

athenaClinicals for Hospitals and Health Systems v20 v22 2023 Real World Test Results

Contents

General Information	2
Justification for Real World Testing approach	2
Standards Updates (SVAP and USCDI)	3
Care Setting(s)	3
Overall Expected Outcomes	3
Measure Used	3
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.	
Use Case 1 Outcomes	5
Use Case 2 – During the course of care, patients access a copy of their record (CCDs) for viewing, downloading and/or transmitting.	5
Use Case 2 Outcomes	6
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.	
Use Case 3 Outcomes	7
Use Case 4 – Clinicians electronically prescribe medications.	8
Use Case 4 Outcomes	8
Use Case 5 – Data is appropriately triggered and submitted to relevant public health agencies	9
Use Case 5 Outcomes	10
Use Case 6 – Independent vendors, as well as athenahealth customers and partners of our Marketplace Program use cer APIs for both patient and provider-oriented use cases.	
Use Case 6 Outcomes	12
Schedule of key milestones	13



General Information

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

Developer Name: athenahealth, Inc

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

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Certified Health IT: 2015 Edition Cures Update

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Developer Real World Testing Page URL: https://www.athenahealth.com/onc-certified-health-it

Justification for Real World Testing approach

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.

As all of the certification criteria apply broadly to the care settings noted above, the Real World Testing plan will incorporate several certification criteria into one plan:

- §170.315(b)(1) Transitions of Care
- §170.315(b)(2) Clinical Information Reconciliation and Incorporation
- §170.315(b)(3) Electronic Prescribing
- §170.315(b)(6) Data Export
- §170.315(b)(9) Care Plan
- §170.315(e)(1) View, Download, and Transmit to 3rd Party
- §170.315(f)(1) Transmission to Immunization Registries
- \$170.315(f)(2) Transmission to Public Health Agencies Syndromic Surveillance
- §170.315(f)(7) Transmission to Public Health Agencies Health Care Surveys
- §170.315(g)(7) Application Access Patient Selection
- §170.315(g)(9) Application Access All Data Request
- §170.315(g)(10) Standardized API for patient and population services
- §170.315(h)(1) Direct Project



Standards Updates (SVAP and USCDI)

Standard (and version)	All standards versions are as specified in 2015 Edition/Cures Update
Date of ONC-ACB notification (SVAP or USCDI)	Not applicable
Date of customer notification (SVAP only)	Not applicable
USCDI-updated criteria	Not applicable

Care Setting(s)

See summary of supported care settings listed in the "Justification for Real World Testing Approach" section.

Overall Expected Outcomes

- Real World Testing will demonstrate that the EHR is conformant to the criteria listed in the "Justification for Real World Testing" section.
- See below for measures and outcomes associated with the use cases associated with the listed certification criteria.

Measure Used

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	(i) Send and receive via edge protocol
care	
	(ii) Validate and display
	(iii) Create
	(i) General requirements



§ 170.315 (b)(2) Clinical	(iii) Reconciliation
information reconciliation and	
incorporation	
§ 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	(i) Reference C-CDA match
CDA creation performance	(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

<u>Measure 1: Create a valid CCDA</u> – 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.

- <u>Justification:</u> 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.

<u>Measure 2: Create and send a CCDA:</u> 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.

- <u>Justification:</u> 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.
- <u>Test Methodology:</u> 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.)

<u>Measure 3: Receive and display a CCDA</u> – 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.

- <u>Justification:</u> 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.
- <u>Test Methodology:</u> 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 the number of CCDAs that were successfully received and displayed.
- 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).



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

- <u>Justification:</u> An evaluation of reconciliation use spanning a statistically significant number of active users spanning multiple organizations will validate successful use in the real world.
- <u>Test Methodology:</u> 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
1: Create a valid	N/A	Test samples of a CCD and Referral Note were successfully sent via Direct from	N/A
CCDA		athenaClinicals for HHS and received by the athenaPractice EHR. Receipt and conformance to standards was verified by displaying the documents in athenaPractice.	
2: Create and send a CCDA	N/A	Review of audit logs for Q2 2023 of all athenaClinicals for HHS customers yielded validation of 6743 successful Referral Note, 29,543 successful Discharge Summary and 8 successful CCD Direct message transmissions. The CCD send via Direct feature has low utilization which accounts for the low volume. 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."	N/A
3: Receive and display a CCDA	N/A	Sub-measure 1: An example Referral Note and CCD sent from the athenaPractice EHR was successfully received and displayed in athenaClinicals for HHS. Sub-measure 2: Review of audit logs for Q2 2023 of all athenaClinicals for HHS customers yielded a validation of 126,837 user views of received CCDAs.	N/A
4: Receive and reconcile a CCDA	N/A	Review of audit logs for Q2 2023 of all athenaClinicals for HHS customers yielded validation that 897 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
	(i) (A) View



