

EMR Ontario Laboratory Information System (OLIS)

Requirements

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1. INTRODUCTION

1.1 Overview

This document defines the requirements for the EMR Offering to integrate with the Ontario Laboratory Information System (OLIS) to be able to:

- retrieve laboratory results reports in a consistent format.
- retrieve laboratory results reports:
 - a. by practitioner
 - b. by patient or
 - c. initial pre-load
- preview and/or selectively process lab results reports before saving and managing them in the EMR Offering.
- Manage duplicate lab results and lab reports.

1.2 Version History

VERSION	REVISION DATE	REVISION NOTES
1.0	2017-08-04	Initial document version
1.1	2021-06-15	a) Updated links to related documents, references, and sources. b) Updated references to the Ministry of Health (MOH), previously, Ministry of Health and Long-Term Care (MOHLTC). c) Split specification content into business view and requirements documents d) Formatting standardization and corrections

1.3 Related Documents, References, and Sources

ID	NAME	VERSION	DATE
1	Ontario Laboratories Information System (OLIS) Interface Specification (Ontario Health (Digital Services), 2018) https://www.ehealthontario.ca/wps/portal/eHealthPortal/Applications/OlisInfo/	R01.29	2018-11-23
2	OLIS Nomenclature (Ontario Health (Digital Services), 2021) https://ehealthontario.on.ca/en/olis-nomenclature	(Versions update frequently)	
3	Guide to the OLIS Nomenclature (Ontario Health (Digital Services), 2010) https://ehealthontario.on.ca/files/public/support/OLIS/OLIS Toolkit/2.3 Nomenclature Mapping/a guide to the olis nomenclature.pdf	2.0	2010-10-26

2. EMR REQUIREMENTS

This section consists of the EMR functional requirements to interact with the EMR OLIS.

Support:

M = Mandatory. EMR Offerings certified for this specification **MUST** support this requirement.

O = Optional. EMR vendors **MAY** choose to support this requirement in their certified EMR Offering.

Status:

N = New requirement for this EMR Specification version.

P = Previous requirement.

U = Updated requirement from the previous EMR Specification version.

R = Retired requirement from the previous EMR Specification version.

OMD #:

A unique identifier that identifies each requirement within OntarioMD's EMR Requirements Repository.

CONFORMANCE LANGUAGE

The following definitions of the conformance verbs are used in this document:

- **SHALL/MUST** – Required/Mandatory
- **SHOULD** – Best Practice/Recommendation
- **MAY** – Acceptable/Permitted

The tables that follow contain column headings named: 1) "Requirement," which generally contains a high-level requirement statement; and 2) "Guidelines," which contains additional instructions or detail about the high-level requirement. The text in both columns is considered requirement statements.

