REAL WORLD TESTING RESULTS REPORT 2022

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 Certification 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**) o Section VII.B.5 — *"Real World Testing"*

GENERAL INFORMATION

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

Developer Name: CPSI (Computer Programs and Systems), Inc.

Product Name(s): Thrive Provider EHR

Version Number(s): 20,21

Certified Health IT

Product List (CHPL) ID(s): 15.04.04.1183.Thri.20.02.1.180331, 15.04.04.3104.Thri.PR.03.1.220817

Developer Real World Testing Page URL: https://www.cpsi.com/resources/real-world-testing

CHANGES TO ORIGINAL PLAN

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)
Metrics were not collected for criterion 170.315(e)(1) as originally documented in the test plan.	During the course of 2022, our client base has been transitioning from using Thrive's patient portal to utilizing the Get Real Health patient portal product, My Care Corner. As a result, there was no utilization of the Thrive portal during the Q3 testing period.	The real world testing results for criterion 170.315(e)(1) are included in the counts for Get Real Health's criterion 170.315(e)(1).
Metrics collected for criterion 170.315(g)(8) were modified. The original test plan included measurements for the number of requests for a patient's data made by an application via data category request using a valid patient ID or token, and for the number of requests for a patient's data made by an application via data category	This change was made because we do not store the discrete data necessary to make the distinction between data category requests for a single day, for a date range, or for all dates.	A single measurement was collected instead of two metrics, which is inclusive of all requests for patient data via data category request occurring within the testing period.

request using a valid patient ID or token for specific date range. Our adjusted approach was to collect the number of all requests for a patient's data made by an application via data category request using a valid patient ID or token.		
Metrics collected for criterion 170.315(g)(9) were modified. The original test plan included measurements for the 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, and for the number of requests for a patient's Summary record made by an application via all data category request using a valid patient ID or token for specific date range. Our adjusted approach was to collect the number of all requests for a patient's Summary record made by an application via all data category request using a valid patient ID or token.	This change was made because we do not store the discrete data necessary to make the distinction between requests for patient summary records via all data category requests for a single day, for a date range, or for all dates.	A single measurement was collected instead of two metrics, which is inclusive of all requests for patient Summary records via all data category request occurring within the testing period.
We used data collected for the measurements to determine the rate of utilization for the following criteria: 170.315(b)(1 - 3, 6); (g)(7 – 9). These additional measurements were not documented in the original plan.	This additional data was collected in order to determine the overall adoption and utilization rates for our client base as a whole.	This did not affect the execution of our real world testing. The data was gathered by leveraging data collected for other metrics to determine how many facilities were using the certified capabilities (reported non-zero data) out of the total number of facilities.
The interactive testing for criterion 170.315(f)(7) was carried out by creating 3 different patient types than originally anticipated. The original plan was to create 2 outpatients, and one urgent care patient. The testing was done by creating one inpatient, one Urgent Care outpatient, and one emergency patient.	The inpatient, outpatient, and emergency patients were the 3 reporting populations reflected in the NHCS Test data set. The NHCS test data was utilized due to the testers' lack of experience.	Challenges encountered in testing this criterion led to these changes, which is documented later in this plan. It affected the testing of the criterion but it is unknown if this affected the outcome.

SUMMARY OF TESTING METHODS AND KEY FINDINGS

This report's testing methods focused on capturing and documenting the number of instances that certified capability is successfully utilized in the real world, where results were derived from a 3-fold approach to testing: adoption rate, summative testing, and interactive testing. Adoption rates were used to determine if/when certified capability is being used in the real world and to help identify differences in care settings. Utilization rates were determined by analyzing the data collected to ascertain the number of facilities using the certified capabilities out of the total number of facilities. Summative assessments were used to measure which certified actions were performed within a given time period. Summative data was gathered by running 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. Most metrics were gathered over a time interval of 90 days, to ensure sufficient time to gauge and measure interoperability, but this time frame also reflects the reporting periods typically required for compliance with federal incentive programs. We chose the methodology of tracking actual production data in order to reflect the real world use of certified capabilities in the provision of healthcare, in alignment with the Office of the National Coordinator for Health IT's (ONC) intent and purpose of Real World Testing. Interactive testing was used to demonstrate conformance to requirements where the adoption rate of a given certified capability is zero.