§ 170.315 (e)(1) View,	(i)(B) Download
download, and transmit to 3 rd	(i)(C) Transmit to third party
party	
§ 170.315 (h)(1) Direct project	(i) Applicability Statement for Secure Health Transport
	(ii) Delivery Notification in Direct

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

- <u>Justification</u>: The CCD document template contains all required data elements in § 170.315 (e)(1)(i)(A).
- <u>Test Methodology:</u> System logs will be evaluated to identify patients with a successful CCD, Referral Note or Discharge Summary document view in athenaCommunicator.
- <u>Expected Outcomes:</u> Success is defined by the number of patients with successful CCD, Referral Note or Discharge Summary document previews.

<u>Measure 2: Validate user behavior around download actions</u> – This measure will demonstrate the ability for a patient to download a CCD, Referral Note and Discharge Summary document template in a live production environment of athenaCommunicator.

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

<u>Measure 3: Validate user behavior around transmit actions</u> – This measure will demonstrate the ability for a patient to transmit a CCD, Referral Note and Discharge Summary document template to a third party in a live production environment of athenaCommunicator.

- <u>Justification:</u> An evaluation of a statistically significant number of CCD, Referral Note and Discharge Summary document transmissions spanning multiple organizations will demonstrate the successful real world use of the transmit feature.
- <u>Test Methodology:</u> System logs will be evaluated to identify CCD, Referral Note 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, Referral Note or Discharge Summary documents successfully sent via Direct with expected errors (e.g. invalid Direct address, lack of response, etc.)
 - CCD, Referral Note or Discharge Summary documents successfully sent via email with expected errors (e.g. invalid email address, etc.)

Use Case 2 Outcomes



Measure	Relied Upon	Outcomes	Challenges
	Software		
1: Validate	athenaCommunicator	Review of audit logs for 6/14/23 – 9/12/23 for 70 customers yielded	N/A
user behavior		validation of 2973 successful views and 24 failures. Note – A view	
around view		requires the download of a CCDA which is why the data is aligned to	
actions		Measure 2 below.	
2: Validate user		Review of audit logs for 6/14/23 – 9/12/23 for 71 customers yielded	N/A
behavior		validation of 2973 successful views and 24 failures.	
around			
download			
actions			
3: Validate user		Review of audit logs for 6/14/23 – 9/12/23 yielded validation as	N/A
behavior		follows:	
around		Transmit via email: 597 successful transmits spanning 61	
transmit		customers with 0 errors.	
actions		Transmit via Direct: 2 successful transmits spanning 2	
		customers with 0 errors.	

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

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

- <u>Justification</u>: 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.
- <u>Test Methodology:</u> 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



Measure	Relied	Outcomes	Challenges
	Upon		
	Software		
1: Single/Multi	N/A	Review of audit logs of all athenaClinicals for HHS customers for January 2023	N/A
patient export		through November 2023 yielded validation as follows (only authorized users):	
		1-10 patients: Eight total export requests spanning six customers with	
		14 CCDAs generated.	
		10-120 patients: 14 total export requests spanning four customers	
		with 768 CCDAs generated.	
		All patients: 24 total export requests spanning five customers with	
		1,034,280 CCDAs generated.	

Use Case 4 - Clinicians electronically prescribe medications.

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

<u>Measure 1: Transaction success rates</u> – This measure will evaluate athenaClinicals for HHS successful use of required eRx transaction types (via Surescripts).

