Real World Testing Results 2023

Background & Instructions

Under the ONC Health IT Certification Program (**Certification Program**), health IT developers are required to conduct Real World Testing of their certified health IT (45 CFR 170.405). The Office of the National Coordinator for Health Information Technology (ONC) issues Real World Testing resources to clarify health IT developers' responsibilities for conducting Real World Testing, to identify topics and specific elements of Real World Testing that ONC considers a priority, and to assist health IT developers in developing their Real World Testing plans and results reports.

A Real World Testing plan template was created to assist health IT developers in organizing the required information that must be submitted for each element in their Real World Testing plan. To accompany the plan template, ONC has also provided this results report template.

While the use of this template is voluntary, health IT developers may find it useful in preparing their Real World Testing results report(s). Health IT developers must submit one year of results to address the Real World Testing of eligible products as outlined in their previous year's Real World Testing plan(s). If adjustments to approaches are made throughout Real World Testing, the health IT developer should reflect these adjustments in their Real World Testing results report. ONC expects that the results report will include a list of these changes, the reasons for them, and how intended outcomes were more efficiently met as a result.

While every effort has been made to ensure the accuracy of restatements of 45 CFR Part 170, this template is not a legal document. The official program requirements are contained in the relevant laws and regulations. This resource should be read and understood in conjunction with the following companion resources, which describe in detail many of the Program requirements referenced in this resource.

- Real World Testing–What It Means for Health IT Developers – Fact Sheet
- Real World Testing Resource Guide
- Real World Testing Certification Companion Guide

Health IT Developers should also review the following regulatory materials, which establish the core requirements and responsibilities for Real World Testing under the Certification Program.

- 21st Century Cures Act: Interoperability, Information Blocking, and the ONC Health IT Certification Program final rule, 85 FR 25642 (May 1, 2020) (**ONC Cures Act Final Rule**)

  Section VII.B.5 — *"Real World Testing"*

General Information

Plan Report ID Number: [For ONC-Authorized Certification Body use only]

Developer Name: Flatiron Health

Product Name(s): OncoEMR®

Version Number(s): 2.8

Certified Health IT Product List (CHPL) Product Number(s): 15.04.04.3010.Onco.28.02.1.221221

Developer Real World Testing Plan Page URL: https://flatiron.com/certification/

Developer Real World Testing Results Report Page URL [if different from above]: N/A

Changes to Original Plan

Flatiron Health, Inc. (referred to as Flatiron moving forward) conducted Real World Testing as described in our approved 2022 RWT Plan with minor deviations from the plan. ONC has provided guidance that these types of deviations may be acceptable stating, "ONC anticipates that throughout a developer's Real World Testing activities there will be instances where the developer may find a need to modify their testing methodologies or approaches that were originally laid out in their plan(s) to address unexpected changes during the testing period. The developer is not prohibited from adjusting their approaches following the submission of their original plans. To promote public transparency, ONC recommends that developers do not update the plans themselves but include any changes to their Real World Testing approach in their results report. If a developer adjusts their Real World Testing approaches, ONC expects that the Real World Testing results report will include a description of these types of changes, the reasons for the changes, and how intended outcomes were more efficiently met as a result…" Specific deviations to Flatiron's 2022 Real World Testing Plan are described below:

Summary of Change [Summarize each element that changed between the plan and actual execution of Real World Testing]	Reason [Describe the reason this change occurred]	Impact [Describe what impact this change had on the execution of your Real World Testing activities]
Criteria (b)(2): We have modified our testing approach from the original test plan by amending the measures associated with this criteria to remove the clause "from a received CCDA" from the metric name.	Our workflows support the reconciliation of all current information from multiple summary of care records in a single instance (i.e. unable to distinguish between one allergies from one summary of care document versus another after both documents are merged with the patient's chart).	This change did not impact our ability to conduct Real World Testing activities on this criteria.
Criteria (e)(1): We slightly modified two of the existing metrics and added a new metric to track both total transmissions (attempted and successful) as well as successful transmissions broken out into unencrypted and encrypted categories	While compiling reports for metrics related to this criteria, we determined an additional layer of specificity would be necessary and valuable in describing the real-world use of certified technology. For this reason, we have specified results related to transmission activity to break down successful transmissions into	This change did not impact our ability to conduct Real World Testing activities on this criteria.

	encrypted and unencrypted categories. Attempted transmissions that were unsuccessful are not able to be broken down at this level of detail because the transmission did not occur.	

