EMR Certification

eHealth_hub - Laboratory Result Distribution Interface Assessment Guide

March 31, 2020

Version 1.4

Table of Contents

List of Tables

1   Overview

1.1   Document Purpose

This document contains details for the assessment components which are required in order for an EMR Product to be certified to the eHealth_hub - Laboratory Result Distribution Interface Specification.

1.2   Related Documents

This document references the following companion documents:

Table 1: Related Documents

DOCUMENT
Manitoba EMR Certification - Baseline EMR Requirements Specification
eHealth_hub - Laboratory Result Distribution Interface Specification
eHealth_hub - Laboratory Result Distribution Interface Message Specification
eHealth_hub – Authentication Specification
eHealth_hub - Laboratory Result Distribution Interface Assessment Addendum

Upon application for EMR Certification to this specification, Vendors can email EMR@sharedhealthmb.ca or contact their EMR Product Lead to request the additional assessment addendum containing additional configuration and connectivity details necessary for assessment.

2   EMR Product Assessment

The eHealth_hub - Laboratory Result Distribution Interface Specification defines the requirements for integration between the EMR and the eHealth_hub - Laboratory Result Distribution Interface ("Lab Result Distribution Interface").

2.1   Preparing for Product Assessment

Vendors of Certified EMR Products are advised to thoroughly prepare to ensure that the assessment goes smoothly and to ensure that it can be completed in the allocated time. Before an assessment session, the Vendor of a Certified EMR Product must:

1. Complete the assertion component of certification by submitting Appendix A.

2. Review each scenario to ensure understanding. If questions arise, please contact your designated Product Lead and they will provide any required clarification.

3. Complete the pre-requisites related to each assessment scenario.

4. Conduct an end-to-end dry run to ensure that any identified issues can be remedied prior to assessment, and to confirm the time required to complete the assessment. If

more time is required than initially allocated, please advise Shared Health at the earliest opportunity.

Demonstration provided by vendors that does not align with Assessment Scenarios or Assessment Addendum data may require re-assessment to confirm that requirements are met.

Vendors are expected to keep in-session development to a minimum during assessment sessions. Product Leads reserve the right to discontinue any assessment sessions based on EMR Product and vendor resource readiness.

2.2   Addendum

A companion document to this Assessment Guide is the eHealth_hub - Laboratory Result Distribution Interface Assessment Addendum (addendum) which must be requested. The addendum will contain the necessary information to connect the Certification environment to Shared Health enabling assessment. The following information will be contained in the addendum:

- EMR ID and Home Clinic ID
- Testing Network URLs
- Certificates
- Pre-configured Connection Sample (SOAP Project file)
- Sample Messages

2.3   Message Replay Tool

A message replay tool is available on demand to the applicants to replay sample messages into their mailbox for integration testing and assessment

