

# athenaClinicals for Hospitals and Health Systems v20

## 2022 Real World Test Results

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## General Information

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

Developer Name: athenahealth, Inc

Product Name(s): athenaClinicals for Hospitals and Health Systems

Version Number(s): v20

Certified Health IT: 2015 Edition

Product List (CHPL) ID(s): 15.04.04.2880.Athe.IN.07.1.200312

Developer Real World Testing Page URL: <https://www.athenahealth.com/terms-and-conditions>

## Summary of Testing Methods and Key Findings

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With thousands of Direct messages successfully sent and received from providers and patients and all eRx transaction types and all API measures near a 100% success rate are but a few of the examples of how this report reflects the successful use of the athenaOne for HHS product in the real world

The primary lesson learned was to ensure our athenaClinicals for HHS network insights, which was core to obtaining the results in this report, continue to evolve alongside new interoperability capabilities so that we can continue to demonstrate successful use of the product in the real world.

## Standards Updates (SVAP and USCDI)

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Standard (and version)	All standards versions are as specified in 2015 Edition/Cures Update
Updated certification criteria and associated product	Not applicable
CHPL Product Number	Not applicable
Conformance Measures	Not applicable

## Care Setting(s)

At this time, athenaClinicals for Hospitals and Health Systems (HHS) is a Certified electronic health record (EHR) that primarily services small Critical Access Hospitals (CAHs) with inpatient and ambulatory service lines. We are not currently offering this solution in market but are continuing to serve our existing client base.

## Metrics and Outcomes

**Use Case 1 – During the course of care, providers share patient records (CCDAs) with each other and where appropriate, reconcile key clinical data elements into the chart.**

Certification Criteria	Requirement
§ 170.315 (b)(1) Transition of care	(i) Send and receive via edge protocol...
	(ii) Validate and display...
	(iii) Create...
§ 170.315 (b)(2) Clinical information reconciliation and incorporation	(i) General requirements...
	(iii) Reconciliation...
§ 170.315 (b)(9) Care plan	Enable a user to record, change, access, create, and receive care plan information in accordance with the Care Plan document template...
§ 170.315 (g)(6) Consolidated CDA creation performance	(i) Reference C-CDA match..
	(ii) Document-template conformance...
	(iii) Vocabulary conformance...
	(iv) Completeness verification...
§ 170.315 (h)(1) Direct project	(i) Applicability Statement for Secure Health Transport...
	(ii) Delivery Notification in Direct

**Measure 1: Create a valid CCDA** – This measure will demonstrate EHR ability to create and send a CCDA that is conformant to the standards outlined in § 170.315 (b)(1) Transition of care and § 170.315 (g)(6) Consolidated CDA creation performance

- **Justification:** Other EHRs will expect to successfully receive a CCDA formatted to Release 2.1 with all required data elements from athenaClinicals for HHS
- **Test Methodology:** A CCDA of each required type (Referral Note, CCD, Care Plan) will be created in athenaClinicals for HHS and sent to another EHR via each certified workflow (if applicable). athenaClinicals for HHS and the other EHR will be using a production-grade environment configured in a way typical of the marketed care settings. System logs will be reviewed to identify possible errors in transport. A user in the receiving EHR will demonstrate successful display of all required elements
- **Expected Outcomes:** Success is when a different EHR receives and recognizes each type of CCDA as conformant

**Measure 2: Create and send a CCDA:** This measure will evaluate the creation and sending of CCDAs (Referral Note, CCD, Discharge Summary) at scale across many providers using athenaClinicals for HHS in a live production environment

- **Justification:** A statistically significant sample size of CCDAs generated and sent by athenaClinicals for HHS spanning multiple organizations with expected errors will validate successful use in the real world
- **Test Methodology:** System logs will be evaluated for each required type of CCDA that was created and sent
- **Expected Outcomes:** Success is defined as CCDAs of each required type successfully being created and sent via Direct with expected errors (e.g. invalid direct address, no response from receiver, etc.)

