

# CSN 2022 Real World Testing Results

## GENERAL INFORMATION

**Plan Report ID Number:** 20211018GOL

**Developer Name:** Goldblatt Systems LLC

**Product Name(s):** Clinical Semantic Network (CSN)

**Version Number(s):** V8

**Certified Health IT Product List (CHPL) ID(s):** 15.02.05.2738.GOLD.01.01.1.211228 (Current)

15.02.02.2738.A102.01.00.0.191125 (Previous)

**Developer Real World Testing Plan Page URL:** <https://www.goldblattsystems.com/certifications-costs/onc-real-world-testing/>

**Developer Real World Testing Results Report Page URL:** <https://www.goldblattsystems.com/certifications-costs/onc-real-world-testing/>

## Standards Updates (Including Standards Version Advancement Process (SVAP) and United States Core Data For Interoperability (USCDI))

No, none of my products include these voluntary standards.

## Summary of Testing Methods and Key Findings

The primary data gathering was performed using relational data queried from SQL databases. This includes data stored in the primary application in conjunction with archive data in the messaging engine application.

Measurement	Measure Description	Associated Criteria	RWT Method Summary	Challenges and Lessons	Interoperability Demonstration
Measure Used #1	This measure will catalogue the transport mechanisms used to share transitions of care documents and EHI, as well as track usage of the various transport mechanisms.	<p>§ 170.315(h)(1) Direct Project</p> <p>§ 170.315(b)(1) Transitions of care</p> <p>§ 170.315(b)(6) Data Export</p> <p>§ 170.315(b)(9) Care plan</p> <p>§ 170.315(e)(1) View, download and transmit</p>	Primary application data SQL queries	The messages sent inbound to CSN were used. Outbound generate and transmit activities from CSN will provide additional insight in the future. Third party integrations for inbound messages should be made aware of opportunities for improvement for the CDA documents they produce. Doing so should improve MDHT validation rates and overall integration effectiveness.	These data show the overall document traffic and demonstrate the adoption, utility, and adherence of third party integrations.
Measure Used #2	<b>Measure A:</b> This measure will test the conformance of the certified function for using the Direct project and Receiving of CDA documents.	<p>§ 170.315(h)(1) Direct Project</p> <p>§ 170.315(b)(2)</p> <p>(ii) Receive transition of care summary/referral summary</p>	Primary application data and Interface engine application data SQL queries	HISP is relied upon to produce message delivery notifications. This depends heavily upon the accuracy of delivery of messages as well as delivery notifications. For CDA the messages sent inbound to CSN were used. Outbound generate and transmit activities from CSN will provide additional insight in the future. Third party integrations for inbound messages should be made aware of opportunities for improvement for the CDA documents they produce.	These data show the overall document traffic, as well as interface engine reporting on protocols in use. This demonstrates the adoption, utility, and adherence of third party integrations, and the efficacy of the transmission protocol used.
Measure Used #2	<b>Measure B:</b> This measure will test the conformance of the certified function that allows users to reconcile and incorporate a patient's active medications, allergies and problems as specified in §170.315(b)(2)(iii).	<p>§ 170.315(b)(2)</p> <p>(iii) Reconcile and incorporate patient's active medication list, medication allergy list, and problem list</p>	Primary application data SQL queries	Because this is primarily based on inbound CDA from partners it shows the need for better cross-references with proper identifiers and/or adherence to MDHT standards. The takeaway is to advocate for standard adherence as a means to improve interoperability. Some improvements may also be possible in interpreting the contents of CDA data.	This measure shows the volume and quality of the CDA documents as it relates to incorporating the active medication list, medication allergy list, and problem list.
Measure Used #3	This measure will test the conformance of the certified function used for electronic prescribing within CSN.	<p>§ 170.315(b)(3)</p> <p>(ii)(A) Send and receive the specified prescription transactions electronically</p> <p>(ii)(C) Transmit and receive the reason for the prescription.</p>	Interface engine application data SQL queries	<p>High adoptions of features made finding measurable metrics easier, but some consideration had to be made for identifying and measuring quality data elements from archives stored in integration engine databases.</p> <p>New RX originating from CSN to Surescripts include ICD10 codes as the reason for the prescription. Subsequent messages related to these, when inbound to CSN, have this missing for reasons currently unknown. Perhaps better compensating for this by allowing the substitution of Pharmacy or Surescripts comment data would give more valuable insight.</p>	This shows a high success rate for the highest volume interfaces. It also demonstrates a need to refine or better understand what defines acceptable Reason Codes.

