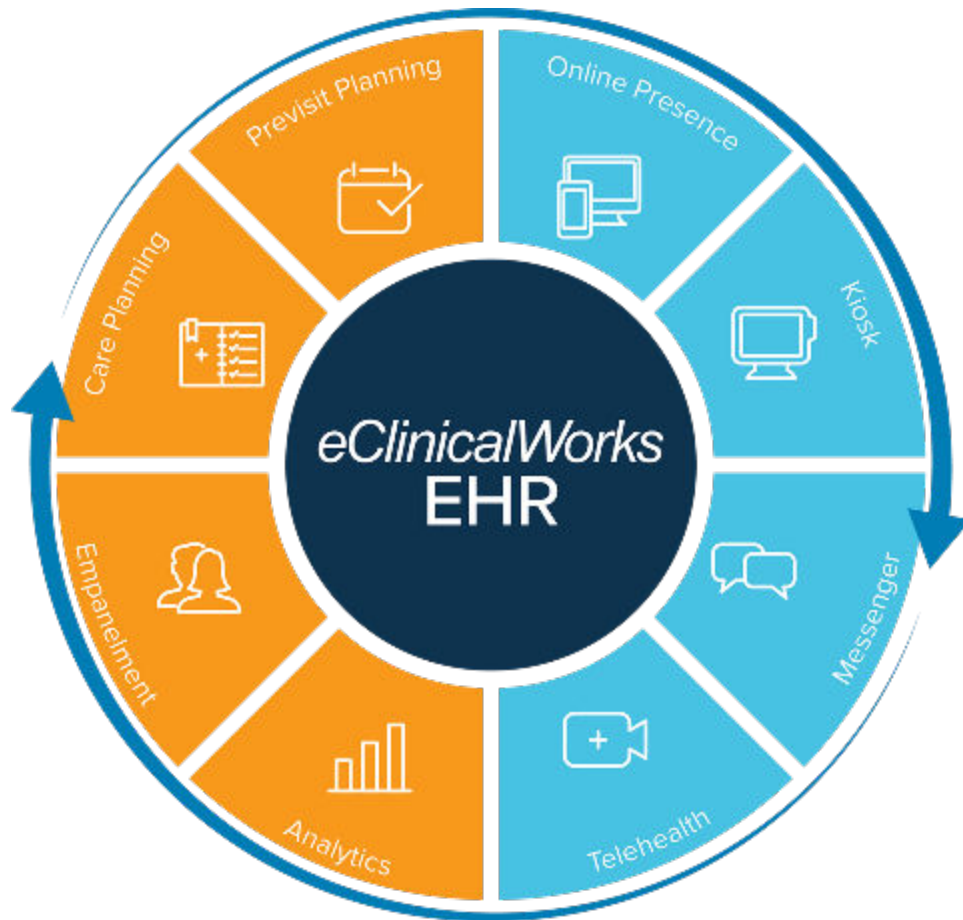
REAL WORLD TESTING - 2022 RESULTS REPORT

Version 2.0—March 2023

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REAL WORLD TESTING - 2022 RESULTS REPORT

This document describes the results from eClinicalWorks® (eCW) *Real World Testing – 2022 Test Plan*.

1. Introduction

The 21st Century Cures Act Final Rule mandates that health IT developers of certified health IT test the real-world use of health IT for interoperability, as defined by the 2015 Edition Certification Criteria. The functionality and use cases included in this testing effort include all certification criteria under 45 C.F.R. § 170.315(b)(1)-(3), (b)(6), (c)(1)-(3), (e)(1), (f)(1)-(2), (f)(7), (g)(7)-(9), and (h)(1) to which eClinicalWorks is certified as of August 31, 2021, specifically:

(b)(1) Transitions of Care

(b)(2) Clinical Information Reconciliation and Incorporation

(b)(3) Electronic Prescribing

(b)(6) Data Export

(c)(1) Clinical Quality Measures (CQMs) – Record and Export

(c)(2) Clinical Quality Measures (CQMs) – Import and Calculate

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(f)(1) Transmission to Immunization Registries

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(g)(7) Application Access – Patient Selection

(g)(8) Application Access – Data Category Request

(g)(9) Application Access – All Data Request

(h)(1) Direct Project

This report describes the results of measuring the real world usage of these criteria as outlined in the *Real World Testing – 2022 Test Plan*.