2.1 OLIS Preload Query

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS01.01	The EMR Offering MUST have the functionality to support the creation and transmission of the OLIS Preload Query on an on-demand basis.	<p>The OLIS Preload Query MUST be presented and structured so that it can be executed by the practitioner.</p> <p>Requesting HIC and Query Initiating User credentials MUST automatically fill in the appropriate parameters in the OLIS Preload Query.</p> <p>The EMR Offering MUST provide the ability to set the Start Timestamp and End Timestamp (@OBR.22). Setting up these parameters MUST not affect the Start Timestamp parameter for the OLIS Practitioner Query.</p> <p>Refer to the OLIS Interface Specification for more information on the creation and transmission of the OLIS Preload Query.</p>	M	P
OLIS01.02	The EMR Offering MUST have the functionality to allow the EMR user to preview the laboratory information returned by the OLIS Preload Query prior to permanently saving the laboratory information into the patient chart and/or in the Requesting HIC inbox/work queue.	<p>The laboratory information returned by the OLIS Preload Query and displayed in the Preload Preview is provider-specific and MUST be accessible only by the Requesting HIC.</p> <p>At a minimum, the Preload Preview MUST include:</p> <ul style="list-style-type: none"> a) Patient First Name (FN), Last Name (LN), Date of Birth (DOB), Gender, and Health Card Number (HCN) b) Collection Date/Time (OBR.7) c) Category: Chemistry, Hematology, Immunology, Microbiology, etc. d) Test Request Name (OBR.4) / Test Request Status (OBR.25) e) Test Result Information: Test Result Name (OBX.3) / Test Result Value (OBX.5) / Units (OBX.6) / Abnormal Flag (OBX.8) /Test Results Status (OBX.11) f) Practitioner: Ordering (OBR.16), CCed (OBR.28), Admitting (PV1.17), Attending (PV1.7) g) Lab Name h) Whether the patient is matched or unmatched in the EMR 	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		<p>Hovering over the above data elements to get the information is NOT acceptable to meet the requirement.</p> <p>Abnormal Flag (OBX.8) MUST be displayed without opening the actual lab report/result.</p>		
OLIS01.03	The EMR Offering MUST have the functionality to filter and sort the laboratory information displayed in the Preload Preview.	<p>At a minimum, the EMR Offering MUST have the functionality to:</p> <ul style="list-style-type: none"> a) Filter (apply query selection) on the preview fields as per requirement (req# PLQ-002 - mentioned above) b) Sort by all the preview fields <p>The EMR Offering MUST be able to limit filter options based on the following laboratory information returned by the OLIS Preload Query:</p> <ul style="list-style-type: none"> a) Patient FN, LN, HCN b) Lab Name c) Category: Chemistry, Hematology, Immunology, Microbiology, etc. d) Test Request Status (OBR.25) e) Test Result Status (OBX.11) f) Practitioner: Ordering (OBR.16), CCed (OBR.28), Admitting (PV1.17), Attending (PV1.7) g) Abnormal Flag (OBX.8) h) Reporting Laboratory (ZBR.4) / - Exclude Reporting Laboratory (ZBE.4) i) Performing Laboratory (ZBR.6) / - Exclude Performing Laboratory (ZBE.6) j) Test Request Code (OBR.4) / - Test Request Status (OBR.25) <p>Filtering on an individual Lab Name MUST return/display all laboratory results where the Lab License Number (e.g., 5623, 5629, 5639) is identified as belonging to the parent lab (e.g., LifeLabs).</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS01.04	<p>The EMR Offering MUST have the functionality to allow the user to act upon the laboratory information returned by the OLIS Preload Query, prior to permanently saving the laboratory information into the patient chart.</p>	<p>The EMR Offering MUST provide a mechanism to select laboratory information to:</p> <ul style="list-style-type: none"> a) Save b) Sign off & save c) Remove <p>At a minimum, the EMR user MUST be able to select:</p> <ul style="list-style-type: none"> a) Individual test requests b) Individual test results c) All test results and test requests <p>The laboratory information presented in the Preload Preview MUST be persisted in the EMR Offering until one of the following actions is taken:</p> <ul style="list-style-type: none"> a) Permanently save the laboratory information into the EMR Offering b) Permanently sign off & save the lab information in the EMR Offering c) Permanently remove the lab information from EMR Offering and provide a reason for removal <p>The following rules MUST apply once the laboratory information is permanently saved in the EMR Offering:</p> <ul style="list-style-type: none"> a) Save: displays laboratory information in the Requesting HIC inbox /work queue and patient chart; the laboratory information is marked as unsigned or not reviewed. b) Sign off and save: displays laboratory information only in the patient chart; the laboratory information is marked as signed-off or reviewed. <p>Once saved or signed-off & saved, the lab report/result MUST be added to the patient chart and the Requesting HIC inbox/work queue.</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS01.05	The EMR Offering MUST have the functionality to be able to manage duplicate lab reports/results returned by the OLIS Preload Query.	<p>The EMR Offering MUST manage duplicate lab reports/results by performing actions such as, but not limited to:</p> <ul style="list-style-type: none"> a) Automatically reject duplicate lab reports/results b) Identify and allow manual removal of duplicate lab reports/Results from the Preload Preview <p>In the case where duplicate reports/results are displayed in the Preload Preview, the EMR Offering MUST provide the EMR user with the ability to sort and filter the duplicate lab reports/results.</p> <p>Refer to section 4 of the OLIS - Report Identification Guidance for more information on managing duplicate lab reports/results.</p>	M	P