Measure Used #4	This measure will demonstrate the ability to electronically create the data file for transmission of clinical quality measurement data.	<p>§ 170.315(c)(1)</p> <p>(i),(ii) Record and export data file</p> <p>§ 170.315(c)(2)</p> <p>(i) Import data file</p> <p>(ii) Calculate clinical quality measure</p> <p>§ 170.315(c)(3)</p> <p>(i) Report QRDA Category III and Category I</p>	Cypress test tool outcome	During a period where reports are run using CSN, SQL query will inform the bulk of measurement. Since this period being measured had no production user utilization, the best alternative was to report on the outcome of testing from the test tools.	The measure for the period demonstrates that CSN is capable of reporting and extracting the necessary reports. Future user adoption and utilization will further elucidate the effectiveness of interoperability.
Measure Used #5	This measure demonstrates the transport of immunization registries of EHI for patient services.	<p>§ 170.315(f)(1)</p> <p>(i) Create immunization information for electronic transmission</p> <p>(ii) Request, access, and display a patient's evaluated immunization history and the immunization forecast</p>	NIST Immunization Test outcome	During a period where immunization messages are sent /received using CSN, SQL query of primary and interface engine data will inform the bulk of measurement. Since this period being measured had no production user utilization, the best alternative was to report on the outcome of testing from the test tools.	The measure for the period demonstrates that CSN is capable of sending and receiving immunization interface data. Future user adoption and utilization will further elucidate the effectiveness of interoperability.
Measure Used #6	This measure demonstrates the syndrome-based public health surveillance information of EHI for patient services.	<p>§ 170.315(f)(2)</p> <p>Create syndrome-based public health surveillance information for electronic transmission</p>	NIST Normative Test outcome	During a period where public health surveillance messages are sent/received using CSN, SQL query of primary and interface engine data will inform the bulk of measurement. Since this period being measured had no production user utilization, the best alternative was to report on the outcome of testing from the test tools.	The measure for the period demonstrates that CSN is capable of sending and receiving public health surveillance interface data. Future user adoption and utilization will further elucidate the effectiveness of interoperability.
Measure Used #7	This measure will test the conformance and interoperability requirements of "Transmission to public health agencies - electronic case reporting" that generates the ECR CDA document and making it available to transmit to public health agencies.	<p>§ 170.315(f)(5)</p> <p>(i) Consume and maintain a table of trigger codes</p> <p>(ii) Match a patient visit or encounter to the trigger code</p> <p>(iii) Create a case report for electronic transmission</p>	Primary application data SQL queries, self-test attestation	Current counts can be compared to future counts to see any year-over-year changes. Since no production case reports were run in the period, the self-test outcome is used to justify 170.315(f)(5) (iii)	The measure for the period demonstrates that CSN maintains data in an observable manner, and year-over-year changes will be reportable. Future user adoption and utilization of case report transmission will further elucidate the effectiveness of interoperability.
Measure Used #8	This measure demonstrates the health care survey data of EHI for patient services.	<p>§ 170.315(f)(7)</p> <p>Create health care survey data for electronic transmission</p>	NCHS test tool outcome	During a period where healthcare surveys are generated and sent using CSN, SQL query of primary data will inform the bulk of measurement. Since this period being measured had no production user utilization, the best alternative was to report on the outcome of testing from the test tools.	The measure for the period demonstrates that CSN is capable of generating healthcare survey data. Future user adoption and utilization will further elucidate the effectiveness of interoperability.

Measure Used #9	This measure is to demonstrate conformance to multiple certification criteria concerning the utilization of application programming interface (API) for accessing patient data.	<p>§ 170.315(g)(7)</p> <p>(i) Receive a request</p> <p>(ii) API Documentation</p> <p>§ 170.315(g)(8)</p> <p>(i)(A) Respond to requests for patient data (using an ID or other token)</p> <p>(i)(B) Respond to requests for patient data with a specific date</p> <p>(ii)(A) Terms of use for the API</p> <p>§ 170.315(g)(9)</p> <p>(ii)(A) Terms of use for the API</p> <p>(i)(A) Demonstrate API</p> <p>(ii)(A) API Documentation</p>	NIST Test Tools for the ONC Health IT Certification Program outcome	During a period where API interfaces are available and utilized in production in CSN, SQL query of primary data will inform the bulk of measurement. Since this period being measured had no production user utilization, the best alternative was to report on the outcome of testing from the test tools.	The measure for the period demonstrates that CSN is capable of responding appropriately as an API as outlined in testing and certification. Future user adoption and utilization will further elucidate the effectiveness of interoperability.
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## Changes to Original Test Plan

