CY 2022 Real World Testing Plan for Abeo Solutions

Executive Summary

This is the real world test plan for CY 2022 for Abeo Solutions Crystal Practice Management certified EHR solution. It provides the real world test measurements and metrics that meet the intent and objectives of ONC's Condition of Certification and Maintenance of Certification requirement for real world testing (§ 170.405 Real world testing) to evaluate compliance with the certification criteria and interoperability of exchanging electronic health information (EHI) within the care and practice setting which it is targeted for use.

As ONC has stated in its rule, "The objective of real world testing is to verify the extent to which certified health IT deployed in operational production settings is demonstrating continued compliance to certification criteria and functioning with the intended use cases as part of the overall maintenance of a health IT's certification." We have worked toward this objective in designing our test plan and its subsequent real world testing measurements and metrics.

This document builds toward the final testing measurements and metrics we will use to evaluate our product interoperability within production settings. Within each measure, we document planned testing methodology, associated ONC criteria, justification for measurement, expected outcomes from the testing, care settings applied for this measure, and if applicable the number of clients to use the our real world testing approach, including how our test cases were created, our selected methodology, the number of client/practice sites to use, and our general approach and justification for decisions.

We have included our timeline and milestones for completing the real world testing in CY 2022, and information about compliance with the Standards Version Advancement Process updates.

A table of contents with hyperlinks is provided later in the plan quick access to any document section, including the testing measurements and metrics found at the end of this document. Our signed attestation of compliance with the real world testing requirements is on the following page.

Developer Attestation

This Real World Testing plan 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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09/01/2021

General Information

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

Developer Name: Abeo Solutions

Product Name(s): Crystal Practice Management

Version Numbers(s): 5.3

Certified Health IT Criteria: 315(b)(1), (2), (6); (c)(1)-(c)(3); (e)(1); (f)(1); (g)(7)-(9)

Product List (CHPL) ID(s) and Link(s):

- https://chpl.healthit.gov/#/listing/10372
- 15.04.04.1030.Crys.05.01.1.200504

Developer Real World Testing Page URL: http://crystalpm.com/certification/

Timeline and Milestones for Real World Testing CY 2022

- 1Q-2022: Begin communication with clients to ask for their support and participation in real world testing. The goal is to have a sufficient number of clients committed for real world testing by the end of 1Q-2022.
- 2Q-3Q 2022. During the 2nd and 3rd quarter of CY 2022, the real world testing with clients will be scheduled and performed. It is expected that a preparatory call will be done with clients to prepare them for testing activities. Results will be documented in the test results section of the test methods and ultimately used to build the test report. If any non-compliances are observed, we will notify the ONC-ACB of the findings and make the necessary changes required.
- 4Q-2022. During the last quarter of the year, the CY 2023 real world test plan will be completed according to ONC and ONC-ACB requirements and expectations. Test plan will be prepared for submission before the end of the year.

Standards Version Advancement Process (SVAP) Updates

For CY 2022, we are not planning to make any version updates on approved standards through the SVAP process. We plan on implementing USCDI v1 in our C-CDAs and API support during CY 2022, but we have not finalized an exact date for rollout.

Standard (and version)	N/A
Updated certification criteria and associated product	N/A
Health IT Module CHPL ID	N/A
Method used for standard update	N/A
Date of ONC-ACB notification	N/A
Date of customer notification (SVAP only)	N/A
Conformance measure	N/A
USCDI-updated certification criteria (and USCDI version)	N/A

Real World Testing Measurements

The measurements for our real world testing plan are described below. Each measurement contains:

- Associated ONC criteria
- Testing Methodology used
- Description of the measurement/metric
- Justification for the measurement/metric
- Expected outcomes in testing for the measurement/metric
- Number of client sites to use in testing (if applicable)
- Care settings which are targeted with the measurement/metric

In each measurement evaluate, we elaborate specifically on our justification for choosing this measure and the expected outcomes. All measurements were chosen to best evaluate compliance with the certification criteria and interoperability of exchanging electronic health information (EHI) within the certified EHR.

Testing Methodologies

For each measurement, a testing methodology is used. For our test plan, we use the following methodologies.