2.3.1   SOAP Message Structure

```
<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mes="http://www.examplewebservice.com/MessageTriggerService">
   <soapenv:Header/>
   <soapenv:Body>
      <mes:MessageTriggerRequest>
         <EmrID>ENTER TEST EMR ID HERE</EmrID>
         <ClinicID>ENTER TEST CLINIC ID HERE</ClinicID>
         <Set>1</Set>
      </mes:MessageTriggerRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

2.3.2   Request Parameters

Table 2: Message Replay Tool - Request Parameters

PARAMETER	DESCRIPTION
EMRID (mandatory)	Send the test EMR ID provided by Shared Health.
ClinicID (mandatory)	Send the test Clinic ID provided by Shared Health.
Set (mandatory)	Send the set ID of the message to replay.

*See eHealth_hub - Laboratory Result Distribution Assessment Addendum for the available parameter values

2.4 Test Patients

Test scripts and associated test messages use following test patient(s) information. The applicant must make the following test patient(s) available in EMR for the assessment of their product:

Table 3: Test Patients

NAME	DOB	GENDER	PHIN	OTHER PROVINCE IDENTIFIER	HOSPITAL MRN*
MALE TESTPATIENT1	1965-04-25	Male	955500511	Not applicable	St. Boniface Hospital: 01051522
FEMALE TESTPATIENT2	1982-06-12	Female	955500522	Not applicable	Not applicable
MALE TESTPATIENT3	1994-10-09	Male	955500533	Not applicable	Not applicable
MALE TESTPATIENT4	1976-03-05	Male	Not applicable	Saskatchewan HSN: 955500544	Not applicable

2.5 Test Providers

Test scripts and associated test messages use following test provider(s) information. The EMR applicant must make the following test provider(s) available in EMR for the assessment of their product:

Table 4: Test Providers

NAME	ID
Dr. Test Provider1	1111
Dr. Test Provider2	2222
Dr. Test Provider3	3333
Dr. Test Provider97	9797
Dr. Test Provider98	9898

2.6 Assessment Column Definitions

ID – A unique identifier for the assessment scenario.

Description – A brief text description of the assessment being performed.

Precondition – Any setup that must be in place prior to the assessment being performed.

Script – The detailed steps needed to execute the assessment.

Expected Results – The detailed results to be demonstrated and that prove successful execution of the test.

Reqmt Xref – A reference to one or more requirements from the specification.

Test Data – Relevant data, as defined in the testing logistics, to be used in execution of the test.

2.7 Assessment Scenarios

2.7.1 Connectivity

Table 5: Assessment Scenarios – Connectivity

ID	DESCRIPTION	PRECONDITION	SCRIPT	EXPECTED RESULTS	REQMT. XREF
I1	Manually trigger EMR to check mailbox - Messages in mailbox.	Messages are in mailbox. EMR is authenticated and authorized.	1. Manually check mailbox.	EMR interface log contains manual check details.	HL.I01 HL.I02 HL.I04 HL.I11
I2	Manually trigger EMR to check mailbox - No messages in mailbox.	No messages are in mailbox. EMR is authenticated and authorized.	1. Manually check mailbox.	EMR interface log contains manual check details for an empty mailbox.	HL.I11

ID	DESCRIPTION	PRECONDITION	SCRIPT	EXPECTED RESULTS	REQMT. XREF
I3	Automatically trigger EMR to check mailbox periodically - No messages in mailbox.	No messages are in mailbox. EMR is authenticated and authorized.	1. Change mailbox polling interval to 1 minute. 2. Change mailbox polling interval to 2 minutes.	1. EMR interface log shows successful mailbox checks at a 1-minute interval. 2. EMR interface log shows successful mailbox checks at a 2-minute interval.	HL.I07 HL.I11
I4	EMR request - No active mailbox.	EMR is authenticated and authorized.	1. EMR attempts to check for results. 2. eHealth_hub simulates and sends a mailbox error. 3. EMR receives mailbox error.	EMR notifies EMR administrator and logs error.	HL.I10
I5	EMR request - Invalid EMR identifier.		1. Change the configured EMR identifier to a fictitious value. 2. EMR attempts to check for results.	EMR notifies EMR administrator and logs error.	HL.I03 HL.I10
I6	EMR request – Valid Clinic identifier and invalid EMR identifier.	Clinic identifier is set to the value provided by Shared Health.	1. Change the configured EMR identifier to a fictitious value. 2. EMR attempts to check for results.	EMR notifies EMR administrator and logs error.	HL.I03 HL.I10
I7	EMR request – Invalid Clinic identifier.		1. Change the configured Clinic identifier to a fictitious value. 2. EMR attempts to check for results.	EMR notifies EMR administrator and logs error.	HL.I03 HL.I10
I8	EMR request – Valid EMR identifier and invalid Clinic identifier.	EMR identifier is set to the value provided by Shared Health.	1. Change the configured Clinic identifier to a fictitious value. 2. EMR attempts to check for results.	EMR notifies EMR administrator and logs error.	HL.I03 HL.I10

