eHealth Ontario
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The Adopter's Guide to Implementing OLIS

Ontario Laboratories Information System (OLIS)

Version:

3.1

Ontario
eHealth Ontario

Document Control

The electronic version of this document is recognized as the only valid version.

Approval History

APPROVER(S)	TITLE/DEPARTMENT	APPROVED DATE
Ben Goldberg	Manager, OLIS Program Office	2012-10-26
Mark Rajack	Manager, OLIS Implementation	2012-10-26

Revision History

VERSION NO.	DATE	SUMMARY OF CHANGE
1.0	2012-Nov-05	First release of the guide
1.1	2012-Dec-03	Added hyperlinks to all external documents; minor updates to wording
2.0	2013-Jan-14	Second primary release of the guide; updates to existing chapters
3.0	2013-Mar-05	Third and final primary release of the guide; updates to existing chapters
3.1	2013-Apr-29	Guide was updated to reflect changes in processes associated with environment setup and connectivity, registration (including document hyperlinks), and gap analysis (limitations); minor updates to wording

Document Sensitivity Level

Medium

What's New?

Revision Date	Change	Content
2013-Apr-29	**VERSION 3.1** Updates to final release of the new **Adopter's Guide to Implementing OLIS** *(for data in projects)*	Guide was updated to reflect changes in processes associated with environment setup and connectivity, registration (including document hyperlinks), and gap analysis (limitations); minor updates to wording **NOTE:** Changes from version 3.0 are identified with the change icon. ★

Table of Contents

About This Document

Overview

This chapter describes the audience, purpose, and organization of this guide.

Quick Links

Audience

Adopter Organization

- **Adopter project manager** – with the implementation of OLIS, each adopter needs to appoint a project manager to act as the key point of contact with the OLIS program team. The adopter project manager is responsible for a variety of tasks, and each adopter will determine to whom and how the individual responsibilities will be assigned. This role will rely on one or more individuals from the adopter organization, (such as laboratory medical technologists and interface developers). The OLIS program team, however, requires one person to assume overall responsibility for all OLIS planning and implementation activities.

OLIS Program Team

- **OLIS initiative lead** – the OLIS initiative lead is a project management role and this individual will be the adopter project manager's primary point of contact with the OLIS program team throughout the process of planning for and implementing OLIS at the adopter organization. The OLIS initiative lead will provide the adopter project manager with valuable information, and answer questions during all phases and stages of the project.

- **OLIS clinical process integration specialist (CPIS)** –the CPIS is the clinical and technical contact for the adopter, and will work closely with both the adopter project manager and the OLIS initiative lead. The CPIS is primarily responsible for working with the adopter and project manager on the following activities:

    - Gap analysis
    - Nomenclature mapping
    - Process and systems requirements
    - Client self-testing
    - Conformance testing
    - Ramp-up activities

Purpose

Most information in this implementation guide is directed primarily to the adopter project manager. This guide is designed as a reference tool to assist adopter project managers as they work with others in their organization to plan for and implement OLIS. It provides an overview of the requirements at each stage of adoption, and incorporates many of the insights that were provided as lessons learned from previous adopters of OLIS. The objective of this document is to expedite the adoption process and reduce potential impediments during the process.

In specific instances, content is directed solely to the OLIS program team, and is made available via hyperlinks to a restricted location. This information is clearly identified.

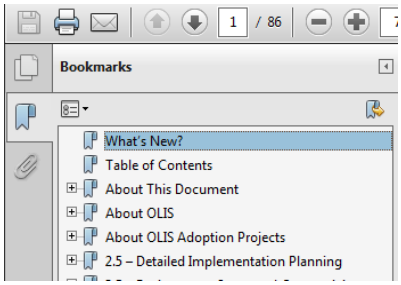
Chapters are planned for publishing on a rolling schedule to provide the most current information available on a topic, and in enough time for the adopter project manager to use it.

Adobe Reader

The guide is produced as an Adobe Reader PDF file to facilitate:

- Navigation throughout the guide using hyperlinks
- Quick access via hyperlinks to supporting documents and forms
- Ease in distributing frequent guide releases so that the adopter project manager and others always have access to the most recent information

Click on the  icon on the left hand side of the screen to display the hyperlinked table of contents.



To move back and forth when using hyperlinks within the guide, the reader will need to activate previous view/next view buttons feature. From the menu bar, click:

- View → Show/Hide → Toolbar Items → Page Navigation → Previous View
- View → Show/Hide → Toolbar Items → Page Navigation → Next View

The reader can now use the  buttons to move within the document.

Organization

What's New?

Each release of this guide starts with a "What's new" section that highlights new and/or changed content in the guide.

Table of Contents

The table of contents shows the overall structure of the content and is hyperlinked so that adopter project managers can use it as a fast way to navigate to chapters or sections in the guide.

Chapters

Each chapter groups together related information and is likely to have multiple sections and hyperlinks to other parts of the guide as well as to the OLIS collaboration portal. Most of the chapters will contain some of the following elements:

- **Overview –** presents a high level summary of the content in the chapter
- **Quick Links –** hyperlinks to the main sections of the chapter
- **Prerequisites –** summarizes any relevant prerequisites for chapter content
- **Fundamentals –** explains the background information the adopter project manager needs to understand related to the content in the chapter
- **Process Maps –** overview of each stage of the adoption process (key steps, roles)
- **Checklists** -- summarizes the steps and roles involved in completing the stage activities

Process Maps

The Process Maps section lists and hyperlinks all the process maps associated with each stage of the project.

Checklists

The Checklists section lists and hyperlinks printable checklists for each stage of the project.

Reference Documents

The Reference Documents section lists and hyperlinks all the documents that are external to the guide.

Glossary

The Glossary lists and defines the terminology used in this guide.

Icons

Icons are used throughout this guide to draw the audience's attention to specific information.

Icon	Meaning	Indicates
H	**HINT**	Easy approach
I	**IMPORTANT**	Imperative or mandatory directive
★	**NEW**	New or changed content since the previous release
N	**NOTE**	Supplemental commentary
T	**TIP**	Helpful suggestion
	OLIS PROGRAM TEAM	Content restricted to OLIS program team members

About OLIS

Overview

Ontario laboratories information system (OLIS) is an information system that connects hospitals, community laboratories, public health laboratories and practitioners to facilitate the secure electronic exchange of laboratory test orders and results. As a province-wide, integrated repository of orders and results, OLIS will contribute to fundamental improvements in patient care by providing practitioners with timely access to information that is needed at the time of clinical decision-making.

The mandate for the OLIS program is to both enable and sustain OLIS for clinical use in conjunction with all eHealth Ontario delivery programs. OLIS plans to capture 100% of lab tests within Ontario and enable viewing of this comprehensive set of lab results across the province. Users, including physicians, nurses, pharmacists, policy makers, researchers, public health units and patients, are able to access OLIS data through various channels including electronic medical record applications (EMRs), portals and anonymized reports.

I **IMPORTANT:** OLIS is a repository for laboratory data and facilitates the exchange of laboratory information amongst laboratory information systems (LIS), hospital information systems (HIS), and electronic medical record (EMR) software, but it is not an LIS in its own right, and is not intended to replace existing LIS systems.

Quick Links

OLIS Benefits

By providing the ability to electronically share lab information, OLIS generates numerous benefits to patients, providers and the health system:

Patient Benefits	Provider Benefits	Health System Benefits
• High quality care based on timely and complete lab information • Reduction in excessive lab tests due to greater availability and sharing of lab information • Reduction in lab errors and time wasted to clarify test results • Fewer gaps in patient information as patients move between care settings • Tracking lab history over time enables better monitoring of outcomes and supports chronic disease management	• Greater number and variety of providers can access lab information for better coordination of care • Complete and up to date lab history is available in a seamless and timely manner regardless of where lab tests are completed • Convenience and time savings from improved workflow and reduction in paper-based processes • Decision support opportunities, such as the ability to subscribe to patient test results	• Multiple point-to-point system interfaces are no longer necessary: - Eliminates implementation, infrastructure, operational, support and resourcing costs - Enables labs to focus on core lab business - Facilitates referrals and redirects with other OLIS enabled organizations • Cost savings from increased efficiencies, reduced excessive tests and reduced lab errors • Greater security and privacy by avoiding paper reporting • Policy decisions and improvement initiatives based on standardized and complete lab data across the province

Please click here for a more detailed list of OLIS benefits.

Functionality

OLIS will enable the following functionality in external applications:

Functionality	Description
Results/Orders In	External system sends lab orders and test results including specimen information to OLIS
Results/Orders Out	External system retrieves lab orders and test results
Referral Order Out	Refers orders to another lab, then queries OLIS to collect the test result when available
Referral Order In	Lab receives orders from another lab to be performed, then sends test results to OLIS to be retrieved by referring lab

Functionality	Description
eOrdering	EMR systems send lab requisitions to OLIS to be picked up by external lab systems who are responsible for specimen collection, testing and reporting

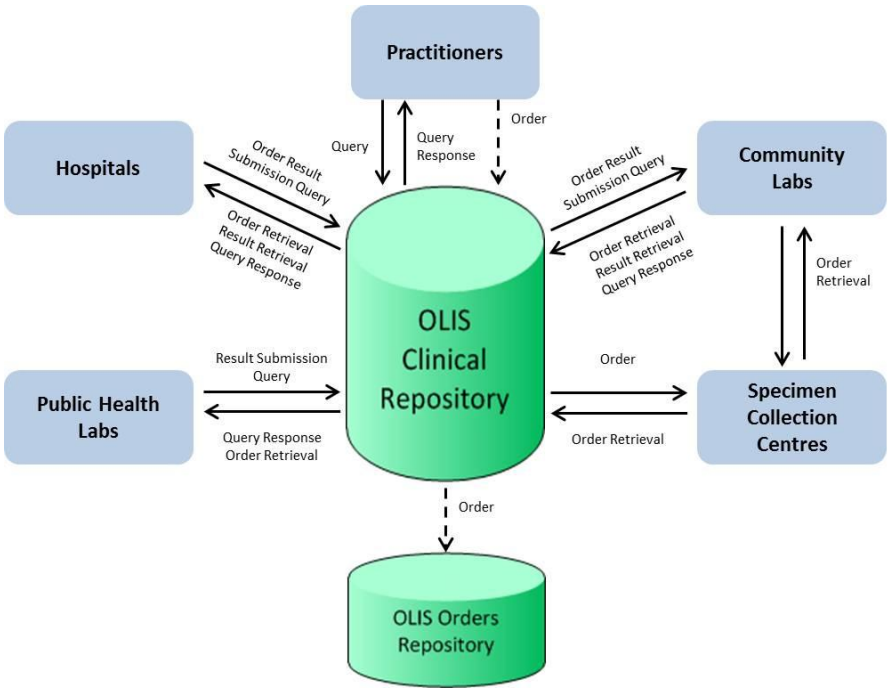
Technical Infrastructure

OLIS is a shared repository that links all stakeholders involved in the delivery of laboratory services in the province of Ontario. OLIS contains orders, specimen information and results/observations for laboratory services provided in Ontario, to Ontario residents and to non-Ontario residents.

Information is exchanged using an underlying secure infrastructure provided by eHealth Ontario as well as an OLIS infrastructure. The OLIS health level seven (HL7) message formatting is the standard used to communicate with the online components of OLIS. Personalized result information is stored in a secure clinical repository (real-time database that consolidates data from a variety of clinical sources to present a unified view of a single patient).

OLIS does not send out laboratory information to external systems. External systems poll OLIS for laboratory information updates periodically throughout the day.

Functional Overview of OLIS



Central Domain Repository

All systems that retrieve laboratory information from OLIS must be able to receive and display every field of information supported by OLIS that would appear on the equivalent paper lab report, and in the correct context. External systems do not communicate with one another directly; all interactions occur indirectly through the OLIS clinical repository.

The central repository approach has two key advantages. Firstly, any conformance-tested application can exchange laboratory orders and results through OLIS with any other conformance-tested application. This facilitates not only the exchange of laboratory information between practitioners and laboratory service providers, but also laboratory-to-laboratory exchange of referred orders and test results. Secondly, external systems do not need to be connected to OLIS continuously; external systems only need to connect to OLIS when they need to exchange laboratory information.

Interfaces

OLIS interfaces with external applications, such as LIS, HIS, EMR applications, using an HL7 interface. An interface may be established directly between OLIS and an external application, or between OLIS, an intermediary integration engine and an external application or group of external applications. The interface allows laboratories to retrieve orders and provide results data online, facilitating the verification of patient data. This will enable functionality in OLIS (in development) to allow physicians to requisition laboratory tests online and view results online.

Rollouts to Date

As of September 2012, OLIS collects approximately 60% of the total test volumes through the following initiatives:

Hospitals	Community Labs	Other
Credit Valley	CML HealthCare Inc.	Public Health Labs
Grey Bruce Health Services	Gamma-Dynacare Medical Laboratories	
Lakeridge Health	LifeLabs LP	
Mackenzie Health	Alpha Labs	
North York General		
Southlake Regional Health Centre		
St. Michael's		
Sunnybrook		
Toronto East General		
Trillium Health Centre		
University Health Network		

Please refer to the *OLIS Progress to Date* document for the latest implementation and usage statistics.

OLIS Governance

The OLIS program at eHealth Ontario engages with the Ministry of Health and Long-Term Care (MOHLTC) and key external stakeholders.

Internal Governance

- **OLIS working groups** – there are three working groups (data collection or data in, systems maintenance and operations, and go-to-market or data out) within the OLIS program that report on major milestone progress, and communicate any barriers that require attention. The OLIS working groups meet monthly.

External Governance

- **eHealth Ontario and MOHLTC joint advisory committee** – includes management from both eHealth Ontario and MOHLTC, and provides a forum for ongoing communications between eHealth Ontario and MOHLTC at the OLIS program level. The joint advisory committee meets monthly.

- **Stakeholders advisory committee** – includes representation from eHealth Ontario, MOHLTC, early adopters, and other stakeholders. The main objective of the committee is to drive progress on OLIS adoption through partnership and dialogs. The committee meets every six months.

About OLIS Adoption Projects

Overview

Implementing OLIS at an adopter organization requires the successful completion of several activities by the adopter and eHealth Ontario. These activities occur in three distinct phases – engagement, planning and implementation – with multiple stages within each phase. The phases and stages discussed in this chapter apply to all adopters. Any changes or additions to the activities within this process must be discussed with the OLIS initiative lead and incorporated into the implementation project plan and implementation project schedule. (Please refer to CHAPTER 1.1 – INITIAL ENGAGEMENT and CHAPTER 2.5 – DETAILED IMPLEMENTATION PLANNING for more details.)

Quick Links

Adoption Project Phases

eHealth Ontario and the adopter must work together to ensure that project activities are successfully carried out and completed. Project activities can be grouped into three main phases: engagement, planning and implementation.

1 – Engagement

During the engagement phase, OLIS contacts hospital laboratories in Ontario to engage them in participating in the adoption process. This phase culminates with the adopter signing a legal agreement (transfer payment agreement or TPA) to proceed with the planning phase. The stages in this phase are as follows:

1.1 Initial engagement
1.2 Planning TPA

2 – Planning

The planning phase involves the adopter, with the help of the OLIS program team, determining the business and technical requirements for the adopter to connect to the OLIS services. The adopter project manager will work closely with the OLIS initiative lead and the OLIS clinical process integration specialist (CPIS) to successfully complete the key activities in this phase. This phase concludes with the completion of detailed planning for the next phase of the project, implementation. The stages in this phase are as follows:

2.1 Planning kickoff
2.2 Gap analysis
2.3 Nomenclature mapping and change requests
2.4 Process and systems requirements
2.5 Detailed implementation planning
2.6 Implementation TPA

3 — Implementation

The implementation phase begins with a kickoff meeting to review the detailed project plan (developed during the planning phase), resource roles and responsibilities, and major milestones and deliverables. The implementation phase includes completion of all legal agreements and schedules, connectivity to OLIS environments, registration and enrolment of staff into OLIS services, development and testing of the OLIS interface, and training and communication to all relevant stakeholders in the adopter organization. This phase successfully concludes with a transition to operations to ensure that the adopter is prepared to maintain and support OLIS into the future.

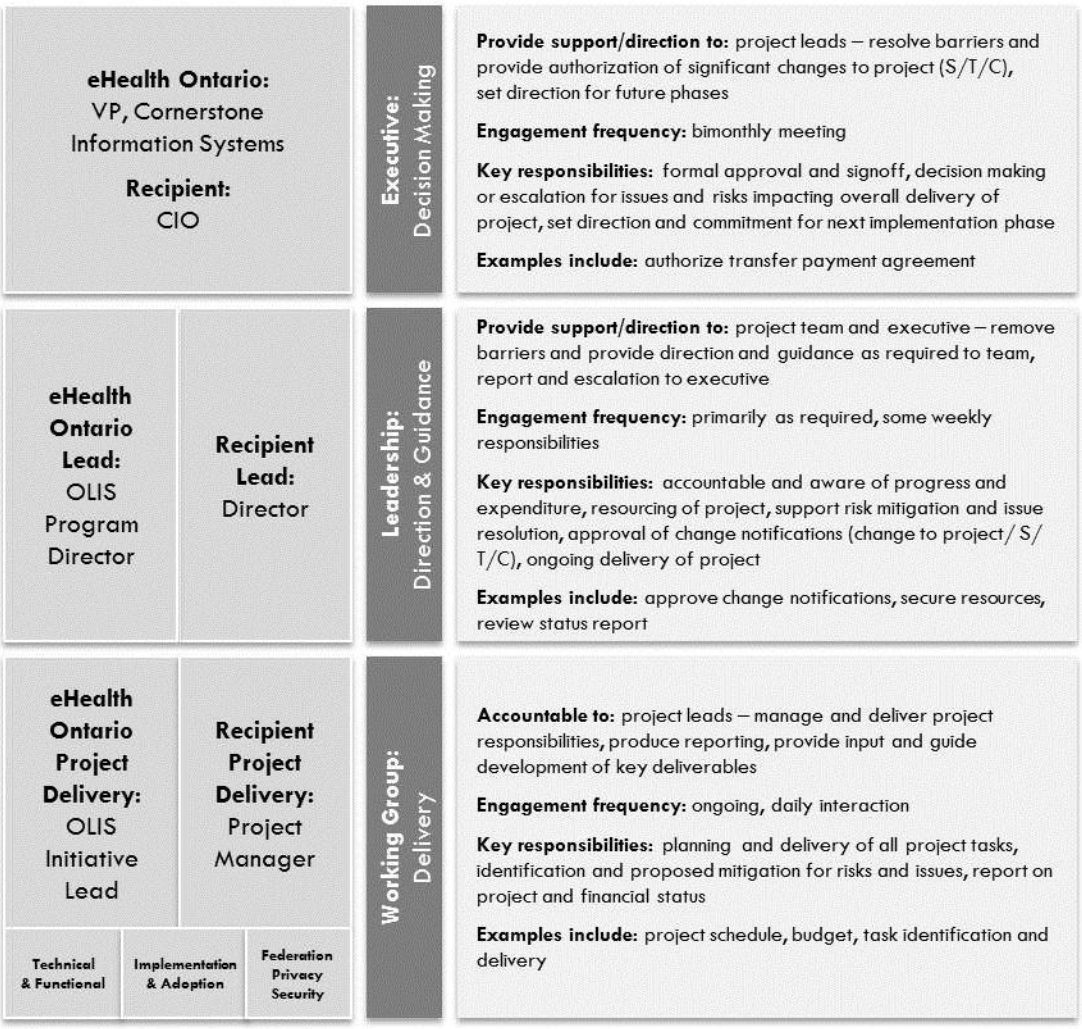
3.1 Implementation kickoff
3.2 Project reporting and financials
3.3 Privacy and security
3.4 Legal agreements and schedules
3.5 Environment setup and connectivity
3.6 Registration and enrolment of individuals
3.7 System development
3.8 Client self-test (CST)
3.9 Conformance test (CT)
3.10 Nomenclature mapping acceptance
3.11 Go-live planning and go-live
3.12 Ramp-up
3.13 Transition to operations

Project Timelines

The planning phase usually takes two to three months, while the timeline for the technical implementation process will vary for each adopter. This is due to the variation between adopters with regard to the complexity to develop the OLIS interface and supporting systems and processes.