2.2 OLIS Practitioner Query

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS02.01	The EMR Offering MUST have the functionality to support automated creation and transmission of the OLIS Practitioner Query periodically (automated polling) for each practitioner.	<p>The EMR Offering MUST have a default polling interval. At a minimum, the default polling interval MUST be set up at the clinic level.</p> <p>The EMR Offering MUST have the functionality to all the EMR user to:</p> <ul style="list-style-type: none"> a) Set up their desired polling interval b) Set up and update the Start Timestamp parameter for each practitioner query <p>The default polling interval MUST apply to all OLIS Practitioner Queries regardless if the automated queries fail to execute or are run manually.</p> <p>The EMR Offering MUST automatically adjust the Start Timestamp parameter to the latest OBR.22 Timestamp for which lab reports/results were received for each OLIS Practitioner Query configured in the system.</p> <p>Refer to “Laboratory Information Updates” in the Essential Concepts of the OLIS Interface Specification and “How Polling Works” in the Use Case Model section of the OLIS Interface Specification for more information on automated polling.</p>	M	P
OLIS02.02	The EMR Offering MUST have the functionality to make the lab reports/results returned by the OLIS Practitioner Query available in the Requesting HIC inbox/work queue and the patient chart.	<p>The automated match of the lab reports/results to the patient’s chart MUST be based on the patient’s demographics (refer to req# OLIS04.10).</p> <p>The automated match of the lab reports/results to the Requesting HIC inbox/work queue MUST be based on the Requesting HIC’s professional ID (e.g., physician licence number, nurse practitioner licence number).</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		<p>The patient name MUST be identified for each lab report/result in the Requesting HIC inbox/work queue. Hovering over a lab report/result to identify the name of the patient will not meet the requirement.</p> <p>The EMR Offering MUST allow the EMR user to be able to perform filtering /sorting the lab reports/results by patient name in the practitioner inbox/work queue.</p> <p>A lab report/result MUST be added only once to the patient chart and only show up once in the Requesting HIC inbox/work queue.</p> <p>Note: Professional ID is referred to as Identifier Type in the OLIS Interface Specification.</p> <p>Refer to “Data definition Tables” in the Reference Data section of the OLIS Interface Specification for more information on Identifier Types.</p>		
OLIS02.03	The EMR Offering MUST have the functionality to allow the EMR user to configure where to display the unmatched patient lab reports/results.	<p>At a minimum, the EMR user MUST be able to configure whether the unmatched patient lab reports/results should be displayed:</p> <ul style="list-style-type: none"> a) in the Requesting HIC inbox/work queue OR b) a place in the EMR Offering where unmatched OLIS lab reports/results can be managed <p>At a minimum, the EMR Offering MUST allow for configuration at the practitioner/provider level.</p> <p>Lab reports/results for patients that do not pre-exist in EMR cannot be displayed in a patient chart.</p> <p>Automatically creating EMR patient charts for patients with lab reports /results received via OLIS that do not pre-exist in EMR will not meet the requirement.</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS02.04	The EMR Offering MUST have the functionality to allow the EMR user to manually submit the practitioner query.	<p>The practitioner query can be submitted for:</p> <ul style="list-style-type: none"> a) A single Requesting HIC b) A group of Requesting HICs c) All Requesting HICs <p>Manually running the OLIS Practitioner Query MUST not affect the default interval set-up at the clinic level.</p> <p>The subsequent automated OLIS Practitioner Query will adapt to ensure no gap in laboratory results reporting occurs.</p> <p>The EMR user that manually runs the OLIS Practitioner Query MUST be properly identified in the ZSH (ZSH.1 and ZSH.2) segment.</p>	M	P