ID	DESCRIPTION	PRECONDITION	SCRIPT	EXPECTED RESULTS	REQMT. XREF
I9	eHealth_hub does not receive an acknowledgement as part of a logical unit of work.	Messages are in mailbox.	1. EMR checks for and receives results. 2. eHealth_hub simulates network error and does not receive acknowledgement. 3. EMR checks for and receives results.	Messages remain in mailbox after first poll of mailbox. EMR retrieves messages a second time, but recognizes as duplicates and discards.	HL.I05 HL.P01 HL.P02 HL.P03
I10	EMR cannot be authenticated.	x.509 certificate is invalid.	1. EMR attempts to check for results.	EMR notifies EMR administrator and logs error.	HL.I10
I11	EMR cannot be authorized.	Clinic not authorized for results they are requesting in eHealth_hub.	1. EMR attempts to check for results.	EMR notifies EMR administrator and logs error.	HL.I10
I12	EMR request – Mailbox contains more than 25 results.	EMR polling interval set to 30 minutes. Mailbox has more than 25 messages.	1. EMR receives and processes results.	Mailbox is empty. EMR received all results from mailbox.	HL.I02 HL.I04 HL.I05 HL.I08 HL.I09
I13	2 clinics using same EMR instance, if supported by the product.	Two clinics are setup in a single EMR instance. Two corresponding mailboxes setup with result(s) in each mailbox.	1. Initiate polling of mailbox. 2. EMR checks for and retrieves results from the site 1 mailbox. 3. EMR checks for and retrieves results from the site 2 mailbox.	Clinic 1 mailbox is empty. Results in EMR site 1. Clinic 2 mailbox is empty. Results in EMR site 2.	HL.I03 HL.I04 HL.I05 HL.I08 HL.I09
I14	Enable/disable access to eHealth_hub.	Access to eHealth_hub is enabled and EMR is able to check eHealth_hub mailbox.	1. Disable EMR access to eHealth_hub. 2. Wait for more than the polling interval time.	EMR is no longer trying to access eHealth_hub.	HL.I12

2.7.2 Interface

Table 6: Assessment Scenarios – Interface

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C1	Matching results with the patient info within EMR.	Test provider and patient are available in EMR. The required sample message sets are available having results with matching patient information (PHIN, DOB, gender) to that in the EMR. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1. 2. Check for new lab result messages.	Source & EMR Patient Name: TESTPATIENT1, MALE PHIN: 955500511 DOB: 1965-04-25 Gender: Male Ordering provider: Dr. Test Provider1	EMR displays the result associated with the matching patient in the correct patient's chart. Result is not available for matching to a patient's chart manually.	HL.P04
C2	Unmatched results – PHIN does not match. DOB and gender match.	Test provider and patient are available in EMR. The required sample message sets are available having results with discrepancy in patient information that will cause the failure of matching the patient. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1. 2. Check for new lab result messages.	Source Patient Name: TESTPATIENT1, MALE PHIN: 955500524 DOB: 1965-04-25 Gender: Male Ordering provider: Dr. Test Provider1	Result does not appear in patient's chart. Result is available as an unmatched result; and can be matched to a patient's chart manually by viewing result info.	HL.P05

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C3	Unmatched results – DOB does not match. PHIN and gender match.	Test provider and patient are available in EMR. The required sample message sets are available having results with discrepancy in patient information that will cause the failure of matching the patient. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1. 2. Check for new lab result messages.	Source Patient Name: TESTPATIENT1, MALE PHIN: 955500511 DOB: 1964-04-25 Gender: Male Ordering provider: Dr. Test Provider1	Result does not appear in patient's chart. Result is available as an unmatched result; and can be matched to a patient's chart manually by viewing result info.	HL.P05
C4	Unmatched results – Gender does not match. PHIN and DOB match.	Test provider and patient are available in EMR. The required sample message sets are available having results with discrepancy in patient information that will cause the failure of matching the patient. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1. 2. Checks for new lab result messages.	Source Patient Name: TESTPATIENT1, MALE PHIN: 955500511 DOB: 1965-04-25 Gender: Female Ordering provider: Dr. Test Provider1	Result does not appear in patient's chart. Result is available as an unmatched result; and can be matched to a patient's chart manually by viewing result info.	HL.P05