Project Governance

The adopter is directly accountable to eHealth Ontario, as outlined in the transfer payment agreements the adopter has signed for both the planning and implementation phases. The project governance structure is depicted below.



Change Management

Any proposed change to the project description, timelines, or activities must be submitted in writing to the OLIS initiative lead at eHealth Ontario, clearly specifying the nature of and reason for the proposed change and the impact on the project. Change requests not considered reasonable by eHealth Ontario may be rejected, while all other change requests shall be presented by the adopter to the project leadership for consideration. The project leadership will determine whether to approve, reject, or require modifications to the change request prior to its final determination by eHealth Ontario.

NOTE: This process does not apply to any change requests that impact the maximum funds, length of term of the transfer payment agreement, or material changes in the scope of the project and the outcomes to be achieved with the funds, all of which will require a formal amendment to this agreement. Please refer to CHAPTER 3.2 – PROJECT REPORTING AND FINANCIALS for more details.

Project Nuances

Phases

For hospital laboratories, OLIS adoption projects are divided into two phases – planning and implementation – each of which has its own transfer payment agreement and its own project schedule.

Modalities

Most adopters tend to stagger the testing and implementation of their OLIS interface by modality (or discipline). Typically, adopters focus on chemistry and hematology first, and then blood bank, pathology and microbiology (the last three can be implemented in any order).

Project Scope

Adopters may participate in one or more of the following types of projects, and may stagger their implementation as well:

- **Data in** – the adopter provides test request and test result data to the OLIS repository
- **Data out** – also known as "go-to-market", the adopter accesses test request and test result data from the OLIS repository using the OLIS portlet, or a third party viewer (e.g., LIS, regional viewer)
- **Referrals** – the adopter sends and/or receives referrals from another organization participating in OLIS
- **eOrdering** – the adopter provides test request data to the OLIS repository to automate the electronic ordering process (this functionality of OLIS is currently in the pilot stage with select sites)

> **IMPORTANT:** This release of the guide contains information and details for hospital laboratories implementing data in projects. Future releases of this guide will include details regarding additional functional areas such as referrals in/out, data out (including testing of third party clinical viewers), and eOrdering (including order retrieval and walk-ins).

How eHealth Ontario Provides Support

OLIS Initiative Lead

An OLIS initiative lead is assigned to support each adopter with OLIS planning and implementation activities. The OLIS initiative lead works with adopters on a regular basis to provide and coordinate support for all activities. The OLIS initiative lead should be the first point of contact if there are any questions regarding the project.

OLIS Clinical Process Integration Specialist (CPIS)

In addition to the OLIS initiative lead, the adopter is assigned a CPIS to support clinical and technical activities. Feel free to contact the CPIS with clinical or technical questions (e.g., gap analysis, nomenclature mapping, process and system requirements, client self-testing, conformance testing).

Other eHealth Ontario Resources

The OLIS program has access to a broad range of technical and subject matter experts who are available to support OLIS implementations. These resources will be engaged, as required, by the OLIS initiative lead or CPIS.

1.1 – Initial Engagement

Overview

Implementing OLIS at the adopter organization requires the successful completion of several activities by the adopter and eHealth Ontario. These activities occur in three distinct *phases* – engagement, planning, and implementation – with multiple *stages* within each phase.

Initial engagement is the first stage in the OLIS project. The overall objectives of the initial engagement stage are to inform the adopter about OLIS and begin building a relationship between the adopter and eHealth Ontario, in order to prepare the planning transfer payment agreement (TPA). The eHealth Ontario OLIS program team will initiate the initial engagement stage by contacting the adopter's chief information officer (CIO).

> **NOTE:** The success of the initial engagement stage is dependent on the collaborative effort between the adopter and eHealth Ontario.

Please refer to the INITIAL ENGAGEMENT PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

The adopter project manager (if assigned at this stage) or an equivalent adopter resource will work with the OLIS initiative lead to complete initial engagement.

> **NOTE:** It is strongly recommended that the adopter identify a project manager as soon as possible, who will lead the OLIS project within the organization and work with the OLIS initiative lead through both the planning and implementation phases. (Please refer to the adopter project manager role description for more details.)

Quick Links

Initial Pre-Engagement
Joint Steering Committee
Planning Transfer Payment Agreement (TPA)
Checklist for Initial Engagement

Initial Pre-Engagement

An OLIS relationship manager will initially phone the adopter's CIO (or equivalent) to introduce the OLIS project and provide information at a high level. The OLIS relationship manager will then provide an email with further information. The adopter is encouraged to discuss OLIS adoption within their organization, including the following:

- OLIS principles
- OLIS use and benefits
- Timing

- Funding
- Technical feasibility for the adopter

This adopter's guide to implementing OLIS can be used to better understand what is expected from the adopter in implementing OLIS. The adopter must notify the OLIS team member if their organization would like to proceed with the OLIS planning project.

> **OLIS PROGRAM TEAM:** The OLIS team member must notify eHealth Ontario legal office of the adopter's intention to initiate the OLIS project.

Joint Steering Committee

During initial engagement, the adopter organization and the OLIS program team must form a joint steering committee. The mandate of the joint steering committee is to provide coordination and oversight for the planning and implementation work of the adopter's OLIS project, and for the implementation, dissemination, and delivery of OLIS products and service.

> **IMPORTANT:** The joint steering committee is accountable for ensuring both the planning and implementation transfer payment agreements (TPAs) are adhered to as per the project description, timelines and deliverables. This includes adherence to the project budget, payment schedule and reporting requirements.

Meetings will occur monthly. The OLIS program director will act as the chair of the joint steering committee. While it is recommended that the joint steering committee consist of the following individuals (or equivalent responsibility), the adopter and the OLIS program team can determine the appropriate representation.

Adopter organization:

- Chief information officer
- Director, lab services
- Manager, lab services
- Manager, IT
- Manager, LIS database
- Representative, network systems support
- Representative, technical systems support
- Representative, administrative systems support
- Adopter project manager

eHealth Ontario:

- Director, OLIS program
- Manager, OLIS program office
- OLIS initiative lead

The OLIS initiative lead, working with the adopter, will create the *OLIS joint steering committee terms of reference* document. The adopter must sign the document, scan it and email a copy to the OLIS initiative lead for signature. The OLIS initiative lead will obtain the OLIS program director's signature, scan the document, and email it to the adopter. The signed document must be stored on the OLIS shared drive.

OLIS PROGRAM TEAM: The OLIS initiative lead can use *the* *OLIS Joint Steering Committee Terms of Reference* template to create the initial draft of the document to share with the adopter.

NOTE: The composition of the joint steering committee may be slightly different for OLIS planning and implementation due to the modified levels of information and oversight required. The document should be modified, as required, and the changes approved by the appropriate individuals.

Planning Transfer Payment Agreement (TPA)

Once the adopter has indicated they would like to proceed with the OLIS planning project, the planning TPA must be completed. Please refer to CHAPTER 1.2 – PLANNING TPA for the activities involved in this stage of the project.

Checklist for Initial Engagement

The following steps must be undertaken by both eHealth Ontario and the adopter to complete all activities required for the initial engagement stage.

OLIS PROGRAM TEAM: The OLIS initiative lead should use the *OLIS Initiative Checklist – Engagement-Planning* document to track the completion of all required deliverables for the engagement and planning phases.

TIP: The *Checklist for Initial Engagement* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Pre-Engagement:** Call and email the adopter with an **introduction to OLIS**	An OLIS team member will contact the adopter and introduce the OLIS project.	OLIS Relationship Manager	Initial communication established
2	**Pre-Engagement:** **Discuss OLIS** adoption within the organization	The adopter will discuss OLIS adoption with others from within their organization.	Adopter	OLIS adoption discussed
3	**Pre-Engagement:** Communicate **decision** to proceed with OLIS	The adopter must email the OLIS team member stating their decision to proceed with the OLIS planning project. The OLIS team will notify the adopter of next steps.	Adopter	Decision to proceed with OLIS planning project
4	**Engagement:** Develop the joint steering committee **terms of reference**	Working with the adopter, the OLIS team member will create the joint steering committee terms of reference (governance plan).	Adopter OLIS Initiative Lead	Joint steering committee terms of reference completed

#	Step	Description	Who Does This?	Deliverable
5	**Engagement:** Obtain **approval** on joint steering committee terms of reference and email to OLIS initiative lead	The adopter must obtain the signature of the adopter's CIO on the terms of reference, scan the document and email to the OLIS initiative lead.	Adopter	Joint steering committee terms of reference signed by adopter and emailed to OLIS
6	**Engagement:** Obtain **approval** on joint steering committee terms of reference and email to adopter	The OLIS initiative lead must obtain the signature of the OLIS program director, scan the document, email a copy to the adopter, and save the filed on the shared directory.	OLIS Initiative Lead	Joint steering committee terms of reference signed by OLIS and emailed to adopter
7	**Engagement:** Establish **joint steering committee** and set meeting dates	The adopter and OLIS initiative lead must determine the joint steering committee dates, and ensure that respective members are duly informed and invited.	Adopter OLIS Initiative Lead	Joint steering committee established
8	**Engagement:** Assign key **planning project resources**	Notify key project resources required for the planning phase of their involvement in the OLIS planning project.	Adopter	Project resources assigned

1.2 – Planning TPA

Overview

eHealth Ontario has responsibility for transfer payment and funding commitments to hospitals, public health, and community labs to support key elements of the OLIS project. Transfer payments are a key method used to facilitate the delivery of services to adopters. Transfer payment recipients are responsible to deliver provincially funded services and are accountable to eHealth Ontario for the funds they receive and the results achieved.

The transfer payment agreement (TPA) formally documents the adopter's request for funds to conduct planning activities related to data in projects. The TPA also formally documents eHealth Ontario's wishes to provide such funds.

For most OLIS implementations in hospital laboratories there are two transfer payment agreements: one for the planning phase, and one for the implementation phase. This chapter will describe the high level process and deliverables associated with the planning TPA. The activities, deliverables, and milestones identified in the planning TPA will be referenced in the *Planning Project Close-Out Report* (refer to CHAPTER 2.5 – DETAILED IMPLEMENTATION PLANNING for more details).

As each OLIS planning project may be slightly different, the adopter project manager (or equivalent if one has not yet been assigned) and the OLIS initiative lead should work together to address any nuances throughout the planning TPA process.

Please refer to the printable checklist for a summary of the key activities and roles involved in this stage of the project.

I **IMPORTANT:** A transfer payment agreement must be in place between eHealth Ontario and the adopter before the planning project begins and transfer payments are made.

N **NOTE:** Sometimes the adopter project manager and/or the OLIS initiative lead have not yet been assigned to the project, and therefore other resources from the adopter organization and the OLIS program may be involved.

N **NOTE:** The contents of this chapter and associated process map are subject to change as this process is currently under review at eHealth Ontario.

Quick Links

Completing the TPA
Checklist for Planning TPA

Completing the TPA

The planning TPA includes the development of terms and conditions, and the creation of several associated schedules (e.g., timelines, budget). The adopter need to organize some working sessions with representatives from their organization and the OLIS initiative lead to understand the deliverables and resources required. The OLIS initiative lead will work with the adopter project manager to complete and obtain signoff of the TPA.

I **IMPORTANT:** If more than one adopter organization will be participating as a group in planning for or implementing OLIS, it is strongly recommended that representatives from all participating organizations (e.g., lab directors, IT directors), as well as a representative from the LHIN, meet to discuss the relationships between the organizations, and discuss at a high level on the characteristics of each organization's LIS and IT infrastructure, as well as existing referral patterns.

As part of this process, the adopter project manager must provide the OLIS initiative lead with an electronic copy of their organization's articles of incorporation and insurance certificate. This is to ensure that eHealth Ontario correctly records the organization's legal name for the financial payment process.

OLIS PROGRAM TEAM: The OLIS initiative lead can refer to the *TPA process document* for more details on creating and approving the planning TPA.

Checklist for Planning TPA

The following steps need to be undertaken by the OLIS initiative lead and the adopter project manager to complete and approve the planning TPA.

T **TIP:** The *Checklist for Planning TPA* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Develop** the planning TPA	The OLIS initiative lead will work with the adopter project manager to develop the planning TPA.	OLIS Initiative Lead Adopter Project Manager	Planning TPA
2	**Approve** the planning TPA	The OLIS initiative lead will work with the adopter project manager to obtain signoff of the planning TPA.	OLIS Initiative Lead Adopter Project Manager	Signed and approved planning TPA

2.1 – Planning Kickoff

Overview

The planning phase can begin after the planning transfer payment agreement (TPA) has been signed. The planning kickoff stage includes activities related to initiating the planning phase of the OLIS project.

During the planning phase, the adopter will determine the business and technical requirements for their organization, begin nomenclature mapping, and plan for the implementation of OLIS. As well, the governance structure is implemented, and the adopter is provided with tools to help manage the project.

A planning kickoff meeting with the adopter and the OLIS program team occurs at the beginning of the planning kickoff stage and includes an overview of the OLIS project as well as a discussion of the activities and tasks required to plan for the implementation of OLIS.

The OLIS initiative lead will work with the adopter project manager to establish a weekly or bi-weekly status meeting, as well as a monthly joint steering committee meeting for the duration of the planning phase.

Please refer to the PLANNING KICKOFF PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Resources for Planning
Getting Ready for Planning Kickoff
Planning Kickoff Meeting
Recurring Project Meetings
Project Management Tools
Collaboration Portal Access
Checklist for Planning Kickoff

Resources for Planning

The OLIS program will assign the following resources to the project:

- OLIS initiative lead
- OLIS clinical process integration specialist (CPIS)

During the planning kickoff stage, the adopter must secure the resources required to complete the planning of the OLIS project. This could mean assigning existing staff, hiring new staff, and/or contracting external resources.

The number of resources required to support activities related OLIS planning will vary by adopter and will be dependent upon factors specific to each adopter. For example, some adopters may require some individuals to perform multiple roles.

The following adopter resources are required for planning:

Adopter Project Manager

- Accountable for all planning stages at the adopter organization
- Serves as the primary point of contact with the OLIS program team
- Ensures all required deliverables are completed, milestones are achieved on time, and all required approvals are granted
- Leads the planning for the planning phase, including timelines, resources, budgeting, issues and risks, and mitigation
- Manages relationships internal to the adopter organization, with eHealth Ontario, and with any external vendors

Administrative Support

Provides support to the adopter project manager, or others, to communicate with other project team members and end users, and supports all aspects of the planning activities (e.g., schedule meetings).

Medical / Laboratory Director (or designate)

The laboratory director (or designate) understands the business and clinical considerations associated with laboratory management and the impacts of managing change in this environment, and provides input in the following areas:

- Departmental priorities, constraints, and dependencies
- Resource capacity and allocation
- Resource gaps, skill level and associated effort
- Nomenclature mapping guidance and final approval
- Provides clinical signoff for the project

IT Manager

The IT manager understands the timeframe and activities associated with the introduction of new or upgraded technologies into the laboratory environment as well as resources required to implement technological change. The IT manager provides input on the following:

- Technical considerations which need to be accounted for in the plan
- Departmental priorities, constraints, and dependencies
- Resource capacity and allocation
- Resource gaps, skill level and associated effort

Developer / IT Interface Specialist / Network Support

- May contribute to developing process and system requirements related to connectivity (PKI certificates), development and conformance testing
- Ensures adopter's systems meet minimum requirements for interfaces

- Coordinates all HL7 interface activities
- Participates in conference calls, along with the adopter project manager, in reference to resolution of technical issues

LIS Application Specialists / Subject Matter Experts

LIS application specialists and subject matter experts (SMEs) have expertise in specific areas such as LIS testing, nomenclature mapping, and QA analysis. These resources may participate in conference calls, along with the adopter project manager, in reference to nomenclature mapping.

Getting Ready for Planning Kickoff

To ensure that the adopter fully understands what is required to build their LIS-to-OLIS interface, the adopter project manager should distribute the *OLIS gap analysis questionnaire*, *OLIS interface specification*, and *conformance testing scenarios* to appropriate resources in the organization at least two weeks in advance of the planning kickoff meeting. The adopter should review these documents and be prepared with any questions.

Gap Analysis Questionnaire

The adopter should review the *gap analysis questionnaire* and identify any questions that may require further clarification from the OLIS program team.