The following list describes each component of the results report for each respective certification criterion:

- **Testing Methodology/Method** describes the approach (e.g., steps, conditions, etc.) a tester used to evaluate the functionality of the certification criteria.

- **Metric Definition** describes the measurement used to determine the usage of the criteria in a real world setting.

- **Care/Practice Settings** describes the type of settings in which the certification criteria were tested. eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of primary care and specialty care settings. For the purposes of real world testing, eClinicalWorks measured data from all settings in which the EHR was used.

- **Milestones** describes the timeline that eClinicalWorks used to evaluate the progress of its test plan.

- **Expected Outcome** describes the result of successfully completing the test case.

- **Summary of Testing Methods and Key Findings** provides a summary of the real world testing methods deployed to demonstrate real-world interoperability across eClinicalWorks.

- **Relied Upon Software** describes additional software that is independent of the core EHR, but is required to fulfill the functionality described in the certification criteria.

2.   General Information

Developer Name	eClinicalWorks, LLC	
Product Name and Version Number	eClinicalWorks V11.52	
Product List (CHPL) IDs	V11.52.153	15.04.04.2883.eCli.11.01.1.211228
	V11.52.225	15.04.04.2883.eCli.11.02.1.220201
	V11.52.241	15.04.04.2883.eCli.11.03.1.220201
	V11.52.301	15.04.04.2883.eCli.11.04.1.220201
	V11.52.305	15.04.04.2883.eCli.11.05.1.220411
	V11.52.399	15.04.04.2883.eCli.11.06.1.220929
Real World Testing Plans and Results	https://www.eclinicalworks.com/resources/certified-ehr-technology	

3.   Withdrawn Products

Developer Name	eClinicalWorks, LLC
Product Name and Version Number	eClinicalWorks V11
Product List (CHPL) IDs	15.04.04.2883.eCli.11.00.1.171228
Date Withdrawn	June 3, 2022

Inclusion of Data in Results Report	The withdrawal of V11 from CHPL does not affect the data in this results report because the change on CHPL reflects versioning within V11. The customers and EHR features under the V11 CHPL listing would be the same under the current listings on CHPL. The current listings on CHPL reflect sub-versions within the main V11 build and would not have an effect on data results.

4. Milestones

The following table describes the eCW 2022 Real World Testing Milestones:

Date/Timeline	Milestone
November 2021	**2022 Plan Submission:** Submit the 2022 Real World Testing Plan.
January 2022 – January 2023	**Monthly Data Collection** ▪ Consult with stakeholders from the Product Management and Engineering Teams on scripts and testing methods for collecting data ▪ Conduct data collection on a monthly basis for calendar year 2022
October 2022	**2023 Plan Submission** Submit the 2023 Real World Testing Plan with updates to the milestone timeline, certification criteria, or standards for calendar year 2023.
November 2022 - February 2023	**Analysis and Results Reporting** Collect data and compile report for the 2022 Test Plan.
February 2023	**Results Report Submission for Real World Testing 2022 to ONC-ACB**

5. Acronyms and Terms

The following table lists the acronyms and terms used in this document:

Acronym/Term	Definition
ACK	HL7 message type used in message acknowledgement between health IT systems
ADT	Admit-Discharge-Transfer; HL7 message type used to communicate patient demographics, visit information, and events (e.g., patient admit, patient discharge, patient transfer, etc.)
API	Application Programming Interface
APU	Auto-Practice Upgrade
C-CDA	Consolidated Clinical Document Architecture
CCDS	Common Clinical Data Set
CQM	Clinical Quality Measure
eClinicalWorks P2P®	eClinicalWorks Provider-to-Provider network
eCW	eClinicalWorks
EHR	Electronic Health Record
ePHI	Electronic Protected Health Information
FHIR®	Fast Healthcare Interoperability Resources
HIPAA	Health Insurance Portability and Accountability Act
NHCS	National Hospital Care Survey
ONC	Office of the National Coordinator for Health Information Technology
QBP	Query-Based Parameter; HL7 message type used for immunization queries

Acronym/Term	Definition
RSP	Segment Pattern Response: HL7 message type used for immunization responses between health IT systems and immunization information systems used by state registries
SQL	Structured Query Language
SVAP	Standards Version Advancement Process
USCDI	United States Core Data for Interoperability
VXU	HL7 message type used to transmit patient immunization information

6. Changes to Original Plan

The original plan called for reaching out to a sample of customers, however early in our testing we decided to gather data from all customers as this would give a better picture of how the interoperability features within the EHR are being utilized in the real world. Refer to the specific criteria in section 9. Test Results for further details.