Measurement	Measure Description	Associated Criteria	Summary of Change	Reason	Impact
Measure Used #4	This measure will demonstrate the ability to electronically create the data file for transmission of clinical quality measurement data.	<p>§ 170.315(c)(1)</p> <p>(i), (ii) Record and export data file</p> <p>§ 170.315(c)(2)</p> <p>(i) Import data file</p> <p>(ii) Calculate clinical quality measure</p> <p>§ 170.315(c)(3)</p> <p>(i) Report QRDA Category III and Category I</p>	Production data /logging has been substituted with Cypress test tool outcomes for all associated criteria.	No useful production user data/logging was triggered during this period of observation. The Cypress test tool was the best alternative. This utilized synthesized real-world scenarios.	Observation during this period was affected by the lack of any utilization by production users. Likely future user adoption will give valuable insight beyond what test tool outcomes demonstrate.
Measure Used #5	This measure demonstrates the transport of immunization registries of EHI for patient services.	<p>§ 170.315(f)(1)</p> <p>(i) Create immunization information for electronic transmission</p> <p>(ii) Request, access, and display a patient's evaluated immunization history and the immunization forecast</p>	Production data /logging has been substituted with NIST test tool outcomes for the criterion.	No useful production user data/logging was triggered during this period of observation. NIST test tool was the best alternative. The deployment of production integration to an immunization registry was still in a pending state.	Observation during this period was affected by the lack of immunization registry integration for the period. Likely future user implementation and user adoption will give valuable insight beyond what test tool outcomes demonstrate.
Measure Used #6	This measure demonstrates the syndrome-based public health surveillance information of EHI for patient services.	<p>§ 170.315(f)(2)</p> <p>Create syndrome-based public health surveillance information for electronic transmission</p>	Production data /logging has been substituted with NIST test tool outcomes for the criterion.	No useful production user data/logging was triggered during this period of observation. The NIST test tool was the best alternative. Use of the CSN integration to a public health registry for syndromic surveillance has still not been implemented.	Observation during this period was affected by the lack of public health registry for syndromic surveillance integration for the period. Likely future user implementation and user adoption will give valuable insight beyond what test tool outcomes demonstrate.

Measure Used #7	This measure will test the conformance and interoperability requirements of "Transmission to public health agencies - electronic case reporting" that generates the ECR CDA document and making it available to transmit to public health agencies.	§ 170.315(f)(5)  (iii) Create a case report for electronic transmission	Production data /logging has been substituted with ONC self-testing attestation outcomes for §170.315(f)(5)(iii).	No useful production user data/logging was triggered during this period of observation for this associated criteria. The ONC self-testing attestation was the best alternative.	Observation during the period was partially affected for the measure by lack of any adoption of the Create and/or Transmit feature of ECR CDA data. Likely future user implementation and user adoption will give valuable insight beyond what test tool outcomes demonstrate.
Measure Used #8	This measure demonstrates the health care survey data of EHI for patient services.	§ 170.315(f)(7) Create health care survey data for electronic transmission	Production data /logging has been substituted with NCHS test tool outcomes for the criterion.	No useful production user data/logging was triggered during this period of observation. The NCHS test tool was the best alternative. Use of the CSN integration to a registry for health care surveys has still not been implemented.	Observation during the period was affected for the measure by lack of any adoption of the Create and/or Transmit feature of health care surveys. Likely future user implementation and user adoption will give valuable insight beyond what test tool outcomes demonstrate.
Measure Used #9	This measure is to demonstrate conformance to multiple certification criteria concerning the utilization of application programming interface (API) for accessing patient data.	§ 170.315(g)(7)  (i) Receive a request  (ii) API Documentation  § 170.315(g)(8)  (i)(A) Respond to requests for patient data (using an ID or other token)  (i)(B) Respond to requests for patient data with a specific date  (ii)(A) Terms of use for the API  § 170.315(g)(9)  (ii)(A) Terms of use for the API  (i) (A) Demonstrate API  (ii)(A) API Documentation	Production data /logging has been substituted with NIST test tool outcomes for all associated criteria.	No useful production user data/logging was triggered during this period of observation. The NIST test tool was the best alternative. Use of the CSN as an integration point API for external applications is not yet utilized.	Observation during the period was affected for the measure by lack of any adoption by external entities in production. Likely future user implementation and user adoption will give valuable insight beyond what test tool outcomes demonstrate.