Completion of the questionnaire is often an iterative process, and the OLIS initiative lead/CPIS will schedule regular meetings (teleconferences) to ensure that the contents are fully understood by the organization and finalized as soon as possible. Please refer to CHAPTER 2.2 – GAP ANALYSIS for more information on these steps.

The adopter project manager may choose to complete the gap analysis questionnaire in advance of the planning kickoff meeting. If the questionnaire is completed prior to the planning kickoff meeting, the adopter project manager should email the completed questionnaire to the OLIS initiative lead who will review with the CPIS.

OLIS Interface Specification

During the planning phase, it is important that the adopter organization gain a full understanding of the *OLIS interface specification* to determine what software changes and work process changes must be made to support the LIS-to-OLIS interface.

Conformance Testing (CT) Scenarios

The *OLIS conformance test scenarios* will help the adopter better understand the OLIS conformance test requirements. In the planning kickoff stage, the adopter should review the document and note any questions. The OLIS conformance test scenarios will be referenced in the next stage, CHAPTER 2.2 – GAP ANALYSIS.

Planning Kickoff Meeting

The planning kickoff meeting provides the adopter with an overview of the OLIS project as well as the activities and tasks required to plan for the implementation of OLIS. The OLIS initiative lead will work with the adopter project manager to arrange the planning kickoff meeting.

> **OLIS PROGRAM TEAM:** The OLIS initiative lead must update the *OLIS Planning Kickoff Presentation* to reflect the specifics for each adopter.

Depending on the adopter (and location), the meeting can last one to two hours, or a full day (in which case it may be combined with the nomenclature mapping kickoff meeting). Moreover, in some instances, the planning kickoff meeting may be divided into two meetings – one that is focused on business requirements and one that is focused on technical requirements. In addition, depending on time available, the CPIS may review the contents of the gap analysis questionnaire to ensure accuracy during its completion.

NOTE: The audience for these meetings may be different depending on the type and level of detail required.

Agenda

The agenda of the planning kickoff meeting agenda typically includes the following:

- Introductions
- Overview of the Ontario Laboratories Information System (OLIS)
- Overview of the Planning and Implementation Phases
- Support from eHealth Ontario
- Questions and Next Steps

Participants

The following individuals should attend the planning kickoff meeting:

Adopter organization:

- Director of lab services
- Representative, technical systems support
- Adopter project manager

NOTE: It is advised that there should be representation from each organization if multiple hospitals are participating in the project.

eHealth Ontario:

- Manager, OLIS program
- OLIS initiative lead
- OLIS CPIS
- OLIS relationship manager

NOTE: An OLIS CPIS is assigned to each project and is responsible for presenting the clinical and technical components of the project. The CPIS is also available to

answer clinical and technical questions. Any unanswerable questions will be recorded and referred to the appropriate OLIS subject matter expert or other resource, as required.

Recurring Project Meetings

Weekly or Bi-Weekly Status Meetings

There must be weekly or bi-weekly project status meetings between the adopter project manager and the OLIS initiative lead, and other resources as required, throughout the duration of the planning phase. The OLIS initiative lead will work with the adopter project manager to schedule these recurring meetings.

> **OLIS PROGRAM TEAM:** The OLIS initiative lead will notify the CPIS if their attendance is required at meeting based on the clinical/technical components being discussed.

Joint Steering Committee Meetings

The joint steering committee members and terms of reference should have been established in CHAPTER 1.1 – INITIAL ENGAGEMENT. The OLIS initiative lead must work with the adopter project manager to schedule recurring monthly joint steering committee meetings for the duration of the planning phase.

Project Reporting

Project Status Reports

The adopter project manager must complete the *OLIS project status report* on a monthly basis (depending on the terms agreed upon in the planning TPA) and email the report to the OLIS initiative lead five business days prior to month end.

As the project status reports are the same for both planning and implementation phases, please refer to CHAPTER 3.2 – PROJECT REPORTING AND FINANCIALS for more details on project status reports.

Financial Status Reports

The adopter project manager must complete the *OLIS financial status report* on a monthly (and quarterly basis, if planning exceeds a quarter) and email the report to the OLIS initiative lead within 15 business days after month end.

Issues with the financial status report, such as variances of plus or minus ten percent between the budgeted and actual spend amounts, will require a discussions between the adopter project manager and OLIS initiative lead. Please refer to CHAPTER 3.2 – PROJECT REPORTING AND FINANCIALS for more details on financial status reports.

OLIS PROGRAM TEAM: The OLIS initiative lead should upload all final documents on SharePoint. The link to the SharePoint site is http://teams2007.ehealthontario.on.ca/200000/210000/211000/211200/default.aspx

Project Management Tools

If required, the OLIS program provides adopters with some templates to help them manage the OLIS project. These templates include:

- Meeting minutes template

Collaboration Portal Access

The OLIS collaboration portal provides many self-help resources, including documents and tools that the adopter will need to reference during the OLIS project, as well as documents and tools required for ongoing interface and nomenclature maintenance. Numerous hyperlinks found in this guide link to documents that are available from the OLIS collaboration portal.

Gaining Access

While most of these documents are available to any visitor to the portal, some will require that the user log in to the portal. The adopter should ensure that any resources responsible for maintenance activities (e.g., nomenclature updates) are registered for the portal.

The adopter project manager should provide a list of names and emails of individuals who will require access for ongoing maintenance activities to the OLIS collaboration portal community manager (servicedesk@ehealthontario.on.ca) and request that invitations are emailed to these individuals to register for the OLIS collaboration portal. The community manager will provide a link where adopter staff can complete an online registration to gain access to the collaboration portal.

Checklist for Planning Kickoff

The following steps must be undertaken by both eHealth Ontario and the adopter to complete all activities required for the planning kickoff stage.

OLIS PROGRAM TEAM: The OLIS initiative lead should use the *OLIS Initiative Checklist – Engagement-Planning* document to track the completion of all required deliverables for the engagement and planning phases.

TIP: The *Checklist for Planning Kickoff* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Resources:** **Secure resources** required for OLIS planning	The adopter must secure resources required for the planning phase. This could mean assigning existing staff, hiring new staff, and/or contracting external resources.	Adopter	
2	**Materials:** Distribute OLIS **planning kickoff materials**	The adopter project manager should distribute the *OLIS gap analysis questionnaire*, *OLIS interface specification*, and *conformance testing scenarios* to appropriate resources in the organization at least two weeks in advance of the planning kickoff meeting.	Adopter project manager	
3	**Materials:** **Review** OLIS planning kickoff materials	Adopter resources should review the planning kickoff materials and be prepared with any questions.	Adopter	
4	**Materials:** If completed, **email completed gap analysis questionnaire**	If the adopter has completed the gap analysis questionnaire in advance of the planning kickoff meeting, they should email the questionnaire to the OLIS initiative lead who will review the document with the CPIS.	Adopter	Gap analysis questionnaire completed
5	**Meeting:** **Arrange** planning kickoff meeting	The OLIS initiative lead will work with the adopter project manager to arrange the planning kickoff meeting.	OLIS Initiative Lead Adopter Project Manager	
6	**Meeting:** **Attend** planning kickoff meeting	Staff from the adopter organization and eHealth Ontario must attend the planning kickoff meeting The OLIS initiative lead will prepare the presentation and facilitate the meeting.	Adopter team OLIS team	

#	Step	Description	Who Does This?	Deliverable
7	**Collaboration Portal:** **Request access** to the collaboration portal	The adopter project manager should provide a list of names and emails of individuals who require access to the OLIS collaboration portal to the community (servicedesk@ehealthontario.on.ca).	Adopter Project Manager	Request for access to collaboration portal emailed to community manager
8	**Collaboration Portal:** Complete **online registration**	Staff at the adopter organization will receive an invitation for online registration that must be completed.	Adopter Staff	
9	**Governance:** **Arrange** recurring weekly or bi-weekly meeting **status meeting**	A weekly or bi-weekly status meeting must take place between the adopter project manager and OLIS initiative lead	Adopter Project Manager OLIS Initiative Lead	
10	**Governance:** **Arrange** monthly **joint steering committee meeting**	The OLIS initiative lead will work with the adopter project manager to schedule a recurring monthly joint steering committee meeting.	Adopter Project Manager OLIS Initiative Lead	
11	**Reporting:** Initiate project **reporting**	The last step in the planning kickoff is to implement project reporting. Reporting consists of a weekly (or bi-weekly) project status report and monthly and quarterly financial status reports.	Adopter Project Manager OLIS Initiative Lead	

2.2 – Gap Analysis

Overview

During the planning phase, it is important that the adopter gain a full understanding of the OLIS technical and HL7 specification to determine what software changes and work process changes must be made to support the LIS-to-OLIS interface. The results of the gap analysis will help the adopter, adopter's vendor, and the OLIS program team to agree upon the approach for implementation. The gap analysis process will also allow the adopter to anticipate the changes that will be required to their systems (LIS, HIS, interface engine) and lab processes. The information gathered during this stage of the project will also be used to develop the OLIS implementation project plan, which will be used in developing the implementation transfer payment agreement (TPA).

If applicable, the adopter's vendor(s) should be included in completing the gap analysis questionnaire to ensure that the most accurate and complete information is captured.

Please refer to the GAP ANALYSIS PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Reference Documents
Gap Analysis Questionnaire
Gap Analysis Kickoff Meeting
Interface Options
Sample HL7 Messages
Adopter System Limitations
Checklist for Gap Analysis

Reference Documents

During the planning kickoff stage, the adopter was provided with the following documents:

OLIS Interface Specification

The *OLIS Interface Specification* is a comprehensive document that describes the interface specification for OLIS, including HL7 message definitions and message transport protocols. This document is intended to be used by systems developers responsible for building the LIS-to-OLIS interface.

The adopter, and their vendor(s) if applicable, should ensure they are aware of the requirements. Before attending the gap analysis kickoff meeting, they should also identify any questions that might require further clarification from the OLIS program team.

Helpful hints:

- Always check the *detailed* message element descriptions
  - Data type constraints vary across segment and field definitions
  - Because the segment definition tables are used for both ORM and ORU messages, optionality may be more restricted for one TE than the other
- OLIS will not accept data in OLIS-unsupported message elements
- Reference ranges must be sent in OBX.7 (unless they are greater than 60 characters)
  - Interpretation comments and reference ranges greater than 60 characters must be sent in an NTE segment
- A test result is *uniquely* identified in OLIS by the following field:
  - ORC.4 – Placer Group Number (order/report ID)
  - OBR.2 – Placer Group Number (test request identifier)
  - OBX.3 – Observation Identifier (test result code)
  - OBX.4 – Observation Sub-ID
  - ZBX.1 – Test Result Release Date/Time
- OLIS will not accept a test result amendment from a laboratory unless the ZBX.1 value has changed
- OBX.5 (Observation Value) must be aligned with OBX.2 (Value Type) and LOINC scale in OBX.3 (Observation Identifier)
  - E.g., numeric observation value must have a value type of "NM" or "SN", and a LOINC scale of "QN"
- OBX.8 (Abnormal Flag) value must be aligned with the value type as well
  - "L", "H", "LL", "HH" for numeric
  - "N", "A", "AA" for non-numeric
  - There are no default values – "N" is only to be used where the laboratory can discern the normal status of a textual report, such as a microbiologic culture
- The maximum message size is five megabytes (MB) – this size includes all overhead associated with the message (the largest HL7 payload message that can be sent is approximately 3.5 MB)

OLIS Conformance Test Scenarios

The *OLIS Conformance Test Scenarios* document describes the test scenarios that the adopter will be required to successfully execute in the OLIS client self-test (CST) environment prior to promoting their interface to the production environment. Familiarization with these scenarios will additionally help an adopter better understand the requirements of the LIS-to-OLIS interface.

A Guide to the OLIS Nomenclatures

A Guide to the OLIS Nomenclatures provides detailed information on the OLIS nomenclatures for test requests, test results, microorganisms and specimens (sources).

Gap Analysis Questionnaire

During the planning project kickoff stage, the adopter was provided with the *OLIS Gap Analysis Questionnaire*. This questionnaire is to be completed by the adopter and cover many topics about the adopter's systems and processes, including:

- General information – business alliances, referral alliances
- Information technology – general, electronic order entry system, results viewing
- Network connectivity – eHealth Ontario network access
- Privacy and security
- Nomenclature mapping
- Operation capability – current state, patient identifiers
- Business process for processing lab information – current state
- Testing – current state
- Technical capability – current state, future state
- Project schedule – initiation, constraints and dependencies
- Organization and team structure – resourcing
- Modality specific questions for chemistry, hematology, microbiology, blood bank and pathology

It is expected that the adopter will conduct an initial review of the contents of the questionnaire before attending the gap analysis kickoff meeting. They should identify any questions that might require further clarification from the OLIS program team.

N **NOTE:** The OLIS initiative lead will confirm if the adopter requires an update to their eHealth Ontario services agreement and PKI schedule. Updates are conducted as part of the implementation project. Please refer to CHAPTER 3.4 – LEGAL AGREEMENTS AND SCHEDULES for more details.

OLIS PROGRAM TEAM: The CPIS may share the *OLIS Connectivity Options* document with the adopter when discussing the use of PKI certificates. As well, the CPIS should complete the *Adopter Alliances, Organizations, and Locations* document, which is used to summarize how the project participants are related. Should the adopter request an organization and/or location name change, the CPIS should notify the OLIS initiative lead who must follow the organization name change process.

Completion of the Questionnaire

Completion of the questionnaire is often an iterative process, and the OLIS initiative lead/CPIS will schedule regular meetings (teleconferences) to ensure that the contents are fully understood by the adopter and finalized as soon as possible. The CPIS can provide feedback and advice on the implications of alternative approaches to addressing gaps.

The CPIS will provide a summary of issues identified in the gap analysis process, as well as recommended corrective actions, to the adopter project manager and the OLIS initiative lead. Issues which cannot be resolved within the timeframe specified for the planning phase, or will otherwise impact project delivery, should be escalated to the OLIS initiative lead.

NOTE: It is strongly recommended that the vendor(s) be included in these meetings, where appropriate. This can reduce confusion and miscommunication later on in the project when system requirements are developed.

NOTE: The CPIS can provide analysis of an adopter's existing HL7 messages, which may help the adopter to identify gaps and help them complete the gap analysis questionnaire.

Gap Analysis Kickoff Meeting

The OLIS initiative lead will arrange a gap analysis kickoff meeting (or teleconference) with the adopter project manager to orient the adopter's project team with the details of the gap analysis process, including the OLIS interface specification, questionnaire, interface options, and analysis of sample HL7 messages. This meeting usually requires three to four hours.

OLIS Interface Specification Overview Meeting

The OLIS initiative lead will also arrange an additional meeting (or teleconference) with the adopter project manager to orient the adopter's project team (technical representatives) with the details of the OLIS interface specification. This meeting usually requires 3-4 hours as it includes a walk-through of the specification.

OLIS PROGRAM TEAM: The CPIS must update the *OLIS Gap Analysis Kickoff Presentation* and *OLIS Interface Specification Overview Presentation* to reflect the specifics for each adopter. The CPIS, or other OLIS program team members may also use the *OLIS Interface Specification Executive Summary Presentation*, as required.

Interface Options

Many adopters have existing HL7 interfaces that are used for other purposes (e.g., to submit pathology results to Cancer Care Ontario or the electronic child health network (eCHN)). There are typically four options to develop the LIS-to-OLIS interface:

1. **"Clone" or "twin" an existing interface** – this involves creating a new interface from an existing interface; this is often the fastest, most successful route to completion; this approach also allows either the original interface or the OLIS interface to be modified without causing adverse effects on the other interface

2. **Modify an existing interface** – this involves modifying an existing interface to support not only the original purpose of the interface, but also the requirements for OLIS; experience indicates that this option often leads to issues

3. **Implement a vendor's "off-the-shelf" interface –** where available, a vendor may offer a pre-built OLIS interface

4. **Create a new interface** – develop a new interface; often the only choice for adopters that do not have a pre-existing HL7 interface; requires a significant amount of analysis and development work

TIP: It is recommended that adopters consult their vendor regarding OLIS interfaces that may already exist.

Common Areas of Discrepancies

It is the OLIS program team's experience that existing HL7 interfaces at adopter organizations are about 70% compliant with what is required in the LIS-to-OLIS interface. The areas where discrepancies are most commonly noted are:

- Encoding characters
- Character set
- Date formats – must include offset from GMT
- Organization IDs
- Order IDs
- Practitioner codes
- Health card number version codes
- Coded entry for microbiology
- Parent child relationships
- Use of codes for reporting results
- Units of measure
- Amendments and corrections
- Universal ID types – must be X500 or ISO
- PID segment
- PV1 segment – attending practitioner, admitting practitioner
- ORC segment – ordering facility, ordering practitioner address
- Z segments – segments specific to OLIS requirements (e.g., ZPD – OLIS PID extension segment, ZBR – OLIS OBR extension segment, ZBX – OLIS OBX extension segment, ZNT – OLIS NTE extension segment)
- Fields that OLIS does not support

Sample HL7 Messages

If an adopter has an existing HL7 interface, the CPIS can perform a preliminary assessment to determine the level of compliance to the OLIS interface specification. It is recommended that adopters provide the CPIS with some sample HL7 messages. The CPIS will analyze them and quickly identify gaps between the adopter's existing interface and what is required for the OLIS interface (*Sample HL7 Message Review*). The CPIS will review the following HL7 segments:

- ORU^R01 – message-level profile
- MSH – message header segment
- PID – patient identification segment
- PV1 – patient visit segment
- ORC – common order segment
- OBR – observation request segment
- DG1 – diagnosis segment
- OBX – observation segment
- NTE – note segment
- BLG – billing segment

Sample HL7 Message Scenarios

To receive feedback on an existing HL7 interface, the adopter should email the sample HL7 messages in raw text format, including accompanying lab reports (either a printout or screen image so that the CPIS can identify which fields on the report are transmitted in the HL7 message). Please refer to the *Sample HL7 Message Requirements* for details.

IMPORTANT: The adopter must not submit any sample HL7 messages or lab reports containing personal health information (PHI).

OLIS PROGRAM TEAM: The CPIS can use the *Sample HL7 Message Review* template to provide feedback to the adopter regarding gaps in their existing interface.