> Reporting/Logging: This methodology uses the logging or reporting capabilities of the EHR to examine functionality performed in the system. A typical example of this is the measure reporting done for the automate measure calculation required in 315(g)(2), but it can also be aspects of the audit log or customized reports from the EHR. This methodology often provides historical measurement reports which can be accessed at different times of the year and evaluate interoperability of EHR functionality, and it can serve as a benchmark for evaluating real world testing over multiple time intervals.
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> Compliance and/or Tool: This methodology uses inspection to evaluate if EHR is compliant to the ONC criteria requirements. It can be done through 1-v-1 inspection testing or utilize various tools to measure or evaluate compliance and interoperability. If an EHR Module capabilities is not widely used in production by current users, compliance inspection can provide assurance criteria is working as previously certified.
>
> Survey/Self-Test: This methodology evaluates interoperability and compliance of EHR Module capabilities through feedback from users. ONC has recognized that self-testing can be a viable method for evaluation and compliance, and this methodology can provide insight into how clinicians employ and use a feature which reveals actual value and impact of interoperability of the EHR Module.

Number of Clients Sites

Within each measure, we note the minimum number of clients or client sites we plan to use for this measure evaluation. The numbers vary depending on the methodology as well as overall

use of the associated EHR Module criteria by our users. For criteria that are not widely used by our customer base, we may test the respective measure in our own production-sandbox environment given lack of customer experience with the criteria functionality.

Care and Practice Settings Targeted

Our EHR is primarily targeted to optometry, and our measures were design for this setting in mind. In each measure, we do also address the care settings targeted and note any necessary adjustment or specific factor to consider with this specific measure.

Summary of Measure Use Case Approach

While are covering every required RWT criteria in this test plan, we are focusing our efforts primarily on the C-CDA and Direct exchanges features. This is because they are both the mostly widely used interoperability criteria among our users as well as what we deem as the most important aspects of health care interoperability. We have measures that evaluate use metrics as well as compliance inspections and system surveys of use.

Because our community of users is primarily in the optometry space, many ONC criteria functions are not currently part of their typical production work. For criteria functions which are not widely used, we will focus the real world testing on compliance evaluation to ensure the certified capabilities still work in as previously certified.

RWT Measure #1. Number of Transition of Care C-CDAs Successfully Sent

Associated Criteria: 315(b)(1), 315(h)(1)

Testing Methodology: Reporting/Logging

Measurement Description

This measure is tracking and counting how many C-CDAs are created and successfully sent from the EHR Module to a 3rd party via Direct messaging during a transition of care event over the course of a given interval.

Upon the time of testing, we will use an interval of twelve (12) months previous to the current date to analyze the messages exchanged during this time.

Measurement Justification

This measure will provide a numeric value to indicate both the how often this interoperability feature is being used as well as its compliance to the requirement. An increment to this measure indicates that the EHR can create a C-CDA patient summary record, including ability to record all clinical data elements, and by sending the C-CDA patient summary record, the EHR demonstrates successful interoperability of an exchanged patient record with a 3rd party. This measurement shows support for Direct Edge protocol in connecting to a HISP for successful transmission.

This measure will also demonstrate the successful integration with our primary HISP Rosetta Health HISPDirect.

Measurement Expected Outcome

The measurement will produce numeric results over a given interval. We will utilize various reports and audit logs, including Automated Measure (315.g.2) reports, to determine our measure count.

Whenever a transition of care C-CDA is sent through the Direct Mail integration, our logs will determine many documents and many unique patients were involved which allows us to analyze the results to obtain our interoperability metrics.

A successful measure increment indicates compliance to the underlying ONC criteria. It will show that the EHR can create the C-CDA patient summary record, including record required clinical data elements. In sending the C-CDA patient summary record, the EHR will demonstrate ability to confirm successful interoperability of an exchanged patient record with a 3rd party, including support for Direct Edge protocol in connecting to a HISP (Rosetta Health). Successfully completing this measure also implies users have a general understanding of the EHR functional operations for this EHR Module and an overall support for the user experience while not

completing this measure may indicate lack of understanding or possibly lack of use or need for this functionality.

We will use the measure count to establish a historic baseline of expected interoperability use so it can be used in subsequent real world testing efforts.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry setting that we support and target. We will test a minimum of five (5) client practice(s). This number covers a sufficient percentage of existing practices to provide a viable sample of users of the certified EHRs.

RWT Measure #2. Number of C-CDAs Received and/or Incorporated

Associated Criteria: 315(b)(1), (b)(2), (h)(1)

Testing Methodology: Reporting/Logging

Measurement Description

This measure is tracking and counting how many C-CDAs are successfully received and/or incorporated upon receipt from a 3rd party via Direct messaging during a transition of care event over the course of a given interval.

Upon the time of testing, we will use an interval of twelve (12) months previous to the current date to analyze the messages exchanged during this time.