7. Standards Updates

The Standards Version Advancement Process was not utilized for 2022. All criteria listed in the test plan and results report adhere to the standards referenced in the 2015 Edition. In 2022, eClinicalWorks updated its certified health IT to USCDI v1, C-CDA R2.1, and US Core 3.1.1, as required by the 2015 Edition Cures Update. These changes will be reflected in an updated real world testing plan for calendar year 2023.

8. Summary of Testing Methods and Key Findings

Refer to section 9. Test Results for the summary of testing methods and key findings for each criterion tested in 2022.

9. Test Results

The following sections outline the results reporting for the certification criteria identified in section
1. Introduction.

(b)(1) Transitions of Care

The following table outlines the test plan and findings for the (b)(1) Transitions of Care criterion:

Criterion Description	Enables a user to send and receive transition of care documents via edge protocol, validate and display C-CDAs, and create transition of care/referral summaries.
Testing Methodology/Method	- The tester will identify customers who have sent a transition of care/referral summary to a different provider through the eClinicalWorks P2P network. - The tester will run a query to determine the number of times the user performed the (b)(1) workflow (transition of care/referral summary using P2P).
Metric Definition	All customers using P2P are able to create and send transition of care/referral summary documents (which includes referrals and patient records) through the eCW P2P workflow for: - Number of transition of care documents sent - Number of transition of care documents received
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks measures data from all settings in which the EHR was used.
Milestones	For a detailed milestone timeline, refer to section 4. Milestones.
Expected Outcome	Evidence of a transition of care/referral summary sent and received with all document sections visible to the user in a human readable format.
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the transactions for the total number of transition of care documents sent and received, which includes referrals and patient records. The following transaction data are the evidence of a transition of care/referral summary that has been sent and received.

Relied Upon Software (if applicable)	eClinicalWorks P2P module and eClinicalWorks C-CDA Adapter

Transaction Counts for (b)(1):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of transition of care messages sent	106,950	111,069	141,507	128,084	125,952	126,102	115,253	141,557	135,377	137,927	132,091	114,784
Total number of transition of care messages received	419,704	322,419	358,158	403,848	441,555	416,358	405,353	453,382	454,772	480,124	490,969	422,839

(b)(2) Clinical Information Reconciliation and Incorporation

The following table outlines the test plan and findings for the (b)(2) Clinical Information Reconciliation and Incorporation criterion:

Testing Methodology/Method	The tester will identify customers that have received and incorporated a transition of care/referral summary document into the patient's record. eClinicalWorks recognizes that not all customers use the full functionality of the certification criteria. If eClinicalWorks is unable to identify customers that use the (b)(2) criterion (or any criterion throughout this test plan) as defined in the regulation, then that will be reflected in the results report.
Metric Definition	All customers using P2P are able to reconcile and incorporate transition of care/referral summary documents (which includes referrals and patient records) through the eCW P2P workflow for: ▪ Total number of C-CDA documents matched to a correct patient ▪ Total number of medications added/reconciled to the patient's record ▪ Total number of allergies added/reconciled to the patient's record ▪ Total number of problems added/reconciled to the patient's record
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a milestone timeline, refer to section 4. Milestones.
Expected Outcome	A transition of care/referral summary document can be received and incorporated into the customer's EHR and the reconciliation of data into the correct patient's record was verified.
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the transactions for the total number of C-CDA documents matched to a correct patient, the total number of medications added/reconciled to the patient's record, the total number of allergies added/reconciled to the patient's record and the total number of problems added/reconciled to the patient's record.
Relied Upon Software (if applicable)	eClinicalWorks P2P module and eClinicalWorks C-CDA Adapter

Transaction Counts for (b)(2):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022
Total number of incoming requests matched to a correct patient	712,610	584,496	656,213	666,510	671,956	656,518
Total number of medications added/reconciled to the patient's record	1,770	1,633	2,466	2,376	10,019	2,079
Total number of allergies added/reconciled to the patient's record	6,169	9,642	13,510	10,131	11,077	10,743
Total number of problems added/reconciled to the patient's record	1,788	2,313	2,684	2,507	157,530	7,316