Adopter System Limitations

During the gap analysis stage, and later during client self-testing (CST) and/or conformance testing (CT), the adopter and CPIS may identify limitations in the adopter's systems that prevent the adopter from fully meeting the OLIS interface requirements (e.g., inability to submit a patient prefix). The CPIS will begin to track any limitations, whether temporary or permanent, during the gap analysis stage, however, it is important for the adopter to remember that all efforts must be made to minimize or eliminate all limitations.

OLIS PROGRAM TEAM: The CPIS can use the *OLIS CT Limitations Template* to track an adopter's system limitations.

Checklist for Gap Analysis

The following steps must be undertaken by the adopter project manager to complete to complete gap analysis.

TIP: The *Checklist for Gap Analysis* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	Review the ***OLIS Interface Specifications***, ***OLIS Conformance Test Scenarios***, and ***OLIS Gap Analysis Questionnaire***	During the planning kickoff stage of the project, the OLIS initiative lead provided the adopter project manager with the *OLIS Interface Specification*, *OLIS Conformance Test Scenarios*, and *OLIS Gap Analysis Questionnaire*. The adopter project manager should facilitate the adopter's review of the contents of these documents before attending the gap analysis kickoff meeting. They should identify any questions that might require further clarification from the OLIS program team.	Adopter Project Manager Adopter project team	
2	Attend the **gap analysis kickoff meeting** (or teleconference)	The OLIS initiative lead will arrange a gap analysis kickoff meeting (or teleconference) with the adopter project manager to orient the adopter's project team with the details of the gap analysis process, including the questionnaires, interface options, and analysis of sample HL7 messages.	OLIS Initiative Lead CPIS Adopter Project Manager Adopter project team	Updated *OLIS Gap Analysis Kickoff Presentation*
3	Attend the **OLIS interface specification overview meeting** (or teleconference)	The OLIS initiative lead will arrange a meeting (or teleconference) with the adopter project manager to orient the adopter's project team with the details of the HL7 interface specification.	OLIS Initiative Lead CPIS Adopter Project Manager Adopter project team	Updated *OLIS Interface Specification Overview Presentation*

#	Step	Description	Who Does This?	Deliverable
4	**Begin completion** of the *OLIS Gap Analysis Questionnaire*	Completion of the questionnaire is often an iterative process, and may require one or meetings (teleconferences) with the OLIS initiative lead and/or CPIS before the contents are finalized. The adopter project manager should provide the OLIS initiative lead/CPIS with the latest iteration of the document, as required.	Adopter Project Manager	
5	Send **sample HL7 messages** to CPIS	To assist in identifying gaps in the adopter's existing HL7 interface, sample HL7 raw text messages (and accompanying lab reports, such as a printout or screen shot) should be sent to the CPIS for analysis. **IMPORTANT:** The adopter must not submit any sample HL7 messages or lab reports containing personal health information (PHI).	Adopter Project Manager	Sample HL7 messages and accompanying reports sent to CPIS
6	Create ***HL7 Sample Message Review*** **report**	The CPIS will review the messages and provide the adopter with a report identifying the discrepancies between the adopter's existing HL7 interface and the OLIS requirements.	CPIS	*HL7 Sample Message Review* report emailed to adopter project manager
7	**Discuss** gaps	The adopter project manager and CPIS should meet on a regular basis to discuss the gaps. This is an iterative process and may result in periodic updates to the questionnaire. The CPIS will provide a summary of issues identified in the gap analysis process, as well as recommended corrective actions, to the adopter project manager. Issues which cannot be resolved within the timeframe specified for the planning phase, or will otherwise impact project delivery should be escalated to the OLIS initiative lead. **NOTE:** If required, the CPIS can begin to track any adopter system limitations using the *OLIS CT limitations template*.	Adopter Project Manager CPIS OLIS Initiative Lead	

#	Step	Description	Who Does This?	Deliverable
8	**Finalize completion** of the *OLIS Gap Analysis Questionnaire*	Once all the questions have been answered and finalized, based on discussion with the OLIS program team and the results of the sample HL7 messages, the adopter should summarize their unique issues (e.g., LIS, other systems, processes, specification, technical) and email the finalized version of the document to the CPIS.	Adopter Project Manager	Finalized *OLIS Gap Analysis Questionnaire* emailed to CPIS
9	**File the questionnaire** on the OLIS shared drive	The CPIS must store the finalized questionnaire on the shared drive and notify the OLIS initiative lead of their completion.	CPIS	*OLIS Gap Analysis Questionnaire* stored on shared drive

2.3 – Nomenclature Mapping and Change Requests

Overview

One of the most important components of the OLIS implementation is mapping the codes used in the adopter's LIS to the codes used by OLIS (i.e., test request codes, test result codes, specimen codes, and microorganism codes). These OLIS codes are known as the OLIS nomenclature. Clinical use of OLIS by adopters is dependent on conformance to the OLIS nomenclature and the OLIS interface specification.

The OLIS nomenclature supports standardization of the manner in which test requests (orders[1]) are ordered and test results are reported to facilitate the meaningful exchange of laboratory test information and to maintain data quality and interoperability.

Although it is encouraged that nomenclature mapping be completed by the end of the planning phase, this activity sometimes continues into the implementation phase. An adopter may not go live until all nomenclature mapping is completed and fully tested.

TIP: The OLIS program can provide nomenclature mapping resources to assist an adopter with their nomenclature mapping. Please refer to the expedited assistance section for more information.

Please refer to the NOMENCLATURE MAPPING AND CHANGE REQUESTS PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

What is the OLIS Nomenclature?
Nomenclature Mapping Kickoff Meeting
Nomenclature Mapping
OLIS Mapping Tool
Time Estimates to Complete Mapping
Mapping Options
Mapping Process
Tracking Nomenclature Mapping Status
Implementation Options
Requesting New Codes or Changes to Existing Codes
OLIS Nomenclature Releases
Checklist for Nomenclature Mapping

[1] Order is a collective term used to refer to one or more test requests.

What is the OLIS Nomenclature?

The OLIS nomenclature (available in Microsoft Excel 1997-2003 format) is made up of four parts or tables, as described below:

Nomenclature Table	Purpose	Approx. Records
Test requests nomenclature	Used to order laboratory test requests	2,150
Specimen (source) table	Used in combination with the OLIS test requests nomenclature to order lab test requests	385
Test results nomenclature	Used to report laboratory test results	45,460
List of microorganisms	Used in combination with OLIS test results nomenclature to report microorganisms	21,965 *

* Includes approximately 18,000 SNOMED codes

Test Requests Nomenclature

The OLIS test requests nomenclature is a coding system for identifying laboratory test requests. These codes are used to identify tests requested by a practitioner and to communicate this information to laboratory service providers through OLIS. The OLIS test requests nomenclature is based primarily on the schedule of benefits and logical observation identifier names and codes (LOINC), where appropriate.

Specimen (Source) Table

A specimen (source) allows for test requests to be differentiated by the type of specimen source (e.g., blood, urine, cerebrospinal fluid). Specimen types are not part of the test request name, but can be indicated separately by selecting the specimen type from the OLIS specimen (source) table.

The number of specimen types that are specified varies based on the category of test requests. The OLIS specimen (source) table provides flexibility in order to accommodate the various scenarios involved in handling test requests. In some cases, an ordering practitioner may specify specimen type information and in other cases the laboratory service provider will specify this information.

The OLIS test requests nomenclature is used in combination with the specimen (source) table.

Test Results Nomenclature

The OLIS test results nomenclature is a coding system for identifying laboratory test observations (test results, components of test results such as microorganisms and their sensitivities, and specific (e.g., body fluid) and not specific (XXX) specimen sources). It also includes identifiers for observations (e.g., height and weight) to ensure that results or interpretations are reported correctly.

The OLIS test results nomenclature has adopted a subset of the entire LOINC nomenclature dataset. The LOINC nomenclature standard was adopted by the OLIS program since it is a comprehensive and internationally recognized nomenclature standard that is flexible, stable, and has a nomenclature maintenance process through Regenstrief Institute Inc. The LOINC nomenclature standard is flexible since it provides multiple options for reporting test results based on a combination of component name and attributes.

The OLIS test results nomenclature is also supplemented with regional jurisdictional codes (i.e., XON and XCA codes) that are not included in the LOINC nomenclature standard. These jurisdictional codes are assigned by the OLIS program or Canada Health Infoway (CHI) when new test result codes are required, and an application is sent to Regenstrief Institute Inc. for inclusion in the LOINC nomenclature standard. Once LOINC codes have been generated the local jurisdictional codes are replaced by the new LOINC codes.

List of Microorganisms

As part of the OLIS test results nomenclature, there is an OLIS list of microorganisms that identifies microorganisms that can be reported in a test result. The OLIS list of microorganisms is used in conjunction with specific OLIS test result codes to report the results of cultures in a codified manner that allow the data to be used for epidemiological studies. Codifying the reporting of microorganisms also ensures results reported in different laboratories are reported consistently when they are retrieved from the OLIS repository. Since each microorganism has a unique microorganism code, the OLIS list of microorganisms standardizes the manner in which results are transferred to OLIS.

I **IMPORTANT:** Microorganisms must only be mapped to SNOMED codes.

N **NOTE:** For more detailed information on the OLIS nomenclature, please refer to *A Guide to OLIS Nomenclature*. The adopter may also refer to the *LOINC Users' Guide* for more details on the LOINC database.

OLIS Nomenclature Scope

The following disciplines are *included* in OLIS:

> Allergens, blood bank, chemistry, hematology, immunology, microbiology, microscopy, pathology, and serology

The following disciplines and types of laboratory testing are *excluded* from OLIS:

> Blood products, genetics, research, non-human laboratory testing (e.g., environmental or veterinary testing), donor and other non-clinical test results

Test Request Panels

Many adopters and their practitioners use a profile or a panel of tests when ordering tests. Panels are a common grouping of test requests that facilitate ordering and reporting. Panels are ordered with one name (e.g., electrolytes are a panel that can include test requests such as sodium, potassium and chloride). OLIS will support an adopter's custom panels.

NOTE: If the panel includes tests from multiple disciplines and/or sample types, the adopter should contact their CPIS and/or refer to *A Guide to OLIS Nomenclature* for more details.

Nomenclature Mapping Kickoff Meeting

Shortly after the planning kickoff meeting, the CPIS will arrange a nomenclature mapping kickoff meeting (or teleconference) with the adopter project manager to orient the adopter project manager and their organization's nomenclature team members with the specifics and requirements to successfully complete nomenclature mapping. This meeting will also include training on the OLIS mapping tool. This meeting usually takes approximately three to four hours.

OLIS PROGRAM TEAM: The CPIS must update the *OLIS Nomenclature Mapping Kickoff Presentation* to reflect the specifics for each adopter. The CPIS must also notify the business delivery team to add the adopter organization to the nomenclature update distribution list.

Nomenclature Mapping

The process of translating an adopter's laboratory's test request and result codes into the OLIS vocabulary is generally referred to as nomenclature mapping. All HL7 messages sent to OLIS must reference only the OLIS nomenclature, and therefore an adopter is required to:

- Map their test request codes to OLIS test request codes
- Map their specimens (sources) to OLIS sources
- Map their test result codes to OLIS test result codes
- Map their microorganism codes to OLIS microorganism codes
- Associate their test request codes with the relevant test result codes – this test request/test result combination is often referred to as nomenclature pairing

OLIS Mapping Tool

The OLIS mapping tool is a Microsoft Access-based application that aids in the search and mapping of the adopter's LIS codes to the OLIS nomenclature. The OLIS mapping tool allows an adopter to import their local files, associate these files with the preloaded OLIS nomenclature, and export mapped files in a variety of formats. It provides a systematic and comprehensive approach to mapping, and the automation of this process results in consistent and reliable mapping of local laboratory test request, specimen (source), microorganisms, and test result codes to the OLIS nomenclature. Some of the benefits of using the tool are:

- It automatically documents and tracks who performed the mapping and when it was performed
- It allows comments to be added to each record
- The nomenclature files can be extracted and reviewed in a format that is consistent with other OLIS adopters so that it can be more easily interpreted and compared
- An adopter may choose to use files extracted from the mapping tool as translation tables for their LIS-to-OLIS interface

NOTE: The OLIS mapping tool is designed for use by a single user. However, an adopter may choose to use multiple single "instances" of the tool if different resources are mapping different modalities (e.g., one user can map chemistry and another user can map hematology). Users can then export the codes mapped in their instance of the tool, and provide them to the other users for import into their instance of the tool, so that all users have a complete set, if required.

Mapping Specimens (Sources)

Adopters import their specimens (sources) dataset extract file into the OLIS mapping tool and map them to the OLIS specimens (sources). Then, when mapping their local test request codes, the adopter will be presented with a drop-down list of only the OLIS specimen codes that were mapped to their local specimen codes.

OLIS Mapping Tool System Requirements

Hardware / Software	Minimum Requirements
Processor	Intel Pentium III or higher
Operating System (OS)	Microsoft Windows: XP, 2000, Vista, 7, or Tablet PC
Memory	Minimum 128 MB
Hard Disk Space	100 MB
Browser	Microsoft Internet Explorer (IE) 6.0 Service Pack 2 or higher
Installed Software	Microsoft Access 2003, 2007 or 2010 Microsoft Excel 2003, 2007 or 2010

For more information on using the tool, please refer to the *OLIS Mapping Tool User Guide*.

NOTE: Training on the OLIS mapping tool will be provided by the CPIS during the kickoff meeting or a specially scheduled meeting after the kickoff.

Time Estimates to Complete Mapping

The follow table indicates the average amount of time (effort) to complete nomenclature mapping for a small, medium and large sized hospital laboratory based on an average of six minutes to map a single code. Mapping for most codes takes much less time than this, but codes that require investigation may take longer. Adopters that have simple test menus may take less time to complete their mapping. These are estimates only – duration may vary based on volume and resource availability.

Hospital Size/ File Type	Total Codes	Minutes	Hours	Days (6 Hrs/Day)	Months (22 Days/Mo)
Small Hospital					
Test Requests	600	3,600	60	10.0	0.5
Test Results	1,000	6,000	100	16.7	0.8
Specimens (Sources)	230	1,380	23	3.8	0.2
Microorganisms †	190	1,140	19	3.2	0.1
Total:	**2,020**	**12,120**	**202**	**33.7**	**1.5**
Medium Hospital					
Test Requests	900	5,400	90	15.0	0.7
Test Results	2100	12,600	210	35.0	1.6
Specimens (Sources)	230	1,380	23	3.8	0.2
Microorganisms †	190	1,140	19	3.2	0.1
Total:	**3,420**	**20,520**	**342**	**57.0**	**2.6**
Large Hospital					
Test Requests	2,500	15,000	250	41.7	1.9
Test Results	3,500	21,000	350	58.3	2.7
Specimens (Sources)	300	1,800	30	5.0	0.2
Microorganisms †	300	1,800	30	5.0	0.2
Total:	**6,600**	**39,600**	**660**	**110.0**	**5.0**

† The number of microorganisms in the table represents only 20% of the total number of codes, as the CPIS will map approximately 80% of the microorganism codes on behalf of the adopter.

NOTE: The adopter is encouraged to consider the expedited assistance approach to nomenclature mapping to reduce timelines to complete.

Mapping Options

Do It Yourself

Many adopters choose to perform nomenclature mapping using the OLIS mapping tool and resources from within their organization, as they have the time, resources and knowledge available to perform the task within the stated timelines. Mapping of local LIS codes is expected to be completed by subject matter experts who understand in detail the methodology and the principles of laboratory procedures. It is the experience of the OLIS program that 70-80% of mappings are fairly straightforward – it is the remaining 20-30% that often requires discussion and/or guidance from the CPIS.

N **NOTE:** The adopter may choose to use an external consultant to perform the nomenclature mappings and pairings.

Expedited Assistance

For adopters that may be short on time, resources and/or knowledge, OLIS nomenclature mapping team resources are available to perform the mappings on behalf of the adopter. Once the adopter provides the OLIS mapping team with the required file extracts, the OLIS mapping team will perform the mappings using the OLIS mapping tool and schedule regular meetings to discuss the outcome and obtain the adopter's feedback on any codes that may be challenging to map. The OLIS mapping team will provide file extracts of all mapped codes to the adopter to input into their instance of the OLIS mapping tool. This option allows an adopter to primarily focus their limited nomenclature resources on mapping those more difficult codes.

I **IMPORTANT:** Using expedited assistance may require that the adopter provide the OLIS mapping team with more metadata (e.g., data type or sample data). The OLIS nomenclature mapping team resources will provide training and assistance, as required. Although the OLIS mapping team will perform the majority of mappings, it is imperative that the adopter review all mappings for accuracy.

Mapping Process

Prerequisites

Before an adopter can begin mapping their nomenclature using the OLIS mapping tool, they will often need to clean up the data in their LIS (e.g., remove unused or duplicate tests). The adopter will then need to extract the data, using the dataset extract file templates below), add any additional information (e.g., metadata such as data type or sample data) not included in the extract, and email the dataset extracts for all modalities (disciplines) to the CPIS.

- *OLIS Mapping Specimens Template*
- *OLIS Mapping Test Requests Template*
- *OLIS Mapping Test Results Template*
- *OLIS Mapping Microorganisms Template*
- *OLIS Mapping Nomenclature Pairings Template* (optional)

NOTE: The adopter can send separate dataset extract files for test requests and test results for each modality (discipline), or combine the modalities together into a single dataset extract for test requests and another for test results.

NOTE: If an existing utility to create the dataset extract files is not available, the adopter should contact their LIS vendor to have a utility created, as the adopter will be required to generate periodic extracts. The adopter should contact their CPIS for assistance, if required.

Initial Review of Extract Files

The CPIS will review these initial extract files for completeness and conformance to the file format/structure required by the OLIS mapping tool, and provide feedback to the adopter. This is often an iterative process until the adopter can produce files that are compatible with the tool.

Mapping Specimens, Test Requests, and Test Results

Once the extract files are approved by the CPIS, the adopter (or OLIS mapping team, if the adopter has selected the expedited assistance option) will import all files (except microorganisms) into the OLIS mapping tool. It is recommended that the adopter begin with the specimens file, map the first ten test request or test result codes, and then export the file and email it to the CPIS. The CPIS can provide guidance on how the adopter is doing with regard to mapping before the adopter has proceeded too far down the path, and will provide comments in the file which will be returned to the adopter.