- <u>Justification:</u> A statistically significant sample size of electronic prescriptions spanning multiple organizations using athenaClinicals for HHS will demonstrate the real world utility of the feature.
- <u>Test Methodology</u>: 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:
 - o NewRx 99%
 - o RxChange 99%
 - o CancelRx 99%
 - o RxRenewal 99%
 - o RxFill 99%
 - Medication History 99%

Use Case 4 Outcomes



Measure	Relied	Outcomes	Challenges
	Upon		
	Software		
1: Transaction	Surescripts	Review of audit logs of all athenaClinicals for HHS customers yielded the	N/A
success rates		following results. Goals are noted above.	
		• Range: 7/15/23 – 8/15/23	
		NewRx: 99.92% success rate	
		o RxChange: 99.59% success rate	
		o CancelRx: 100.00% success rate	
		o RxRenewal: 99.98% success rate	
		o RxFill: 100% success rate	
		• Range: Q2 2023	
		 Medication History: 99.91% success rate 	
		Notes on analysis:	
		RxNew 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. • Surescripts does not support non-electronic RxChange requests, so those requests	
		submitted from non-interface are excluded.	
		Prescriber responses to a RxChange 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.	
		 Pharmacy responses that indicate the CancelRx transaction is not supported are considered numerator compliant. 	
		Prescriber responses to a RxRenewal 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.	
		RxFill messages that don't have enough information to process, such as the	
		identification information are excluded.	

Use Case 5 – Data is appropriately triggered and submitted to relevant public health agencies.

Certification Criteria	Requirement
§ 170.315 (f)(1) Transmission	Create immunization information for electronic transmission
to immunization registries	
§ 170.315 (f)(2) Transmission	Create syndrome-based public health surveillance information
to public health agencies –	
syndromic surveillance	
§ 170.315 (f)(7) Transmission	Create health care survey information for electronic transmission
to public health agencies –	
health care surveys	



<u>Measure 1: Immunization message success</u> – This measure will evaluate the ability for athenaClinicals to submit conformant immunization messages.

- <u>Justification:</u> The evaluation of a statistically significant number of immunization messages spanning multiple organizations using athenaClinicals for HHS will demonstrate the real world utility of the capability.
- <u>Test Methodology</u>: System logs will be evaluated for different message types including administered (VXU V04 message), historical and forecast query (QBP Q11, RSP K11 Query message).
- Expected Outcomes: Success is defined as (with expected errors including no response from registry, formatting error beyond the scope of CEHRT specification requirements, etc.):
 - o Administered vaccines (VXU V04 message) successfully sent to immunization registry.
 - Historical and forecast query requests (QBP Q11 Query message) successfully sent to registry and historical immunizations and forecast (RSP K11 Response message) returned from registry.

<u>Measure 2: Syndromic surveillance message success</u> – This measure will evaluate the ability for athenaClinicals for HHS to submit conformant syndromic surveillance messages spanning urgent care, emergency department and inpatient settings.

- <u>Justification:</u> 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.
- <u>Test Methodology:</u> System logs will be evaluated for all applicable messages sent to registries.
- <u>Expected Outcomes:</u> 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.)

<u>Measure 3: Healthcare survey generation success</u> – This measure will evaluate the ability for athenaClinicals for HHS to generate conformant healthcare survey CCDA documents in the inpatient and emergency department settings.

- <u>Justification</u>: 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 CCDA documents.
- <u>Expected Outcomes:</u> 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

Measure	Relied	Outcomes	Challenges
	Upon		
	Software		
1: Immunization	N/A	Review of audit logs for June to August 2023 for all athenaClinicals customers	N/A
message success		validated the following:	
		Administered vaccines (VXU V04 message): 66,929 successful	
		messages with 15 errors that must be managed directly by customers.	
		56 errors are due to EHR database to file mapping updates required	
		because of individual registry requirements.	



		Listerial and forecast grown requests (ODD 011 Orean masses).	
		 Historical and forecast query requests (QBP Q11 Query message): 	
		27,634,981 successful messages. 286 errors are due to EHR database to	
		file mapping updates required because of individual registry	
		requirements.	
		Historical immunizations and forecast (RSP K11 Response message):	
		20,990,940 successful messages with 374,628 errors that were due to	
		registry-side issues including mapping.	
2: Syndromic	N/A	Review of audit logs for June through August 2023 for all athenaClinicals for	N/A
surveillance		HHS customers validated 1,794,163 successful messages sent, with 7991 errors.	
message success		Most errors are due to EHR database to file mapping updates required because	
		of individual registry requirements.	
3: Healthcare	N/A	Review of audit logs for Q2 of 2023 for all athenaClinicals customers validated	N/A
survey		25,705 successful messages sent.	
generation			
success			

Use Case 6 – Independent vendors, as well as athenahealth customers and partners of our Marketplace Program use certified APIs for both patient and provider-oriented use cases.