Metric Definition	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of incoming requests matched to a correct patient	639,494	696,085	690,529	747,593	684,850	617,514
Total number of medications added/reconciled to the patient's record	1,673	1,569	2,335	2,175	2,020	1,362
Total number of allergies added/reconciled to the patient's record	5,858	6,283	6,411	6,580	6,773	5,282
Total number of problems added/reconciled to the patient's record	1,628	1,488	2,398	1,763	1,936	1,232

(b)(3) Electronic Prescribing

The following table outlines the test plan and findings for the (b)(3) Electronic Prescribing criterion:

Testing Methodology/Method	eClinicalWorks partners with Surescripts® to validate and transmit electronic prescription orders to pharmacies. For the (b)(3) criterion, the tester will identify the number of transactions for the following transaction types: • **NewRx** - New prescriptions • **RxChangeRequest and RxChangeResponse** - Requests and responses to change prescriptions • **CancelRx and CancelRxResponse** - Requests and responses to cancel prescriptions • **RxRenewalRequest and RxRenewalResponse** - Requests and responses to renew prescriptions • **RxFill** - Responses with fill status notifications • **RxHistoryRequest and RxHistoryResponse** - Requests and responses to medication histories
Metric Definition	For all customers using e-prescription, the number of transactions sent for each transaction type listed above.
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a milestone timeline, refer to section 4. Milestones.
Expected Outcome	All transactions performed by the customer's EHR are accepted and validated by the Surescripts network.
Summary of Testing Methods and Key Findings	The original plan called for counting the number of transactions sent for each transaction type, along with the success rate for each transaction type, over a 90-day period. However, while executing the 2022 Test Plan, eClinicalWorks decided to report only on the transaction counts to keep the type of metrics being reported consistent across all criteria. During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the total number of transactions each month for the NewRx ,RxRenewalResponse (Refills), CancelRx, RxChangeResponse, RxHistoryRequest, RxRenewalRequest, (Refills), CancelRxResponse, RxChangeRequest, RxHistoryResponse and RxFill transaction types from the eClinicalWorks eRx.

Relied Upon Software (if applicable)	eClinicalWorks e-prescription cloud and Surescripts

Transaction Counts for (b)(3) Sent:

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022
NewRx	21,775,608	19,631,971	23,001,289	20,843,860	21,426,726	21,791,662
RxRenewalResponse (Refills)	6,627,228	5,942,837	6,699,496	6,192,618	6,488,291	6,485,786
CancelRx	156,962	154,715	188,291	176,900	184,414	195,427
RxChangeResponse	202,981	190,829	216,545	192,405	187,678	199,225
RxHistoryRequest	5,401,551	5,401,551	5,822,647	5,283,530	5,426,927	5,556,398

Metric Definition	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
NewRx	19,641,323	22,439,702	21,412,955	22,210,507	22,838,609	21,745,637
RxRenewalResponse (Refills)	6,105,939	6,722,039	6,184,150	6,309,890	6,179,390	5,941,051
CancelRx	181,110	213,297	208,385	220,067	234,234	228,831
RxChangeResponse	179,933	201,555	182,920	174,185	176,264	176,041
RxHistoryRequest	5,180,059	6,083,278	6,582,607	7,807,750	7,517,648	7,012,776

Transaction Counts for (b)(3) Received:

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022
RxRenewalResponse (Refills)	7,908,965	7,133,936	8,041,695	7,536,858	7,862,274	7,887,302
CancelRxResponse	129,887	129,730	158,663	149,585	155,876	164,491
RxChangeRequest	311,101	314,818	354,441	333,805	338,846	352,020
RxHistoryResponse	5,389,315	5,389,315	5,816,417	5,277,657	5,423,139	5,550,853
RxFill	45,705	47,371	56,944	50,569	52,211	55,922

Metric Definition	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
RxRenewalResponse (Refills)	7,730,006	8,042,626	7,602,756	7,678,566	7,539,103	7,214,644
CancelRxResponse	152,879	181,822	178,114	188,108	202,694	198,119
RxChangeRequest	340,696	374,357	343,431	347,427	359,774	363,829
RxHistoryResponse	5,176,601	6,077,645	6,578,808	7,803,235	7,512,737	7,007,978
RxFill	53,811	61,487	58,572	58,920	62,899	57,896