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C5	Assigning results for review – matching ordering and 'copied to' providers.	Test providers and patient are available in EMR. The required sample message sets are available having results with matching provider IDs as that of the EMR for the ordering and copied provider. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1; validate expected results. 2. Login to EMR as Dr. Test Provider2; validate expected results. 3. Login to EMR as Dr. Test Provider3; validate expected results.	<u>Source</u> Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1 Copied provider: Dr. Test Provider2 Copied provider: Dr. Test Provider3	EMR assigns the result for review to the matching ordering and copied providers. Each provider can now review the result.	HL.P06
C6	Assigning results for review – not matching ordering or 'copied to' providers.	Test providers and patient are available in EMR. A test clinical support user (e.g.: clerk) is available in the EMR. The required sample message sets are available having result where the copied providers are at the clinic but their provider IDs sent by the source lab do not match with the EMR. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as clinical support staff user; validate expected results. 2. Login to EMR as Dr. Test Provider98 and Dr. Test Provider97; validate expected results.	<u>Source</u> Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider99 Provider ID: 9999 Copied provider: Dr. Test Provider98 Provider ID: 9998 Copied provider: Dr. Test Provider97 Provider ID: 9997	Result is not assigned to any providers. Result can be manually assigned to the providers for review by the clinical support staff. Process is in place to manage unmatched records. Dr. Test Provider97 and/or Dr. Test Provider98 can review the results once assigned manually.	HL.P07

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C7	Assigning results for review – matching ordering provider, not matching 'copied to' providers.	Test providers and patient are available in EMR. The required sample message sets are available having results where provider ID only exists in EMR for ordering provider. One of the copied providers is at the clinic but their provider ID sent by source does not match with the EMR. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1; validate expected results.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1 Provider ID: 1111 Copied provider: Dr. Test Provider99 Provider ID: 9999 Copied provider: Dr. Test Provider98 Provider ID: 9998	EMR assigns the result for review to Dr. Test Provider1. EMR matches the result to the patient. Dr. Test Provider98 can see the results in the patient's chart.	HL.P06
C8	Assigning results for review – not matching ordering provider, matching 'copied to' providers.	Test providers and patient are available in EMR. The required sample message sets are available having results where ordering provider ID is for a different clinic and does not exist in EMR. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1 and Dr. Test Provider2; validate expected results.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider99 Provider ID: 9999 Copied provider: Dr. Test Provider1 Provider ID: 1111 Copied provider: Dr. Test Provider2 Provider ID: 2222	EMR assigns the result for Dr. Test Provider1 and Dr. Test Provider2 for review.	HL.P06

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C9	Same result received twice, second result newer than the first.	Test script C1 is passed. The required sample message sets are available having subsequent result whose sending facility, order number and observation request match the preliminary result; and the subsequent result time is greater than the preliminary result time. EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1. 2. Review the original lab result for test patient in EMR. 3. Check for new lab result messages (set 2). 4. EMR receives subsequent results and processes them accordingly. 5. Validate the expected results for the test patient.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	Subsequent result replaces original result in EMR.	HL.P01 HL.P02 HL.P03
