REAL WORLD TESTING RESULTS REPORT 2022 - NeoMed 4.0

BACKGROUND

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

NeoDeck is submitting this report that covers one year of results to address RWT of NeoMed as outlined in the 2022 RWT plan. This report reflects adjustments to approaches made throughout RWT and includes a list of these changes, the reasons for them, and how intended outcomes were more efficiently met as a result.

The following resources were used in preparation of this report.

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

REPORT ORGANIZATION

This document is organized by elements required to be submitted in the RWT results report. Each section provides a field for submitting responses and/or explanations for how NeoDeck addressed each required element in our RWT approach. This report has been expanded with additional rows or columns to address the specific needs of the RWT results being submitted.

GENERAL INFORMATION

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

Developer Name:	**NeoDeck Holdings, Corp**
Product Name(s):	**NeoMed 4.0**
Version Number(s):	**4.0**
CHPL ID(s):	**15.04.04.2814.NeoM.04.02.1.221230**

Developer Real World Testing Plan and Results Report Page URL:
https://neodeck.atlassian.net/wiki/spaces/NPS/pages/3047325701/Real+World+Testing+RWT+Plans+and+Results+Reports

CHANGES TO ORIGINAL PLAN

After developing NeoMed's Real World Testing approach and mainly due to the eventual adoption of relied-upon software for standardized API for patient and population services, the following criteria were removed from the original plan.

Summary of Change	Reason	Impact
Withdrawal of 170.315 (g)(7): Application Access - Patient Selection	Full adoption of certified relied upon software for standardized API for patient and population services	This criterion will no longer be executed to demonstrate interoperability and the success rate of this certification criterion.
Withdrawal of 170.315 (g)(8): Application Access - Data Category Request	Full adoption of certified relied upon software for standardized API for patient and population services	This criterion will no longer be executed to demonstrate interoperability and the success rate of this certification criterion.
Withdrawal of 170.315 (g)(9): Application Access - All Data Request	Full adoption of certified relied upon software for standardized API for patient and population services	This criterion will no longer be executed to demonstrate interoperability and the success rate of this certification criterion.

WITHDRAWN PRODUCTS

Patient Vault, NeoMed's patient portal, was withdrawn in 2022. Patient Vault had initially its separate Real World Testing plan. Information specific to Patient Vault is shown below.

Product Name(s):	**Patient Vault**
Version Number(s):	**2.0**
CHPL ID(s):	**15.04.04.2814.PVau.02.00.1.191209**
Date(s) Withdrawn:	**December 31, 2022**
Inclusion of Data in Results Report:	**No Patient Vault data was captured. Patient Vault is a pass-through patient portal of NeoMed EHR.**

SUMMARY OF TESTING METHODS AND KEY FINDINGS

Testing Methods

Real World Testing methods were deployed to demonstrate real-world interoperability focused on capturing and documenting the number of instances that certified capability is successfully utilized in the real world. We used a threefold approach that included adoption rate, summative testing, and interactive testing. The adoption rate demonstrated if/when a certified capability was being used in the real world. On the other hand, summative testing used values from reports and audit logs to measure which certified actions were performed. Lastly, interactive live-testing sessions were used to demonstrate conformance to requirements where the adoption rate of a given certified capability is zero.

Key Findings

Any challenges encountered or lessons learned from the chosen approach are also mentioned below. The goal is to demonstrate real-world interoperability and point out any non-conformities that were discovered and reported to the ONC-ACB during testing.

As mentioned below, we are able to demonstrate the certified capability is available and compliant with the certification criteria to support real-world interoperability. Unfortunately, some metrics were absent in the selected evaluation period due to lack of activity.