Withdrawn Products

Flatiron withdrew the following CHPL listing for OncoEMR in December of 2022. OncoEMR simultaneously received a new CHPL listing/product number as part of our 2015 Cures Update certification (new CHPL Product Number - 15.04.04.3010.Onco.28.02.1.221221).

Product Name(s):	OncoEMR
Version Number(s):	2.8
CHPL Product Number(s):	15.04.04.3010.Onco.28.01.1.181214
Date(s) Withdrawn:	12/21/22
Inclusion of Data in Results Report:	All data within this results report was captured on this withdrawn product. This now retired product was withdrawn at the end of the calendar year of 2022. Thus, all Real World Testing results compilation had already been completed.

Summary of Testing Methods and Key Findings

Testing Methods

Consistent with the ONC's recommendation that "Real World Testing verify that deployed Certified Health IT continues to ***perform as intended by conducting and measuring observations of interoperability and data exchange,***" Flatiron's testing methods focused on capturing and documenting the number of instances that certified capability is successfully utilized in the real world. In instances where no evidence existed due to zero adoption of a certified capability or the inability to capture evidence of successful use for other reasons, Flatiron demonstrated the required certified capability in a semi-controlled setting as close to a "real world" implementation as possible.

It is important to note that Real World Testing is only one component of the Health IT Certification program used to demonstrate compliance with the program requirements. Real World Testing augments and supports testing that was conducted prior to certification being granted. It is not intended to duplicate the methods or results previously

demonstrated. Instead, these results demonstrate that the certified capabilities have been successfully deployed for providers to use at their discretion in live settings.

Flatiron has used a 3-fold approach to demonstrate successful real-world implementations.

- Adoption Rate
- Summative Testing
- Interactive Testing

Adoption rates determine if/when certified capability is being used in the real world and to help identify differences in care settings. Evidence of high rates of implementation and usage indicate (but don't by themselves prove) a certified capability's usefulness and practical value. Evidence of low rates of implementation and usage might indicate a potential problem, of which there could be several different causes. Note, it is not the goal of this exercise to identify the individual causes of why a given certified capability may have a high or low adoption rate, but rather to identify the users and care settings for which a given test is relevant.

Summative assessments were used to measure which certified actions were performed at the conclusion of a given time period. These were conducted by generating reports and examining audit logs from within the certified health IT module to help demonstrate the frequency of actions within the given time frame, and where possible, whether those actions were successful or unsuccessful. High success rates are generally an indicator of a successful implementation of a given certified capability in a real-world setting. Summative testing was conducted using data from a representative subset of Flatiron Health practices (approximately one third of the Flatiron Health network). These practices were specifically selected to ensure the representative sample population utilized for summative assessments included practices of varying characteristics (e.g., size, location).

Interactive testing was used to demonstrate conformance to requirements where the adoption rate of a given certified capability is zero and to demonstrate ongoing compliance with updated standards and code sets (SVAP). Interactive tests were completed via a live test as opposed to examining historical usage statistics. The goal of these tests was to allow a user to demonstrate the certified Health IT module being used in a way consistent with their own practice or care setting. Flatiron has conducted interactive testing on specified criteria in a non-production environment, consistent with ONC's guidance that the developer may, "use synthetic patient data in lieu of or in addition to real patient data in real or simulated/test scenarios, executed in environments that mirror production environments."

Key Findings

Flatiron's 2022 Real World Testing was used to validate that certified functionality is behaving as expected in production. Our 2022 Real World Testing results show that certified functionality is being utilized at various levels by our customer network. In some cases, certified functionality is being used frequently by Flatiron practices (or third-party application developers). In other cases, certified functionality is being used infrequently or not at all by Flatiron practices (or third-party application developers). The certified functionality that is not being used at all by Flatiron practices (or third-party application developers) was identified in our original 2022 Real World Testing Plan as likely criteria to have low or no adoption. This list includes criteria: (b)(6), (g)(7), (g)(8), and (g)(9). For this reason, we proactively planned to include interactive testing for these criteria to demonstrate how this functionality operates in production. The results of our 2022 Real World Testing show that some certified

functionality has no adoption not because it is not deployed appropriately nor functional in production, but a result of consumer demand.