The adopter should then map the next 100 specimen codes to test request or test result codes, export the file and email it to the CPIS, who will again review the file to ensure that the codes are being mapped appropriately. If the mapping is acceptable, the adopter can continue mapping the remainder of the codes in that file.

The adopter should then follow this process (i.e., map ten, then map 100, then map all) for test requests and test results. Before proceeding with test result mapping, the adopter must also associate their test requests to OLIS specimens.

NOTE: An adopter can contact their CPIS for mapping details for tests that the adopter refers out to other laboratories.

> **OLIS PROGRAM TEAM:** The CPIS can refer to the *Reference Laboratory Mappings* spreadsheet to access mapping details to assist adopters with mapping tests that are referred out to other laboratories.

NOTE: The mapping tool will prevent input of duplicate codes. If an adopter inadvertently imports a test that is not in current use by the adopter, they can flag that code as "Do Not Transmit" in the tool rather than remove it from the import file.

Mapping Microorganisms

The CPIS will compare the adopter's microorganism codes (submitted using the OLIS mapping microorganisms template) to the OLIS microorganism codes using a custom Microsoft Excel formula (i.e., the CPIS does not use the OLIS mapping tool at this point).

Using this method usually results in the CPIS finding a match for approximately 80% of an adopter's local codes. The remaining codes are then manually reviewed by the CPIS to find a match (e.g., local code may use Canadian spelling versus the American spelling used by SNOMED codes). The CPIS will email the file back to the adopter who can import it into the OLIS mapping tool and complete the mapping for any outstanding unmapped microorganism codes.

NOTE: The adopter may choose to update their LIS with any spelling differences identified by the CPIS.

OLIS PROGRAM TEAM: The CPIS can click here to access detailed procedures to map an adopter's microorganism codes to the OLIS microorganism codes.

Nomenclature Pairings

The adopter must now link all test request codes with the appropriate test result codes to create nomenclature pairings. Once the pairings are complete, the adopter will export the file and email it to the CPIS. The CPIS will compare the adopter's pairings to an existing acceptable pairings database. The adopter will be notified of any discrepancies, and based on discussion with the CPIS, the acceptable pairings database may be updated, or the adopter may be required to modify the pairing.

TIP: The pairings extract file can also be useful to track nomenclatures mapping testing during client self-test (CST).

OLIS PROGRAM TEAM: The CPIS can click here to access detailed procedures to confirm completeness of an adopter's nomenclature pairings, and can click here to access detailed procedures for updating the acceptable pairings database.

NOTE: The acceptable pairings database is referenced when an adopter sends HL7 messages to OLIS, in both the CST and production environments. If the test request/test result pairing included in a message is not found in the acceptable pairings database, a warning message is included in the ACK response message.

Proceeding to Client Self-Test (CST)

Once the CPIS has indicated that all mappings and pairings are complete, the adopter will email the final versions of all dataset extract files to the CPIS. The adopter can then proceed with testing their nomenclature mappings in the OLIS client self-test (CST) environment. Please refer to CHAPTER 3.7 – CLIENT SELF-TEST (CST) for more details.

NOTE: The adopter may proceed to client self-test in advance of completing their nomenclature mapping, so that they can begin testing their LIS-to-OLIS interface.

Tracking Nomenclature Mapping Status

After the kickoff meeting and training session, the CPIS (or the OLIS initiative lead) will schedule regular weekly meetings with the adopter to discuss any nomenclature questions or issues, and to keep abreast of the adopter's mapping progress. The OLIS program encourages adopters to contact their CPIS as soon as possible with any questions; the adopter does not need to wait for the scheduled weekly meeting.

NOTE: This topic can be added by the OLIS initiative lead as an agenda item to a regularly scheduled weekly project status meeting.

OLIS PROGRAM TEAM: On a weekly basis, the CPIS is responsible for obtaining the total number of codes mapped for test requests, test results, microorganisms, and specimens, and updating the *Nomenclature Mapping Status* spreadsheet on the OLIS shared drive.

Implementation Options

Adopters can:

- Choose to **modify their information systems and business processes** to directly use the OLIS nomenclature, or
- They can **keep their internal nomenclature** – if an adopter chooses to retain their own nomenclature, these adopters are responsible for mapping their test requests nomenclature to the OLIS test requests nomenclature and specimen (source) table, and their test results nomenclature to the OLIS test results nomenclature and OLIS list of microorganisms

NOTE: Adopters are also responsible for maintaining mapped codes in accordance with newer versions of the OLIS nomenclature.

Requesting New Codes or Changes to Existing Codes

Guiding Principles

To make changes to the OLIS nomenclature, the OLIS nomenclature maintenance working group abides by the following principles:

- The OLIS nomenclature uses the pan-Canadian standards developed by CHI where possible
- The OLIS nomenclature adopts codes which are general and inclusive for naming test requests, test results, specimens (sources), and microorganisms; separate codes will not be created unless there is a clinical distinction justifying a distinct code
- Having disparate reference intervals for the test is not sufficient to justify using a different OLIS or LOINC code since reference intervals are reported along with the test results
- Separate test codes will not be created because of variations in the methodology unless there is clinical relevance or significant differences in reference intervals
- The OLIS program will not delete codes from the OLIS repository once they have been promoted to the production environment; when codes are no longer in use, they will be made inactive (i.e., deprecated)
- When a test code has relevance to a number of sites with a common community of interest, the OLIS program will consult with laboratory representatives before introducing new nomenclature codes

- Test requests for a new or modified nomenclature code may be referred to a panel of clinical experts before being added to the OLIS repository

- Where a request for a new nomenclature code affects more than one OLIS adopter, it may be referred to a panel of subject matter experts from a community of interest for review and recommendations

- When an XON code is created to report a test result, the code will be sent to Regenstrief Institute Inc. with a request to include it in the LOINC nomenclature standard; OLIS will deprecate the XON code once the Regenstrief Institute creates a suitable LOINC code and will advise adopters to remap to the new LOINC code

Nomenclature Change Request Form

The *OLIS Nomenclature Change Request Form* should be used to submit all requests for new nomenclature codes, or changes to existing codes (e.g., change the display name or result alternate name 1) to the CPIS. The adopter may use a single form to submit up to 40 individual codes for each of the nomenclature file types (i.e., test requests, test results, specimens (sources), and microorganisms). This form can also be used to indicate urgent requests. If full details about the code request(s) are not provided, the CPIS will follow up with the adopter to clarify missing details.

Once the CPIS receives a change request form, the requester from the adopter organization will be notified of the reference number (eHealth Ontario service desk ticket number) associated with the request and the expected timelines to review and process the request. Once the request has been assessed, the requester will be notified of the outcome. If the new or modified code is approved, the requester will be notified when the new or modified code will be available (i.e., date and version of OLIS nomenclature release).

NOTE: If an OLIS adopter has concerns about a refusal to add or modify an OLIS nomenclature code, they may submit their concerns in writing to the CPIS, accompanied by sufficient supporting information (e.g., articles from recognized scientific publications that support the request for reconsideration).

OLIS Nomenclature Releases

Updated OLIS nomenclatures are initially released into the OLIS client self-test (CST) environment, and two to three weeks later released into the OLIS production environment. Adopters are notified (through the OLIS collaboration portal and by email) of all new releases and are provided with a change log which identifies any new, modified, or deprecated (i.e., inactive) nomenclature codes.

Interim Releases

Interim releases occur on a bimonthly basis and include requests for new codes or requests for changes to existing codes. Adopters will be provided with two to three weeks to apply the changes to their local laboratory information system from the date of the interim release.

Major Releases

Major releases involve compiling all interim releases that occurred since the last major release. Major releases are also used to align the OLIS nomenclature with national or international standards. The most significant part of any major release is the application of LOINC updates, since the LOINC nomenclature standard is the underlying basis of the OLIS test results nomenclature. While alignment with national and international standards is important, changes that impact the meaning of a system code previously used in the OLIS nomenclature will be appealed by the OLIS nomenclature maintenance working group to CHI. These changes may or may not be adopted.

Major releases occur twice a year. The exact date of the release is determined by the OLIS nomenclature working group and is determined by the number of changes being proposed. Adopters will be provided with two to three weeks to apply the changes from the major release to their local LIS from the date of the major release.

Checklist for Nomenclature Mapping

The following steps may need to be undertaken by the adopter project manager and the adopter's nomenclature mapping team to ensure that the nomenclature mapping is successfully completed.

TIP: The *Checklist for Nomenclature Mapping* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Prerequisite:** Attend the **nomenclature mapping kickoff meeting** (or teleconference)	The CPIS will work with the adopter project manager to arrange a nomenclature mapping kickoff meeting (or teleconference) to orient the adopter's nomenclature mapping team members with the specifics and requirements to successfully complete nomenclature mapping, and to train adopter resources on using the OLIS mapping tool. **NOTE:** The CPIS must customize the *OLIS Nomenclature Mapping Kickoff Presentation* to reflect the needs of this adopter, and notify the business delivery team to add the organization to the nomenclature update distribution list.	Adopter Project Manager Nomenclature Mapping Resource	Updated *OLIS Nomenclature Mapping Kickoff Presentation*

#	Step	Description	Who Does This?	Deliverable
2	**Prerequisite:** Provide the nomenclature resources with a copy of this chapter, **2.3 – NOMENCLATURE MAPPING AND CHANGE REQUESTS**	Details about all relevant information and activities, as well as this checklist, are available in the guide. **TIP:** The adopter project manager may need to download any additional documents that are provided as hyperlinks in this guide, and provide them to the applicable resources in the adopter organization.	Adopter Project Manager	
3	**Prerequisite** **Download the OLIS mapping tool, dataset extract file templates, and other documents** from the OLIS collaboration portal (or by using the hyperlinks in this guide)	The adopter's nomenclature resource should download the following tools/documents: • *OLIS mapping tool* • *OLIS Nomenclature Mapping Tool User Guide* • *OLIS Nomenclature* • *A Guide to OLIS Nomenclature* • *OLIS Nomenclature Change Request Form* • *OLIS Mapping Test Requests Template* • *OLIS Mapping Test Results Template* • *OLIS Mapping Specimens Template* • *OLIS Mapping Microorganisms Template* • *OLIS Mapping Nomenclature Pairings Template* **NOTE:** The OLIS mapping tool can only be used by a single user at a time at the adopter organization.	Nomenclature Mapping Resource	OLIS Mapping Tool OLIS Dataset Extract File Templates
4	**Prerequisite** **Clean up data** in LIS	Before an adopter can begin mapping their nomenclature using the OLIS mapping tool, they will often need to clean up the data in their LIS (e.g., remove unused or duplicate tests).	LIS Specialist	
5	**Prerequisite** **Extract data** from LIS and email to CPIS	Using the OLIS dataset extract templates, the adopter will extract the following data for each modality (discipline) and email the files to	Nomenclature Mapping Resource or	Dataset extract files emailed to CPIS

#	Step	Description	Who Does This?	Deliverable
		the CPIS for review: • Test requests • Specimens (sources) • Test results • Microorganisms Additional information may be required to be entered manually if this information is not included in the extract. **NOTE:** The adopter can send separate test requests files and test results files for each modality (discipline), or combine the modalities together into a single test requests file and single test results file.	LIS Resource or CPIS (for assistance)	
6	**Prerequisite:** **Review extract data** from adopter	The CPIS will review the initial extract files for completeness and conformance to the file form structure required by the OLIS mapping tool, and provide feedback to the adopter. **NOTE:** This is often an iterative process until the adopter produces files that are compatible with the tool.	CPIS	Feedback on the suitability of the extract data
7	**Import dataset extract files** into OLIS mapping tool	The nomenclature mapping resource will import all dataset extract files (except microorganisms) into the OLIS mapping tool. **NOTE:** If the adopter has chosen to have the CPIS map their nomenclature on their behalf, the steps below will be performed by the CPIS and questions and issues will be communicated to the adopter for discussion during regularly scheduled meetings.	Nomenclature Mapping Resource	

#	Step	Description	Who Does This?	Deliverable
8	**Specimens:** **Map ten specimen codes** and email to CPIS for review	The nomenclature mapping resource will map ten local specimen codes to OLIS specimen codes. The resource will then export the specimens file from the OLIS mapping tool and email the file to the CPIS for review. **NOTE:** If an appropriate OLIS code cannot be found, the adopter must discuss with the CPIS and, if required, submit an *OLIS Nomenclature Change Request Form* requesting a new code or changes to an existing code, to the CPIS. **NOTE:** If the adopter is using expedited assistance, the CPIS will map all codes and review with the adopter on a scheduled basis.	Nomenclature Mapping Resource	Extract file for ten specimen codes emailed to CPIS
9	**Specimens:** **Review ten specimen codes** and provide feedback to adopter	The CPIS will review the code mappings and provide guidance on how the adopter is doing with regard to mapping before the adopter has proceeded too far down the path. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for ten specimen codes with OLIS comments emailed to adopter
10	**Specimens:** **Map 100 specimen codes** and email to CPIS for review	The nomenclature mapping resource will next map 100 local specimen codes to OLIS specimen codes. The resource will then export the specimens file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for 100 specimen codes emailed to CPIS
11	**Specimens:** **Review 100 specimen codes** and provide feedback to adopter	The CPIS will review the code mappings and provide additional guidance on the adopter's mapping. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for 100 specimen codes with OLIS comments emailed to adopter

#	Step	Description	Who Does This?	Deliverable
12	**Specimens:** **Map remaining specimen codes** and email to CPIS for review	The nomenclature mapping resource will next map the remaining local specimen codes to OLIS specimen codes. The resource will then export the specimens file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for all specimen codes emailed to CPIS
13	**Specimens:** **Review all specimen codes** and provide feedback to adopter	The CPIS will review the code mappings and provide additional guidance on the adopter's mapping. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for all specimen codes with OLIS comments emailed to adopter
14	**Test Requests:** **Map ten test request codes** and email to CPIS for review	The nomenclature mapping resource will map ten local test request codes to OLIS test request codes. The resource will then export the test requests file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for ten test request codes emailed to CPIS
15	**Test Requests:** **Review ten test request codes** and provide feedback to adopter	The CPIS will review the code mappings and provide guidance on how the adopter is doing with regard to mapping before the adopter has proceeded too far down the path. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for ten test request codes with OLIS comments emailed to adopter
16	**Test Requests:** **Map 100 test request codes** and email to CPIS for review	The nomenclature mapping resource will next map 100 local test request codes to OLIS test request codes. The resource will then export the test requests file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for 100 test request codes emailed to CPIS

#	Step	Description	Who Does This?	Deliverable
17	**Test Requests:** **Review 100 test request codes** and provide feedback to adopter	The CPIS will review the code mappings and provide additional guidance on the adopter's mapping. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for 100 test request codes with OLIS comments emailed to adopter
18	**Test Requests:** **Map remaining test request codes** and email to CPIS for review	The nomenclature mapping resource will next map the remaining local test request codes to OLIS test request codes. The resource will then export the specimens file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for all test request codes emailed to CPIS
19	**Test Requests:** **Review all test request codes** and provide feedback to adopter	The CPIS will review the code mappings and provide additional guidance on the adopter's mapping. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for all test request codes with OLIS comments emailed to adopter
20	**Test Results:** **Map ten test result codes** and email to CPIS for review	The nomenclature mapping resource will map ten local test result codes to OLIS test request codes. The resource will then export the test results file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for ten test result codes emailed to CPIS
21	**Test Results:** **Review ten test result codes** and provide feedback to adopter	The CPIS will review the code mappings and provide guidance on how the adopter is doing with regard to mapping before the adopter has proceeded too far down the path. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for ten test result codes with OLIS comments emailed to adopter

#	Step	Description	Who Does This?	Deliverable
22	**Test Results:** **Map 100 test result codes** and email to CPIS for review	The nomenclature mapping resource will next map 100 local test result codes to OLIS test request codes. The resource will then export the test results file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for 100 test result codes emailed to CPIS
23	**Test Results:** **Review 100 test result codes** and provide feedback to adopter	The CPIS will review the code mappings and provide additional guidance on the adopter's mapping. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for 100 test result codes with OLIS comments emailed to adopter
24	**Test Results:** **Map remaining test result codes** and email to CPIS for review	The nomenclature mapping resource will next map the remaining local test result codes to OLIS test result codes. The resource will then export the test results file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for all test result codes emailed to CPIS
25	**Test Results:** **Review all test result codes** and provide feedback to adopter	The CPIS will review the code mappings and provide additional guidance on the adopter's mapping. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for all test result codes with OLIS comments emailed to adopter
26	**Microorganisms:** **Map microorganism codes** and **email** microorganisms dataset extract file to adopter	The CPIS will map the local microorganism codes to the OLIS microorganism codes using a custom Excel formula (i.e., outside the mapping tool). The extract file with the mappings will be emailed to the adopter who can import it into the OLIS mapping tool. **NOTE:** The adopter may choose to update their LIS with any spelling differences identified by the CPIS.	CPIS	Microorganisms extract file emailed to adopter for import into OLIS mapping tool

#	Step	Description	Who Does This?	Deliverable
27	**Microorganisms:** **Map any outstanding microorganism codes** and email to CPIS for review	The nomenclature mapping resource will import the microorganisms extract file (received from the CPIS) and map any unmapped codes. The resource will then export the test results file from the OLIS mapping tool and email the file to the CPIS for review.	Nomenclature Mapping Resource	Extract file for all microorganism codes emailed to CPIS
28	**Microorganisms:** **Review all microorganism codes** and provide feedback to adopter	The CPIS will review the code mappings and provide additional guidance on the adopter's mapping. The CPIS will record their feedback in the OLIS comments field in the file. The adopter can import this file back into the OLIS mapping tool so that comments are available for review.	CPIS	Extract file for all microorganism codes with OLIS comments emailed to adopter
29	**Linkages/Pairings:** **Link/pair** test request codes to test result codes and email pairings dataset extract file to CPIS	The nomenclature mapping resource will link or "pair" all test request codes with the appropriate test result codes. This can be done either manually in the OLIS mapping tool, or the adopter can extract this data from their LIS and import it directly into the tool to create the pairings automatically.	Nomenclature Mapping Resource	Pairings extract file emailed to CPIS
30	**Linkages/Pairings:** **Review pairings data** and provide feedback to adopter	The CPIS will compare the adopter's pairings to an existing acceptable pairings database. The adopter will be notified of any discrepancies, and based on discussion with the CPIS, the acceptable pairings database may be updated, or the adopter may be required to modify the pairing. As well, the pairings will be compared to the adopter's test requests and test results file to determine if all codes have been included in the pairings.	CPIS	Feedback on the suitability and completeness of the pairings data
31	**Email all extract data files** to CPIS	Once the adopter has completed the mapping of all nomenclature, the finalized dataset extract files should be emailed to the CPIS for their records.	Nomenclature Mapping Resource	All dataset extract files emailed to CPIS

#	Step	Description	Who Does This?	Deliverable
32	Use extract data files to **track nomenclature mapping testing** during client self-test (CST)	The adopter should also use the pairings extract file to track nomenclature mapping testing during client self-test (CST).	Nomenclature Mapping Resource	

2.4 – Process and Systems Requirements

Overview

IMPORTANT: This release of the guide contains information and details for hospital laboratories implementing data in projects. Future releases of this guide will include details regarding additional functional areas such as referrals in/out, data out (including testing of third party clinical viewers), and eOrdering (including order retrieval and walk-ins). Please note that some supporting documents available from hyperlinks in this version of the guide may reference these additional functional areas.