Measurement Justification

Receiving and incorporating patient records as C-CDAs is critical to patient care and is an important feature of EHRs which is why this measure was selected. This measure will provide a numeric value to indicate both the how often this interoperability feature is being used as well as its compliance to the requirement. An increment to this measure indicates that the EHR can receive a C-CDA patient summary record, and by incorporating the C-CDA patient summary record, the EHR demonstrates successful interoperability of problems, medications, and medication allergies of patient record with a 3rd party. This measurement shows support for Direct Edge protocol in connecting to our HISP, Rosetta Health HISPDirect, for successful exchange.

Measurement Expected Outcome

The measurement will produce numeric results over a given interval. We will utilize various reports and audit logs, including Automated Measure (315.g.2) reports, to determine our measure count.

A log entry is added whenever a practice receives a Direct Mail message with a C-CDA attached, when the Direct Mail message is associated with a patient, and when the C-CDA attached to the Direct Mail message is incorporated with a patient's data. We then upload the aggregated and generalized (non-PHI) data from the logs to our analytics in our cloud database on a set interval (every 6 months).

A successful measure increment indicates compliance to the underlying ONC criteria. It will show that the EHR can create the EHR can receive a C-CDA patient summary record. In incorporating the C-CDA patient summary record, the EHR will demonstrate successful interoperability of problems, medications, and medication allergies of patient record with a 3rd party, including support for Direct Edge protocol in connecting to a HISP. Successfully completing this measure also implies users have a general understanding of the EHR functional operations for this EHR Module and an overall support for the user experience while not

completing this measure may indicate lack of understanding or possibly lack of use or need for this functionality.

We will use the measure count to establish a historic baseline of expected interoperability use so it can be used in subsequent real world testing efforts.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry setting that we support and target. We will test a minimum of five (5) client practice(s). This number covers a sufficient percentage of existing practices to provide a viable sample of users of the certified EHRs.

RWT Measure #3. Number of Patients Given Access to Portal

Associated Criteria: 315(e)(1)

Testing Methodology: Reporting/Logging

Measurement Description

This measure is tracking and counting how many patients are given login access to their patient portal account over the course of a given interval.

Upon the time of testing, we will use an interval of twelve (12) months previous to the current date to analyze the messages exchanged during this time.

Measurement Justification

Patients' ability to access their health records through an online portal is critical part of modern health IT, and this measure will provide a numeric value to indicate how often patients are given access to their patient portal. An increment to this measure indicates that the EHR can supply patient health data to the patient portal and provide an account for the patient to use in accessing this data.

Measurement Expected Outcome

The measurement will produce numeric results over a given interval. We will utilize various reports and audit logs, including Automated Measure (315.g.2) reports, to determine our measure count.

When a patient or patient's authorized user is given access to the patient portal, a log entry will be created for analysis. We then upload the aggregated and generalized (non-PHI) data from the logs to our analytics in our cloud database on a set interval (every 6 months).

A successful measure increment indicates compliance to the underlying ONC criteria. It will show that the EHR can submit patient health data to the patient portal on a regular and consistent basis as well provide an account for the patient to use in accessing this data. Successfully completing this measure also implies users have a general understanding of the EHR functional operations for this EHR Module and an overall support for the user experience while not completing this measure may indicate lack of understanding or possibly lack of use or need for this functionality.

We will use the measure count to establish a historic baseline of expected interoperability use so it can be used in subsequent real world testing efforts.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry setting that we support and target. We will test a minimum of five (5) client practice(s). This number covers a sufficient percentage of existing practices to provide a viable sample of users of the certified EHRs.

RWT Measure #4. Number of Direct Messages Successfully Sent

Associated Criteria: 315(h)(1)

Testing Methodology: Reporting/Logging

Measurement Description

This measure is tracking and counting how many Direct messages were successfully sent from the EHR Module to a 3rd party over the course of a given interval.

Upon the time of testing, we will use an interval of twelve (12) months previous to the current date to analyze the messages exchanged during this time.

Measurement Justification

This measure will provide a numeric value to indicate number of Direct messages sent from the EHR. Because our certification to 315(h)(1) relies upon Rosetta Health HISPDirect as additional software, we want to create a metric to evaluate it is successfully working and integrated within product. An increment to this measure indicates that the EHR can create a Direct message and demonstrates successful interoperability of an exchanged message with a 3rd party.

Measurement Expected Outcome

The measurement will produce numeric results over a given interval. We will utilize various reports and audit logs, including Automated Measure (315.g.2) reports, to determine our measure count.