Standards Updates (including standards version advancement process-SVAP and USCDI)

Flatiron's 2022 Real World Testing Results Report includes test criteria that have been updated to include all USCDI v1 data elements.

Yes, I have products certified with voluntary SVAP or USCDI standards

No, none of my products include these voluntary standards

Standard (and version)	As is required by the 21st Century Cures Act, all standards versions for relevant criteria were updated to USCDI v1 in December of 2022 (in advance of ONC deadline of 12/31/22).
Updated certification criteria and associated product	The following certification criteria were updated to Cures Act changes before 8/31/22 ● (b)(3) Electronic Prescribing The following certification criteria were updated to USCDI v1 for the OncoEMR product before 12/31/22 but not before 8/31/22. ● (b)(1) Transitions of care ● (b)(2) Clinical information reconciliation and incorporation ● (e)(1) View, download, and transmit to 3rd party ● (g)(6) Transmission to public health agencies - antimicrobial use and resistance reporting ● (g)(9) Application access - all data request
CHPL Product Number	Withdrawn - 15.04.04.3010.Onco.28.01.1.181214 New - 15.04.04.3010.Onco.28.02.1.221221
Conformance measure	Recording in RWT Results Report Document

Care Settings

OncoEMR is marketed solely to ambulatory Oncology practices.

Metrics and Outcomes

The below information details outcomes from Flatiron's 2022 Real World Testing that successfully demonstrate that Flatiron:

✔ is compliant with the certification criteria, including the required technical standards and vocabulary code sets;

- ✔ is exchanging electronic health information (EHI) in the care and practice settings for which it is marketed for use; and/or,
- ✔ EHI is received by and used in the certified health IT.

This section is also used to describe how the specific data collected from Real World Testing measures demonstrate results. Where possible, context is provided to the measures and results to understand the number of sites/users/transactions tested for the specified measures (i.e., the denominator for comparison to the reported results). If applicable, any Relied Upon Software that is used to meet a criterion's requirements is included in this section.

Adoption Rates

The following metrics are applicable to all criteria and all care settings. These metrics are not meant to directly demonstrate interoperability or conformance to certification criteria. Instead, they were primarily used to help determine the participants that were in scope for this evaluation. These metrics are also provided to aid with the justification for other metrics by providing additional context (i.e., extremely low adoption rates for certain certified capabilities will necessitate a different approach to testing). OncoEMR requires a one-time implementation fee for installation plus annual subscription fees which cover software licenses, customer support, software upgrades and services required to meet Promoting Interoperability objectives and measures. Additional certified capability is available within the OncoEMR license (patient API, CQM file export, MIPs functionality/reporting, CareSpace patient portal).

Metric	Description	Outcomes	Description & Challenges Encountered (if applicable)
Number of installs of the EHR	The total number of ***licensed*** installs of the certified Health IT module, regardless of care setting, participation in incentive programs, or use of certified capabilities.	Data pulled on 8/31/22 **248 installs**	**Description:** Definition of "license" may be subject to interpretation. We are using the definition here to mean the number of live OncoEMR practices.
Number of active users of EHR	Total number of ***active*** users of the certified Health IT module, regardless of care setting, participation in incentive programs, or use of certified capabilities.	Reporting window: 4/20/22-7/25/22 **47,456**	**Description:** Definition of "active users" may be subject to interpretation. We are using the definition here to mean the unique count of user IDs that have logged in to OncoEMR at least once within the reporting window.

Summative Assessment Metrics

The following metrics were measured by viewing audit logs and reporting systems available to track the behavior of the certified Health IT module during various timeframes within the calendar year of 2022. All metrics are designed to reflect the core elements of the criteria, demonstrate interoperability, and demonstrate the success rate of the

certified capability being used. In most cases Flatiron elected to record these metrics over a 90-day period to reflect the reporting periods typically required for compliance with the federal incentive programs. In most cases, Flatiron elected to record these metrics from a *representative* sampling of customers.

The continued measurable use of certified capabilities provides implicit evidence of successful implementation of the required certified capability. This is especially meaningful in cases where interoperability with outside systems is demonstrated. In cases where it is not possible to determine "success" via an explicit confirmation by a receiving system, success will be defined as a transmission was made where no error was received from the destination system or its intermediaries. Additionally, Flatiron has reviewed internal customer and vendor issue tracking systems for reports of failures or unsatisfactory performance in the field.