## Care Setting

Goldblatt Systems' Clinical Semantic Network (CSN) application's users are in the ambulatory care setting. Many users belong to specialties such as Family practice, cardiovascular, and palliative care. Goldblatt Systems LLC does not specifically market to a particular specialty area, therefore, this test plan applies to ambulatory care settings. For the purpose of real-world testing, Goldblatt Systems measured data from the ambulatory care setting for all measures tested.

## Metrics and Outcomes

Measurement	Measure Description	Associated Criteria	Relied Upon Software	Metric Description	Outcomes					Challenges Encountered	
					Criteria	Success	Error	Total	Success Rate		
Measure Used #1	This measure will catalogue the transport mechanisms used to share transitions of care documents and EHI, as well as track usage of the various transport mechanisms.	§ 170.315(h)(1) Direct Project  § 170.315(b)(1) Transitions of care  § 170.315(b)(6) Data Export  § 170.315(b)(9) Care plan  § 170.315(e)(1) View, download and transmit	Updcox function for the HISP	The calculation for Success Rate is calculated as: the total number of successes divided by the total number of messages for the time period. In each criterion, successes are defined as a document which fully passes MDHT (Model-Driven Health Tools) validation. Documents which do not pass complete MDHT validation are considered errors.							All measures with calculated rates were done for incoming documents. Success rates indicate that a high percentage of incoming documents from outside parties do not pass the MDHT validation. As such, these rates primarily reflect the adherence of third party partners to this standard. Since Production users of CSN did not generate and submit outbound documents, rates are not calculated.
					170.315(b)(1)(i)(A)	0	0	0	na		
					170.315(b)(1)(i)(B)	89	697	786	0.113		
					70.315(b)(6) (ii)	0	0	0	na		
					170.315(b)(9)	35	503	538	0.065		
					170.315(e)(1)(i)(B)(2)	126	1031	1157	0.109		
					170.315(e)(1)(i)(C)(1)	0	0	0	na		