2.3 OLIS Patient Query

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS03.01	The EMR Offering MUST have the functionality to support the creation and manual transmission of the OLIS Patient Query on an on-demand basis for each practitioner.	<p>At a minimum, the OLIS Patient Query MUST be presented and structured so it can be executed by the Requesting HIC from the patient chart. Requiring the user to log in on a different system/application and run the OLIS Patient Query will not meet the requirement.</p> <p>The Requesting HIC credentials and patient identifier(s) MUST automatically fill in the OLIS Patient Query.</p> <p>The EMR Offering MUST provide the ability to set the Start Timestamp and End Timestamp (@OBR.22 or @OBR.7). Setting up these parameters MUST not affect the Start Timestamp parameter for the OLIS Practitioner Query.</p> <p>The EMR Offering MUST allow the user to specify the following parameters to narrow the results reports returned by OLIS:</p> <ul style="list-style-type: none"> a) Ordering Practitioner (@OBR.16) b) Copied-to Practitioner (@OBR.28) c) Attending Practitioner (@PV1.7) d) Admitting Practitioner (@PV1.17) e) Reporting Laboratory (@ZBR.4) / - Exclude Reporting Laboratory (@ZBE.4) f) Performing Laboratory (@ZBR.6) / - Exclude Performing Laboratory (@ZBE.6) g) Test Request Code (@OBR.4) / - Test Request Status (@OBR.25) <p>The remaining parameters described in the OLIS Interface specification for OLIS Patient Query (Z01) MAY also be implemented:</p> <ul style="list-style-type: none"> a) Test Result Code (@OBX.3) b) Specimen Collector (@ZBR.3) c) Destination Laboratory (@ZBR.8) 	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		<p>d) Test Request Placer (@ZBR.2)</p> <p>e) Placer Group Number (@ORC.4)</p> <p>The EMR Offering MUST allow users to type in the parameters and/or select from pre-loaded parameters lists</p> <p>Refer to OLIS Interface spec and OLIS Nomenclature.</p> <p>Refer to “Retrieve Order/Report for Patient” in the Use Cases section of OLIS Interface Specification for more information on the patient query and its structure.</p>		
OLIS03.02	<p>The EMR Offering MUST have the functionality to allow the EMR user to preview the laboratory information returned by the OLIS Patient Query, prior to permanently saving the laboratory information into the patient chart and in the Requesting HIC inbox/work queue.</p>	<p>The laboratory information returned by the OLIS Patient Query and displayed in the Patient Query Preview is provider-specific and MUST be accessible only by the Requesting HIC.</p> <p>At a minimum, the Patient Query Preview MUST include:</p> <ul style="list-style-type: none"> a) Collection Date/Time (OBR.7) b) Chemistry, Hematology, Immunology, Microbiology, etc. c) Test Request Name (OBR.4) / Test Request Status (OBR.25) d) Test Result Information: Test Result Name (OBX.3) / Test Result Value (OBX.5) / Units (OBX.6) / Abnormal Flag (OBX.8) /Test Results Status (OBX.11) e) Practitioner: Ordering (OBR.16), CCed (OBR.28), Admitting (PV1.17), Attending (PV1.7) f) Lab Name g) Whether the patient is matched or un-matched patient in the EMR <p>Hovering over the above data elements to get the information will not meet the requirement.</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		<p>Abnormal Flag (OBX.8) MUST be displayed without opening the actual lab report/result.</p> <p>The Patient Query Preview is provider-specific; MUST display just lab reports/results for the Requesting HIC.</p>		
OLIS03.03	The EMR Offering MUST have the functionality to filter and sort the laboratory information displayed in the Patient Query Preview.	<p>At a minimum, the EMR Offering MUST provide the ability to:</p> <ul style="list-style-type: none"> a) Filter (apply query selection) on the preview fields as per requirement (req#OLIS03.02 mentioned above) b) Sort by all the preview fields <p>The EMR Offering MUST be able to automatically populate the following filters based on laboratory information returned by the OLIS Patient Query:</p> <ul style="list-style-type: none"> a) Lab Name b) Category: Chemistry, Hematology, Immunology, Microbiology, etc. c) Test Request Status (OBR.25) d) Test Report Status (OBX.11) e) Abnormal Flag (OBX.8) f) Practitioner: Ordering (OBR.16), CCed (OBR.28), Admitting (PV1.17), Attending (PV1.7) g) Reporting Laboratory (ZBR.4) / - Exclude Reporting Laboratory (ZBE.4) h) Performing Laboratory (ZBR.6) / - Exclude Performing Laboratory (ZBE.6) <p>Filtering on an individual LabName MUST return/display all laboratory results where the Lab License Number (i.e., 5623, 5629, 5639) is identified as belonging to the specified laboratory (e.g, LifeLabs).