Criterion	Relied Upon Software (if applicable)	Metric	Outcomes	Description & Challenges Encountered (if applicable)
170.315(b)(1) Transitions of care	Flatiron has partnered with MaxMD Direct Email to obtain data on direct messaging and electronic referrals	Over a 90-day period: 1) Number of CCDAs created 2) Number of CCDAs sent via edge protocols (attempted, successful) 3) Number of CCDAs received via edge protocols	Over the reporting period of 04/20/22 at 12:00AM to 07/25/22 at 11:59PM 1) Number of CCDAs created = **580,262** Over the reporting period of 05/01/22 at 12:00AM to 07/31/22 at 11:59PM 2) Number of direct messages attempted to be sent = **7,278** a) Number of delivery notifications received = **6,621** 3) Number of direct messages received = **14,545**	**Description:** This criterion requires the certified Health IT module to create CCDAs according to specified standards and vocabulary code sets, as well as send and receive CCDAs via edge protocols. However, it is not possible to consistently and reliably demonstrate that all required standards and code sets were used because not all CCDAs created in a real-world setting contain all the necessary data elements. Furthermore, it is not feasible to obtain copies of CCDA documents from "outside" developers or providers who have no incentive to participate in this exercise. Therefore, in alignment with our accepted 2022 RWT Plan, Flatiron has demonstrated the required certified capabilities by demonstrating how often CCDAs are created and exchanged with other systems to demonstrate the certified capability is available and effective, regardless of the frequency it is used. For metric number 2, delivery notifications received do not equal the total number of messages sent. For outbound messages, there are various reasons why a message may have failed. One such reason is that the direct message was sent to a user that is no longer active. In this instance, a delivery notification is not received. Sending an

				outbound message to a recipient that is no longer active is thus the result of a workflow error, not an issue with certified functionality. Flatiron encourages providers at OncoEMR practices to utilize admin accounts for direct messaging to avoid sending/receiving direct messages to/from individuals who are no longer active with the practice.
170.315(b)(2) Clinical information reconciliation and incorporation	N/A	Over a 90-day period: 1) Number of times a user reconciled medication list data 2) Number of times a user reconciled allergies and intolerance list data 3) Number of times a user reconciled problem list data	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of times a user reconciled medication list data = **4,038** 2) Number of times a user reconciled allergies and intolerance list data = **3,977** 3) Number of times a user reconciled problem list data = **2,875**	**Description:** This criterion requires the ability of a certified Health IT module to take a CCDA received via an outside system and match it to the correct patient; reconcile the medication, allergy, and problem lists; and then incorporate the lists into the patient record. The expectation is each of these steps is done electronically within the certified Health IT module. While this certified capability is available to our users, most providers in the real world typically prefer to perform these steps manually and elect to save any outside received CCDAs as attachments to the patient record. Therefore, Flatiron has recorded the frequency that providers are electronically reconciling and incorporating CCDAs that were received from outside providers to demonstrate the certified capability is available and effective, regardless of the frequency it is used. **Challenges Encountered:** We have modified our testing approach from the original test plan by amending the measures listed to remove the clause “from a received CCDA” from the metric name. Our workflows support the reconciliation of all current information from multiple summary of care records in a single instance (i.e. unable to distinguish between one allergy from one summary of care document versus another after both documents are merged with the patient's chart).