Measure Used #2	<p><b>Measure A:</b> This measure will test the conformance of the certified function for using the Direct project and Receiving of CDA documents.</p>	<p>§ 170.315(h)(1) Direct Project</p> <p>§ 170.315(b)(2)</p> <p>(ii) Receive transition of care summary/referral summary</p>	Updcox for HISP	<p>The calculation for Success Rate is calculated as: the total number of successes divided by the total number of messages for the time period.</p> <p>For 170.315(h)(1) success means the HISP provided the delivery of MDN (Message Delivery Notification) after a successfully sent direct message. Error indicates CSN did not receive an affirmative status.</p> <p>For 170.315(b)(2)(ii) success is considered when a sent or received message contains a document which fully passes MDHT (Model-Driven Health Tools) validation.</p>	<table border="1" data-bbox="732 132 1198 233"> <thead> <tr> <th>Criteria</th> <th>Success</th> <th>Error</th> <th>Total</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(h)(1)</td> <td>1287</td> <td>23</td> <td>1310</td> <td>0.982</td> </tr> <tr> <td>170.315(b)(2)(ii)</td> <td>89</td> <td>697</td> <td>786</td> <td>0.113</td> </tr> </tbody> </table>	Criteria	Success	Error	Total	Success Rate	170.315(h)(1)	1287	23	1310	0.982	170.315(b)(2)(ii)	89	697	786	0.113	<p>For 170.315(h)(1) we rely on the HISP to accurately report MDN at some time in the future after a message is delivered. Success also depends on the availability of target recipients.</p> <p>Success rates for 170.315(b)(2)(ii) indicate that a high percentage of incoming documents from outside parties do not pass the MDHT validation. As such, these rates primarily reflect the adherence of third party partners to this standard.</p>																					
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Measure Used #3	This measure will test the conformance of the certified function used for electronic prescribing within CSN.	<p>§ 170.315(b)(3)</p> <p>(ii)(A) Send and receive the specified prescription transactions electronically</p> <p>(ii) (C) Transmit and receive the reason for the prescription.</p>	Surescripts	<p>For 170.315(b)(3) (ii)(A) the calculation for Success Rate is calculated as: the total number of successful messages divided by the total number of messages sent /received to Surescripts. Success ack from Surescripts or ack from the EHR constitutes the success.</p> <p>For 170.315(b)(3) (ii)(C) the measure is calculated using the number of messages with a reason code per the number of prescription messages total sent/received for each message type.</p>	<table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Success</th> <th>Error</th> <th>Total</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(b)(3)(ii)(A)</td> <td>Q1-2022</td> <td>6328</td> <td>11</td> <td>6339</td> <td>0.998</td> </tr> <tr> <td>170.315(b)(3)(ii)(A)</td> <td>Q2-2022</td> <td>9958</td> <td>18</td> <td>9976</td> <td>0.998</td> </tr> <tr> <td>170.315(b)(3)(ii)(A)</td> <td>Q3-2022</td> <td>10313</td> <td>19</td> <td>10332</td> <td>0.998</td> </tr> <tr> <td>170.315(b)(3)(ii)(A)</td> <td>Q4-2022</td> <td>11060</td> <td>10</td> <td>11070</td> <td>0.999</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Direction</th> <th>Type</th> <th>Has Reason</th> <th>No Reason</th> <th>Total</th> <th>Reason Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q1-2022</td> <td>Outbound</td> <td>CancelRx</td> <td>1155</td> <td>0</td> <td>1155</td> <td>1.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q1-2022</td> <td>Outbound</td> <td>NewRx</td> <td>2311</td> <td>0</td> <td>2311</td> <td>1.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q1-2022</td> <td>Inbound</td> <td>RxChange Request</td> <td>3</td> <td>18</td> <td>21</td> <td>0.143</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q1-2022</td> <td>Outbound</td> <td>RxChange Response</td> <td>2</td> <td>3</td> <td>5</td> <td>0.400</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q1-2022</td> <td>Inbound</td> <td>RxRenewa lRequest</td> <td>194</td> <td>687</td> <td>881</td> <td>0.220</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q2-2022</td> <td>Outbound</td> <td>CancelRx</td> <td>1530</td> <td>1</td> <td>1531</td> <td>0.999</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q2-2022</td> <td>Outbound</td> <td>NewRx</td> <td>2574</td> <td>1</td> <td>2575</td> <td>1.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q2-2022</td> <td>Inbound</td> <td>RxChange Request</td> <td>4</td> <td>25</td> <td>29</td> <td>0.138</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q2-2022</td> <td>Outbound</td> <td>RxChange Response</td> <td>0</td> <td>19</td> <td>19</td> <td>0.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q2-2022</td> <td>Inbound</td> <td>RxRenewa lRequest</td> <td>185</td> <td>930</td> <td>1115</td> <td>0.166</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q3-2022</td> <td>Outbound</td> <td>CancelRx</td> <td>1637</td> <td>1</td> <td>1638</td> <td>0.999</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q3-2022</td> <td>Outbound</td> <td>NewRx</td> <td>2656</td> <td>0</td> <td>2656</td> <td>1.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q3-2022</td> <td>Inbound</td> <td>RxChange Request</td> <td>2</td> <td>33</td> <td>35</td> <td>0.057</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q3-2022</td> <td>Outbound</td> <td>RxChange Response</td> <td>0</td> <td>11</td> <td>11</td> <td>0.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q3-2022</td> <td>Inbound</td> <td>RxRenewa lRequest</td> <td>225</td> <td>964</td> <td>1189</td> <td>0.189</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q4-2022</td> <td>Outbound</td> <td>CancelRx</td> <td>1741</td> <td>0</td> <td>1741</td> <td>1.