Real World Test Result

2022

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Revision History

Date	Version	Reason for Change
01/11/2023	1.0	Initial draft of the Real World Test Result Report for the year 2022

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Introduction

blueEHR is a cloud-based application. The clients are using the application in a SaaS model. Each client will have their own database. All the certified modules are available for all the clients, the application is the same, but databases are different. Based on the speciality of the client, the usage might vary from client to client. Real World Testing (RWT) Result is taken from the production data based on the usage of the clients. If any of the certified modules is not used by any client, ZH will be testing the functionality in production using ZH's account. ZH's account is in production environment but does not have production data. For any measurement/metric, if we need to access actual patient data, we will be using ZH's account as, per our contracts with clients, nobody in the organization is authorized to access actual production data. For example, we can get the count of CCDA's transmitted in a period, but we are not authorized to access the actual file to check the formatting.

There are changes made in couple of measurement/metric, the same is described in the respective scenarios.

Certification Criteria to be Tested

- 170.315 (b)(1): Transitions of Care
- 170.315 (b)(2): Clinical Information Reconciliation and Incorporation
- 170.315 (b)(6): Data Export
- 170.315 (c)(1) Clinical Quality Measures - Record and Export
- 170.315 (e)(1): View, Download, and Transmit to 3rd Party
- 170.315 (f)(2): Transmission to Public Health Agencies - Syndromic Surveillance
- 170.315 (f)(1): Transmission to Immunization Registries
- 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
- 170.315 (h)(1): Direct Project

Standard Updates

There are no updates made in standards prior to Aug 31st 2022.

Care setting addressed

blueEHR markets its modules in integrated care settings supporting physical (general practitioners) and behavioural health. This is the care setting in which the Real World Testing is done.

Scenario 1 – External Facility Referral

Description

The scenario mentioned here is primarily focusing on sending a patient to an external facility. The outcome of this approach will be to demonstrate the ability of the application to send the medical records to an external application.

Changes made in the measurement/metric

A change has been made in the measurement of "Security of the data transferred". We had planned to get the failed email log from the EMR Direct team. When discussed with the EMR

Direct team, they asked us to log the response of the API call. If any email fails, the error code and reason for error will be returned in API response. We have implemented logging of error codes and respective reason. We will be utilizing this information for measuring "Security of the data transferred". There is no impact on the measure because of this change.

Result of Measurement/Metric

- Successful transition of data – One of our client's was selected and we checked the email log. There were 48 emails sent from blueEHR application during the period 10/01/2022 to 12/31/2022. All the emails were from Direct address. All the emails were sent successfully. We consider this as 100% success.
- Security of the data transferred – As mentioned in the above metrics, all the emails sent from blueEHR during the selected period from the selected client was using Direct method. Emails sent using Direct method are considered as secure. According to the log, there were no failed emails in the selected period. We consider this as 100% success.
- Data format used for transfer – There were 48 emails sent from blueEHR. 34 of the emails had CCDA file attached. Remaining emails had PDF files attached and some had no attachments. We can assume 70% emails had structured data. We have educated the clients to use CCDA instead of unstructured data.

Associated Certification Criteria

- 170.315 (b)(1): Transitions of Care
- 170.315 (b)(6): Data Export
- 170.315 (h)(1): Direct Project

Scenario 2 – Incoming Patient Data from External Facility

Description

The scenario mentioned here is primarily focusing on receiving a patient from an external facility. The outcome of this approach will be to demonstrate the ability of the application to receive the medical records from an external application and incorporate the data into blueEHR system.

Changes made in the measurement/metric

A change has been made in the measurement of "Successful transition of data". We assumed EMR Direct will be sending intimation to the respective user about any failed incoming emails. Upon discussion with the team, they said as of now they are not intimating the user. So, we proceeded with the assumption that the sender would inform the recipient if the email sent has failed. We discuss with our client, who is the recipient, and identity if there are any intimations, they got from an external entity who tried to send them an email using direct method.

The same applies to “Security of the data transferred” as well. EMR Direct will be able to identify the reason for failed email. But we do not have access to the same. The reason will be intimated to the sender. The sender must inform the recipient if he identifies any failure. We proceeded with the assumption that for any email failed due to security reasons, like invalid certificate, the sender would have intimated the recipient.