170.315(b)(3) Electronic prescribing	Flatiron has partnered with Surescripts, DrFirst, and First Databank for e-prescribing functionality in OncoEMR ● Surescripts Clinical Direct Messaging: e-prescribing ● DrFirst - EPCS Gold ● First Databank	Over a 90-day period: 1) Number of prescriptions created 2) Number of prescriptions changed 3) Number of prescriptions canceled 4) Number of prescriptions renewed	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of prescriptions created (NewRx) = **306,595** 2) Number of prescriptions changed (RxChangeRequest) = **6,811** 3) Number of prescriptions canceled (CancelRx) = **17,925** 4) Number of prescriptions renewed (RxRenewal) = **67,792**	**Description:** This criterion requires the ability of a certified Health IT module to perform prescription-related electronic transactions (eRx) using required standards. However, it is not possible to demonstrate the correct standards were used because it is not feasible to obtain copies of eRx documents from "outside" companies or pharmacies who have no incentive to participate. Therefore, Flatiron has demonstrated the required certified capabilities are effective by examining reports from our eRx partner which log how often eRx transactions are performed. These reports demonstrate that not only are the eRx transactions sent from the certified Health IT module, but that the transactions are successfully received by the eRx clearinghouse. This criteria was updated to the Cures Act during the 2022 performance period. These updates did not warrant deviations to our approved 2022 RWT Plan.
170.315(b)(6) Data export	N/A	Over a 90-day period: 1) Number of times a data export was performed	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of times a data export was performed = **0**	**Description:** This criterion requires the ability of a certified Health IT module to export a summary of a patient's record in CCDA format according to specified standards and vocabulary code sets. However, it is not possible to consistently and reliably demonstrate that all required standards and code sets were used because not all CCDAs created in a real-world setting contain all the necessary data elements. Therefore, we have demonstrated the certified capability is available and effective, regardless of the frequency it is used. **Challenges Encountered:** As expected and outlined within our 2022 RWT Plan, there was zero adoption of this certified capability by our users during the specified reporting window. As planned, we have supplemented summative testing for this criteria with interactive

				testing to demonstrate the feature is available and functions as expected should any users elect to begin using this feature.
170.315(c)(1) Clinical quality measures (CQMs)	N/A	Over a 90-day period: 1) Number of measures recorded during the period 2) Number of QRDA Category 1 files exported (attempted, successful)	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of measures recorded during the period = **1** 2) Number of QRDA Category 1 files exported (attempted, successful) = **1, 1**	**Description:** This criterion requires a certified Health IT module to record required data, calculate CQMs from the recorded data, and export the data in QRDA Category 1 format. Flatiron recorded the frequency that CQM files are exported by providers to demonstrate the certified capability is available and effective, regardless of the frequency it is used.
170.315(e)(1) View, download, and transmit to 3rd party	Flatiron has partnered with Amazon Pinpoint to support transmit functionality in OncoEMR	Over a 90-day period: 1) Number of views of health information by a patient or authorized representative 2) Number of downloads of health information by a patient or authorized representative (attempted, successful) 3) Total number of transmissions of health information by a patient or authorized representative (attempted, successful)	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of views of health information by a patient or authorized representative = **9,001** 2) Number of downloads of health information by a patient or authorized representative (attempted, successful) = **1,699, 1644** 3) Number of transmissions of health information by a patient or authorized representative using unencrypted email where email was successfully sent = **672**	**Description:** This criterion requires the ability of a certified Health IT module to provide patients access to a patient portal with the ability to view, download, and send their health care records to other providers via encrypted or unencrypted transmission methods in CCDA format. Flatiron has recorded the frequency that patients are viewing, downloading, and transmitting their records from the portal using the certified capabilities to demonstrate the certified capability is available and effective, regardless of the frequency it is used. **Challenges Encountered:** While compiling reports for metrics related to this criteria, we determined an additional layer of specificity would be necessary and valuable in describing the real-world use of certified technology. For this reason, we have specified results related to transmission activity to break down successful transmissions into encrypted and unencrypted categories. Attempted transmissions that were unsuccessful are not able to be broken down at this level of detail because the transmission did not occur.

		4) Number of transmissions of health information by a patient or authorized representative using unencrypted method 5) Number of transmissions of health information by a patient or authorized representative using encrypted method	4) Number of transmissions of health information by a patient or authorized representative using encrypted method where email was successfully sent = **317** 5) Total number of transmissions of health information by a patient or authorized representative (attempted, successful) = **998**, **981**	Overall success rate for downloads and transmissions was high (approximately 97% success rate and 98% success rate respectively). Downloads/transmissions may have been attempted but not successful for expected reasons such as end user workflow errors. Errors are not 100% preventable by Flatiron and do not indicate a non-conformity in certified functionality. These errors do not represent a systematic issue or bug within certified functionality. All ongoing internal and external testing efforts have not revealed an issue during this timeframe nor have customers reported any issues related to these errors.
170.315(f)(1) Transmission to immunizatio n registries	N/A	Over 3 separate unique 10-day periods within a 90-day window: 1) Number (or percentage) of immunization records submitted to the immunization record 2) Total number (or percentage) of immunization history/forecasts requested from the immunization registry	Over the reporting period of 7/12/22 at 12:00AM to 7/21/22 at 11:59PM 1) Number (or percentage) of immunization records submitted to the immunization registry = **32,862** 2) Total number (or percentage) of immunization history/forecasts requested from the immunization registry = **3,460** Over the reporting period of 7/22/22 at 12:00AM to 7/31/22 at 11:59PM 1) Number (or percentage) of immunization	**Description:** This criterion requires the ability of a certified Health IT module to transmit immunization data to a registry using a specified format. Flatiron has recorded the frequency that immunization data is submitted to registries by providers to demonstrate the certified capability is available and effective, regardless of the frequency it is used.