**Measure 3: Receive and display a CCDA** – This measure will demonstrate EHR ability to receive and display a CCDA of each type (Referral Note, CCD, Discharge Summary, Care Plan) in a live production environment

- **Justification:** Two sub-measures will be evaluated: 1) A manual evaluation of several production examples of each required type of CCDA (Referral Note, CCD and Care Plan) will show that athenaClinicals for HHS can successfully receive and display CCDAs. 2) An evaluation of a statistically significant number of CCDAs received and displayed by providers using athenaClinicals for HHS spanning multiple organizations will validate successful use in the real world
- **Test Methodology:** 1) Examples of CCDAs of each type will be randomly selected for manual review spanning various care settings in the athenaClinicals for HHS network. 2) System logs will be evaluated to identify each type of CCDA that were successfully received
- **Expected Outcomes:** Success is defined as:
  - 1) Chosen examples are successfully received and displayed
  - 2) CCDAs successfully received via Direct and displayed with expected errors (e.g. incorrect CCDA format)

**Measure 4: Receive and reconcile a CCDA** – This measure will demonstrate EHR ability to receive and reconcile a CCDA of each type (Referral Note, CCD) in a live production environment

- **Justification:** An evaluation of reconciliation use spanning a statistically significant number of active users spanning multiple organizations will validate successful use in the real world
- **Test Methodology:** System logs will be evaluated to determine the number of users that successfully reconcile a CCDA using CEHRT
- **Expected Outcomes:** A high number of users successfully use CEHRT to receive and reconcile data into patient charts

## Use Case 1 Outcomes

No changes from plan.

Measure	Relied Upon Software	Outcomes	Challenges
<b>1: Create a valid CCDA</b>	N/A	Test samples of a CCD and Referral Note were successfully sent via Direct from athenaClinicals for HHS and received by the athenaPractice EHR. Receipt and conformance to standards was verified by displaying the documents in athenaPractice.	N/A
<b>2: Create and send a CCDA</b>	N/A	Review of audit logs for Q3 2022 of all athenaClinicals for HHS customers yielded validation of 5465 successful Referral Note and 26,276 successful Discharge Summary Direct message transmissions. There were no customer-	N/A

		initiated CCD documents transmissions during the period. The failures identified primarily relate to MDN's received as "Unable to process," "Address no longer valid," "Unable to verify trust certificate" or "Certificate is expired."	
<b>3: Receive and display a CCDA</b>	N/A	<p><b>Sub-measure 1:</b> An example Referral Note and CCD sent from the athenaPractice EHR was successfully received and displayed in athenaClinicals for HHS.</p> <p><b>Sub-measure 2:</b> Review of audit logs for Q2 2022 of all athenaClinicals for HHS customers yielded a validation of 125,149 user views of received CCDAs</p>	N/A
<b>4: Receive and reconcile a CCDA</b>	N/A	Review of audit logs for Q2 2022 of all athenaClinicals for HHS customers yielded validation that 849 unique users reconciled at least one problem, medication or allergy from a CCDA.	N/A

**Use Case 2 – During the course of care, patients access a copy of their record (CCDs) for viewing, downloading and/or transmitting.**

Certification Criteria	Requirement
§ 170.315 (e)(1) View, download, and transmit to 3 <sup>rd</sup> party	(i) (A) View...
	(i)(B) Download...
	(i)(C) Transmit to third party...
§ 170.315 (h)(1) Direct project	(i) Applicability Statement for Secure Health Transport...
	(ii) Delivery Notification in Direct

**Measure 1: Validate user behavior around view actions** – This measure will demonstrate the ability for a patient to preview a CCD and Discharge Summary document template in a live production environment for the athenaClinicals for HHS patient portal (athenaCommunicator)

- **Justification:** The CCD document template contains all required data elements in § 170.315 (e)(1)(i)(A)
- **Test Methodology:** System logs will be evaluated to identify patients with a successful CCD document view in athenaCommunicator
- **Expected Outcomes:** Success is defined by the number of patients with successful CCD document previews

**Measure 2: Validate user behavior around download actions** – This measure will demonstrate the ability for a patient to download a CCD and Discharge Summary document template in a live production environment of athenaCommunicator

- **Justification:** An evaluation of a statistically significant number CCD and discharge summary document downloads spanning multiple organizations will demonstrate the successful real world use of the download feature
- **Test Methodology:** System logs will be evaluated to identify patients with a successful CCD and Discharge Summary document download in athenaCommunicator
- **Expected Outcomes:** Success is defined by the number of patients that can successfully download CCD and discharge summary documents