In both the changes mentioned above, there can be impact on the count taken for the measurement. If the external entity (sender) missed to inform the recipient (blueEHR user) about any failed email, it will not come in the report.

Result of Measurement/Metric

- Successful transition of data – We used the same client from Scenario 1. The emails will come to EMR Direct application. blueEHR will use APIs to pull the same from EMR Direct application to blueEHR application. We have checked with the client about any failure intimations they got regarding direct email. Client has not received any failure intimations during the period 10/01/2022 to 12/31/2022. We consider this as 100% success.
- Security of the data transferred – EMR Direct will reject all emails from unsecure or unidentified sources. We have checked with our client for any such failure notices. Client has not received any failure intimations during the period 10/01/2022 to 12/31/2022. We consider this as 100% success.
- Importing of data received – The CCDAs received through email are stored in the application as raw data. The CCDA that are imported into the system are flagged. Client received 34 CCDA files during the period 10/01/2022 to 12/31/2022. None of the files are imported into the system. Upon discussion with the client, they were using it as a reference only, they did not want to import the details into the system. Our client facing team has educated the users about the importance of importing the data into the application and using them in cases where the patient is referred to another facility.

Associated Certification Criteria

- 170.315 (b)(1): Transitions of Care
- 170.315 (b)(2): Clinical Information Reconciliation and Incorporation
- 170.315 (h)(1): Direct Project

Scenario 3 – CQM Reporting

Description

The scenario mentioned here will be focusing on submission of Clinical Quality Measure data to registry. The outcome of this approach will be to demonstrate blueEHR will be able to generate the data required to submit to the registry as mentioned in the standard

§170.205(h)(2) – HL7 CDA® Release 2 Implementation Guide for: Quality Reporting Document Architecture – Category I (QRDA I), DTSU Release 3 (US Realm).

Changes made in the measurement/metric

Some of our clients are using CQM reporting, but none of the clients are exporting and reporting to any registry. The reporting is done through manual entry only. We educated the client for using export functionality, and on our request the client has tried to export the QRDA files. There is no impact in measuring the capability of the application to generate QRDA files.

Result of Measurement/Metric

- Recording data – CQM report available in the application can be used to determine that the data is recorded. We checked the client's report and confirmed that the report is populating the count for each CQM measure they are using. We consider this as 100% success.
- Export Report – The export functionality it not used by any of our client. We have selected one of our clients and educated them. The client was able to export QRDA Cat I and Cat II files. We consider this as 100% success.

Associated Certification Criteria

- 170.315(c)(1) Clinical Quality Measures - Record and Export

Scenario 4 – Transmitting Immunization Information

Description Use Case 1

Transmitting existing and new Immunization details to Immunet.

Result of Measurement/Metric

- Generate Immunization information of a patient – All the files generated from Immunization module will be stored in the application. From the log tables, we can determine that the files are generated in the standard format. We checked the log for the period 10/01/2022 to 12/31/2022, there were 142 files generated. All the files were generated in HL7 format. We consider this 100% success.

Description Use Case 2

Pull immunization history information from Immunet.

Changes made in the measurement/metric

As of now our clients are not using the functionality to pull immunization history from registries. So, we used ZH's account in production environment to test this functionality. We used the same patient from NIST test tool and used the tool to test the functionality. There is no impact in measuring the capability of the system to pull immunization history from external applications.

Result of Measurement/Metric

- Generate message to pull Immunization history – All the request from blueEHR to registries will be stored in the log tables. Using the NIST Testing Tool, we tested this functionality in production. The HL7 message generated for pulling the immunization history is stored in the log and verified. We consider this 100% success.

Associated Certification Criteria

- 170.315 (f)(1): Transmission to Immunization Registries

Scenario 5 – Using APIs to Access Data

Description

blueEHR is integrated with a client's Care Management (CM) solution. The CM solution is an external application which is used by one of our clients to pull data from blueEHR. blueEHR uses all the capabilities mentioned in the standards to provide data to the CM solution.