</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS03.04	The EMR Offering MUST allow the EMR user to act upon the laboratory information returned by the OLIS Patient Query, prior to permanently saving the laboratory information into the patient chart	<p>The EMR Offering MUST provide a mechanism to select laboratory information to:</p> <ul style="list-style-type: none"> a) Save b) Sign off & save c) Remove <p>At a minimum, the EMR user MUST be able to select:</p> <ul style="list-style-type: none"> a) Individual test results b) Individual test requests c) All test results and test requests <p>The laboratory information presented in the Patient Query Preview MUST be persisted in the EMR Offering until one of the following actions is taken:</p> <ul style="list-style-type: none"> a) Permanently save the laboratory information into the EMR Offering b) Permanently sign off & save the lab information in the EMR Offering c) Permanently remove the lab information from Patient Query Preview <p>The Following rules MUST apply once the laboratory information is permanently saved in the EMR Offering:</p> <ul style="list-style-type: none"> a) Save: will display laboratory information in the Requesting HIC inbox /work queue and patient chart; the laboratory information is marked as “not signed” or “not reviewed” b) Sign off and save: will display laboratory information only in the patient chart; the laboratory information is marked as signed-off <p>Once saved or signed-off & saved, the lab report/result MUST be added to the patient chart and the Requesting HIC inbox/work queue.</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS03.05	The EMR Offering MUST have the functionality to manage duplicate lab reports/results returned by the OLIS Patient Query.	<p>Possible solutions include, but are not limited to:</p> <ul style="list-style-type: none"> a) Automatically reject duplicate lab reports/results b) Allow manual removal of duplicate lab reports/Results from the Patient Query Preview <p>In the case where duplicate reports/results are displayed in the Patient Query Preview, the EMR Offering MUST provide an ability to sort and filter the duplicate lab reports/results.</p> <p>Refer to Section 4 of the REPORT IDENTIFICATION GUIDANCE for more information on duplicate lab reports/results.</p>	M	P
OLIS03.06	The EMR Offering MUST have the functionality to override a <i>patient consent directive in OLIS</i> to see all blocked results reports for that patient.	<p>Upon receiving the patient-level block message or the record-level block message, the EMR Offering MUST:</p> <ul style="list-style-type: none"> a) Visually indicate that some results within reports have been blocked because the patient has withdrawn their consent b) Allow the user the option to: <ul style="list-style-type: none"> I. Override the patient consent or II. Accept the results as presented c) Allow the user to indicate whether the consent was obtained from: <ul style="list-style-type: none"> I. The patient or II. The patient's substitute decision-maker <p>The EMR Offering MUST log the above events, including:</p> <ul style="list-style-type: none"> a) When the event occurred, b) The identity of the persons who initiated the events c) The practitioner on whose behalf the event occurred (Requesting HIC) d) Whether it was the patient or the substitute decision-maker who authorized the override 	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		e) EMR transaction ID: unique EMR event ID f) OLIS transaction ID: the unique ID identifying each HL7 message Refer to “Overriding Consent” in the Privacy Considerations section of the OLIS Interface Specification for more information on the consent directive.		