(b)(6) Data Export

The following table outlines the test plan and findings for the (b)(6) Data Export criterion:

Testing Methodology/Method	The tester will identify customers who have utilized the Data Export functionality within the EHR. The tester will run a query to determine the number of times the user generated a C-CDA file using Data Export.
	eClinicalWorks recognizes that not all customers use the full functionality of the certification criteria made available in the EHR. If eClinicalWorks is unable to identify customers that use the (b)(6) criterion as defined in the regulation, then that will be reflected in the results report.
Metric Definition	- Number of C-CDA documents in all exports generated - Number of export requests across all customers
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a milestone timeline, refer to section 4. Milestones.
Expected Outcome	The data export file (C-CDA) was successfully generated for each of the scenarios listed in the testing method (real-time/on-demand and specific date range defined by the user).
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the transactions based on the total number of successful C-CDA documents in all exports generated, along with the total number of export requests across all customers of eClinicalWorks either on-demand or real time.
Relied Upon Software (if applicable)	eClinicalWorks C-CDA Adapter

Transaction Counts for (b)(6):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022
Number of C-CDA documents in all exports generated	5,482,660	4,123,102	4,064,399	4,867,464	5,166,160	2,728,393
Number of export requests across all customers	351	349	349	326	351	351

Metric Definition	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Number of C-CDA documents in all exports generated	2,484,430	9,311,736	6,745,539	3,877,811	4,060,450	4,898,177
Number of export requests across all customers	344	359	372	343	340	355

(c)(1) Clinical Quality Measures (CQMs) - Record and Export, (c)(2) Clinical Quality Measures (CQMs) - Import and Calculate, and (c)(3) Clinical Quality Measures (CQMs) - Report

The following table outlines the test plan and findings for the (c)(1) Clinical Quality Measures (CQMs) – Record and Export, (c)(2) Clinical Quality Measures (CQMs) – Import and Calculate, and (c)(3) Clinical Quality Measures (CQMs) – Report criteria:

Testing Methodology/Method	The tester will identify customers who have enabled the CQM functionality within the EHR and run a query to determine the number of files generated across all measures supported by the EHR.
	eClinicalWorks recognizes that not all customers use the full functionality of the certification criteria made available in the EHR. If eClinicalWorks is unable to identify customers that use the (c)(1)-(3) criteria as defined in the regulation, then that will be reflected in the results report.
Metric Definition	(c)(1) Clinical Quality Measures (CQMs) - Record and Export:
	▪ Number of customers that enabled this functionality
	▪ Number of customers who made requests for a QRDA I export
	(c)(2) Clinical Quality Measures (CQMs) - Import and Calculate:
	▪ Number of customers that enabled this functionality
	▪ Number of customers who made requests for a QRDA I import
	(c)(3) Clinical Quality Measures (CQMs) - Report:
	▪ Number of customers that enabled this functionality
	▪ Number of customers who made requests for a QRDA III export
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a milestone timeline, refer to section 4. Milestones.
Expected Outcome	Users are able to generate an export/import file for each clinical quality measure used by the customer.

Summary of Testing Methods and Key Findings	During the validation for (c)(1) criterion, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the number of practices which successfully enabled the QRDA I Export for the given year. Out of the customers who enabled the QRDA I export, eClinicalWorks gathered the customers who made a successful QRDA I Export each month for at least one export file created, which can consist of more than one measure. For (c)(2) criterion, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the number of practices which successfully enabled the QRDA I Import for the given year. Out of the customers who enabled the QRDA I Import, eClinicalWorks gathered the customers who made a successful QRDA I Import each month for at least one export file created, which can consist of more than one measure. For (c)(3) criterion eClinicalWorks followed a similar approach; eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the number of practices which successfully enabled the QRDA III Export for the given year. Out of the customers who enabled the QRDA III Export, we gathered the customers who made a successful QRDA III Export each month for at least one export file created, which can consist of more than one measure.
Relied Upon Software (if applicable)	eClinicalWorks QRDA Functionality and eClinicalWorks APU Tool

Transaction Counts for (c)(1):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of customers that enabled the QRDA I export	317	317	307	318	322	328	334	334	339	347	355	359
Total number of requests made for a QRDA I export	19	10	3	12	4	27	27	26	24	21	136	25