This report's findings demonstrate ongoing conformity to certified criteria by providing quantified evidence of the active utilization of certified capabilities across all care settings for which the certified Health IT module is marketed. It is important to note that most care settings have the certified criteria deployed in them, but not all criteria are used with the same frequency in all settings. The outcomes in this report confirm that certified capabilities are deployed effectively in live settings for clinicians to use at their discretion. All recorded summative metrics provide verification that the certified capabilities have been implemented successfully by our client base, and that the certified Health IT module is being actively utilized in real world production environments in the exchange of data and provision of healthcare as intended. These measurements reflect the interoperability and overall success of required certified capabilities in the real world, in alignment with ONC's stated intent and purpose of Real World Testing.

When production data was not available due to low or zero adoption, interactive testing was leveraged to evaluate the certified Health IT's compliance to the criteria requirements and to provide confirmation that interoperability features are functioning as previously certified. Visual inspection was used to confirm the certified capabilities are functioning as intended, confirming these interoperability features are available and can be deployed and utilized in production if clients elect to use them.

As expected, utilization rates differed for distinct criteria and care settings, but testing results established that certified capabilities are readily available and effective. All results in this report will build toward establishing baselines for usage, and will serve as a benchmark for comparison with future real world testing results in subsequent years.

STANDARDS UPDATES (INCLUDING STANDARDS VERSION ADVANCEMENT PROCESS-SVAP AND USCDI)

Thrive Provider EHR has been updated to USCDI v1 specifications to conform to Cures Update criteria which utilize USCDI. Thrive Provider EHR has not been updated to any voluntary standards as part of the Standards Version Advancement Process (SVAP).

CARE SETTINGS

The following care settings were tested:

- Primary Care Provider Clinics

METRICS AND OUTCOMES

For each measurement/metric, the following elements will be described below:

- ✓ Description of the measurement/metric or interactive test plan
- ✓ Associated certification criteria
- ✓ Relied Upon Software (if applicable)
- ✓ Outcomes
- ✓ Challenges Encountered (if applicable)

SUMMATIVE ASSESSMENT RESULTS

TRANSITIONS OF CARE

- Associated Criterion – 170.315(b)(1)
- Measurements/Metrics – Over a 90-day period:
  1) Number of CCDAs created
  2) Number of CCDAs sent via edge protocols
  3) Number of CCDAs received via edge protocols
  4) Utilization rate
- Relied Upon Software: hDIrect Core Services (Inpriva)
- Outcomes
  1) Number of CCDAs created: 36,265
  2) Number of CCDAs sent via edge protocols: 404
  3) Number of CCDAs received via edge protocols: 5,641
  4) Utilization rate: 75.16% (230 of 306 facilities)

This criterion requires the ability of a 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. Results show success by providing a numeric value indicating how frequently CCDAs are created, sent, and received, thus demonstrating successful interoperability in a real world setting. The outcomes indicate successful exchange of data across all care settings, which confirms the certified capabilities are available, effective, and being actively utilized.

Overall, the results aligned with the expectation of moderate utilization and high success rate. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

CLINICAL INFORMATION RECONCILIATION AND INCORPORATION

- Associated Criterion – 170.315(b)(2)
- Measurement/Metrics - Over a 90-day period:
  1) Number of times a user reconciled medication list data from a received CCDA
  2) Number of times a user reconciled allergies and intolerance list data from a received CCDA
  3) Number of times a user reconciled problem list data from a received CCDA
  4) Utilization rate
- Outcomes
  1) Number of times a user reconciled medication list data from a received CCDA: 26,429
  2) Number of times a user reconciled allergies and intolerance list data from a received CCDA: 26,338
  3) Number of times a user reconciled problem list data from a received CCDA: 26,203
  4) Utilization rate: 18.3% (56 of 306 facilities)

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. Results show success by providing a numeric value indicating how frequently received CCDAs are reconciled and incorporated into the patient record, thus demonstrating successful interoperability in a real world setting. Although usage of this interoperability feature varied within our client base, this does indicate successful exchange of data across all care settings, providing assurance of the certified Health IT's interoperability in production, which confirms the certified capabilities are available, effective, and being actively utilized.