2.4 EMR Lab Management

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS04.01	The EMR Offering MUST have the functionality to indicate the status of a lab test request.	The EMR Offering MUST indicate whether the lab test request status is: <ul style="list-style-type: none"> a) F – Final b) A - Some, but not all, results available c) P - Preliminary d) C - Correction to results At a minimum, the lab test request status MUST be available in: <ul style="list-style-type: none"> a) Patient chart b) Provider work queue/inbox c) Patient Query – “Preview” d) Preload Query – “Preview” Hovering over to get the information will not meet the requirement. Refer to “Orders/Reports” in the “Entity Model” of the Laboratory Information Lifecycle and Entity Model section of the OLIS Interface Specification for more information on indicating the status of a lab test.	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS04.02	The EMR Offering MUST have the functionality to indicate the status of lab test results.	<p>The EMR Offering MUST indicate whether the lab test result status is:</p> <ul style="list-style-type: none"> a) F - Final b) P - Preliminary c) C - Correction to results <p>At a minimum, the lab test result status MUST be available in:</p> <ul style="list-style-type: none"> a) Patient chart b) Provider work queue/inbox c) Patient Query – Preview d) Preload Query – Preview <p>Hovering over to get the information does not meet the requirement.</p> <p>Refer to “Orders/Reports” in the “Entity Model” of the Laboratory Information Lifecycle and Entity Model section of the OLIS Interface Specification for more information on indicating the status of a lab test.</p>	M	P
OLIS04.03	The EMR Offering MUST have the functionality to provide a list of participating laboratories.	<p>The list of participating laboratories applies to the following query parameters in the OLIS Patient Query:</p> <ul style="list-style-type: none"> a) Reporting Laboratory (@ZBR.4) b) Exclude Reporting Laboratory (@ZBE.4) c) Performing Laboratory (@ZBR.6) d) Exclude Performing Laboratory (@ZBE.6) <p>Refer to "Lab and SCC Extract" and "Hospital Extract" for more information on participating laboratories.</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS04.04	The EMR Offering MUST have the functionality to manage duplicate lab test reports/results.	<p>The EMR Offering MUST be able to manage duplicate lab reports/results in:</p> <ul style="list-style-type: none"> a) Preload Query Preview b) Patient Query Preview c) Requesting HIC inbox/work queue d) Patient chart <p>In the context of the current specification:</p> <ul style="list-style-type: none"> a) The same lab report/result received through at least two separate channels (i.e., Commercial Labs and OLIS) is considered a duplicate lab report/result. b) The same lab report/result returned by the OLIS Practitioner Query for different Requesting HICs in the same clinic is considered a duplicate result. c) The same lab report/result returned by one of the OLIS queries that already exists within EMR is considered a duplicate. <p>The lab reports/results MUST show up:</p> <ul style="list-style-type: none"> a) only once in the patient chart b) only once in each of the Requesting HICs inbox/work queue <p>Regardless of the method used to manage duplicates, for audit purposes, the EMR Offering MUST at least log the data fields mentioned in req. # OLIS06.03.</p> <p>Refer to section 4 of the REPORT IDENTIFICATION GUIDANCE for more information on managing duplicate lab test reports/results.</p>	M	P