Based on a detailed review of the OLIS interface specification, OLIS nomenclature, an assessment of the adopter's current systems and processes, and the outcome of the gap analysis, the adopter, usually in conjunction with their vendor, must determine what changes are required to the organization's systems and processes to support the development and implementation of the LIS-to-OLIS interface.

The detailed process and systems requirements developed during this stage will be used during the detailed implementation planning stage of the project to develop the project plan and schedule, and to help determine implementation costing. As well, they will also be used during the system development phase, to guide the development efforts of the adopter and/or the vendor (if applicable).

Please refer to the PROCESS AND SYSTEMS REQUIREMENTS PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Essential OLIS Concepts
Privacy Considerations
Avoiding Common OLIS Errors
LIS Assessment
Process and System Requirements
Checklist for Process and Systems Requirements

Essential OLIS Concepts

This section presents key OLIS concepts that the adopter project manager should be familiar with during both the planning and implementation phases. This information is available in the *OLIS Interface Specification*, and has been presented here to assist adopter project managers in their discussions with technical resources and vendors when developing requirements for changes to processes and systems.

Non-Nominal Testing

OLIS supports non-nominal testing (e.g., HIV tests) in which the identity of the patient is known only to the ordering practitioner. Orders that use the non-nominal patient identifier can only be retrieved by the practitioner(s) and lab(s) named on the order. Consent assertions do not apply to the non-nominal patient identifier.

Future Dated Orders and Standing Orders

OLIS supports orders that are dated in the future. Standing orders are not supported; the external system should create individual orders that indicate the required test dates for the series of tests.

Ancillary Order Information

OLIS supports the ability for external systems to supply information about the patient that is needed by the laboratory in order to perform an ordered test (e.g., patient diagnosis, height, weight).

Reporting Partial Lab Results

A paper requisition received by a lab may request tests that have different turnaround times (e.g., a complete blood count and a blood culture), and it may be clinically necessary to report the short turnaround test results before the longer turnaround test results become available.

When reporting the short turnaround test results to OLIS, it important to communicate that the longer turnaround tests are in progress, otherwise the ordering practitioner may incorrectly conclude that the longer turnaround tests have been forgotten.

This can be done using one of two different approaches:

- Submit a short turnaround test to OLIS using a report message (ORU) and then send an order amendment message (ORM, with ORC.1="XO") to add the long turnaround test requests with a "Specimen Collected" Status (i.e. OBR.25="I")

  N **NOTE:** This approach requires more interface development effort because two messages are created. This requires the development of an ORM interface to OLIS, as well as an ORU interface. For any adopter with an e-ordering application which communicates with the LIS, using an ORM interface to communicate pre-result statuses to OLIS would actually be more consistent with how they already behave. For that reason, many adopters cannot alter their systems to use approach two below.

- Submit all tests to OLIS using a report message (ORU). For longer turnaround tests the adopter should send the observation information containing the test result code that will ultimately be used to report the result with preliminary observation value text that indicates that the testing is in progress and a further report will follow

  N **NOTE:** This approach requires that the test result code that will ultimately be used to report the result to be known ahead of time with certainty so that the "in progress" result is replaced by the actual result. If the test result ends up being

reported under a different test result code, then the report would indicate the test result to the practitioner, but it would incorrectly continue to indicate that the testing is still in progress.

Reportable Laboratory Findings

Query interfaces have been developed to allow public health and Cancer Care Ontario (CCO) to retrieve reportable laboratory findings from OLIS. OLIS provides a mechanism to allow a laboratory to indicate that a test request and its test result(s) need to be reported to public health and/or CCO.

NOTE: For the time being, the laboratory and practitioner continue to be responsible to notify public health directly of reportable laboratory findings.

Multiple Authors of Laboratory Information

The information related to a single laboratory order in OLIS may be authored by several different external systems. For example, an initial order containing patient information, practitioner information, and two test requests may have been authored by the practitioner's EMR system. Specimen information and test results for these test requests may have been subsequently recorded by the laboratory's LIS system. This LIS system may have then added a lab-generated test to the order that was referred to a reference laboratory. The reference laboratory's LIS may have recorded a test result for the lab-generated test.

OLIS tracks each component of a laboratory order to ensure that information created by one organization or system is not altered by another organization or system except where permitted. The OLIS specification has been designed to accommodate multiple authors of laboratory information within a single order, including support for multiple authors of notes.

OLIS supports the concept of an ordering facility which allows the healthcare facility to identify itself on each order it creates, and then effectively track all of its orders by polling OLIS for laboratory information updates for the healthcare facility rather than having to query on individual orders or patients. The ordering facility field is typically only populated on test requests within referral orders.

Sort Sequences for Test Requests and Test Results

OLIS supports the communication of information to allow the reporting laboratory to indicate the sequence in which each test request and test result should appear when an order is retrieved from OLIS and displayed or printed by an external system such as a practitioner's electronic medical record system. This greatly simplifies the logic required to allow an electronic medical record system or an OLIS portlet viewer to display or print the patient report in the same sequence that the information would have appeared on a printed report from the laboratory. This helps minimize the impact to the practitioner switching from paper to electronic lab reports.

- **Primary sort key** – is the test request sort key and it controls the sequence of test requests when a lab report is displayed

- **Secondary sort key** – is the test result sort key and it controls the sequence of test results associated with a single test request

Viewer solutions where sort keys are missing:

OLIS is working to ensure that labs always include sort-key information in their reports, but some reports in OLIS do not contain sort keys. A report that does not contain sort key information is difficult for viewer solutions to display in a form that is easily used by practitioners. The physical sequence of information in report messages should not be relied upon to infer the proper display sequence. Viewer solutions may resort to using default sort key information that is available in the OLIS nomenclature standard, or they may resort to an alphabetical or arbitrary display sequence.

Limitations of sort keys in the OLIS nomenclature standard:

The sort key information in the OLIS nomenclature standard is limited to simple rendering of the most common types of test requests and test results. It is intended to be used only as a last resort if sort key information is not available in the report submitted by the laboratory. All adopters are expected to submit sort key information to OLIS.

Adjustment of sequential sort keys:

The addition of lab-initiated or reflex tests and results to an existing lab report may require the adjustment of sort keys on the existing test requests or results to ensure correct sequencing of the information in the amended report

Adjustment of sequential sort keys is also required where, due either to system configuration or system limitations, the sending lab transmits requests and results for a single report to OLIS in multiple messages, even where none of them has been reflexed and none of the individual requests or results has been modified.

Privacy Considerations

As custodians of patient personal health information (PHI), health care providers have obligations under the *Personal Health Information Protection Act, 2004 (PHIPA)* and *Ontario Regulation 329/04 (the "Regulation").* eHealth Ontario has the authority as an agent of the Ministry of Health and Long-Term Care (MOHLTC) – a health information custodian (HIC) – under PHIPA and under section 6.2 of).Reg. 329/04 to operate and manage OLIS, as eHealth Ontario is receiving personal health information (PHI) from the MOHLTC for the purpose of creating or maintaining one or more electronic health records (EHRs). When accessing OLIS data, each laboratory is responsible for ensuring compliance with its obligations set out in:

1. All agreements entered into between the laboratory and the MOHLTC
2. PHIPA and Ontario Regulation 329/04 (the regulation)
3. Any other applicable legislation or regulation
4. Any applicable judicial or administrative tribunal judgements, orders, rulings , or decisions

Each laboratory should ensure that his or her employees, agents and service providers handling PHI on the provider's behalf are in compliance with the laboratory's obligations, listed above, and are aware of, and comply with, any specific obligations under PHIPA or the regulation applicable to the provider's employees, agents or service providers. A more

complete description of provider privacy responsibilities can be found in PHIPA and the regulation.

Access to OLIS by Laboratory Adopters

Laboratory adopters may need to access OLIS from time to time for the purpose of data quality assurance. Where such access is required, the adopter should observe the following:

1. Laboratory adopters must only access OLIS data for the purpose of data quality assurance or as otherwise authorized by eHealth Ontario or MOHTLC.
2. Laboratory adopters must only access OLIS data that they have contributed.
3. Laboratory adopters must only allow authorized personnel to have access to OLIS.

Patient Consent

Patients may be concerned with the privacy and security of their personal health information (PHI) now that their laboratory test results may be more easily shared with other health care providers. Under PHIPA, patients have the right to refuse or restrict consent with regard to the collection, use and distribution of their PHI. OLIS gives patients or their substitute decision maker(s) the option to restrict access to their lab data in OLIS. A patient may restrict access at either:

- The patient level – restricts access to all of his/her laboratory results in OLIS, or
- The test level – restricts access to a particular test (to be specified at the time the test is conducted)

Restricting access at either the patient or test level means only the following are allowed to the results:

- The health care providers who were named on the lab requisition (e.g., the ordering or copied to provider)
- The reporting laboratory, the laboratory that performed the test, and the organization that placed the test request

If a patient restricts access to his/her results in OLIS, other health care providers involved in the patient's care will not be able to access the patient information that has been, or will be, submitted into OLIS. When a restricted provider queries lab results for this patient, the clinical viewer will notify him/her of this when returning the results of a patient query.

If a patient wishes to place a patient level restriction on access to his/her information in OLIS, or wishes to reinstate access (remove the restriction), he/she can call Service Ontario at 1-800-291-1405 (TTY 1-800-387-5559). Test level restrictions may only be applied at the time the test is conducted through the health care provider or laboratory, not Service Ontario.

Overriding Consent

The patient may give explicit consent to a requesting HIC to view the patient's blocked information. The requesting HIC can then notify OLIS of consent to view the patient's blocked information within the query message submitted to OLIS.

Two override options are supported:

- Explicit consent from the patient on a temporary basis
- Explicit consent from the patient's substitute decision maker on a temporary basis

All the consent override transactions are audited by OLIS. Once specified, overrides will be in effect unless cleared by the patient.

Avoiding Common OLIS Errors

The following is a list of common OLIS errors and some suggestions on why they occur and how an adopter can minimize them through design considerations for their interface.

Practitioner Errors

These errors occur when an attending or ordering practitioner or a practitioner named as a copy to results recipient, is not identified with the appropriate identifier, or the key identifier does not match CPDB (MOHLTC corporate provider database). These errors can be minimized by designing the interface to make use of fields in the CPDB extract (also known as practitioner extract, available from the OLIS collaboration portal), rather than data fields that are typed into the HIS or LIS. In addition, by keeping the practitioner extract up to date, the adopter will encounter fewer errors where the practitioner is not available in their systems. An alternate tactic is for the adopter to capture OLIS compliant (i.e., CPBD compliant) data in their HIS or LIS directly, rather than allowing users to free text this information in the database.

Occasionally an adopter may include copy to recipients on reports that do not have identifiers from the practitioner extract (e.g., out of province practitioners, internal organization entities), and this will prevent the message from getting into OLIS. It is recommended that this information be filtered out before sending to OLIS.

> **NOTE:** Each adopter is assigned a "provider unavailable" practitioner who can be used when practitioner information is unavailable to send with the HL7 message (e.g., with generic emergency and medical directives, students, or practitioner has not yet been setup in the adopter's systems). The "provider unavailable" practitioner is available in the practitioner extract – the first name is "Provider Unavailable" and the last name is the name of the organization. The adopter should contact their CPIS if they need assistance identifying their organization's "provider unavailable" practitioner in the extract (e.g., last name is limited to 30 characters so the organization's name may be abbreviated). This provider should be added to the adopter's systems for use in both the OLIS client self-test (CST) and production environments. Please note that when adopters have submitted messages using the "provider unavailable" practitioner, they can later modify the message and send the appropriate practitioner.

Patient Errors

These errors occur when health card validation fails. They can be minimized if the interface design and work practices capture the card swipe information at registration, and the interface uses these fields (rather than free entry forms for patient identifiers) when the message is sent to OLIS. An alternative tactic would be to repeat the health card validation when the message is constructed for OLIS, to capture the returned values from

the validation, and to substitute those patient identifiers for the ones stored in the HIS or LIS. There may still be issues from time to time with version codes (which generate a warning but do not prevent the message from getting into OLIS), or lost or stolen cards (which will prevent the message from getting into OLIS). Dealing with lost or stolen cards at the time of admission will eliminate this type of error.

NOTE: During the gap analysis stage of the planning project, the adopter should have discussed the issues and implications associated with synchronization of patient demographic data across multiple systems. The adopter should contact their CPIS should they require further information as they develop their process and system requirements.

Nomenclature Mapping Errors

When new tests are added to the adopter's test menu, the mapping to OLIS nomenclature must be done accurately. If this is done, and tested, mapping errors should not occur in most cases. However, when OLIS updates their nomenclature the adopter may need to do some remapping (e.g., to replace codes that have been deprecated). If the adopter keeps their mapping tables up to date, each time there is a new nomenclature release there mapping errors will be minimal.

In microbiology there are often new names proposed for microorganisms. These new organism names must be remapped to the appropriate LIS code or there is a potential to receive an error (usually after a prolonged grace period for using either the old or new name). Keeping mapping up to date will mitigate the risk of this type of error.

When new tests are added to the laboratory menu, the adopter will need to test these codes in the OLIS client self-test (CST) environment before the adopter should promote them to their live directory. This is similar to the testing that an adopter already does for any new test update, but it should now involve viewing the data in OLIS.

The adopter may wish to introduce a data quality audit process to periodically review data in OLIS. This could be done in conjunction with clinical use of OLIS data, where the adopter receives feedback from users of their own clinical viewer, or it could involve random or targeted reviews of data submitted by the lab. The OLIS program team can also provide reports to assist in this type of review to facilitate easy review of key data elements. Some of these elements would best be reviewed by someone with a clinical understanding of the data. Other fields would best be reviewed by someone with a strong understanding of HL7.

NOTE: For more information on the *OLIS Data Quality Audit Report*, please refer to CHAPTER 3.9 – CLIENT SELF-TEST (CST).

Programming Errors

If the interface is not fully compliant with the OLIS interface specification, there may be unusual combinations of data that will trigger an error message. These data combinations may not have been identified during interface testing. These errors will be minimized if the adopter is familiar with the complex interdependencies in the OLIS interface specification, and if they test their interface thoroughly. If any "bugs" slip through, understanding the cause and making further enhancements to correct the defects will minimize the errors.

Data Entry and LIS Use Errors

If technologists at the adopter organization take short cuts or get creative in the way data is entered into the computer system(s), this might cause an error to occur. The more fully an adopter understands the way in which the computer system(s) might be used, and the closer the adopter controls or educates their staff on how they should use the system(s), the less frequently you will run into these types of errors.

LIS Assessment

Based on the outcome of the gap analysis stage, the adopter should create a written assessment, including technical and adoption readiness, of the current state of their laboratory information system (LIS) to contribute laboratory data to OLIS. The following elements should be determined:

- Current and future state of network
- Current and future state of dataflow processes (in/out)
- Commercial software options
- Infrastructure/hardware options
- Internet/web readiness
- LIS capacity impact due to OLIS
- LIS utilization due to OLIS
- eHealth Ontario bandwidth requirements for site volumes
- Organization's storage capacity (if OLIS interface fails)
- Capacity to resend failed transactions
- Strategy for use of PKI
- Review and analysis of OLIS database fields documented in OLIS interface specification
    - New fields to be added
    - Operational review off fields (e.g., mandatory vs. optional)
    - Creation of new tables
- Operational processes for ongoing maintenance (front end/order entry, patient inquiry, database changes, master file maintenance, OLIS error handling)
- Frequency of changes to be sent to OLIS

> **IMPORTANT:** The LIS assessment should be shared with the CPIS, who can provide valuable insight to ensure accuracy and completeness.

Process and System Requirements

Based on the outcome of the gap analysis stage and the LIS assessment, the adopter should also create written documents specifying interface design requirements for submitting data into OLIS, as derived from the LIS assessment report, and changes to business processes to support the interface. Below are some elements that often require modification or creation, and should be considered by the adopter when developing requirements:

> **NOTE:** This is not an inclusive list. The adopter should refer to the *OLIS Interface Specification* and *OLIS Conformance Test Scenarios* for a complete list of requirements.

Patient Demographics

- Patient additional identifiers
- Patient last name, first name, and second name
- Patient address – separate fields for each element
- Patient province, state, and country code
- Patient address type (e.g., home, business, temporary)
- Patient phone number type (e.g., home, business, emergency)
- Ability to accept and identify other provinces, states and country codes

Practitioner Demographics

- Practitioner identifier
- Patient additional identifiers (e.g., private, student, contract, correctional institution)
- Practitioner last name, first name, and second name
- Practitioner address – separate fields for each element
- Generic practitioner (e.g., for use with generic emergency or medical directives, or locum practitioners)

Laboratory IDs/License

- Identification of laboratory ID at order and test level
- License number

LIS Modifications

- Laboratory identification master (M&T)
- Other files specified as per OLIS interface specification
- Order entry modifications (test codes, descriptions, etc.)
- Results entry modifications (result codes, descriptions, units of measure, specimen source, value type, etc.)
- Reportable test indicator
- Editing, cancelling, and invalidating results
- Date/time stamps for different parameters (e.g., collected, resulted, reported)
- Discrete microbiology results

Master File Maintenance

- Practitioner mapping (to OLIS practitioner extract)
- Nomenclature mapping (test requests, test results, specimens, microorganisms)
- Test reference ranges
- Units of measures

Blocking and Patient Consent

- Privacy, consent and blocking changes required by staff
- Blocking on the test level
- Blocking on the patient levels

Interface and OLIS Messaging Logic

- HL7 order changes
- Receiving protocols
- Vocabulary translation
- Message translation
- Communication program message transfer protocol (PKI)
- Capture logic
- Logging and resending
- Acknowledgement program
- Error handling, correction, reconciliation for results errors

Business Processes

- Communicating with eHealth Ontario Service Desk
- OLIS inquiries workstation setup

> **IMPORTANT:** The business and system requirements documents should be shared with the CPIS, who can provide valuable insight to ensure accuracy and completeness.