Transaction Counts for (c)(2):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of customers that enabled the QRDA I import	299	299	288	299	304	309	296	296	297	305	315	319
Total number of requests made for a QRDA I import	0	1	1	0	0	0	0	3	0	1	3	4

Transaction Counts for (c)(3):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of customers that enabled the QRDA III export	471	471	455	471	469	480	487	482	491	498	507	511
Total number of requests made for a QRDA III export	126	93	12	0	3	3	5	1	2	4	5	12

(e)(1) View, Download, and Transmit to 3rd Party

The following table outlines the test plan and findings for the (e)(1) View, Download, and Transmit to 3rd Party criterion:

Testing Methodology/Method	The tester will identify customers who have granted eClinicalWorks Patient Portal™ access to their patients. The tester will run a query to determine the number of patients who accessed the Patient Portal and were able to view, download, or transmit their health information.
Metric Definition	- Total number of times patients viewed their health information through the Visit Summary - Total number of times patients downloaded their health information - Total number of times patients transmitted their health information to a third party using the Direct or email method
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a milestone timeline, refer to section 4. Milestones.
Expected Outcome	Patients are able to view, download, or transmit their health information using the Patient Portal.
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the total number of times patients viewed their health information through Visit Summary, the total number of times patients downloaded their health information, and the total number of times patients transmitted their health information to a third party using Direct/Email.
Relied Upon Software (if applicable)	eClinicalWorks Patient Portal and eClinicalWorks C-CDA Adapter

Transaction Counts for (e)(1):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022
Total number of times patients viewed their health information through the Visit Summary	808,497	667,137	751,339	660,073	619,233	514,862
Total number of times patients downloaded their health information	182,456	154,331	174,494	146,669	132,517	113,855
Total number of times patients transmitted their health information to a third-party using Direct/email	9,046	7,088	8,116	6,949	6,795	6,111

Metric Definition	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of times patients viewed their health information through the Visit Summary	629,828	727,436	656,782	735,756	703,096	662,368
Total number of times patients downloaded their health information	146,350	171,284	152,332	162,020	157,738	157,715
Total number of times patients transmitted their health information to a third-party using Direct/email	7,278	9,164	7,616	7,561	7,240	6,295

(f)(1) Transmission to Immunization Registries

The following table outlines the test plan and findings for the (f)(1) Transmission to Immunization Registries criterion:

Testing Methodology/Method	The tester will identify customers who have implemented an immunization interface with a state registry. The tester will run a query to determine the number of VXU and QBP messages sent to an immunization registry.
Metric Definition	- Number of practices with a live immunization interface (either unidirectional (VXU) or bidirectional (QBP/RSP) interface) - Number of VXU messages sent - Number of QBP messages sent
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a detailed milestone timeline, refer to section 4. Milestones.
Expected Outcome	Users are able to document immunizations and receive a response from the registry acknowledging that the VXU or QBP message was successfully received.
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the multiple practices who are live with the immunization registry interface and in real time utilizes the interface to send the VXU and QBP messages outbound to the registry. During implementation of the interface, eClinicalWorks worked with registries on what value set data needs to be available in the message. Also, eClinicalWorks gathered the total number of monthly transactions of immunizations documented and immunization queries sent, instead of the percentage of immunizations documented and immunization queries sent as described in the original test plan.
	Note: There is no data available for Jan 2022 since QBP message logs are purged every 30 days.
Relied Upon Software (if applicable)	eClinicalWorks Immunization Hub

Transaction Counts for (f)(1):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022
Number of practices with a live Immunization Interface	5,454	5,446	5,461	5,482	5,520	5,562
Number of VXU messages sent	1,465,050	2,368,491	2,245,869	1,792,317	1,733,242	1,737,375
Number of QBP messages sent	0	2,674,502	2,855,347	2,623,809	2,252,921	2,171,468

Metric Definition	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Number of practices with a live Immunization Interface	5,583	5,597	5,609	5,649	5,674	5,690
Number of VXU messages sent	1,633,610	2,365,720	2,860,287	3,746,064	3,073,363	2,274,762
Number of QBP messages sent	2,065,752	2,193,538	2,927,569	3,248,592	3,613,400	3,522,358

(f)(2) Transmission to Public Health Agencies - Syndromic Surveillance

The following table outlines the test plan and findings for the (f)(2) Transmission to Public Health Agencies – Syndromic Surveillance criterion:

Testing Methodology/Method	The tester will identify customers who have implemented a syndromic surveillance interface with a public health department. The tester will run a query to determine the number of ADT syndromic surveillance messages sent to a registry.
Metric Definition	▪ Number of practices with a live syndromic surveillance interface ▪ Number of ADT syndromic surveillance messages sent
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a detailed milestone timeline, refer to section 4. Milestones.
Expected Outcome	As defined by the Metric Definition, syndromic surveillance messages transmitted to a registry are successfully received and acknowledged by a state registry.
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs every 30 days instead of capturing percentage of messages sent out by a single practice every 90 days, which was mentioned in the original test plan. eClinicalWorks gathered the transactions from all practices with an active syndromic surveillance interface.
Relied Upon Software (if applicable)	eClinicalWorks Syndromic Surveillance Hub

Transaction Counts for (f)(2):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022
Number of ADT syndromic surveillance messages sent	366,609	295,021	127,306	69,726	619,141	321,352
Number of practices with a live syndromic surveillance Interface	70	66	65	62	59	61

Metric Definition	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Number of ADT syndromic surveillance messages sent	335,193	394,568	387,103	402,376	366,759	340,905
Number of practices with a live syndromic surveillance Interface	60	61	61	60	65	61

(f)(7) Transmission to Public Health Agencies - Health Care Surveys

The following table outlines the test plan and findings for the (f)(7) Transmission to Public Health Agencies – Health Care Surveys criterion:

Testing Methodology/Method	eClinicalWorks does not support a live interface for the submission of health care surveys. eCW users generate the health care survey XML document from the EHR and manually submit it to the CDC's NHCS Secure Data Transfer portal. To test (f)(7), the tester will identify customers who have enabled the health care survey functionality within the EHR. The tester will run a query to determine the number of healthcare surveys generated on a monthly basis.
Metric Definition	Number of health care surveys generated.
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a detailed milestone timeline, refer to section 4. Milestones.
Expected Outcome	Users can generate health care surveys that can be successfully submitted to the CDC's NHCS Secure Data Transfer portal.
Summary of Testing Methods and Key Findings	Our initial approach was to validate a single customer on the number of health care surveys generated by the customer, but during the validation, eClinicalWorks gathered from a larger sample of reports by running SQL scripts from production unique APU IDs and gathered the transactions of successful total number of health care surveys generated.
Relied Upon Software (if applicable)	eClinicalWorks C-CDA Adapter

Transaction Counts for (f)(7):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of APUs that generated a health care survey	11	9	8	10	6	6	5	3	1	4	3	3

(g)(7) Application Access - Patient Selection

The following table outlines the test plan and findings for the (g)(7) Application Access – Patient Selection criterion:

Testing Methodology/Method	The tester will identify customers who have activated third-party API access for their EHR. The tester will run a query to determine the number of API calls that requested a patient ID according to the (g)(7) criterion.
Metric Definition	Number of API requests for a patient ID
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a detailed milestone timeline, refer to section 4. Milestones.
Expected Outcome	Retrieval of patient IDs, which will be used in subsequent testing for (g)(8) and (g)(9).
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the number of practices who have activated third-party API access for their EHR and requested a patient ID through an API.
Relied Upon Software (if applicable)	eClinicalWorks Patient Portal, healow®, and eClinicalWorks FHIR API module

Transaction Counts for (g)(7):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Total number of API requests for all patient IDs	461	453	384	332	533	435	523	435	664	752	593	840

(g)(8) Application Access - Data Category Request

The following table outlines the test plan and findings for the (g)(8) Application Access - Data Category Request criterion:

Testing Methodology/Method	The tester will identify customers who have activated third-party API access for their EHR. The tester will run a query to determine the number of API calls that requested a data category from the Common Clinical Data Set (CCDS).
Metric Definition	Number of times a request was made for the following data categories in the CCDS: ■ Demographics ■ Smoking status ■ Problems ■ Medications ■ Medication allergies ■ Laboratory tests ■ Laboratory values/results ■ Vital signs ■ Procedures ■ Care team members ■ Immunizations ■ Unique device identifiers for a patient's implantable device ■ Assessment and treatment plan ■ Goals

	▪ Health concerns
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a detailed milestone timeline, refer to section 4. Milestones.
Expected Outcome	Retrieval of patient data from each data category request for each customer queried.
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the number of API calls that requested a data category from the Common Clinical Data Set (CCDS).
Relied Upon Software (if applicable)	eClinicalWorks C-CDA Adapter