**Measure 3: Validate user behavior around transmit actions** – This measure will demonstrate the ability for a patient to transmit a CCD and Discharge Summary document template to a third party in a live production environment of athenaCommunicator

- Justification: An evaluation of a statistically significant number of CCD and discharge summary document transmissions spanning multiple organizations will demonstrate the successful real world use of the transmit feature
- Test Methodology: System logs will be evaluated to identify CCD and discharge summary documents successfully transmitted from athenaCommunicator. The analysis will break out transmission via either Direct or email
- Expected Outcomes: Success is defined as:
  - CCD and discharge summary documents successfully sent via Direct with expected errors (e.g. invalid Direct address, lack of response, etc.)
  - CCD and discharge summary documents successfully sent via email with expected errors (e.g. invalid email address, etc.)

## Use Case 2 Outcomes

No changes from plan.

Measure	Relied Upon Software	Outcomes	Challenges
<b>1: Validate user behavior around view actions</b>	athenaCommunicator	Review of audit logs for 6/29/22 – 9/8/22 for 73 customers yielded validation of 3628 successful views and 0 failures. Note – A view requires the download of a CCDA which is why the data is aligned to Measure 2 below.	N/A
<b>2: Validate user behavior around download actions</b>		Review of audit logs for 6/29/22 – 9/8/22 for 73 customers yielded validation of 3628 successful views and 0 failures.	N/A
<b>3: Validate user behavior around transmit actions</b>		Review of audit logs for 6/29/22 – 9/8/22 yielded validation as follows: <ul style="list-style-type: none"> <li>• Transmit via email: 599 successful transmits spanning 62 customers with 0 errors</li> <li>• Transmit via Direct: 3 successful transmits spanning 3 customers with 0 errors</li> </ul>	N/A

**Use Case 3 – EHR users export CCDAs for one or many patients for the purpose of sharing with providers, patients or other third-parties under the purview of HIPAA**

Certification Criteria	Requirement
§ 170.315 (b)(6) Data export	(i) General requirements for export summary configuration...

	(ii) Creation...
	(iii) Timeframe configuration...
	(iv) Location configuration...

**Measure 1: Single/Multi patient export** – This measure will assess functionality used to export EHI for a single patient and multiple patients in a production environment

- **Justification:** The evaluation of a statistically significant number of exports by users spanning multiple organizations using athenaClinicals for HHS will demonstrate the real world utility of the data export
- **Test Methodology:** System logs will be reviewed to determine the volume of exports generated in various configurations (e.g. single-patient, multi-patient, etc.) and only by authorized users
- **Expected Outcomes:** Only authorized users will be able to successfully create export summaries and there will be evidence of successful exports using various configurations (e.g. single-patient, multi-patient, etc.)

## Use Case 3 Outcomes

No changes from plan.

Measure	Relied Upon Software	Outcomes	Challenges
<b>1: Single/Multi patient export</b>	N/A	Review of audit logs of all athenaClinicals for HHS customers for Q2 2022 yielded validation as follows (only authorized users): <ul style="list-style-type: none"> <li>• 1-10 patients: Two total export requests spanning one customer with four CCDAs generated</li> <li>• 10-120 patients: 0 total export requests spanning 0 customers with 0 CCDAs generated</li> <li>• All patients: 0 total export requests spanning 0 customers with 0 CCDAs generated</li> </ul>	N/A

## Use Case 4 – Clinicians electronically prescribe medications

Certification Criteria	Requirement
§ 170.315 (b)(3) Electronic prescribing	(i)(A) Enable a user to perform the following prescription-related electronic transactions...
	(i)(C) For the following transactions, the technology must be able to receive and transmit the reason for the prescription...