Overall, the results aligned with the expectation of low utilization and high success rate. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

ELECTRONIC PRESCRIBING

- Associated Criterion – 170.315(b)(3)
- Measurement/Metrics - 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
  5) Utilization rate
- Relied Upon Software: DrFirst EPCS for schedules II-V controlled substances
- Outcomes
  1) Number of prescriptions created: 905,345
  2) Number of prescriptions changed: 3,531
  3) Number prescriptions canceled: 2,079
  4) Number of prescriptions renewed: 302,187
  5) Utilization rate: 62.75% (192 of 306 facilities)

This criterion requires the ability of a certified Health IT module to perform prescription-related electronic transactions (eRx) using required standards. Results show success by providing a numeric value indicating how frequently electronic prescriptions are created, changed, canceled, or renewed. The volume of transactions provides confirmation of the certified Health IT's conformance to the 170.315(b)(3) criterion, and demonstrates that certified capabilities are working as expected in all care settings in the provision of care for patients in the real world.

Overall, the results showed moderate utilization, which contrasted with our expectation to see high utilization. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

DATA EXPORT

- Associated Criterion – 170.315(b)(6)
- Measurement/Metric - Over a 90-day period:
  1) Number of times a data export was performed, whether for a single patient, multiple patients, or for all patients
  2) Utilization rate
- Outcomes
  1) Number of times a data export was performed, whether for a single patient, multiple patients, or for all patients: 5,570
  2) Utilization rate: 1.63% (5 of 306)

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. Results show success in every care setting by providing a numeric value indicating the frequency that data exports are being performed. Observance of low usage in the Primary Care Provider Clinic setting may indicate that workflows which require data export functionality are not often needed in this setting. Regardless of how frequently this interoperability feature is being used, the results demonstrate compliance to the underlying ONC criteria by showing the certified health IT module can create and export conformant records, which can be used in means of health IT interoperability as needed.

Overall, the results aligned with the expectation of low utilization and high success rate. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

TRANSMISSION TO IMMUNIZATION REGISTRIES

- Associated Criterion – 170.315(f)(1)
- Measurement/Metric - Over 3 separate unique 10-day periods within a 90-day window:
    1) Number (or percentage) of immunization records submitted to the immunization record
- Outcomes
    1) Number of immunization records submitted to the immunization record
        - Small Facilities: 28,798
        - Medium Facilities: 50,862
        - Large Facilities: 77,079

This criterion requires the ability of a certified Health IT module to transmit immunization data to a registry using a specified format. Results show success in every care setting by providing a numeric value indicating how frequently immunization messages are successfully sent from the EHR Module to an immunization registry. These measurements indicate compliance to the underlying ONC criteria by showing the certified health IT module can create and send standards-conformant immunization messages, confirming successful interoperability of patient immunization data to an immunization registry.

The contrasts in volume are likely to reflect the varying facility sizes which utilize the certified capabilities. Lower volume in smaller facilities and higher volume in larger facilities is generally expected, although variability in seasons (i.e., cold, flu, pandemic, etc.) and facility initiatives such as health fairs can all affect the volume of messages transmitted to public health agencies. Therefore, it is understood that there will be fluctuations in the transmission rates regardless of facility size.

Overall, the results aligned with the expectation of low utilization and high success rate. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

TRANSMISSION TO PUBLIC HEALTH AGENCIES – SYNDROMIC SURVEILLANCE

- Associated Criterion – 170.315(f)(2)
- Measurement/Metric - Over 3 separate unique 10-day periods within a 90-day window:
    1) Number of syndromic surveillance events created and submitted
- Outcomes
    1) Number of syndromic surveillance events created and submitted
        - Small Facilities: 21,999
        - Medium Facilities: 79,087
        - Large Facilities: 80,005

This criterion requires the ability of a certified Health IT module to transmit syndrome-based public health surveillance data to a registry using a specified format. Results show success in every care setting by providing a numeric value indicating how frequently syndromic surveillance events are created and submitted from the EHR Module to a public health registry. These measurements indicate compliance to the underlying ONC criteria by showing the certified health IT module can create and send standards-conformant syndromic surveillance messages, confirming successful interoperability with a public health registry.