C10	Same result received twice, second result older than the first.	EMR and/or EMR interface has received and processed the results (set 1). Test script C1 is passed. The required sample message sets are available in mailbox having subsequent result whose sending facility, order number and observation request match the existing result; and the subsequent result time is older than the existing result time.	1. Login to EMR as Dr. Test Provider1. 2. Review the original lab result for test patient in EMR. 3. Check for new lab result messages (set 3). 4. EMR receives results and completes processing. 5. Validate the expected result for the test patient.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	Subsequent result does not appear in EMR. Original result remains in EMR. Error/information logged that incoming result was discarded.	HL.P01 HL.P02 HL.P03

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C11	Multiple identical results with different identifier.	Test script C9 and C10 are passed. The required sample message sets are available in mailbox having subsequent results whose sending facility and/or order number and/or observation request do not match with the preliminary result. EMR and/or EMR interface has received and processed the results (set 1, 2 & 3).	1. Login to EMR as Dr. Test Provider1. 2. Validate the expected results for the test patient.	<u>Source</u> Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	Old as well as new results appear in EMR as different results.	HL.P01
C12	Alert of new results.	EMR and/or EMR interface has received and processed the results (set 1). Test provider and patient are available in EMR.	1. Login to EMR as Dr. Test Provider1. 2. Validate the expected result for test patient. 3. Open / review the new report and validate the expected result.	<u>Source</u> Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	1. EMR displays alert to the provider that there are new results to review. 2. EMR displays date/time when result was received in EMR. Date/time is displayed in proper format. 3. Alert is not available after user has reviewed the report.	HL.D01 HL.D03 HL.D04

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C13	Alert of new results – abnormal results alert.	EMR and/or EMR interface has received and processed the results.	1. Login to EMR as Dr. Test Provider1. 2. Validate the expected results for test patient.	Source Patient Name: TESTPATIENT2, FEMALE Ordering provider: Dr. Test Provider1	EMR displays alert to the provider that there are new results to review. An abnormal result alert is also displayed.	HL.D01 HL.D02
C14	Error in HL7 message.	Mailbox contains result that has errors in the HL7 message (base64 decoding error) which would prevent the EMR from being able to process it.	1. EMR receives results.		EMR notifies an EMR administrator that it received an erroneous message that it cannot process. Message file is available in the mailbox.	HL.I05 HL.I10
C15	Date/Time format.	EMR and/or EMR interface has received and processed the results (set 1).	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT2, FEMALE.		Time is either 24h, or indicate AM/PM. Date format is one of the recommended formats, as defined in requirement. Ensure date/time is accurate.	HL.D04
C16	Patient information.	EMR and/or EMR interface has received and processed the results.	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT4, MALE.	Source Patient Name: TESTPATIENT4, MALE Ordering provider: Dr. Test Provider1	All required attributes and identifiers are displayed. Date of birth is in one of the required formats. Comments are displayed.	HL.D05

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C17	Provider and performing lab information.	EMR and/or EMR interface has received and processed the results.	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT4, MALE.	Source Patient Name: TESTPATIENT4, MALE Ordering provider: Dr. Test Provider1	All required attributes are displayed.	HL.D06
C18	Lab order / accession information.	EMR and/or EMR interface has received and processed the results.	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT4, MALE.	Source Patient Name: TESTPATIENT4, MALE Ordering provider: Dr. Test Provider1	All required attributes are displayed. Status is displayed in full. Full comments are displayed.	HL.D07
C19	Display test results associated with a lab order.	EMR and/or EMR interface has received and processed the results.	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT1, MALE.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	All required attributes are displayed. Decimals and the special characters are displayed accurately as received in message. Reference range is displayed from OBX-7 or NTE as received in message. Full test result comments are displayed following the result.	HL.D10
C20	Formatted text display.	EMR and/or EMR interface has received and processed the results.	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT1, MALE.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	Result displays the formatted text, special characters and spacing as per the HL7 message.	HL.D10