Changes made in the measurement/metric

The client that uses our API does not use CCDA pull API. So, we requested the client to perform this action to test the ability of the system to pull partial/complete CCDA. The client pulled the CCDA of a single patient upon our request. To validate the structure of the CCDA exported, we used a sample patient from NIST tool. We cannot use live patient's CCDA to upload the file in NIST tool and validate the format. For this we used ZH's account in production environment that we use to check issues reported by the client. There is no impact in measuring the capability of the system to generate CCDA response for API request.

Description of Measurement/Metric

- Connecting securely with blueEHR - External applications can connect to blueEHR using OAuth2.0 authentication mechanism. Any invalid requests will be rejected and recorded in the logs. We checked the logs for the period 10/01/2022 to 12/31/2022. We have identified couple of invalid login requests from the log. So, we can consider as 100% success. The login failed because the client was using an invalid key for connectivity. Later they generated the key again from the application and they were able to login successfully.
- Completeness of the data exported – There are multiple APIs available in blueEHR. When we checked the API logs for the period 10/01/2022 to 12/31/2022, the client has mostly used the APIs to pull details, Rx, problem etc. The client retrieved the CCDA for a single patient. They were able to view the complete data as per standards. We consider this 100% success.
- Format of the CCDA exported – We exported a sample patient's CCDA through API call and validated the file, there were no errors reported. We consider this 100% success.

Associated Certification Criteria

- 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

Scenario 6 – Patient Portal

Description

blueEHR has its own patient portal, MyDocsPortal. MyDocsPortal is connected to blueEHR through APIs. MyDocsPortal can sync the medical records with blueEHR. This is done real time. Patients can gain access to blueEHR using the credentials generated by any authorized user at the providers facility. The login credentials are generated in blueEHR and sent to the patient's email. The patient can use the same to login to MyDocsPortal and view their medical records.

Result of Measurement/Metric

- Securely connectivity – Patient Portal is connected to blueEHR using API. REST API with username/password based authentication is used for connectivity. Any invalid requests will be rejected and recorded in the logs. We checked the logs for the period 10/01/2022 to 12/31/2022. There was no connectivity failure. We consider this 100% success.
- Sharing information – All the activities made by the patient are recorded. From the logs we can identify the count of patients who has viewed and shared the information to external party and in which format it is done. We checked the logs for the period 10/01/2022 to 12/31/2022. We have identified 18 patients have viewed and shared the information to external party. We consider this 100% success.

Associated Certification Criteria

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

Scenario 7 – Syndromic Surveillance Registry

Description

In this scenario we are going to measure the ability of blueEHR to generate information required to be transmitted to Syndromic Surveillance registries. We will also make sure that the information is generated in accordance with the standards mentioned in §170.205(d)(4) HL7 2.5.1 (incorporated by reference in §170.299).

Changes made in the measurement/metric

As of now our clients are not using this module to report to registries. We used ZH's account in production environment to generate the HL7 file for a sample patient. There is no impact

in measuring the capability of the system to generate Syndromic Surveillance information in HL7 format.

Result of Measurement/Metric

- Generate Syndromic Surveillance information for a patient – All the documents generated from Syndromic surveillance module are stored in the application. We generated the HL7 file from the module for 2 sample patients. The file was generated successfully in the standard format. So, we can consider as 100% success.

Associated Certification Criteria

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

Schedule of key milestones

We have taken the data from Q4 of 2022. The data is taken from application database and verbal discussion with client. blueEHR markets its modules in integrated care settings supporting physical (general practitioners) and behavioural health, so this is the care setting in which Real World Testing is done.

Key Milestones	Date/Time
Meet with EMR Direct team to discuss about data collection	Feb 2022
Meet with provider/authorized representatives to discuss about RWT plan and objectives	Sep 2022
First phase of data collection for analysis	Nov 2022
Review the data collected	Nov 2022
Second follow up meet with provider/authorized representatives to identify any issues/risk	Dec 2022
Second phase of data collection for analysis	Jan 3rd 2023
Review the data collected	Jan 5th to 8th 2023
Analysing the final data and result report creation	Jan 8th to 12th 2023
Submit the test report to test lab	Jan 13th 2023

Attestation

This Real World Testing Result 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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