OLIS04.05	The EMR Offering MUST have the functionality to display an alternate,	The LOINC test name MUST NOT be used as a primary way to identify the name of the test results.	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
	meaningful test name in place of the LOINC test name.	<p>The Test Name displayed in the EMR Offering MUST be cross-referenced to one of the following naming conventions:</p> <ul style="list-style-type: none"> a) The Alternate Name 1 b) Test Name preferred by the physician as defined within the EMR (locally mapped/cross-referenced) <p>Refer to “OLIS Nomenclature” for more information on meaningful test names.</p>		
OLIS04.06	The EMR Offering MUST have the functionality to allow the EMR user to act upon unmatched patient lab reports/results received via OLIS.	<p>At a minimum, the EMR Offering MUST allow the EMR user to:</p> <ul style="list-style-type: none"> a) Match the unmatched patient lab reports/results to an existing EMR patient b) Manage the remaining unmatched patient lab reports /results <p>The matching patient functionality MUST be available for:</p> <ul style="list-style-type: none"> a) Unmatched patients in the Preload Preview / Patient Query Preview b) Unmatched patients returned by the OLIS Practitioner Query (see OLIS02.03) <p>The matching to patient functionality MUST preserve the original patient demographics (all) returned within the OLIS HL7 message which must be accessible from the EMR Offering user interface.</p>	M	P
OLIS04.07	The EMR user interface to OLIS MUST be integrated with the EMR Offering.	Requiring the EMR user to log in on a different system/application to interact with OLIS will not meet the requirement.	M	P
OLIS04.08	The EMR Offering MUST have the functionality to maintain the list of values for each query parameter (provided by OLIS).	<p>This applies to query parameters for:</p> <ul style="list-style-type: none"> a) OLIS Preload Query b) OLIS Practitioner Query 	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		<p>c) OLIS Patient Query</p> <p>Refer to “Query Parameters Matrix” in the OLIS Interface for more information on the query parameters.</p>		
OLIS04.09	The EMR Offering MUST have the functionality to support automated matching of the patient lab reports/results to the EMR patient chart.	<p>The automated match of the lab reports/results to the patient MUST be based on the patient’s demographics.</p> <p>In the context of the current specification:</p> <p>a) Matched to the patient lab reports/results are those for which all following patient demographic data elements are matching:</p> <ul style="list-style-type: none"> i) HCN ii) Gender iii) DOB iv) Last name <p>b) Unmatched to the patient lab reports/results are those for which:</p> <ul style="list-style-type: none"> i) At least one of the patient demographic data elements mentioned above is not matching, OR ii) Patients do not exist in the EMR <p>Additional fields to conduct patient matching are allowed.</p>	M	P
OLIS04.10	The EMR Offering MUST have the functionality to identify lab reports/results that are blocked in OLIS.	<p>Lab reports/results for which a patient consent directive exists MUST be identified as sensitive information (blocked results):</p> <p>a) In the Preload Preview and the Patient Query Preview</p> <p>b) Once they are permanently saved in the EMR Offering</p> <p>The results report will be available to practitioners within the circle of care but its sensitive blocked result(s) status MUST be identified to all who can review the lab reports.</p>	M	P