Checklist for Process and Systems and Requirements

The following steps need to be undertaken by the adopter project manager and the adopter to ensure that the requirements for changes to the organization's processes and systems are successfully documented and understood.

> **TIP:** The *Checklist for Process and Systems Requirements* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	Review **OLIS interface specification**, **CT scenarios**, and outcome of **gap analysis**	The adopter should review the OLIS interface specification, conformance test scenarios, and the outcome of the gap analysis, all of which will contribute to the development of process and systems requirements.	Adopter Project Manager Vendor Other resources, as required	
2	Create **draft LIS assessment** report and email to CPIS for review	Based on the outcome of the gap analysis stage, the adopter should create a written assessment, including technical and adoption readiness, of the current state of their laboratory information system (LIS) to contribute laboratory data to OLIS. The adopter should email the report to the CPIS for review.	Adopter Project Manager Other resources, as required	Draft LIS assessment report emailed to CPIS for review

#	Step	Description	Who Does This?	Deliverable
3	Provide **feedback** on LIS assessment to adopter	The CPIS can provide valuable insight to ensure accuracy and completeness.	CPIS	LIS assessment report feedback provided to adopter
4	**Finalize LIS assessment** report	The adopter should finalize the LIS assessment report.	Adopter Project Manager Other resources, as required	Final LIS assessment report
5	Create **draft process and system requirements** documents and email to CPIS for review	The adopter should create written documents specifying interface design requirements for submitting data into OLIS, as derived from the LIS assessment report, and changes to business processes to support the interface. The adopter should email the report to the CPIS for review.	Adopter Project Manager Other resources, as required	Draft process and system requirements documents emailed to CPIS for review
6	Provide **feedback** on process and system requirements to adopter	The CPIS can provide valuable insight to ensure accuracy and completeness.	CPIS	Process and system requirements feedback provided to adopter
7	**Finalize process and system requirements** documents	The adopter should finalize the process and system requirements documents.	Adopter Project Manager Other resources, as required	Final process and system requirements documents
8	**Incorporate findings** into implementation project plan, schedule and budget	The adopter should incorporate the LIS assessment, and process and systems requirements into the implementation project plan, schedule, and budget. Refer to CHAPTER 2.5 – DETAILED IMPLEMENTATION PLANNING for more details.	Adopter Project Manager	

2.5 – Detailed Implementation Planning

Overview

During the planning phase, an adopter must plan for the implementation phase. This requires the adopter to identify key activities and deliverables for the upcoming implementation phase, and to consider the resources required to fully implement OLIS at the adopter organization.

There are a series of implementation planning documents and templates that the OLIS initiative lead and adopter project manager must work together to complete. These documents will identify the tasks, sequence of work, and work effort required at each step of the upcoming implementation.

As part of this stage of the project, the adopter will be required to sign another transfer payment agreement (TPA) specifically for the implementation phase that will rely on information developed during this stage of the project (e.g., timelines, budget).

NOTE: For more information on the implementation transfer payment agreement, please refer to CHAPTER 2.7 – IMPLEMENTATION TPA.

Please refer to the DETAILED IMPLEMENTATION PLANNING PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Key Deliverables
Typical Risks Encountered
Activities Impact
Resourcing
Implementation Timeline
Communication
Planning Project Close-Out Report
Payment Memo
Checklist for Detailed Implementation Planning

Key Deliverables

In addition to deliverables required in other stages of the planning phase, the following documents must also be developed by the adopter, and in some cases, approved by the OLIS program team. The OLIS initiative lead is available to provide guidance and support, where required.

Implementation Project Plan

The implementation project plan outlines how the adopter plans to execute the implementation of OLIS. The implementation project plan must be customized to reflect the adopter's environment and needs. The project plan should include the following:

- **Full costing of implementation** – includes a cumulative total of monetary costs, as well as a breakdown of the types of monetary costs (e.g., capital, operational, resource time) for each major stage of implementation
- **Cost benefit analysis** – details monetary and non-monetary costs required for implementation, as well as the expected benefits to the adopter
- **Functional, business and architectural requirements** – outlines key workflows and technology components required for the implementation and use of OLIS
- **Project constraints or dependencies** – documents anticipated constraints or dependencies, and what actions can be done to mitigate or address these items
- **Creation of *Schedule B* (budget) and *Schedule C* (payment schedule)** of the implementation transfer payment agreement

> **IMPORTANT:** It is important that the adopter project manager discuss the proposed implementation project plan fully and share the documentation with the OLIS initiative lead, as this document requires eHealth Ontario approval.

Implementation Project Schedule

Developing an implementation project schedule is one of the key deliverables required to complete the planning phase of the project. It is strongly recommended that the adopter project manager use the *OLIS Implementation Project Schedule* as the starting point for developing their own schedule. It includes the basic tasks and milestones that the adopter will encounter during the implementation. The *OLIS Implementation Project Schedule* is an excellent tool to document planning assumptions and decisions and facilitate communication among key stakeholders.

> **IMPORTANT:** This implementation schedule is a "living document" and should include all tasks and activities related to key areas such as adoption and training, registration, nomenclature mapping, interface development and conformance testing. It should include expected start and end dates, interdependencies, resources and percent completion. It is important that the adopter customize this schedule to meet the adopter's needs and unique circumstances and add tasks that are specific to the adopter. The schedule must be approved by the project joint steering committee to ensure that the adopter and eHealth Ontario are in agreement. The OLIS initiative lead will also share the project schedule with other members of the OLIS program team to coordinate support activities.

Typical Risks Encountered

The adopter project manager must proactively identify and mitigate risks to the implementation schedule. The following are some typical project risks:

1. Resources are pulled away from tasks on the critical path, causing the project end date to slip.

   Mitigation – the adopter project manager must manage this carefully, ensuring deadlines and commitments are kept. A formal change management process must occur before making changes to the project end date.

   NOTE: The adopter project manager should contact the OLIS initiative lead to discuss opportunities where the CPIS can provide additional assistance with some activities.

2. Insufficient implementation planning will cause issues during the implementation phase.

   Mitigation – allocate sufficient time to conduct a thorough analysis before completing the implementation planning.

3. The longer the lag between the planning and implementation phases, the higher the probability work done in the planning phase will need to be re-done.

   Mitigation – as plans and the schedule are being developed, plan for the implementation phase to immediately follow the completion of the planning project.

Activities Impact

Implementing the OLIS interface in the adopter organization will require various resources to perform tasks in key areas. The adopter's resources may be focused primarily in the following areas:

- **Procurement** – staff may need to procure hardware, software, licenses, resources, etc., as required
- **Environment setup and connectivity** – technical staff will need to dedicate time to setup connectivity to both the OLIS client self-test (CST) and production environments
- **Registration** – developers, testers, and QA resources will need to be registered and enrolled to access the OLIS portlet in both the CST and production environments
- **Training** – will need to be completed for developers, testers, trainers, and other staff (e.g., super users) who may train other staff
- **Nomenclature mapping** – nomenclature used within the adopter organization must be mapped to the OLIS nomenclature

- **Systems and interface development** – developers from the adopter organization or from the adopter's vendor will need to build the interface according to the OLIS interface specification, and modify in-house applications as required (e.g., LIS, HIS)

- **Client self-testing (CST)** – the adopter must take specific steps to test the functionality of their LIS-to-OLIS HL7 interface, as well as test their nomenclature mappings and work practices

- **Conformance testing (CT)** – is the final stage of testing where the adopter must demonstrate that their interface is successfully able to interact with OLIS

- **Workflow impact** – the adopter may need to revisit and create new workflow processes to accommodate the use of OLIS within the adopter organization

- **Go-live and ramp-up** – the adopter will need to ensure that users are trained in new processes and the use of the OLIS portlet; as well, the adopter will need to filter their interface (send a limited number of HL7 messages to the production environment) until both they and OLIS are assured of the quality of data the adopter intends to send to the OLIS production environment before they transition to operations

Resourcing

There are a number of recommended individuals who will be required to complete the implementation activities. It is expected that the adopter will be able to leverage existing operational processes for connectivity, registration, testing, and training. The number of resources required to support activities related to the areas impacted by the OLIS implementation will vary by adopter and will be dependent upon factors specific to each adopter. For example, some adopters may require some individuals to perform multiple roles.

> **NOTE:** Titles used below may or may not be the same as those used within a specific organization. They are meant to provide guidance only.

In addition to those roles described in the project governance section of the ABOUT OLIS ADOPTION PROJECTS chapter of this guide, the following resources may be required:

Adopter Project Manager

- Accountable for all stages of implementation of OLIS at the adopter organization
- Serves as the primary point of contact with the OLIS program team
- Ensures all required deliverables are completed, milestones are achieved on time, and all required approvals are granted
- Leads the planning of implementation, including timelines, resources, budgeting, issues and risks, and mitigation
- Manages relationships internal to the adopter organization, with eHealth Ontario, and with any external vendors

Administrative Support

Provides support to the adopter project manager, or others, to communicate with other project team members and end users, and supports all aspects of implementation activities (e.g., schedule meetings).

Medical / Laboratory Director (or designate)

The laboratory director (or designate) understands the business and clinical considerations associated with laboratory management and the impacts of managing change in this environment, and provides input in the following areas:

- Departmental priorities, constraints, and dependencies
- Resource capacity and allocation
- Resource gaps, skill level and associated effort
- Nomenclature mapping guidance and final approval
- Provides clinical signoff for the project

IT Manager

The IT manager understands the timeframe and activities associated with the introduction of new or upgraded technologies into the laboratory environment as well as resources required to implement technological change. The IT manager provides input on the following:

- Technical considerations (connectivity, development, configuration) and LIS integration requirements which need to be accounted for in the plan
- Working relationships with software delivery vendor which need to be accounted for in the plan
- Departmental priorities, constraints, and dependencies
- Resource capacity and allocation
- Resource gaps, skill level and associated effort

Developer / IT Interface Specialist / Network Support / System Administrator

- Manages overall technical activities related to connectivity, development and conformance testing
- Acts as the network lead to establish and confirm organizational connectivity (i.e., implementing and testing PKI certificates)
- Ensures adopter's systems meet minimum requirements for interfaces
- Coordinates all HL7 interface activities
- Participates in conference calls, along with the adopter project manager, in reference to resolution of technical issues

LIS Application Specialists / Subject Matter Experts

LIS application specialists and subject matter experts (SMEs) have expertise in specific areas such as LIS testing, nomenclature mapping, and QA analysis. LIS and IT SMEs are integral to the execution of the project. These resources may participate in conference calls, along with the adopter project manager, in reference to nomenclature mapping.

Testing Resources

- Participates in OLIS client self-testing, nomenclature mapping testing, and conformance testing
- Includes staff familiar with lab information systems and HL7 interfaces, as applicable
- Team members must have network connectivity to the Internet and OLIS portlet
- Team members must be familiar with OLIS functionality
- Team members will:
  - Review test scripts for compliance with the adopter's data test policies
  - Enter test data into the adopter's testing environment
  - Test interfaces by ensuring HL7 messages are sent in a structured format as required by testing process
  - Validate test results
  - Participate in conference calls related to testing activities

N **NOTE:** LIS application specialists and SMEs may also perform testing activities.

Registration Resources

The adopter must identify an OLIS sponsor to nominate end users for the OLIS portlet. As well, the adopter's local registration authority (LRA) manages end user registration and enrolment using the online ONE ID system.

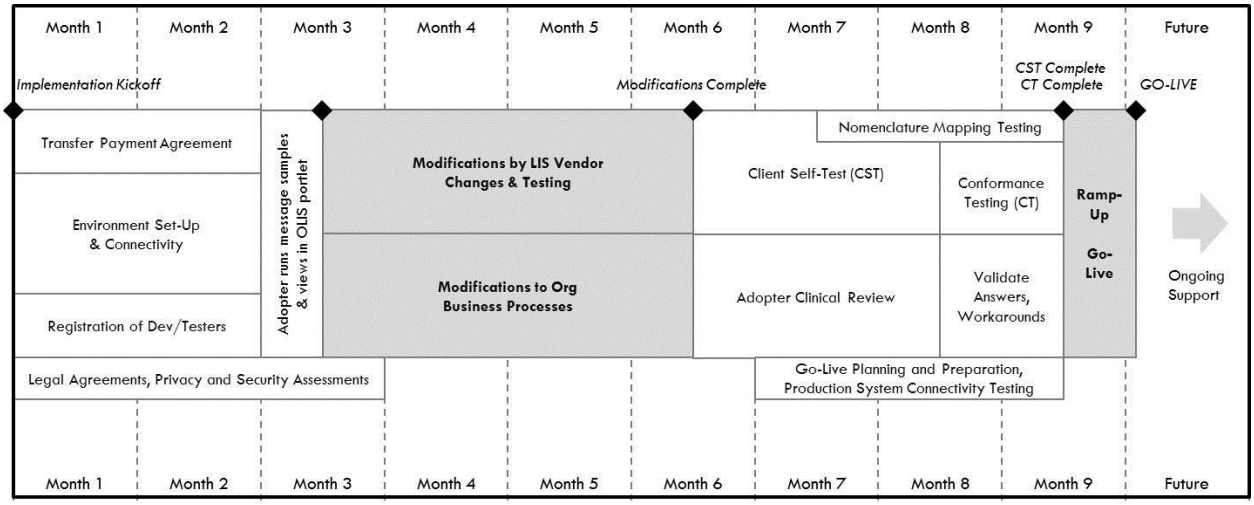
Privacy, Security and Legal Resources

The adopter will need to work with eHealth Ontario and the Ministry of Health and Long-Term Care (MOHLTC) to ensure that all required legal agreements and schedules are in place, and that all identified privacy and security issues and risks have been mitigated prior to go-live.

T **TIP:** OLIS program resources are available (expedited assistance) to assist with nomenclature mapping and client self-test activities. The adopter should contact their OLIS initiative lead or CPIS for details.

Implementation Timeline

The planning phase usually takes two to three months, but the timeline for the technical implementation process will vary for each adopter. This is due to the variation between adopters with regard to the complexity involved in developing the OLIS interface and supporting systems and processes. The chart below depicts typical timelines for the implementation phase of the project.



Communication

Keeping key stakeholders informed about OLIS activities is both valuable and necessary to achieving support and success. Providing clear and concise communications about OLIS will also help manage expectations within the adopter organization.

Communications Plan

Developing a communications plan will help the adopter project manager define the audience and their communications needs. This process can be used as a way to keep the adopter's executives and other various stakeholders informed about OLIS on an ongoing basis. The communications plan should be tailored to each adopter. This document addresses:

- Setting overall communication goals
- Determining internal strategy
- Determining tactics
- Setting the messaging direction

NOTE: The adopter project manager can use the *OLIS Communications Plan Template*, with tips to consider when creating the communications plan.

Planning Project Close-Out Report

The *OLIS Planning Project Close-Out Report* outlines the tasks that need to be completed successfully by the end of the planning phase. The report covers all major planned activities from the planning kickoff to the completion of nomenclature analysis and project planning. The *Planning Project Close-Out Report* is created by the OLIS initiative lead. It will need to be signed by the adopter's OLIS executive (refer to the governance document for details), then scanned and returned to the OLIS initiative lead. The OLIS program director will also sign the report, and a copy will be emailed to the adopter project manager.

> **OLIS PROGRAM TEAM:** The OLIS initiative lead can modify the *OLIS Planning Project Close-Out Report* to align the activities with the adopter's transfer payment agreement (TPA).

Payment Memo

Upon receipt of a signed copy of the *OLIS Planning Project Close-Out Report*, the OLIS initiative lead will prepare and submit the final payment, as per the terms in the planning transfer payment agreement. This is the final payment for the planning phase.

NOTE: It takes approximately six to eight weeks for the payment memo to be processed and for the adopter to receive payment.

Checklist for Detailed Implementation Planning

The following steps must be undertaken by the adopter project manager to complete all activities required to prepare for the implementation phase.