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C21	Different results received out of order.	EMR and/or EMR interface has received and processed the results (set 1 and 2).	1. Validate expected results as Dr. Test Provider1.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	No results are overwritten. All results display in proper order (most recent first). Indication is available to access historical results.	HL.D08 HL.D09
C22	Sequence of results.	EMR and/or EMR interface has received and processed the results (set 1 and 2); where source sends message with multiple results associated with the same order.	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT1, MALE.		Display sequence of resulted tests in each order same as sequence in HL7 message.	HL.D11
C23	Long set of results.	EMR and/or EMR interface has received and processed the results (set 1 and 2); where source sends very long result.	1. Login to EMR as Dr. Test Provider1. 2. Open a set of results for TESTPATIENT1, MALE.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	Visible indicator that more results are available than what are currently visible (i.e. page numbers or scroll bars).	HL.D07

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C24	Historical results.	EMR and/or EMR interface has received and processed the results (set 1 and 2).	1. Login to EMR as Dr. Test Provider1. 2. Check for new messages by manual trigger in the EMR. 3. EMR receives and processes results. 4. Open the new set of results that are received for TESTPATIENT1, MALE.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	Indication that historical results are available.	HL.D09
C25	Trending of results – graphical display, if trending option is available in the product.	EMR and/or EMR interface has received and processed the results. Source sends 3 or more orders of the same type of result for the same patient, all with different times and different order numbers. At least one result should be out of range and from multiple lab sources.	1. Login to EMR as Dr. Test Provider1. 2. Open patient chart for TESTPATIENT1, MALE. 3. Open trending graph for the selected lab test.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1 Lab test to be trended: To be provided in the addendum.	Trending graph for the selected lab test is presented with results obtained over a defined date range and displaying all attributes as defined in the requirement.	HL.D13

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C26	Trending of results – tabular display, if trending option is available in the product.	EMR and/or EMR interface has received and processed the results. Test scripts C20 is passed. Source sends 3 or more orders of the same type of result for the same patient, all with different times, different order numbers, and represent multiple lab sources At least one result should be out of range.	1. Login to EMR as Dr. Test Provider1. 2. Open patient chart for TESTPATIENT1, MALE. 3. Open the tabular trending display for the selected lab test where more than one results exist from multiple sources.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1 Lab test to be trended: To be provided in the addendum.	Trending data table for the selected lab test is presented with results obtained over a defined date range and displaying all attributes as defined in the requirement.	HL.D14
C27	Trending of results – drilldown of results, if trending option is available in the product.	EMR and/or EMR interface has received and processed the results. Test scripts C20 and C21 are passed.	1. Login to EMR as Dr. Test Provider1. 2. Open patient chart for TESTPATIENT1, MALE. 3. Open the graphical trending view as used in C25. 4. Drill down from the graphical view; validate expected results. 5. Open the tabular trending view as used in C26. 6. Drill down from the graphical view; validate expected results.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1	Lab test result details are presented with all attributes as defined in the requirement.	HL.D15

ID	DESCRIPTION	PRECONDITION	SCRIPT	TEST DATA	EXPECTED RESULTS	REQMT. XREF
C28	Process PDF reports.	Test provider and patient are available in EMR. The required sample message sets are available in mailbox having PDF report.	1. Check for new lab result messages. 2. EMR receives and processes results. 3. Login to EMR as Dr. Test Provider1; validate expected results.	Source Patient Name: TESTPATIENT1, MALE Ordering provider: Dr. Test Provider1 'Copied to' Provider: Dr. Test Provider99 Provider ID: 9999	EMR displays the result in the folder for Dr. Test Provider1 for review. Result is matched to correct patient. EMR displays the PDF report properly.	HL.D12