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q4-2022</td> <td>Outbound</td> <td>NewRx</td> <td>2633</td> <td>0</td> <td>2633</td> <td>1.000</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q4-2022</td> <td>Inbound</td> <td>RxChange Request</td> <td>7</td> <td>20</td> <td>27</td> <td>0.259</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q4-2022</td> <td>Outbound</td> <td>RxChange Response</td> <td>2</td> <td>4</td> <td>6</td> <td>0.333</td> </tr> <tr> <td>170.315(b)(3)(ii)(C)</td> <td>Q4-2022</td> <td>Inbound</td> <td>RxRenewa lRequest</td> <td>193</td> <td>1073</td> <td>1266</td> <td>0.152</td> </tr> </tbody> </table>	Criteria	Period	Success	Error	Total	Success Rate	170.315(b)(3)(ii)(A)	Q1-2022	6328	11	6339	0.998	170.315(b)(3)(ii)(A)	Q2-2022	9958	18	9976	0.998	170.315(b)(3)(ii)(A)	Q3-2022	10313	19	10332	0.998	170.315(b)(3)(ii)(A)	Q4-2022	11060	10	11070	0.999	Criteria	Period	Direction	Type	Has Reason	No Reason	Total	Reason Rate	170.315(b)(3)(ii)(C)	Q1-2022	Outbound	CancelRx	1155	0	1155	1.000	170.315(b)(3)(ii)(C)	Q1-2022	Outbound	NewRx	2311	0	2311	1.000	170.315(b)(3)(ii)(C)	Q1-2022	Inbound	RxChange Request	3	18	21	0.143	170.315(b)(3)(ii)(C)	Q1-2022	Outbound	RxChange Response	2	3	5	0.400	170.315(b)(3)(ii)(C)	Q1-2022	Inbound	RxRenewa lRequest	194	687	881	0.220	170.315(b)(3)(ii)(C)	Q2-2022	Outbound	CancelRx	1530	1	1531	0.999	170.315(b)(3)(ii)(C)	Q2-2022	Outbound	NewRx	2574	1	2575	1.000	170.315(b)(3)(ii)(C)	Q2-2022	Inbound	RxChange Request	4	25	29	0.138	170.315(b)(3)(ii)(C)	Q2-2022	Outbound	RxChange Response	0	19	19	0.000	170.315(b)(3)(ii)(C)	Q2-2022	Inbound	RxRenewa lRequest	185	930	1115	0.166	170.315(b)(3)(ii)(C)	Q3-2022	Outbound	CancelRx	1637	1	1638	0.999	170.315(b)(3)(ii)(C)	Q3-2022	Outbound	NewRx	2656	0	2656	1.000	170.315(b)(3)(ii)(C)	Q3-2022	Inbound	RxChange Request	2	33	35	0.057	170.315(b)(3)(ii)(C)	Q3-2022	Outbound	RxChange Response	0	11	11	0.000	170.315(b)(3)(ii)(C)	Q3-2022	Inbound	RxRenewa lRequest	225	964	1189	0.189	170.315(b)(3)(ii)(C)	Q4-2022	Outbound	CancelRx	1741	0	1741	1.000	170.315(b)(3)(ii)(C)	Q4-2022	Outbound	NewRx	2633	0	2633	1.000	170.315(b)(3)(ii)(C)	Q4-2022	Inbound	RxChange Request	7	20	27	0.259	170.315(b)(3)(ii)(C)	Q4-2022	Outbound	RxChange Response	2	4	6	0.333	170.315(b)(3)(ii)(C)	Q4-2022	Inbound	RxRenewa lRequest	193	1073	1266	0.152	Reason Rate for 170.315(b)(3)(ii) (C) has varying levels of adoption per message type. Any response from CSN also depends on the reason being present in the request message to CSN. New RX originates from CSN so the rates are considerably higher on this type.
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Measure Used #4	This measure will demonstrate the ability to electronically create the data file for transmission of clinical quality measurement data.	<p>§ 170.315(c)(1)</p> <p>(i),(ii) Record and export data file</p> <p>§ 170.315(c)(2)</p> <p>(i) Import data file</p> <p>(ii) Calculate clinical quality measure</p> <p>§ 170.315(c)(3)</p> <p>(i) Report QRDA Category III and Category I</p>		Success Rate is calculated as: the total number of successfully processed /exported reports divided by the total number of reports generated /imported during the period being measured.	<table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Success</th> <th>Error</th> <th>Total</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(c)(1)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>(i),(ii)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>170.315(c)(2)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>(i),(ii)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>170.315(c)(3)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>(i)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Criteria	Period	Success	Error	Total	Success Rate	170.315(c)(1)	2022	1	0	1	1.000	(i),(ii)						170.315(c)(2)	2022	1	0	1	1.000	(i),(ii)						170.315(c)(3)	2022	1	0	1	1.000	(i)						The Cypress test tool was utilized for an affirmative test case, in lieu of live data, per each criterion using synthesized production data in accordance with successful validation. Production users did not perform import and export functionality using CSN within the period reported. This resulted in the approval of functionality by generating QRDA 1 and QRDA III and then utilizing the Cypress test tool to validate and confirm the passing of C1 (QRDA-I) and C2+C3 (QRDA-III).																																																																																																																																																												
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Measure Used #5	This measure demonstrates the transport of immunization registries of EHI for patient services.	<p>§ 170.315(f)(1)</p> <p>(i) Create immunization information for electronic transmission</p> <p>(ii) Request, access, and display a patient's evaluated immunization history and the immunization forecast</p>		Success Rate is calculated as: the total number of successful transmissions sent/received divided by the total number of sent/received during the period being measured.	<table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Success</th> <th>Error</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(f)(1)(i)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1.000</td> </tr> <tr> <td>170.315(f)(1)(ii)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1.000</td> </tr> </tbody> </table>	Criteria	Period	Success	Error	Success Rate	170.315(f)(1)(i)	2022	1	0	1.000	170.315(f)(1)(ii)	2022	1	0	1.000	The NIST Immunization Test Suite was utilized to certify during testing. In lieu of live data, each requirement of the criteria was tested using synthesized production data in accordance with successful validation during NIST validation for a subsequent certification.																																											