			records submitted to the immunization registry = **24,168** 2) Total number (or percentage) of immunization history/forecasts requested from the immunization registry = **2,665** Over the reporting period of 8/1/22 at 12:00AM to 8/10/22 at 11:59PM 1) Number (or percentage) of immunization records submitted to the immunization registry = **31,799** 2) Total number (or percentage) of immunization history/forecasts requested from the immunization registry = **3,493**	
170.315(f)(4) Transmission to cancer registries	N/A	Over 3 separate unique 10-day periods within a 90-day window: 1) Total number of cancer registry data records created and submitted	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Total number of cancer registry data records created and submitted = **1,933,393** Over the reporting period of 7/12/22 at 12:00AM to 7/21/22 at 11:59PM 1) Total number of cancer registry data records created and	**Description:** This criterion requires the ability of a certified Health IT module to transmit cancer case information to a registry using a specified format. Flatiron has recorded the frequency that cancer case information is submitted to registries by providers to demonstrate the certified capability is available and effective, regardless of the frequency it is used.

			submitted = **173,845** Over the reporting period of 7/22/22 at 12:00AM to 7/31/22 at 11:59PM 1) Total number of cancer registry data records created and submitted = **118,083** Over the reporting period of 8/1/22 at 12:00AM to 8/10/22 at 11:59PM 1) Total number of cancer registry data records created and submitted = **161,378**	
170.315(g)(7) Application access — patient selection	N/A	Over a 90-day period: 1) Number of requests for a patient ID or token 2) Number of requests that provided sufficient information to provide a valid response 3) Number of follow-up requests made using the provided patient ID or token	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of requests for a patient ID or token = **0** 2) Number of requests that provided sufficient information to provide a valid response = **0** 3) Number of follow-up requests made using the provided patient ID or token = **0**	**Description:** This criterion requires the certified Health IT module to provide an API and supporting documentation that enable external applications to request a unique patient identifier from the certified Health IT module that can be used to request additional patient data. We recorded the frequency that patient ID requests are received by providers via API to demonstrate the certified capability is available and effective, regardless of the frequency it is used. **Challenges Encountered:** As expected and outlined within our 2022 RWT Plan, there was zero adoption of this certified capability by our users during the specified reporting window. As planned, we have supplemented summative testing for this criteria with interactive testing to demonstrate the feature is available and functions as expected should any users elect to begin using this feature.

170.315(g)(8) Application access — data category request	N/A	Over a 90-day period: 1) Number of requests for a patient's data made by an application via a data category request using a valid patient ID or token 2) Number of requests for a patient's data made by an application via a data category request using a valid patient ID or token for a specific date range	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of requests for a patient's data made by an application via a data category request using a valid patient ID or token = **0** 2) Number of requests for a patient's data made by an application via a data category request using a valid patient ID or token for a specific date range = **0**	**Description:** This criterion requires the certified Health IT module to provide an API and supporting documentation that enable external applications to request patient data by category from the certified Health IT module. We recorded the frequency that patient data requests by category are received by providers and fulfilled via API to demonstrate the certified capability is available and effective, regardless of the frequency it is used. **Challenges Encountered:** As expected and outlined within our 2022 RWT Plan, there was zero adoption of this certified capability by our users during the specified reporting window. As planned, we have supplemented summative testing for this criteria with interactive testing to demonstrate the feature is available and functions as expected should any users elect to begin using this feature.
170.315(g)(9) Application access — all data request	N/A	Over a 90-day period: 1) Number of requests for a patient's Summary Record made by an application via an all data category request using a valid patient ID or token 2) Number of requests for a patient's Summary Record made by an application via an all data category request using a	Over the reporting period of 4/20/22 at 12:00AM to 7/25/22 at 11:59PM 1) Number of requests for a patient's Summary Record made by an application via an all data category request using a valid patient ID or token = **0** 2) Number of requests for a patient's Summary Record made by an application via an all data category	**Description:** This criterion requires the certified Health IT module to provide an API and supporting documentation that enable external applications to request all categories of patient data defined in the CCDS from the certified Health IT module. We recorded the frequency that patient data requests for all categories are received by providers and fulfilled via API to demonstrate the certified capability is available and effective, regardless of the frequency it is used. **Challenges Encountered:** As expected and outlined within our 2022 RWT Plan, there was zero adoption of this certified capability by our users during the specified reporting window. As planned, we have supplemented summative testing for this criteria with interactive testing to demonstrate the feature is