Transaction Counts for (g)(8):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Demographics	461	453	384	332	533	435	523	435	664	752	593	840
Smoking status	183	155	171	187	241	215	186	115	441	462	432	430
Problems	206	94	156	217	314	141	154	95	411	415	414	423
Medications	688	535	631	21,436	34,236	8,076	7,785	3,281	1,577	1,725	2,600	1,834
Medication allergies	217	170	185	295	356	231	240	126	446	479	448	452
Laboratory tests	110	27	70	93	194	31	51	33	8	22	23	9
Laboratory values/results	977	471	241	3,318	4,142	1,380	4,464	1,237	1,630	2,225	891	2,697
Vitals signs	185	177	198	260	354	227	223	122	447	472	445	439

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Procedures	195	168	183	290	355	226	222	123	446	507	465	440
Care team members	63	72	60	88	112	87	78	42	20	57	34	9
Immunizations	187	172	195	293	351	228	245	123	446	483	449	439
Unique device identifiers for a patient's implantable devices	74	82	80	180	202	176	129	97	438	457	431	432
Assessment and treatment plan	58	9	43	49	41	6	11	27	0	3	1	0
Goals	145	146	144	211	205	188	162	84	423	469	433	421
Health concerns	134	82	124	219	288	144	145	95	411	408	410	421

(g)(9) Application Access - All Data Request

The following table outlines the test plan and findings for the (g)(9) Application Access - All Data Request criterion:

Testing Methodology/Method	The tester will identify customers who have activated third-party API access for their EHR. The tester will run a query to determine the number of API calls that requested all data categories from the Common Clinical Data Set (CCDS).
Metric Definition	Number of API requests for a patient's full set of CCDS data.
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a milestone timeline, refer to section 4. Milestones.

Expected Outcome	Retrieval of patient data from all data categories of the CCDS.
Summary of Testing Methods and Key Findings	During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the number of API requests for a patient's full set of CCDS data.
Relied Upon Software (if applicable)	eClinicalWorks Patient Portal, healow, eClinicalWorks FHIR API module, and eClinicalWorks C-CDA Adapter

Transaction Counts for (g)(9):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sept 2022	Oct 2022	Nov 2022	Dec 2022
Total number of API requests for a patient's full set of CCDS data	63	20	66	70	102	17	35	32	16	22	13	15

(h)(1) Direct Project

The following table outlines the test plan and findings for the (h)(1) Direct Project criterion:

Testing Methodology/Method	The tester will identify customers who have activated Direct Messaging within the EHR. The tester will run a query to determine the number of direct messages sent and received.
Metric Definition	▪ Number of messages sent ▪ Number of messages received
Care/Practice Settings	eClinicalWorks is an ONC-certified product designed to be used in a variety of ambulatory care settings. eClinicalWorks customers serve patients in a variety of ambulatory care settings. For the purposes of real world testing, eClinicalWorks will measure data from all settings in which the EHR is used.
Milestones	For a detailed milestone timeline, refer to section 4. Milestones.
Expected Outcome	Message successfully received with evidence of a successful round trip of a direct message.

Summary of Testing Methods and Key Findings	To successfully process an inbound or outbound message, the vendor HISP Trust Anchor must be bound to the domains supported by eClinicalWorks HISP. For outbound messages, a valid clinical summary document conforming to C-CDA format must be attached to the message. During the validation, eClinicalWorks gathered monthly sample reports by running SQL scripts from production unique APU IDs and gathered the transactions of the total number of messages sent and the total number of messages received. Our initial approach was to capture the 90-day transaction count of the messages sent and received but during the validation process, we changed it to 30-day intervals (i.e., monthly) of messages sent (for the entire calendar year) including the messages sent with the attachments from the eClinicalWorks HISP database.
Relied Upon Software (if applicable)	eClinicalWorks HISP

Transaction Counts for (h)(1):

Metric Definition	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sept 2022	Oct 2022	Nov 2022	Dec 2022
Number of messages sent	76,591	84,477	106,622	94,525	94,351	96,148	87,265	108,911	113,667	112,341	101,287	89,156
Number of messages received	819,946	575,866	602,102	733,508	801,209	795,355	796,038	843,247	821,173	903,294	880,864	830,288

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