The contrasts in volume are likely to reflect the varying facility sizes which utilize the certified capabilities. Lower volume in smaller facilities and higher volume in larger facilities is generally expected, although variability in seasons (i.e., cold, flu, pandemic, etc.) and facility initiatives such as health fairs can all affect the volume of messages transmitted to public health agencies. Therefore, it is understood that there will be fluctuations in the transmission rates regardless of facility size.

Overall, the results aligned with the expectation of low utilization and high success rate. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

APPLICATION ACCESS – PATIENT SELECTION

- Associated Criterion – 170.315(g)(7)
- Measurements/Metrics – 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
    4) Utilization rate
- Outcomes

    1) Number of requests for a patient ID or token: 0

    2) Number of requests that provided sufficient information to provide a valid response: 4,451,252

3) Number of follow-up requests made using the provided patient ID or token: 4,451,252
4) Utilization rate: 12.75% (39 of 306 facilities)

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. Results show success in every care setting by providing a numeric value indicating how frequently patient ID requests are received and authenticated via API, thus demonstrating successful API interoperability in a real world setting. The measurements confirm a third party application can successfully connect with the certified health IT and query clinical data via the API interface. This confirms the certified capabilities are available, effective, and being actively utilized.

Overall, the results indicated low utilization, which exceeded our expectations of zero adoption. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

APPLICATION ACCESS –DATA CATEGORY REQUEST

- Associated Criterion – 170.315(g)(8)
- Measurements/Metrics – Over a 90-day period:
    1) Number of requests for a patient's data made by an application via data category request using a valid patient ID or token
    2) Utilization rate
- Outcomes

  1) Number of requests for a patient's data made by an application via data category request using a valid patient ID or token: 4,451,252
  2) Utilization rate: 12.75% (39 of 306 facilities)

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. Results show success in every care setting by providing a numeric value indicating how frequently patient data requests by category are received and fulfilled via API, thus demonstrating successful API interoperability in a real world setting. The measurements confirm a third party application can successfully connect with the certified health IT and query clinical data via the API interface. This confirms the certified capabilities are available, effective, and being actively utilized.

Overall, the results indicate low utilization, which exceeded our expectations of zero adoption. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

APPLICATION ACCESS – ALL DATA REQUEST

- Associated Criterion – 170.315(g)(9)
- Measurements/Metrics – Over a 90-day period:
    1) Number of requests for a patient's Summary record made by an application via all data category request using a valid patient ID or token
    2) Utilization rate
- Outcomes

  1) Number of requests for a patient's Summary Record made by an application via all data category request using a valid patient ID or token: 20,910
  2) Utilization rate: 72.22% (221 of 306 facilities)

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 defined in the CCDs from the certified Health IT module. Results show success in every care setting by providing a numeric value indicating how frequently patient summary record requests are received and fulfilled via API, thus demonstrating successful API interoperability in a real world setting. The measurements confirm a third party application can successfully connect with the certified health IT and query clinical data via the API interface. This confirms the certified capabilities are available, effective, and being actively utilized.

Overall, the results showed moderate utilization, which exceeded our expectations of zero adoption. These numeric results will be used to establish a historical baseline of expected usage, which will be compared to real world testing results in subsequent years.

INTERACTIVE TESTING RESULTS

TRANSMISSION TO CANCER REGISTRIES

- Associated criterion – 170.315(f)(4)
- Interactive Test Plan - CPSI will create 3 different Oncology patients and their representative data in their production system. These test patients will include a test patient with a cancer diagnosis with no treatment, as well as 2 patients with a cancer diagnosis with different prescribed treatments.

  CPSI will walk through the Thrive Provider system, mimicking the intended workflow of an Oncology clinician and use the manual generation feature to generate 3 Cancer CDA documents, then use visual inspection to confirm the documents include the expected content for each patient and uses SNOMED and LOINC value sets per the required standard.
- Outcome – As expected, the Cancer CDA documents were generated for each patient, and visual inspection confirmed the documents contained the expected data and code value sets.

This criterion requires the ability of a certified Health IT module to transmit cancer case information to a registry using a specified format. Results in interactive testing show success by utilizing visual inspection to generate 3 Cancer CDA documents including the correct value sets. These measurements indicate compliance to the underlying ONC criteria by showing the certified health IT module can create and send standards-conformant cancer registry data records if needed to a public health registry, confirming this interoperability feature is available for deployment in a production environment, and ready to be configured and deployed to a customer system, should any users elect to begin using it.