Criteria	Period	Success	Error	Success Rate																																																												
170.315(f)(1)(i)	2022	1	0	1.000																																																												
170.315(f)(1)(ii)	2022	1	0	1.000																																																												
Measure Used #6	This measure demonstrates the syndrome-based public health surveillance information of EHI for patient services.	§ 170.315(f)(2) Create syndrome-based public health surveillance information for electronic transmission		Success Rate is calculated as: the total number of successful transmissions sent divided by the total number of sent messages during the period being measured.	<table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Success</th> <th>Error</th> <th>Total</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(f)(2)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> </tbody> </table>	Criteria	Period	Success	Error	Total	Success Rate	170.315(f)(2)	2022	1	0	1	1.000	The testing was performed according to NIST Normative Test Process Document. In lieu of live data, the criteria were tested using synthesized production data in accordance with successful validation during NIST validation for a subsequent certification.																																														
Criteria	Period	Success	Error	Total	Success Rate																																																											
170.315(f)(2)	2022	1	0	1	1.000																																																											
Measure Used #7	This measure will test the conformance and interoperability requirements of "Transmission to public health agencies - electronic case reporting" that generates the ECR CDA document and making it available to transmit to public health agencies.	<p>§ 170.315(f)(5)</p> <p>(i) Consume and maintain a table of trigger codes</p> <p>(ii) Match a patient visit or encounter to the trigger code</p> <p>(iii) Create a case report for electronic transmission</p>		Counts of code systems, active status, and the total number of codes for the code system are listed for the period. Patient ECR Visits count the matching trigger code encounters for the period. Subsequent test periods will indicate the level of change in the maintenance of the code systems over time.	<table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Code System</th> <th>Status</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>170.315(f)(5) (i)</td> <td>2022</td> <td>ICD-10 CM</td> <td>Active</td> <td>20</td> </tr> <tr> <td>170.315(f)(5) (i)</td> <td>2022</td> <td>ICD10CM</td> <td>Active</td> <td>87</td> </tr> <tr> <td>170.315(f)(5) (i)</td> <td>2022</td> <td>LOINC</td> <td>Active</td> <td>625</td> </tr> <tr> <td>170.315(f)(5) (i)</td> <td>2022</td> <td>LOINC</td> <td>Inactive</td> <td>32</td> </tr> <tr> <td>170.315(f)(5) (i)</td> <td>2022</td> <td>NND</td> <td>Active</td> <td>2</td> </tr> <tr> <td>170.315(f)(5) (i)</td> <td>2022</td> <td>SNOMEDCT</td> <td>Active</td> <td>182</td> </tr> <tr> <td>170.315(f)(5) (i)</td> <td>2022</td> <td>SNOMEDCT</td> <td>Inactive</td> <td>7</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>ECR Visits</th> </tr> </thead> <tbody> <tr> <td>170.315(f)(5) (ii)</td> <td>2022</td> <td>141</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Success</th> <th>Error</th> <th>Total</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(f)(5) (iii)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> </tbody> </table>	Criteria	Period	Code System	Status	Total	170.315(f)(5) (i)	2022	ICD-10 CM	Active	20	170.315(f)(5) (i)	2022	ICD10CM	Active	87	170.315(f)(5) (i)	2022	LOINC	Active	625	170.315(f)(5) (i)	2022	LOINC	Inactive	32	170.315(f)(5) (i)	2022	NND	Active	2	170.315(f)(5) (i)	2022	SNOMEDCT	Active	182	170.315(f)(5) (i)	2022	SNOMEDCT	Inactive	7	Criteria	Period	ECR Visits	170.315(f)(5) (ii)	2022	141	Criteria	Period	Success	Error	Total	Success Rate	170.315(f)(5) (iii)	2022	1	0	1	1.000	ECR Trigger codes were reported for ONC 2015 Edition using submitted self-testing attestation. Current counts can be compared to future counts to see any year-over-year changes. Since no production case reports were run in the period, the self-test outcome is used to justify 170.315(f)(5) (iii).
Criteria	Period	Code System	Status	Total																																																												
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170.315(f)(5) (iii)	2022	1	0	1	1.000																																																											
Measure Used #8	This measure demonstrates the health care survey data of EHI for patient services.	§ 170.315(f)(7) Create health care survey data for electronic transmission		Success Rate is calculated as: total number of successful transmissions sent divided by total number of sent messages during the period being measured.	<table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Success</th> <th>Error</th> <th>Total</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(f)(7)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> </tbody> </table>	Criteria	Period	Success	Error	Total	Success Rate	170.315(f)(7)	2022	1	0	1	1.000	The NCHS Test tool was used to demonstrate the healthcare survey generation during ONC testing. Since no users adopted the feature, test outcomes and subsequent certification are used in lieu of production data.																																														
Criteria	Period	Success	Error	Total	Success Rate																																																											
170.315(f)(7)	2022	1	0	1	1.000																																																											