Whenever a Direct Mail message is successfully sent, a specific type of log is added. We then upload the aggregated and generalized (non-PHI) data from the logs to our analytics in our cloud database on a set interval (every 6 months).

A successful measure increment indicates compliance to the underlying ONC criteria. It will show that the EHR can be authenticated with DirectTrust, create a Direct message, and demonstrate interoperability of an exchanged message with a 3rd party. Successfully completing this measure also implies users have a general understanding of the EHR functional operations for this EHR Module and an overall support for the user experience while not completing this measure may indicate lack of understanding or possibly lack of use or need for this functionality.

We will use the measure count to establish a historic baseline of expected interoperability use so it can be used in subsequent real world testing efforts.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry setting that we support and target. We will test a minimum of five (5) client practice(s). This number covers a sufficient percentage of existing practices to provide a viable sample of users of the certified EHRs.

RWT Measure #5. Compliance of Data Export C-CDA Export and C-CDA Scorecard Average Score

Associated Criteria: 315(b)(6)

Testing Methodology: Compliance and Tool

Measurement Description

This measure is tracking compliance of the EHR Module criteria functionality of creating a batch export of C-CDAs and measuring its C-CDA Scorecard average.

Measurement Justification

To our knowledge, this feature is not widely use by our user community, and we do not believe tracking its rare executions is a viable metric for real world testing. Instead, we will focus on confirming its continued compliance in the real world.

This measure will provide assurance of compliance to the EHR Module criteria, specifically ability to create a batch export of C-CDA patient records and evaluate it against the ONC C-CDA Scorecard tool. The C-CDA scorecard is designed for production use and measures how artifacts created by health IT compare against the HL7 C-CDA implementation guide and HL7 best practices.

The Scorecard will both indicate any C-CDA errors as well provide a numeric scoring result to indicate how well our C-CDA complies with certification requirements and supports interoperability within production setting.

To avoid disclosing PHI, we will only work with test patients from the actual production environment or an appropriately production-mirrored environments to best evaluate production capabilities available to end users.

Measurement Expected Outcome

The user with special access rights, like an admin, selects batch patient option to export all selected record as CCD C-CDA. The user must be able to do this without any developer assistance. The user selects a timeframe period to export patient summaries and a location for the export file to be saved. The EHR will create the batch export of C-CDA files. We will run some C-CDAs through the Scorecard tool to obtain a result. We will also confirm the process and steps done by the user meet the criteria requirements of the EHR Module and works as expected in production as in a controlled test environment.

A high score from the Scorecard indicates strong support for interoperability, and a lower score indicates opportunity for improvement. We will use this measure to establish a historic baseline of expected interoperability use so it can be used in subsequent real world testing efforts.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry that we support and target. Because this feature is not regularly used by our clients, we will test this capability in production-type system either with a physician client who is able or internally, but either way this will verify certified functionality is working for end users.

RWT Measure #6. Compliance of QRDA Cat III with CVU+ Tool

Associated Criteria: 315(c)(1)-(c)(3)

Testing Methodology: Compliance and Tool

Measurement Description

This measure is tracking compliance of the EHR Module criteria functionality of creating a QRDA Cat III and verify its compliance with the CVU+ tool.

Measurement Justification

Since not all of our users submit to MIPS, we believe a better real world testing use case for these criteria is focused on compliance of working of the feature. This measure will provide assurance of compliance to the EHR Module criteria, specifically ability to calculate electronic clinical quality measures (eCQMs) and create a valid QRDA Category III (Cat III) file containing the calculation results. The Cat III file will be validated against compliance using the Cypress Validation Utility Calculation Check (CVU+) or the CMS QualityNet application.

Because CQM criteria, 315(c)(1)-(c)(3), all work collectively together in the eCQM functionality of the EHR Module, this use case is associated for all three criteria.

To avoid disclosing PHI, we will only work with test patients from the actual production environment or an appropriately production-mirrored environments to best evaluate production capabilities available to end users.

Measurement Expected Outcome

The user will use the EHR functions to both do the eCQM calculations as well as create the QRDA Cat III result file used for CMS submission. enable document-level security or select a patient with this setting enabled. The QRDA Cat III will be validated against the CVU+ to confirm no errors. We will also confirm the process and steps done by the user meet the criteria requirements of the EHR Module and works as expected in production as in a controlled test environment.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry that we support and target. The clinical quality measures use will be those most often used by optometrists. To avoid impacting MIPS scoring, we will test this capability in production-type system either with a physician client who is able or internally, but either way this will verify certified functionality is working for end users.