- Context - During the evaluation period, CCDAs were created and reconciled, prescriptions transmitted, and records were exported, viewed, and downloaded successfully.
- Compliance - Metrics for b and e criteria demonstrate that these criteria are available, effective, and compliant. However, no CCDAs were received via an outside system and no direct message was sent or received. Not a single provider imported or exported CQM files.
- Exchange - For the most part, metrics for b criteria demonstrate effective EHI exchange except for b.1 and b.2 due to the lack of sent and received CCDAs and no CCDAs received from outside providers respectively. There were no direct messages sent and received to demonstrate h.1effective EHI exchange either.
- Outcome – Metrics demonstrate that all criteria except c.3 and h.1 met expectations. Metrics also demonstrate a success rate for b.3, b.6 and h.1. Success rate for b.1, b.2 and c.3 criteria proved to be inconclusive.
- Challenges - We encountered duplicate viewed, downloaded, or transmitted records. It is also worth mentioning that although providers did not import or export any CQM files during the evaluation period, we recently were able to confirm that the certified criterion is available and effective. On January 18, 2023 a provider requested a QRDA Type III file for reporting period 01/01/2020 to1/31/2020 which was successfully exported.

Non-conformities were not found but improved metrics monitoring and methods to prevent duplicate records are among the lessons learned in this evaluation period.

STANDARDS UPDATES (INCLUDING STANDARDS VERSION ADVANCEMENT PROCESS (SVAP) AND UNITED STATES CORE DATA FOR INTEROPERABILITY (USCDI))

NeoMed did not include updates to newer versions of standards prior to August 31, 2022.

Care Settings

NeoMed is marketed primarily to ambulatory providers. It was designed to be flexible and customizable so it could be used by a variety of different clinical specialties. Although our system can be adapted to various specialties, the following specialties comprise most of our clients. Therefore, they were selected to be evaluated for the RWT certification.

- Primary Care (e.g., Internal Medicine, Pediatrics, Obstetrics)
- Cardiology
- Physical therapy
- Behavioral Health

Metrics and Outcomes

The table shown below, lists outcomes from testing that successfully demonstrate that NeoMed:

- is compliant with the certification criteria, including the required technical standards and vocabulary codes 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 NeoMed.

In addition, outcomes that did not result from measurements might be included, as deem necessary, to better describe testing effort.

The goal is to describe how the specific data collected from Real World Testing measures demonstrate the results. Whenever possible but most often than not, some context about the measures and results is provided to understand the number of licenses tested for the specified measures. The following number of licenses were used in calculations as the denominator for percent or proportion comparisons to the reported results.

Licenses	Count	Criteria
Non-prescriber	351	b.3
Prescriber	130	
Total	481	b.1, b.6, e.1

Any Relied Upon Software that is used to meet certification requirements for a criterion is also mentioned in this section.

Criterion	Metric	Value	Justification and Expected Outcome	Results
170.315(b)(1) Transitions of care	Number of CCDAs created	1,801	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. 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, we intend **to demonstrate the required certified capabilities by showing 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.** Our expectation is there will be moderate utilization by providers with a high success rate.	**Context** In a period of 90 days, an average of approximately 600 CCDAs were created monthly at a rate of 4 CCDAs per licensed user in this time period but none were sent or received via edge protocols. **Compliance** This demonstrates that CCDAs are being created consistently and that the certified capability is available and compliant with this certification criterion. **Exchange** However, in this time period, the number of CCDAs that NeoMed sent, received, and used is not significant to demonstrate effective EHI exchange. **Outcome** A consistent number of CCDAs created supports expectations of moderate utilization but success rate is difficult to determine due to lack of CCDAs exchanged. **Relied-upon Software** Datamotion service for edge protocols is used as relied-upon software for this criterion.
	Number of CCDAs sent via edge protocols	0		
	Number of CCDAs received via edge protocols	0		
315(b)(2) Clinical information reconciliation and incorporation	Number of times a user reconciled medication list data from a received CCDA	32	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, we intend **to record 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.** Our expectation is there will be low utilization by providers with a high success rate.	**Context** In a period of 90 days, an average of approximately 11 CCDAs were created monthly but none were received via an outside system. We confirmed that the 32 CCDAs were from one specific provider that configured provider's account and imported patients between NeoMed versions by taking the CCDAs that included the medication, allergy, and problems list. **Compliance** This metric proved successful for the creation of patient records from importing CCDAs and demonstrating that this capability is available, effective, and compliant to this criterion. **Exchange** We are unable to demonstrate data exchange due to lack of CCDAs received from outside providers. **Outcome** These metrics also proved our expectation for low utilization and does not demonstrate a success rate.
	Number of times a user reconciled allergies and intolerance list data from a received CCDA	32		
	Number of times a user reconciled problem list data from a received CCDA	32		
170.315(b)(3) Electronic	Number of prescriptions created	292,784	This criterion requires the ability of a certified Health IT module to perform prescription-related electronic transactions (eRx) using	**Context**