3   Appendix A: Assertions

Follow the instructions below to complete the assertion component of this assessment:

1. Print Appendix A.

2. Assess the EMR product's ability to meet each requirement below.

- Where the product fully meets the requirement, check "Yes" in the Assertion column.

- Where the product will need to be enhanced to fully meet the requirement, check "No" in the Assertion column.

Note that the product must be enhanced for all requirements with a No assertion, prior to certification of the EMR product.

3. Scan the completed assertion sheet, and save the scanned sheet with a filename that uniquely identifies your EMR Product. For example, Assertion_EHLD_EMR-PRODUCT-NAME.pdf.

4. Submit the completed Assertion document to EMR@sharedhealthmb.ca.

Table 7: Assertions

ORGANIZATION NAME	
EMR PRODUCT NAME	
ID	**ASSERTION**
HL.I06	☐ Yes ☐ No
eHealth_hub - Authentication Specification - AUTH-004	☐ Yes ☐ No
AUTHORIZED REPRESENTATIVE	
Name	
Title	
Date	

(eHealth_hub - Laboratory Result Distribution Interface Assessment Guide)

4 Appendix B: Test Scripts - Source CAP Accreditation

The following test scripts are required in order to confirm the EMR product meets international standards established within the College of American Pathologists (CAP's) Laboratory Accreditation Program.

Laboratory Test Result Delivery to EMR

Laboratory Module Test Scenario Validation Checklist

SITE: _____ VENDOR: _____ Version: _____

#	Result Scenario	Patient Details Request #	Scenario Day 1	Scenario Day 2	Meets Specifications √ YES	Meets Specifications √ NO	NOTES
Common Test Results / Result Flags							
1	CBC with automated differential. *Display normal result*						
2	CBC with *manual* differential & VH. *Display Manual diff which replaced automated diff.*						
3	Potassium CRITICAL HIGH result. *Display Critical High (HH) Flag.*						
4	Calcium HIGH result. *Display High (H) Flag*						
5	Magnesium CRITICAL LOW result *Display Critical Low flag*						
6	Occult Blood. Group test: OB X3. Non-numeric test.						
7	Gentamicin – with TDOS *Display TDOS comment with result*						
8	Immunology – *ANCA, ENA, ANA, DNA and TTG*						
9	Troponin – negative/low result with '<' *Display '<' sign with result*						
Comments							
10	INR & APTT *Display specimen and result comments*						
11	Anti-thyroglobulin (ATHG) *Display comments regarding testing not done when result >2000*						
12	HEREDITARY HEMOCHROMATOSIS (HH) - HFE GENE *Display large textual report*						
Timed Tests							
13	Glucose Tolerance Test: *Display abnormal High results on 2 Hr glucose and interpretive comments.*						

Corrected Results							
14	LD *Display abnormal single numeric test.*						
15	LD *Display results as corrected: numeric result and result comments replace original result.*						
16	Lipid Profile. *Display group of tests with normal/abnormal results.*						
17	Lipid Profile: Corrected TRIG and LDL component tests within the profile. *Display appropriate component test results as corrected: Result and result comments replace original results.*						
18	Monospot. *Display abnormal HIGH (H) non-numeric result.*						
19	Monospot. Corrected Text result. *Display corrected: non-numeric result-Result comments replace original results.*						

Complex Test / Result Combination							
20	GRHF Stimulation Test *Display comments, table & columns appropriately*						

Cancelled Tests / Multiple docs							
21	LYTES: Profile test. Inpatient registration with multiple docs. ** Display group of tests under one OBR.* ** Display copy to doctors*						
22	Potassium: component of Profile. Test not done - hemolyzed *Display comment for test not performed.*						
23	ESR. *Display normal numeric test and result.*						
24	ESR - cancel specimen. *Display specimen as cancelled with specimen cancellation comments.*						
25	Rejected Specimen Display rejected comment						

Referrals							
26	Vitamin C: Normal Referral test. *Display results – Identify testing performed by:"Ref Lab name".*						

Multi-Result Test							
27	Urinalysis – with microscopic *Display multiple results within microscopic*						

EMR Assessment:

Applicants are responsible for providing a report example and a screenshot of the lab results display area of the EMR product for each scenario listed above. Prior to submission, applicants must perform quality assurance of these reports and screenshots to ensure compliance with Manitoba's requirements. Submissions should be sent to EMR@sharedhealthmb.ca.

Microbiology Test Result Delivery to EMR