2.5 Error Management

There are three different types of errors that can be returned from OLIS, each corresponding to the three layers of message formatting:

- SOAP (indicated in SOAP Faults)
- XML (indicated in XML Error Messages)
- HL7. Error Segments

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS05.01	EMR Offering MUST have the functionality to manage the HL7 error messages.	<p>The EMR Offering MUST:</p> <ul style="list-style-type: none"> a) Provide error notification with associated details upon receiving HL7 error codes b) Deliver notification and details to the applicable recipient(s) (e.g., EMR user, EMR administrator) based on the business need <p>The EMR MUST handle the failure of any internal functions related to OLIS and must continue operating.</p> <p>Refer to “Business Error Codes” in the OLIS Interface Specifications for more information on HL7 error messages.</p>	M	P
OLIS05.02	EMR Offering MUST have the functionality to manage the XML error messages.	<p>The EMR Offering MUST:</p> <ul style="list-style-type: none"> a) Provide error notification with associated details upon receiving XML error codes b) Deliver notification and details to the applicable recipient(s) (e.g., EMR user, EMR administrator) based on the business need <p>The EMR Offering MUST handle the failure of any internal functions related to OLIS and must continue operating.</p>	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		Refer to “XML-encoded errors” in the OLIS Interface Specifications for more information on XML error messages.		
OLIS05.03	The EMR Offering MUST have the functionality to manage the SOAP error messages.	<p>The EMR Offering MUST:</p> <ul style="list-style-type: none"> a) Provide error notification with associated details upon receiving SOAP error messages b) Deliver notification and details to the applicable recipient(s) (e.g., EMR user, EMR administrator) based on the business need <p>The EMR Offering MUST handle the failure of any internal functions related to OLIS and must continue operating.</p> <p>Refer to “SOAP Exceptions” in the OLIS Interface Specifications for more information on SOAP error messages.</p>	M	P
OLIS05.04	The EMR Offering MUST have the functionality to handle Network Error Management	<p>The EMR Offering MUST provide appropriate notification to the user(s) or administrator regarding the application's ability to complete the requested retrieval process.</p> <p>The EMR Offering MUST be able to retry and re-establish network connectivity and perform the operation at a later time without any human intervention.</p>	M	P

2.6 Audit/Certification/Other

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
OLIS06.01	The EMR Offering MUST have successfully passed OLIS Conformance Testing.		M	P
OLIS06.02	The EMR Offering MUST maintain a log of all messages sent to or received from OLIS.	<p>At the minimum, log entries MUST include the following discrete data elements:</p> <ul style="list-style-type: none"> a) Transaction timestamp b) Transaction type (e.g., OLIS Preload Query, OLIS Practitioner Query, OLIS Patient Query, Consent Override, etc.) c) Initiating User: the user that initiated the query d) Requesting HIC e) External system: fixed value OLIS f) EMR transaction ID: unique EMR event id g) OLIS transaction ID: the unique ID identifying each HL7 message <p>The log entries will be retained in accordance with regulations governed by the Medicine Act, 1991.</p>	M	P
OLIS06.03	The EMR Offering MUST maintain a log for lab reports/results removed/rejected from the EMR Offering.	<p>In the context of the current specification:</p> <ul style="list-style-type: none"> a) Removing applies to laboratory information displayed in the: <ul style="list-style-type: none"> i) Preload Preview ii) Patient Query Preview b) Rejecting applies to laboratory information returned by the OLIS Practitioner Query <p>At a minimum, the audit log MUST contain:</p> <ul style="list-style-type: none"> a) Query Date: the date the query was generated 	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		<ul style="list-style-type: none"> b) Query Type: OLIS Preload Query, OLIS Practitioner Query, OLIS Patient Query c) Query Initiating User: the user/system that initiated the query d) Requesting HIC e) Removing User: the user/system that removes/rejects laboratory reports f) Removal/Rejection Date g) Removal/Rejection Reason h) Removal Type: whether manual or system removal i) Download from: OLIS j) ORC.4 (accession number) ; OBR.4 (Test Request); OBR.7 (Collection Date for each Test Request); OBR.22 (last date/time when was updated) 		

3. APPENDIX A: ADDITIONAL REFERENCES

The following are supporting documentation and recommended reading.

ID	NAME	VERSION	DATE
1	Medicine Act, 1991 (Ministry of Health, 2009) https://www.ontario.ca/laws/statute/91m30	N/A	2017-12-30
2	Primary Care Baseline (OntarioMD, 2021) https://www.ontariomd.ca/emr-certification/emr-specification/library	5.3	2021-01-25
3	Ontario Laboratories Information System HL7 FHIR Consumer Query – Implementation Guide (Ontario Health (Digital Services), 2019) https://simplifier.net/guide/OntarioLaboratoriesInformationSystemConsumerQuery/Home	1.0.1	2019-06-19