Certification Criteria	Requirement	
§ 170.315 (g)(7) Application	(i) Functional requirement. The technology must be able to receive a request	
access – patient selection	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)(9) Application	(i) Functional requirements	
access – all data request	Respond to an API request to output the patient's data in a CCDA	
§170.315(g)(10) Standardized	(i) Functional requirements	
API for Patient and Population		
Services		

<u>Measure 1: Request success rate for certified APIs</u> – This measure will evaluate the successful use of all certified APIs under (g)(7), (g)(9) and (g)(10) certification criteria (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.



- <u>Justification</u>: The evaluation of a statistically significant sample size of API requests in the production system spanning a broad spectrum of API Information Sources demonstrates real-world request volume from external applications.

 Tracking success and failure rates of the API responses by HTTP response status codes further validates the results of the APIs against real-world use cases. The measures also demonstrate the ability to provide sufficient supporting API documentation (https://docs.athenahealth.com/api/certified-apis?f=cert) to enable external API developers to integrate with athenaClinicals for HHS. Finally, capturing API response rate for 3-legged Personal Health Record applications shows results for allowing patients to use third-party apps to request their health records.
- <u>Test Methodology:</u> Production system logs of external API usage will be reviewed to determine the success rates for the following:
 - API Requests Served (not including OAuth calls)
 - Numerator: # of successful responses
 - Denominator: Total requests of certified API(s)
 - OAuth Requests Served
 - Numerator: # of successful responses
 - Denominator: Total OAuth requests
 - API Information Sources with at least one successful response Validates successful API use spanning current
 API Information Sources
 - Numerator: Total API Information Sources with at least one successful response
 - Denominator: Total API Information Sources with at least one request
 - API Users with at least one successful response Validates successful API use spanning current API Users
 - Numerator: Total API Users with at least one successful response
 - Denominator: Total API Users with at least one request
 - 3-legged Personal Health Record (PHR) Apps with at least one successful response Validates successful API use spanning current 3-legged PHR Apps
 - Numerator: Total 3-legged PHR Apps with at least one successful response
 - Denominator: Total 3-legged PHR Apps with at least one request
- Notes:
 - External API usage is defined as API traffic initiated by our customers, partners and vendors. API calls generated by athena's internal services will be excluded.
 - o 3-legged PHR API User is defined as applications using 3-legged OAuth to allow patient authorization of access to their health records in athenaClinicals.
- Expected Outcomes: We expect to see performance of >99% on the above measures.

Use Case 6 Outcomes

Changes from plan: Results below are combined spanning (g)(7), (g)(9) and (g)(10) APIs to simplify reporting.

Measure	Relied	Outcomes	Challenges
	Upon		
	Software		
1: Request	N/A	Review of audit logs for August 2023 for all athenaClinicals customers validated	N/A
success rate for		the following results. Goals are noted above.	
certified APIs		API Requests Served (not including OAuth calls): 100% success	
		OAuth Requests Served: 100% success	



API Information Sources: 100% success
API Users: 100% success
PHR Apps: 100% success
Notes on analysis:
In addition to "2xx" (Success) responses, "4xx" (Client Error) responses are considered
"success" for the purpose of numerator calculation.

Schedule of key milestones

Key Milestones	Date/Timeframe
Start of collection of necessary data as laid out by plan (will vary by measure)	January 2023
End of collection of necessary data as laid out by plan (will vary by measure)	January 2024
Analysis of data (will vary by measure)	On-going 2023
Submit Real World Testing report to ACB	February 2024

Attestation

This Real World Testing plan is complete with all required elements, including measures that address all certification criteria and care settings. All information in this plan is up to date and fully addresses the health IT developer's Real World Testing requirements.

Authorized Representative Name: Chris Barnes

Authorized Representative Email: cbarnes@athenahealth.com

Authorized Representative Phone: 617-402-1244

Authorized Representative Signature:

Date: 2/23/2024