TRANSMISSION TO PUBLIC HEALTH AGENCIES – ELECTRONIC CASE REPORTING

- Associated criterion – 170.315(f)(5)
- Interactive Test Plan - CPSI will create 3 test patients in their production system, each one with a different encounter or parameter that matches the trigger code table, as well as representative data for that encounter, including: Encounter diagnoses and their associated ICD10 code, Provider's contact information, Reason for visit, Patient Name, Sex, Date of Birth, Race and Ethnicity, Preferred language, Problems, Medications, Laboratory Tests, Laboratory Values(s)/Result(s), Vital Signs, Procedures, Care Team Member(s), Immunizations, Assessment and Plan of Treatment.
  CPSI will document the patient encounter in the Thrive EHR and satisfy the trigger conditions, then use visual inspection of the IMS to show that the trigger resulted in a transmission of the expected data for each patient to the Interface Management System (IMS).
- Outcome – As expected, the IMS system showed 3 case reports for patient encounters with the expected data. Visual inspection confirmed the Electronic Case Reporting functionality is working correctly.

This criterion requires the certified Health IT module to generate case reports based on trigger codes for electronic transmission to public health agencies. CPSI developed this workflow as an automatic process that runs in the background. Whenever a diagnosis, lab result or medication is entered, it is checked against a trigger table. When a match occurs, it generates a case report and sends it to the Interface Management System (IMS). Reports can be viewed in the IMS prior to being sent to a Registry. As anticipated, the IMS system showed 3 case reports for patient encounters with the expected data. Visual inspection confirmed the Electronic Case Reporting functionality is working correctly. Our interactive test demonstrates real world interoperability by verifying the certified Health IT's ability to create and send a case report in accordance with the criterion, and confirms the certified capability is available for deployment in a client production environment and ready to be configured if any clients elect to begin using this feature for public health reporting.

TRANSMISSION TO PUBLIC HEALTH AGENCIES – HEALTH CARE SURVEYS

- Associated criterion – 170.315(f)(7)
- Interactive Test Plan - CPSI will create 3 test patients, representing 3 different types of patients – Inpatient, Outpatient, and Emergency – and their representative data in the production system. CPSI will create health care survey documents and manually download the Health care Survey documents. CPSI will use the NIST healthcare surveys Release 1.2 validator found here: https://cda-validation.nist.gov/cda-validation/muNHCS12.html to confirm that the documents conform to expected standards.
- Outcome – Three health care Survey documents were created, representing 3 different patient types. The document files received errors and did not pass the validator, so this did not meet our expected outcome.
- Challenges Encountered – The interactive testing for this criterion was not performed within the intended Q3 timeframe by the responsible party. This was discovered only days before the end of calendar year 2022, due to an accumulation of unforeseen circumstances. Testing was then carried out with haste by other parties who were not experienced with this function, and the Health Care Survey documents did not contain the complete set of requisite NHCS test data. This is believed to be the cause of the validation errors at this time, and there was not enough time remaining in the calendar year to complete the significant data entry requirements for health care surveys test procedure, inspect any errors received, and still perform the testing in 2022. This challenge has led us to modify and improve the oversight process for interactive testing in 2023 and beyond.

This criterion requires the certified Health IT module to create health care survey data for electronic transmission to a public health agency which conform to CDA specifications. Although our interactive test did not meet our expected outcome, the Healthcare survey functionality is ready and available for deployment in a client production environment and ready to be configured if any clients elect to begin using this feature. Plans are in place to revalidate healthcare surveys with full test procedure data, to be completed early in 2023.

KEY MILESTONES

Key Milestone	Care Setting	Date/Timeframe
Scheduling and logistics	• Primary Care Provider Clinics	90-days
Data collection	• Primary Care Provider Clinics	90-days
Review and collate data	• Primary Care Provider Clinics	90-days
Writing report	• Primary Care Provider Clinics	90-days

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 report is up to date and fully addresses the Health IT Developer's Real World Testing requirements.

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Date: 01/30/2023