prescribing	Number of prescriptions changed	0	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, we intend **to demonstrate the required certified capabilities are effective by showing how often eRx transactions are performed by examining reports from our eRx partner. This will confirm 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.** Our expectation is there will be high utilization by providers with a high success rate.	In a period of 90 days, an average of approximately 97,605 prescriptions were created monthly at a rate of 834 prescriptions per licensed user in this time period. An insignificant number (0.011%) of prescriptions were canceled. **Compliance** This metric shows how successful and effective eprescribing transactions are and that NeoMed is compliant with this criterion. **Exchange** Surescripts Partnership Value Report for July 2022 showed lower Directory Message (13.33%) and NewRx errors (0.13%) rates compared to the network 16.46% and 3.42% respectively confirming that not only the transactions are being sent from NeoMed, but that the transactions are also successfully received by Surescripts. **Outcome** This high number of successful eprescribing transactions confirmed our expectations of high utilization with a high success rate.
	Number of prescriptions canceled	32		
	Number of prescriptions renewed	0		
170.315(b)(6) Data export	Number of times a data export was performed for a single patient in a single transaction	1,634	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 intend **to demonstrate the certified capability is available and effective, regardless of the frequency it is used.** Our expectation is there will be very low utilization by providers with a high success rate.	**Context** In a period of 90 days, an average of approximately 577 records were exported monthly at a rate of 4 data exports per licensed user. **Compliance** Although most of the data exports were performed for a single patient in a single transaction, five percent (5%) of the data exports were performed for multiple patients in a single transaction demonstrating that the certified capability is available, effective, and compliant with this criterion. **Exchange** The number of exported records for this time period demonstrates that EHI records are being exchanged. **Outcome** The moderate number of data exports is higher than our expectation for a very low utilization but still with a high success rate.
	Number of times a data export was performed for multiple patients in a single transaction	96		
170.315(c)(1- 3) Clinical quality measures (CQMs)	Number of measures recorded during the period Number of QRDA Category 1 files exported	0	These criteria will be tested together. C1 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. C2 requires a certified Health IT module must be able to import data from a QRDA Category 1 formatted file and calculate the CQMs based on that data. C3 requires a certified Health IT module must be able to create a QRDA Category 1 formatted file and a QRDA Category 3 aggregate report to be used for transmitting CQM data to CMS. We intend **to record the frequency that CQM**	**Context** Providers did not import or export any CQM files. **Compliance** We are unable to demonstrate that the certified capability is available and effective since providers did not import or export CQM files. **Exchange** N/A