Microbiology Module Test Scenario Validation Checklist

SITE: _____ VENDOR: _____ Version: _____

#	Result Scenario	Patient Details	Scenario		Meets Specifications		NOTES
			Day 1	Day 2	√ YES	√ NO	
Routine Testing							
1	Wound Swab/Drain Culture. Positive – Preliminary Results. *Display positive preliminary results.*						
2	Above final wound culture – One organism with susceptibility. *Display final organism / susceptibility results.*						
3	Influenza *Display comment.*						
4	Stool culture :Final / C. difficile: Prelim *Display culture results as Final & C. difficile toxin results as Preliminary.*						
5	Finalize above results. *Display all results as final.*						
6	Gram – Vaginitis *Status – Final*						
7	CSF Culture – Prelim & CSF Antigen Test *Display status for each test*						
	CSF Culture – Final from above						
Corrected / Cancelled Results							
8	Urine culture: Negative. *Display results.*						
9	Corrected above culture results. *Corrected pos results replace original.*						
10	MRSA. *Display results.*						
11	Cancelled above results. *Above specimen cancelled: Results and comments removed.*						
Complex Cultures							
12	Fluid Culture: Multiple organisms with multiple susceptibility panels. *Display organisms with appropriate susceptibilities.*						
Referred Out Culture Results							
13	Viral Serology – sent to Cadham						

EMR Assessment:

Applicants are responsible for providing a report example, for each scenario listed above. Prior to submission, applicants must perform quality assurance of these reports to ensure compliance with Manitoba's requirements. Submissions should be sent to EMR@sharedhealthmb.ca.

5   Appendix C: Release Notes

Version 1.0 December 1, 2015

- Updated document to new standard template of Manitoba eHealth
- Updated name of service from earlier "DDS" or "CID" or "Health_Hub" to "eHealth_hub"
- Section 1.6: References
    - Updated version number on reference documents
    - Added reference to eHealth_hub Assessment Information Addendum
- Section 2.1: Example Errors
    - Moved section into requirements specification (AD 1).
- Section 3.2: Certification Environment
    - Moved the testing message replay tool information from assessment information addendum to assessment guide. Added as a new sub-section 3.2.1
    - Created section 3.2.1.2 detailing information on request parameters for the replay tool.
    - Removed table for Test EMR IDs and Test Clinic IDs from sub-section 3.2.2; and added reference to addendum.
- Section 3.4: Applicant Assertions
    - Added a new section to allow applicants to submit their assertion for the relevant requirements.
- Section 3.6: Test Scripts
    - Updated "steps" under test scripts – C9, C10 and C11. Removed the details of the process requirements, since they are clearly mentioned in the Requirements document.
    - Updated the requirement references for all test scripts to match with the requirements table in the Requirements specification (AD 1)
    - Added new test scripts C13, C16, C17, C18, C19, C20, C26, C27 and C28.
- Section 5: Use Cases (erstwhile)
    - Moved use-cases to the requirements specification (AD 1) and removed from assessment guide.

Version 1.2 February 15, 2016

- Defined additional test patients for certification environment, under sub-section 3.2.3.

Version 1.3 September 29, 2016

- Updated test patients on test scripts C13, C15, C16, C17 and C18

Version 1.4 March 31, 2020

- Updated document theme to new organizational visual identity

- Updated Manitoba eHealth to Shared Health to align with new organizational structure, including changes to the EMR Certification contact email address

- Updated Related Documents:

- - Removed Document IDs throughout document

  - Added Manitoba EMR Certification - Baseline EMR Requirements Specification

  - Added eHealth_hub – Authentication Specification

- Updated Assertions Appendix

  - Added eHealth_hub - Authentication Specification - AUTH-004

- Added table references to all tables

- Removed previous Section 1 Overview description

- Removed previous Section 1.1 Laboratory Result Distribution Interface Objectives

- Removed previous Section 1.3 Intended Audience

- Removed previous Section 1.4 Acronyms

- Removed previous descriptions under Section 3 Assessment and Section 3.1 Assumption; replaced with current Section 2.1 Preparing for Product Assessment

- Removed all references of "(See the requirement in Requirements specification document AD 1)" in Section 2.7 Assessment Scenarios

- Updated all references from "eHealth_hub Assessment Information Addendum (AD3)" to "addendum" in Section 2.7 Assessment Scenarios