**Measure 1: Transaction success rates** – This measure will evaluate athenaClinicals for HHS successful use of required eRx transaction types

- **Justification:** A statistically significant sample size of electronic prescriptions spanning multiple organizations using athenaClinicals for HHS will demonstrate the real world utility of the feature
- **Test Methodology:** System logs will be reviewed to determine success rate for each transaction type relative to the listed benchmark
- **Expected Outcomes:** Transactions are successfully delivered with expected errors (e.g. pharmacy does not support electronic transactions, etc.) and achieving the following transaction success rates:
  - NewRx – 99%
  - RxChange – 90%
  - CancelRx – 99%
  - RxRenewal – 99%
  - RxFill – 99%
  - Medication History – 99%

## Use Case 4 Outcomes

No changes from plan.

Measure	Relied Upon Software	Outcomes	Challenges
<b>1: Transaction success rates</b>	N/A	<p>Review of audit logs of all athenaClinicals for HHS customers yielded the following results. Goals are noted above.</p> <ul style="list-style-type: none"> <li>• Range: 8/15/22 – 9/15/22               <ul style="list-style-type: none"> <li>○ <b>NewRx:</b> 99.91% success rate</li> <li>○ <b>RxChange:</b> 99.47% success rate</li> <li>○ <b>CancelRx:</b> 100.00% success rate</li> <li>○ <b>RxRenewal:</b> 99.95% success rate</li> <li>○ <b>RxFill:</b> 100% success rate</li> </ul> </li> <li>• Range: Q2 2022               <ul style="list-style-type: none"> <li>○ <b>Medication History:</b> 99.89% success rate</li> </ul> </li> </ul> <p><b>Notes on analysis:</b></p> <ul style="list-style-type: none"> <li>• <b>RxNew</b> transactions with a response that indicate the pharmacy record is inactive, item is not in stock, a duplicate or does not support the transaction are considered numerator compliant</li> <li>• Surescripts does not support non-electronic <b>RxChange</b> requests so those requests submitted from non-interface are excluded</li> <li>• Prescriber responses to a <b>RxChange</b> request from the pharmacy with a subsequent pharmacy response of “prescription not on file” or “prescription cancelled,” was approved by prescriber with changes (prior authorizations), or where the request is a duplicate are considered numerator compliant</li> <li>• Pharmacy responses that indicate the <b>CancelRx</b> transaction is not supported are considered numerator compliant</li> <li>• Prescriber responses to a <b>RxRenewal</b> request from a pharmacy with a subsequent pharmacy response of “prescription not on file,” “prescription cancelled” or where the request is a duplicate are considered numerator compliant</li> </ul>	N/A



		<ul style="list-style-type: none"> <li>• <b>RxFill</b> messages that don't have enough information to process, such as the identification information are excluded</li> </ul>	
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### Use Case 5 – Data is appropriately triggered and submitted to relevant public health agencies

Certification Criteria	Requirement
§ 170.315 (f)(2) Transmission to public health agencies – syndromic surveillance	Create syndrome-based public health surveillance information...
§ 170.315 (f)(7) Transmission to public health agencies – health care surveys	Create health care survey information for electronic transmission...

**Measure 1: Syndromic surveillance message success** – This measure will evaluate the ability for athenaClinicals for HHS to submit conformant syndromic surveillance messages spanning urgent care, emergency department and inpatient settings

- **Justification:** The evaluation of a statistically significant number of syndromic surveillance messages spanning multiple organizations using athenaClinicals for HHS will demonstrate the real world utility of the capability
- **Test Methodology:** System logs will be evaluated for all applicable messages sent to registries
- **Expected Outcomes:** Success is defined as the successful message submission to and receipt by all actively engaged registries, with expected errors (e.g. no response from registry, formatting error beyond scope of CEHRT specification requirement, etc.)

**Measure 2: Healthcare survey generation success** – This measure will evaluate the ability for athenaClinicals for HHS to generate conformant healthcare survey CCDAs in the inpatient and emergency department settings

- **Justification:** The evaluation of documents spanning multiple organizations using athenaClinicals for HHS will demonstrate the real world utility of the capability
- **Test Methodology:** System logs will be evaluated for all applicable CCDAs
- **Expected Outcomes:** Surveys successfully generated and accepted by National Center for Health Statistics (NCHS) with expected errors (e.g. formatting error beyond the scope of CEHRT specification requirement, etc.)

## Use Case 5 Outcomes

No changes from plan.