	Number of QRDA Category 1 files imported (if applicable)		**files are imported and/or exported by providers to demonstrate the certified capability is available and effective, regardless of the frequency it is used.** Our expectation is there will be moderate utilization by providers with a high success rate.	**Outcome** Lack of results does not support our expectation for moderate utilization by the providers and we are unable to demonstrate any kind of success rate. **Challenge** We note that on 1/18/2023 a QRDA Type III file for reporting period 01/01/2020 to1/31/2020 was exported successfully to demonstrate that the certified capability is available and effective. **Relied-upon Software** Dynamic Health IT CQMsolution is used as relied-upon software for this criterion.
170.315(e)(1) View, download, and transmit to 3rd party	Number of views of health information by a patient or authorized representative	236	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. We intend **to record 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.** Our expectation is there will be moderate utilization by patients for view and lower utilization for download and transmit with a high success rate for all certified capabilities.	**Context** In a period of 90 days, an average of approximately 79 records were viewed monthly at rate of less than one record per licensed user. A considerable number (14%) of records were downloaded but not a single record was transmitted. **Compliance** A significant combined number of records that were viewed, downloaded, and transmitted demonstrate that the capability is available, effective, and compliant with this criterion. **Exchange** The number of downloaded and transmitted records demonstrates that EHI records are being exchanged with patients or an authorized representative. **Outcome** This metric supports our expectation for moderate utilization but shows a slightly higher count for views over downloads and transmission by a patient. **Challenge** These metrics might include duplicate transactions.
	Number of downloads of health information by a patient or authorized representative	40		
	Number of transmissions of health information by a patient or authorized representative, whether via an encrypted method or unencrypted email	0		
170.315(h)(1) Direct Project	Number of Direct Messages sent	0	This criterion requires the ability of a certified Health IT module to record the frequency that direct messages are sent and received by providers. Since not all systems respond with MDNs, we cannot reliably use that metric to define success. Furthermore, it is not feasible to obtain copies of Direct Messages from "outside" developers or providers who have no incentive to participate in this exercise. Therefore, we intend **to demonstrate the required certified capabilities by showing how often Direct Messages are exchanged with other systems to confirm the certified capability is available and effective, regardless of the frequency it is used.** Our expectation is there will be moderate utilization by providers with a high success rate.	**Context** In a period of 90 days, no direct messages were sent or received. **Compliance** We are unable to demonstrate for this rating period that the certified capability was available, effective, and compliant with this criterion. **Exchange** We are unable to demonstrate for this rating period that the certified capability was exchanging electronic health information (EHI) or that EHI was received by and used in NeoMed. **Outcome**
	Number of Direct Messages received	5		

				Results are lower than expected and success rate is inconclusive.

Interactive Testing

Interactive testing is performed to demonstrate Real World certified capabilities for criteria where metrics are not available. To date, the *170.315(f)(2) Transmission to public health agencies — syndromic surveillance* criterion has not had any mandates associated with it and has not been prioritized by providers.

Two interactive sessions were run. One interactive session was run with a primary care clinician and another with a cardiologist. Both clinicians used test data to create encounters in a production environment. The whole test was recorded and the PHIN ADT message exported, checked against the NIST syndromic surveillance HLv2 tool, and confirmed to be successful.

Criterion	Goal	Justification and Expected Outcome	Setting	Results
• Creating Test Patients and encounters • PHIN ADT message confirmation	• To demonstrate NeoMed capability for transmitting effectively syndrome-based public health surveillance data to a registry • To check PHIN ADT message produced is checked using NIST syndromic surveillance HLv2 tool syndrome-based public health surveillance data to a registry using a specified format.	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. We intend to record the frequency that syndromic surveillance data is submitted to registries by providers to demonstrate the certified capability is available and effective, regardless of the frequency it is used. Our expectation is there will be zero adoption of this certified capability by our users, so we have added interactive testing methodology for these capabilities to the test plan below to demonstrate the feature is available and functions as expected should any users elect to begin using this feature.	Primary Care	• Clinician created encounters with test data in a production environment. • Interactive session was recorded. • The PHIN ADT message was exported, checked against the NIST syndromic surveillance HLv2 tool, and confirmed to be successful.
			Cardiologist	• Clinician created encounters with test data in a production environment. • Interactive session was recorded. • The PHIN ADT message was exported, checked against the NIST syndromic surveillance HLv2 tool, and confirmed to be successful.

KEY MILESTONES

The table shown below lists relevant milestones that were met during the Real World Testing process. Details on how and when measures were implemented and collected are included. A key milestone is defined as a relevant event that is directly related to the outcomes discussed in this report. For each key milestone, the date/timeframe during which data was collected in a specific care setting is described. Metrics include measures from all care settings.

Key Milestone	Care Setting	Timeframe
• Interactive Testing	Primary Care and Cardiologist	Quarter 4 2022 and Quarter 1 2023

• Data was successfully collected for all the metrics.	• Primary Care • Cardiology • Physical therapy • Behavioral Health	Quarters 3 and 4 2022
• Specific metrics in support of RWT were identified • Service tickets created to ensure the data is retrievable if it is not already readily available • SQL statements and Mixpanel dashboard were completed	• Primary Care • Cardiology • Physical therapy • Behavioral Health	Quarters 3 and 4 2021