		valid patient ID or token for a specific date range	request using a valid patient ID or token for a specific date range = **0**	available and functions as expected should any users elect to begin using this feature.

Interactive Testing

The following test plans have been executed to demonstrate Real World certified capabilities for criteria where metrics are not available due to lack of adoption of the certified capability. Individual justifications for why each criterion has had low adoption are specified in the table below.

Flatiron has completed interactive testing for the following criteria:

- §170.315(b)(6) Data export
- § 170.315(g)(7) Application access—patient selection
- § 170.315(g)(8) Application access—data category request
- § 170.315(g)(9) Application access—all data request

High Level Interactive Test Plan:

- **Care Settings**: All interactive testing was performed specifically targeting Oncology practice settings and real world data exchanges in the Oncology space.
- **Test Environment:** All interactive testing was performed in a live, staging environment. See table below for details.
    - Flatiron has completed a video recording where a representative end user walks through the intended workflow for the criteria and captures evidence that the functionality works as expected in the Real-World deployment.
- **Test Data**: Interactive testing was performed using specially developed test patient data in the live staging environment. Test patients were created using the data elements that are typically used by Oncology providers. Flatiron ensured that the test data entered for each patient included the minimum necessary to meet the data requirements for each criterion being tested using the interactive testing method.

Criterion	Interactive Test Plan and Results	Justification for Interactive Testing
§170.315(b)(6) Data export	Flatiron tested this functionality in our own staging environments. Testing was not done in a customer's live environment to avoid disruption to workflows, reporting, and data. Flatiron entered 5 test patients with typical data as used in our care setting and then:	**Justification:** Flatiron has logging to show internal (Flatiron employee) users leveraging this tool in a production environment, however as of the date of our submission of the 2022 RWT Plan, oncology practices do not utilize the Batch Export C-CDAs because of other existing workflows in OncoEMR and CareSpace patient portal to pull the same information.

	1. Exported them as individual C-CDAs by searching for the patient by name 2. Exported them as a batch by selecting multiple patients Results: 1. Individual CCD export generated a CCD that passed visual inspection and contained the expected data elements and code sets 2. Batch CCDs exported passed visual inspection and included the expected test patients Per our 2022 RWT Plan, Flatiron did not export all patients in the Oncology clinic to reduce the risk of exposure of PHI, and instead focused the export only on the subset of test patients entered for this purpose. Flatiron used visual inspection of the exported C-CDAs to confirm that they are exported per the certified requirements.	For example - Single export: ● Patients can use the CareSpace patient portal to pull their own C-CDAs. For example - Batch export: ● Practices send C-CDAs through outbound referral workflows that do not leverage the Batch Export C-CDA tool. ● If a practice needs many patients' C-CDAs when a practice is transitioning from OncoEMR to another tool, or when a practice is merging with another practice's OncoEMR instance, Flatiron has backend tools to do this to support data migration for small Oncology providers.
170.315 (g)(7): Application Access - Patient Selection meets170.315 (g)(8): Application Access - Data Category Request meets170.315 (g)(9): Application Access - All Data Request	Flatiron used Swagger as a test app against the production deployment of the Flatiron API server. Flatiron set up new test patients so as not to expose PHI, but these test patients were set up in the manner of Real-World Oncology patients, using diagnoses, medications, and other codesets typically found in the Oncology setting. Flatiron used Swagger to mimic the workflow of a provider user querying the API for patients using a third-party app. Flatiron entered patient specific IDs into swagger and evaluated the data returned to ensure it matched the patient and demographic data in the application. We also entered specific practice ID, patient ID and start date data to ensure the returned	**Justification:** Flatiron developed the API functionality to support both patients and providers, but the main use case was to enable other providers and their vendors to query Flatiron API servers for patient data. Flatiron implemented the API criteria according to ONC standards, and currently has a publicly-accessible Patient API. As of the submission of the 2022 RWT Plan, there was no adoption by any developers, so Flatiron has used interactive testing to demonstrate that this certified capability is available in the production environment and that lack of adoption is not caused by lack of availability.