Measure	Relied Upon Software	Outcomes	Challenges
<b>1: Syndromic surveillance message success</b>	N/A	Review of audit logs for Q2 2022 for all athenaClinicals for HHS customers validated 1.27 million successful messages sent, with 15,381 errors and 3984 in an unknown pending status. The primary errors are due to EHR database to file mapping updates required because of individual registry requirements.	N/A

<b>2: Healthcare survey generation success</b>	N/A	Review of audit logs for the two customers that submitted data in 2022 validated successful generation of 33,646 messages.	N/A
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**Use Case 6 – Independent vendors, as well as athenahealth customers use certified APIs for both patient and provider-oriented use cases**

Certification Criteria	Requirement
§ 170.315 (g)(7) Application access – patient selection	(i) Functional requirement. The technology must be able to receive a request with sufficient information to uniquely identify a patient and return an ID or other token that can be used by an application to subsequently execute requests for that patient's data.
§ 170.315 (g)(8) Application access – data category request	(i) Functional requirement. (A) Respond to requests for patient data (based on an ID or other token) for each of the individual data categories specified in the Common Clinical Data Set and return the full set of data for that data category (according to the specified standards, where applicable) in a computable format. (B) Respond to requests for patient data associated with a specific date as well as requests for patient data within a specified date range.
§ 170.315 (g)(9) Application access – all data request	(i) Functional requirements Respond to an API request to output the patient's data in a CCDA

**Measure 1: Request success rate for certified APIs** – This measure will evaluate the successful use of all certified APIs ([https://docs.athenahealth.com/api/resources/complete\\_list\\_athena\\_apis](https://docs.athenahealth.com/api/resources/complete_list_athena_apis)) through the lens of individual transaction requests by request, API Information Source and API Users

- **Justification:** The evaluation of a statistically significant sample size of API requests spanning a broad spectrum of API Information Sources will demonstrate the real world utility of the APIs
- **Test Methodology:** System logs will be reviewed to determine the success rates for the following:
  - Requests Served
    - Denominator: Total requests of certified API(s)
    - Numerator: # of successful responses
  - API Information Sources with at least one successful response – Validates successful API use spanning current API Information Sources
    - Denominator: Total API Information Sources with at least one request
    - Numerator: Total API Information Sources with at least one successful response
  - API Users with at least one successful response – Validates successful API use spanning current API Users
    - Denominator: Total API Users with at least one request
    - Numerator: Total API Users with at least one successful response
- **Expected Outcomes:** We expect to see >99% of requests successful (including expected errors that could include failure in authorization/authentication, incorrectly formatted request, etc.) as summarized in the table:



Measure	§ 170.315 (g)(7)	§ 170.315 (g)(8)	§ 170.315 (g)(9)
Requests Served	>99%	>99%	>99%
API Information Sources	>99%	>99%	>99%
API Users	>99%	>99%	>99%

## Use Case 7 Outcomes

**Changes from plan:** Results below are combined spanning (g)(7), (g)(8) and (g)(9) APIs to simplify reporting.

Measure	Relied Upon Software	Outcomes	Challenges
<b>1: Request success rate for certified APIs</b>	N/A	<p>Review of audit logs for Q2 2022 for all athenaClinicals customers validated the following results. Goals are noted above.</p> <ul style="list-style-type: none"> <li><b>Requests Served:</b> 100% success</li> <li><b>API Information Sources:</b> 100% success</li> <li><b>API Users:</b> 100% success</li> </ul> <p><b>Notes on analysis:</b></p> <ul style="list-style-type: none"> <li>In addition to “2xx” (Success) responses, “4xx” (Client Error) responses are considered “success” for the purpose of numerator calculation</li> </ul>	N/A

## Schedule of key milestones

Key Milestones	Date/Timeframe
Publication that informs athenaClinicals for HHS customers that de-identified data will be used in the execution of real world test plans annually beginning in 2022	January 2022
Start of collection of necessary data as laid out by plan (will vary by measure)	January 2022
End of collection of necessary data as laid out by plan (will vary by measure)	December 2022
Analysis of data (will vary by measure)	Q3-Q4 2022
Submit Real World Testing report to ACB	January 2023

## Attestation

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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.

Authorized Representative Name: Chris Barnes

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Date: 1/19/2023