RWT Measure #7. Compliance of Immunization Message

Associated Criteria: 315(f)(1)

Testing Methodology: Compliance

Measurement Description

This measure is tracking compliance of the EHR Module criteria functionality of creating an immunization message.

Measurement Justification

In the optometry space, immunizations is not a widely needed feature. To our knowledge, this criterion is not widely use by our user community, and we do not believe tracking its rare executions is a viable metric for real world testing. Instead, we will focus on confirming its continued compliance in the real world. This measure will provide assurance of compliance to the immunization criteria, specifically ability to record immunization admission information on a patient and create an immunization message which can be delivered to a public health registry if an optometrist needed to do so.

To avoid disclosing PHI, we will only work with test patients from the actual production environment or an appropriately production-mirrored environments to best evaluate production capabilities available to end users.

Measurement Expected Outcome

To confirm compliance, we will enter one to three new test patients, each with different test immunizations. The user will use the EHR functions to document immunization information typical to their workflow including vaccination name, dosage amount, lot number, manufacturer name, and any other required elements. Then, the user will use the EHR functions to generate a HL7 v2 VXU message for each patient. To , validate each message with the NIST Immunization Test Suite (specifically the HL7 VXU Context Free), and record the results.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry that we support and target. Because this feature is not regularly used by our clients, we will test this capability in production-type system either with a physician client who is able or internally, but either way this will verify certified functionality is working for end users.

RWT Measure #8. Compliance of API Resource Query Support

Associated Criteria: 315(g)(7)-(g)(9)

Testing Methodology: Compliance and Tool

Measurement Description

This measure is tracking compliance of the EHR Module criteria functionality of support of API query of patient data resources.

Measurement Justification

To our knowledge, this feature is not widely use by our user community, and we do not believe tracking its rare executions is a viable metric for real world testing. Instead, we will focus on confirming its continued compliance in the real world.

This measure case will provide assurance of compliance to the EHR Module criteria, specifically ability to connect to the EHR's API resources and query patient clinical data through the API. This measure will also query the patient's C-CDA through the API and evaluate it against the ONC C-CDA Scorecard tool. The C-CDA scorecard is designed for production use and measures how artifacts created by health IT compare against the HL7 C-CDA implementation guide and HL7 best practices.

Because API criteria, 315(g)(7)-(g)(9), all work collectively together in the API functionality of the EHR Module, this measurement is used for all three.

To avoid disclosing PHI, we will only work with test patients from the actual production environment or an appropriately production-mirrored environments to best evaluate production capabilities available to end users.

Measurement Expected Outcome

A user will create a new patient and enter data for the patient for each category of the Common Clinical Data Set (CCDS). The user then connects to the EHR through a client application via the API and is prompted for credentials and authentication according to the EHR's publicly available API documented specification. After supplying the correct credentials, the EHR should return a valid ID or token for the API Client to access the patient data.

The user will query the patient clinical data resources via the API and receive access to them through the client application. Next, the user will query the C-CDA of the patient record and will run C-CDA through the Scorecard tool to obtain a result. We will also confirm the process and steps done by the user meet the criteria requirements of the EHR Module and works as expected in production as in a controlled test environment.

Care Settings and Number of Clients Site to Test

We designed this measure to test the optometry that we support and target. Because this feature is not regularly used by our clients, we will test this capability in production-type system either with a physician client who is able or internally, but either way this will verify certified functionality is working for end users.

RWT Measure #9. How many different HIEs/HINs are connected with our EHR?

Associated Criteria: 315(h)(1)

Testing Methodology: Reporting/Logging

Measurement Description

This is a measure to determine how many different HIEs or HINs are connected to our EHR installations.

Measurement Justification

This measure will determine how many different HIEs or HINs have connected with our EHR for exchanging of data. We'll run our internal tool to find out how many offices use each supported HIE integration.

This information can reveal the impact and value HIE interoperability. With TEFCA effort coming in the near future, use of HIEs will likely be more important in the coming years.

Measurement Expected Outcome

We'll run an internal tool to determine out how many offices have done HIE integration with the following HIEs: (American Optometric Association (AOA), Kentucky Health Information Exchange (KHIE), One Health Port (OHP, Washington State HIE).

The answer will provide insight into how clinicians view both the use and value of this interoperability feature. For example, this may show that additional training is needed to better utilize the feature or that it is not currently utilized as currently designed. It will provide a benchmark for evaluate future surveys as well as to share insight into any new development for improvements or enhancements of the health IT system.

Care Settings and Number of Clients Site to Test

We will do this search through all of our optometry sites to determine which ones are connected to HIEs or HINs.