	CCD data matched the output in the application. Results: 1. Successfully queried for a token using test patient demographics - demographics are returned 2. Token was used to query for CCD as well as discrete data, data was returned and visible to the user in Swagger	

Schedule of Key Milestones

Real World test planning commenced in the first quarter of 2023. Each phase took approximately 90 days to complete.

Key Milestone	Care Setting	Date/Time frame
Scheduling and logistics	Oncology	1/15/22-3/31/22
Data collection	Oncology	6/1/22-8/31/22
Review and collate data	Oncology	8/15/22-10/31/22
Writing report	Oncology	11/1/22-1/31/23

Criteria	Method	Care Setting	Completed Scheduling / Logistics	RWT Reporting Window (Timeframe within with data was collected)	Reviewed & collated data within RWT Results Report and wrote Report
Adoption metrics	Overall	Ambulatory Oncology	*None required*	90 day window - 4/20/22-7/25/22	8/15/22-1/31/23

170.315(b)(1) Transitions of care	Summative metrics	Ambulatory Oncology	Q1 2022 (work with HISP)	90 day window - 4/20/22-7/25/22 AND 90-day window - 5/1/22-7/31/22 *Reporting windows vary due to some measures being provided by external partner, MaxMD	8/15/22-1/31/23
170.315(b)(2) Clinical information reconciliation and incorporation	Summative metrics	Ambulatory Oncology	*None required*	90 day window - 4/20/22-7/25/22	8/15/22-1/31/23
170.315(b)(3) Electronic prescribing	Summative metrics	Ambulatory Oncology	*None required*	90 day window - 4/20/22-7/25/22	8/15/22-1/31/23
170.315(c)(1) Clinical quality measures (CQMs)	Summative metrics	Ambulatory Oncology	*None required*	90 day window - 4/20/22-7/25/22	8/15/22-1/31/23
170.315(e)(1) View, download, and transmit to 3rd party	Summative metrics	Ambulatory Oncology	*None required*	90 day window - 4/20/22-7/25/22	8/15/22-1/31/23
170.315(f)(1) Transmission to immunization registries	Summative metrics	Ambulatory Oncology	*None required*	Over 3 separate unique 10-day periods within a 90-day window: 5/13/22-8/10/22	8/15/22-1/31/23

170.315(f)(4) Transmission to cancer registries	Summative metrics	Ambulatory Oncology	*None required*	Over 3 separate unique 10-day periods within a 90-day window: 5/13/22-8/10/22	8/15/22-1/31/23
§170.315(b)(6) Data export	Interactive test plan	Ambulatory Oncology	*None required*	Test plan executed & recorded on 9/22/2022	8/15/22-1/31/23
170.315 (g)(7): Application Access - Patient Selection meets170.315	Interactive test plan	Ambulatory Oncology	*None required*	Test plan executed & recorded on 9/22/2022	8/15/22-1/31/23
(g)(8): Application Access - Data Category Request meets170.315	Interactive test plan	Ambulatory Oncology	*None required*	Test plan executed & recorded on 9/22/2022	8/15/22-1/31/23
(g)(9): Application Access - All Data Request	Interactive test plan	Ambulatory Oncology	*None required*	Test plan executed & recorded on 9/22/2022	8/15/22-1/31/23

Attestation

This Real World Testing Results Report is complete with all required elements, including measures that address all certification criteria and care settings. All information in this plan is up to date and fully addresses the Health IT Developer's Real World Testing requirements.

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Date: 1/24/2023