Measure Used #9	This measure is to demonstrate conformance to multiple certification criteria concerning the utilization of application programming interface (API) for accessing patient data.	§ 170.315(g)(7)	Success Rate is calculated as: total number of successful requests /responses divided by total number of requests /response messages during the period being measured.	<table border="1"> <thead> <tr> <th>Criteria</th> <th>Period</th> <th>Success</th> <th>Error</th> <th>Total</th> <th>Success Rate</th> </tr> </thead> <tbody> <tr> <td>170.315(g)(7)(i)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>170.315(g)(7)(ii)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>170.315(g)(8) (i)(A)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>170.315(g)(8) (i)(B)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>170.315(g)(8) (ii)(A)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>170.315(g)(9)(ii)(A)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> <tr> <td>170.315(g)(9)(i)(A)</td> <td>2022</td> <td>1</td> <td>0</td> <td>1</td> <td>1.000</td> </tr> </tbody> </table>	Criteria	Period	Success	Error	Total	Success Rate	170.315(g)(7)(i)	2022	1	0	1	1.000	170.315(g)(7)(ii)	2022	1	0	1	1.000	170.315(g)(8) (i)(A)	2022	1	0	1	1.000	170.315(g)(8) (i)(B)	2022	1	0	1	1.000	170.315(g)(8) (ii)(A)	2022	1	0	1	1.000	170.315(g)(9)(ii)(A)	2022	1	0	1	1.000	170.315(g)(9)(i)(A)	2022	1	0	1	1.000	All criteria in this measure use NIST Test Tools for the ONC Health IT Certification Program in lieu of production API calls. All interface requirements previously met to pass ONC 2015 Edition certification. No integration traffic justifies using NIST criteria passing certification.
		Criteria		Period	Success	Error	Total	Success Rate																																													
		170.315(g)(7)(i)		2022	1	0	1	1.000																																													
		170.315(g)(7)(ii)		2022	1	0	1	1.000																																													
		170.315(g)(8) (i)(A)		2022	1	0	1	1.000																																													
		170.315(g)(8) (i)(B)		2022	1	0	1	1.000																																													
		170.315(g)(8) (ii)(A)		2022	1	0	1	1.000																																													
		170.315(g)(9)(ii)(A)		2022	1	0	1	1.000																																													
		170.315(g)(9)(i)(A)		2022	1	0	1	1.000																																													
		(i) Receive a request																																																			
(ii) API Documentation																																																					
§ 170.315(g)(8)																																																					
(i)(A) Respond to requests for patient data (using an ID or other token)																																																					
(i)(B) Respond to requests for patient data with a specific date																																																					
(ii)(A) Terms of use for the API																																																					
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(ii)(A) API Documentation																																																					

## KEY MILESTONES

Key Milestones	Date/Time frame
Submitted the Real-World Testing to ONC-ACB.	December 1, 2021
Collected of information as laid out by the plan for the period.	June 1, 2022
Reviewed Data collection.	Quarterly, 2022 (starting in Q3)
End of Real-World Testing period/final collection of all data for analysis.	January 1, 2023
Analysis and report creation.	January 15, 2023
Submit Real World Testing report to ACB (per their instructions)	February 2, 2023