TIP: The *Checklist for Detailed Implementation Planning* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	Create the ***implementation project plan***	Create the *implementation project plan* to outline how the adopter plans to execute the implementation, and share with the OLIS initiative lead for approval.	Adopter Project Manager	*Implementation project plan* created and approved by OLIS
2	Create the ***implementation project schedule***	Use the *OLIS Implementation Project Schedule* template to outline tasks and milestones for implementation. Share the schedule with the OLIS initiative lead to ensure alignment.	Adopter Project Manager	*Implementation project schedule* developed and shared with OLIS
3	Create a ***communications plan***	Use the *OLIS Communications Plan Template* to define the audience, their communication needs and how the adopter will communicate with them about the OLIS implementation project.	Adopter Project Manager	*Communications plan* developed

#	Step	Description	Who Does This?	Deliverable
4	Assign key **project resources**	Based on the needs identified in the implementation project plan and schedule, assign key resources.	Adopter Project Manager	
5	Ensure all planning project deliverables and milestones have been **completed or met**	The adopter project manager and OLIS initiative lead must work together to ensure that all deliverables and milestones for the planning project phase have been completed or met. **NOTE:** Refer to the planning transfer payment agreement for a list of deliverables.	Adopter Project Manager OLIS Initiative Lead	
6	Customize the ***OLIS Planning Project Close-Out Report***	The OLIS initiative lead will create the *OLIS Planning Project Close-Out Report* based on the deliverables from the transfer payment agreement and send to the adopter project manager for signature by the adopter's OLIS executive.	OLIS Initiative Lead	*OLIS Planning Project Close-Out Report* emailed to adopter project manager for signoff
7	**Obtain signature** from adopter's OLIS executive	The adopter project manager must have their OLIS executive sign the *OLIS Planning Project Close-Out Report*. The signed report must be scanned and emailed to the OLIS initiative lead.	Adopter Project Manager	Signed *OLIS Planning Project Close-Out Report* emailed to OLIS initiative lead
8	**Obtain signature** from OLIS program director	The OLIS initiative lead will obtain the OLIS program director's signature, scan the report and email a copy to the adopter project manager.	OLIS Initiative Lead	Signed *OLIS Planning Project Close-Out Report* emailed to adopter project manager
9	**File the signed report** on the OLIS shared drive	The OLIS initiative lead must store the signed report on the shared drive.	OLIS Initiative Lead	Signed and scanned *OLIS Planning Project Close-Out Report* stored on shared drive
10	Process final **payment**	Upon receipt of a signed copy of the *OLIS Planning Project Close-Out Report*, the OLIS initiative lead will prepare and submit the final payment, as per the terms in the planning transfer payment agreement.	OLIS Initiative Lead	Payment memo completed and submitted
11	**Receive final payment** for the OLIS planning project	Within six to eight weeks, the adopter will receive the final payment for the OLIS planning project.	Adopter	Final payment received

2.6 – Implementation TPA

Overview

eHealth Ontario has responsibility for transfer payment and funding commitments to hospitals, public health, and community labs to support key elements of the OLIS project. Transfer payments are a key method used to facilitate the delivery of services to adopters. Transfer payment recipients are responsible to deliver provincially funded services and are accountable to eHealth Ontario for the funds they receive and the results achieved.

The transfer payment agreement (TPA) formally documents the adopter's request for funds to conduct planning activities related to data in projects. The TPA also formally documents eHealth Ontario's wishes to provide such funds.

For most OLIS implementations in hospital laboratories there are two transfer payment agreements: one for the planning phase, and one for the implementation phase. This chapter will describe the high level process and deliverables associated with the implementation TPA. The activities, deliverables, and milestones identified in the planning TPA will be referenced in the *Implementation Project Close-Out Report* (refer to CHAPTER 3.13 – TRANSITION TO OPERATIONS for more details).

Each adopter and OLIS implementation may be slightly different. The adopter project manager and OLIS initiative lead should work together to address any nuances throughout the implementation TPA process.

Please refer to the printable checklist for a summary of the key activities and roles involved in this stage of the project.

I **IMPORTANT:** A transfer payment agreement must be in place between eHealth Ontario and the adopter before the implementation project begins and transfer payments are made.

N **NOTE:** The contents of this chapter and associated process map are subject to change as this process is currently under review at eHealth Ontario.

Quick Links

Completing the TPA
Checklist for Implementation TPA

Completing the TPA

The implementation TPA includes the development of terms and conditions, and the creation of several associated schedules (e.g., timelines, budget). The OLIS initiative lead will work with the adopter project manager to complete and obtain signoff of the TPA.

> **OLIS PROGRAM TEAM:** The OLIS initiative lead can refer to the *TPA process document* for more details on creating and approving the implementation TPA.

Checklist for Implementation TPA

The following steps need to be undertaken by the OLIS initiative lead and the adopter project manager to complete and approve the implementation TPA.

TIP: The *Checklist for Implementation TPA* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Develop** the implementation TPA	The OLIS initiative lead will work with the adopter project manager to develop the implementation TPA.	OLIS Initiative Lead Adopter Project Manager	Implementation TPA
2	**Approve** the implementation TPA	The OLIS initiative lead will work with the adopter project manager to obtain signoff of the implementation TPA.	OLIS Initiative Lead Adopter Project Manager	Signed and approved implementation TPA

3.1 – Implementation Kickoff

Overview

The implementation kickoff stage describes the activities related to initiating the OLIS implementation project. The implementation project includes completion of all legal agreements and schedules, connectivity to OLIS environments, registration and enrolment of staff into OLIS services, development and testing of the OLIS interface, and training and communication to all relevant stakeholders in the adopter organization.

The implementation project will execute on the activities and milestones defined in the planning project transfer payment agreement (TPA). Successful conclusion of the implementation project will be followed by a transition to operations.

A kickoff meeting with the adopter and the OLIS program teams is convened at the beginning of the implementation kickoff to review the detailed project plan (developed during the planning phase), resource roles and responsibilities, and major milestones and deliverables.

The OLIS initiative lead will work with the adopter project manager to establish (or continue) a weekly or bi-weekly status meeting, as well as a monthly joint steering committee meeting for the duration of the implementation project.

Please refer to the IMPLEMENTATION KICKOFF PROCESS MAP and printable checklist for a summary of the key activities and roles involved in this stage of the project.

> **IMPORTANT:** Please note that privacy and security, environment setup and connectivity, and registration processes cannot be completed until the implementation phase begins as they require knowledge of an established go-live date.

Quick Links

Resources for Implementation
Implementation Kickoff Meeting
Recurring Project Meetings
Collaboration Portal Access
Checklist for Implementation Kickoff

Resources for Implementation

During the implementation kickoff stage, the adopter must secure the resources required to complete the implementation of the OLIS project. This could mean assigning existing staff, hiring new staff, and/or contracting external resources.

The number of resources required to support activities related OLIS implementation will vary by adopter and will be dependent upon factors specific to each adopter. For example, some adopters may require some individuals to perform multiple roles.

NOTE: Please refer to CHAPTER 2.5 – DETAILED IMPLEMENTATION PLANNING for more information on required resources.

Implementation Kickoff Meeting

The implementation kickoff meeting provides an overview of the key activities, milestones, deliverables and resources involved in the implementation of OLIS at the adopter organization. The OLIS initiative lead will work with the adopter project manager to arrange the implementation kickoff meeting.

OLIS PROGRAM TEAM: The OLIS initiative lead must update the *OLIS Implementation Kickoff Presentation* to reflect the specifics for each adopter.

Agenda

Depending on the adopter (and location), the meeting can last one to two hours. The agenda of the implementation kickoff meeting agenda typically includes the following:

- Introductions
- OLIS overview:
  - What is OLIS?
  - Benefits of OLIS
  - OLIS strategy
- Project scope
- Key topics: nomenclature mapping, interface specifications
- Implementation phases overview:
  - Milestones and timelines
  - Roles and responsibilities
  - Governance and accountability
  - Typical risks encountered
  - Templates
- Support from eHealth Ontario
- TPA overview and funding model (if applicable)
- Reporting requirements
- Next steps

NOTE: The adopter project manager may choose to provide an overview of the adopter organization, especially if the adopter organization has unique characteristics.

Participants

The following individuals should attend the implementation kickoff meeting:

Adopter organization:

- Adopter project sponsor
- Director of lab services
- Representative, network systems support
- Adopter project manager
- Development manager or lead
- Business analysts

- Quality assurance/control resources
- Administrative staff person

eHealth Ontario:

- Manager, OLIS program
- Manager, OLIS implementation
- OLIS initiative lead
- OLIS CPIS
- OLIS relationship manager

Recurring Project Meetings

Weekly or Bi-Weekly Status Report Meetings

There must be weekly or bi-weekly project status meetings between the adopter project manager and the OLIS initiative lead, and other resources as required, throughout the duration of the implementation phase. The OLIS initiative lead must work with the adopter project manager to schedule these recurring meetings.

NOTE: Recurring status report meetings may have already been scheduled during the planning kickoff stage and may continue through the implementation phase.

OLIS PROGRAM TEAM: The OLIS initiative lead will notify the CPIS if their attendance is required at meeting based on the clinical/technical components being discussed.

Joint Steering Committee Meetings

The joint steering committee members and terms of reference should have been established in CHAPTER 1.1 – INITIAL ENGAGEMENT. The OLIS initiative lead must work with the adopter project manager to schedule recurring monthly joint steering committee meetings for the duration of the implementation phase.

NOTE: The composition of the joint steering committee for OLIS implementation may be slightly different than OLIS planning due to the modified levels of information and oversight required. The *OLIS joint steering committee terms of reference* document should be modified, as required, and the changes approved by the appropriate individuals.

Collaboration Portal Access

The OLIS collaboration portal provides many self-help resources, including documents and tools that the adopter will need to reference during the OLIS project, as well as documents and tools required for ongoing interface and nomenclature maintenance. Numerous hyperlinks found in this guide link to documents that are available from the OLIS collaboration portal.

Gaining Access

While most of these documents are available to any visitor to the portal, some will require that the user log in to the portal. The adopter should ensure that any project resources responsible for maintenance activities (e.g., nomenclature updates) are registered for the portal.

For individuals not registered during the planning project, the adopter project manager should provide a list of names and emails of individuals who will require access for ongoing maintenance activities to the OLIS collaboration portal community manager (servicedesk@ehealthontario.on.ca) and request that invitations are emailed to these individuals to register for the OLIS collaboration portal. The community manager will provide a link where adopter staff can complete an online registration to gain access to the collaboration portal.

Checklist for Implementation Kickoff

The following steps must be undertaken by both eHealth Ontario and the adopter organization to complete all activities required for the implementation kickoff stage.

> **OLIS Program Team:** The OLIS initiative lead should use the *OLIS Initiative Checklist – Implementation* to track the completion of all required deliverables for the engagement and planning phases.

Tip: The *Checklist for Implementation Kickoff* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Resources:** **Secure resources** required for OLIS implementation	The adopter must secure resources required for the implementation phase. This could mean assigning existing staff, hiring new staff, and/or contracting external staff.	Adopter	
2	**Kickoff Meeting:** **Arrange implementation kickoff** meeting	The OLIS initiative lead will work with the adopter project manager to arrange the implementation kickoff meeting.	OLIS Initiative Lead Adopter Project Manager	Implementation kickoff meeting arranged
3	**Kickoff Meeting:** **Attend** implementation kickoff meeting	Staff from the adopter organization and eHealth Ontario must attend the implementation kickoff meeting. The OLIS initiative lead will prepare the presentation and facilitate the meeting.	Adopter team OLIS team	Implementation kickoff meeting conducted

#	Step	Description	Who Does This?	Deliverable
4	**Governance:** **Arrange** recurring weekly or bi-weekly **status report meeting**	A weekly or bi-weekly status meeting must take place between the adopter project manager and OLIS initiative lead. **NOTE:** Recurring meetings may have been scheduled in planning kickoff and may continue through implementation.	Adopter Project Manager OLIS Initiative Lead	Recurring status report meeting arranged
5	**Governance:** **Arrange** monthly joint **steering committee meeting**	The OLIS initiative lead will work with the adopter project manager to schedule a recurring monthly joint steering committee meeting. **NOTE:** Recurring meetings may have been scheduled in planning kickoff and may continue through implementation.	Adopter Project Manager OLIS Initiative Lead	Recurring joint steering committee meeting arranged

3.2 – Project Reporting and Financials

Overview

Project reporting and financial requirements must be met by the adopter throughout the OLIS project in order for the adopter to receive funds as outlined in the planning and implementation transfer payment agreements (TPAs).

> **NOTE:** Please refer to CHAPTER 1.2 – PLANNING TRANSFER PAYMENT AGREEMENT and CHAPTER 2.6 – IMPLEMENTATION TRANSFER PAYMENT AGREEMENT for more information on transfer payment agreements.

The submission of monthly project status reports by the adopter ensures that key stakeholders are fully informed of the project's health and overall direction. Monthly and quarterly financial reports must be submitted by the adopter project manager to track the expenditure of project funds.

> **IMPORTANT:** Receipt of payments requires that all mandatory reports be completed as set out in the TPAs.

Please refer to the PROJECT REPORTING AND FINANCIALS PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Project Status Reports
Financial Status Reports
Payment Memos and Amendments
Checklist for Project Reporting and Financials

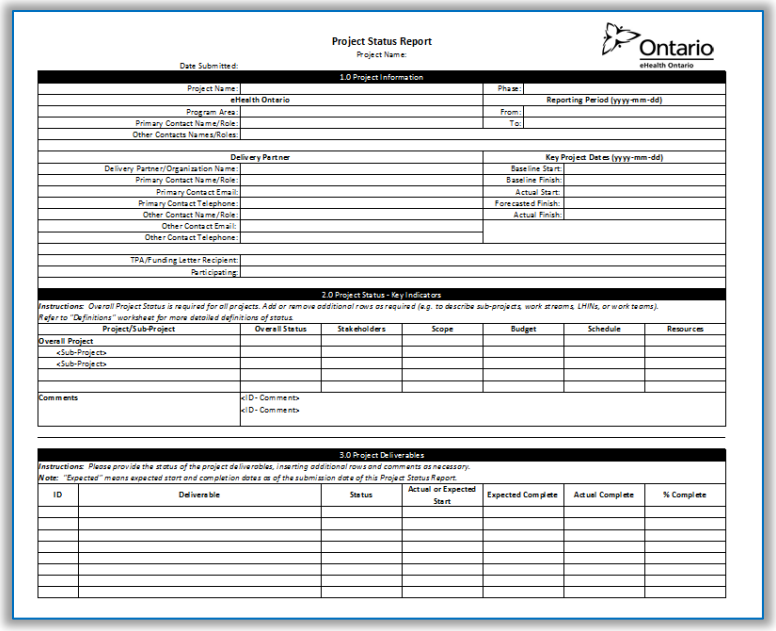
Project Status Reports

The adopter project manager must complete the *OLIS project status report* on a monthly basis (depending on the terms agreed upon in the planning and implementation TPAs) and email the status report to the OLIS initiative lead. The adopter project manager is responsible for distributing the report to appropriate stakeholders within his/her own organization.

> **OLIS PROGRAM TEAM:** The OLIS initiative lead must upload a copy of all project status reports to SharePoint.

The project status report includes the following components:

- Project information
- Project status – key indicators
- Project deliverables
- Major decisions and activities (this reporting period)
- Major activities planned (for next reporting period)
- Issues
- Risks
- Modifications to plan (e.g., scope, timelines, budget)
- Project outcomes/benefits ("good news") achieved this reporting period



Project Status Report

Project Name:

Date Submitted:

Ontario
eHealth Ontario

1.0 Project Information			
Project Name:		Phase:	
eHealth Ontario		Reporting Period (yyyy-mm-dd)	
Program Area:		From:	
Primary Contact Name/Role:		To:	
Other Contacts Names/Roles:			
Delivery Partner		Key Project Dates (yyyy-mm-dd)	
Delivery Partner/Organization Name:		Baseline Start:	
Primary Contact Name/Role:		Baseline Finish:	
Primary Contact Email:		Actual Start:	
Primary Contact Telephone:		Forecasted Finish:	
Other Contact Name/Role:		Actual Finish:	
Other Contact Email:			
Other Contact Telephone:			
TPA/Funding Letter Recipient:			
Participating:			

2.0 Project Status - Key Indicators

Instructions: Overall Project Status is required for all projects. Add or remove additional rows as required (e.g. to describe sub-projects, work streams, LHINs, or work teams).
Refer to "Definitions" worksheet for more detailed definitions of status.

Project/Sub-Project	Overall Status	Stakeholders	Scope	Budget	Schedule	Resources
Overall Project						
<Sub-Project>						
<Sub-Project>						
Comments	<ID - Comment> <ID - Comment>					

3.0 Project Deliverables

Instructions: Please provide the status of the project deliverables, inserting additional rows and comments as necessary.
Note: "Expected" means expected start and completion dates as of the submission date of this Project Status Report.

ID	Deliverable	Status	Actual or Expected Start	Expected Complete	Actual Complete	% Complete

The project status report should be submitted to the OLIS initiative lead five business days prior to month end, as stated in the planning and implementation TPA.

Financial Status Reports

The adopter project manager must complete a *financial report* on a monthly and quarterly basis and email them to the OLIS initiative lead. The financial report includes the following components:

- Project information
- Project costing and tracking (by hardware, software and infrastructure, resources and resource related costs, other project and one-time costs)
- Project summary
- Payment schedule

The OLIS initiative lead will review the monthly and quarterly financial reports to ensure appropriate spending of funds.

OLIS PROGRAM TEAM: Upon receiving the monthly and quarterly status report, the OLIS initiative lead must upload a copy on SharePoint and forward a copy to the OLIS finance lead for review.

If the financial reports indicate that there is a significant variance between the actual and budgeted expenditures the adopter project manager and the OLIS Initiative Lead should discuss the reasons for the variance and whether any remedial action or elevated tracking measures should be initiated. Measures might include:

- Project management (e.g., status report, issues/risks tracker)
- Escalation to the OLIS director
- Escalation to the joint steering committee
- Amendment to the eHealth Ontario procurement approval form (PAF) and TPA
- Delay of the subsequent payment (if previous funds were underspent)

Supporting financial documents must be kept by the adopter organization. These documents are not submitted with each financial status report but may be requested at any time by eHealth Ontario to substantiate the financial reports. Supporting documents, such as invoices, time sheets or receipts, may be required to substantiate any project expenses incurred, including both internal expenses and expenses for goods and services purchased externally.

OLIS PROGRAM TEAM: If changes are required to the maximum funds, agreement date or scope, then an amendment to the PAF and TPA is necessary. Please refer to the *OLIS TPA Amendment Process Map* for the steps required to complete this amendment. If there are changes to the project timeline or payment schedule that do not affect maximum funds, agreement date or scope, then the OLIS initiative lead will need to complete an *OLIS Project Change Request.*

Monthly Financial Reports

Monthly financial reports provide a snapshot of the adopter's budgeted and actual OLIS expenditures. The monthly financial report must include the original budget, actuals, year-to-date actuals, and cash flow reconciliation. The monthly financial status report must be emailed to the OLIS initiative lead within fifteen (15) business days of the end of each month.

IMPORTANT: A monthly financial report is not required when the quarterly financial report falls on the same month.

Quarterly Financial Reports

Quarterly financial status reports detail how funds were spent by fiscal quarter and must show forecasted costs broken down by month. The quarterly financial report must contain original budget, actuals, year-to-date actuals, and cash flow reconciliation, as well as a variance analysis explanation and an updated forecast of the expenditure plan by month, for the remaining term of the TPA. The adopter project manager must email the quarterly financial report by the last business day of the following month. Reporting periods and deadlines are as follows:

- April 1 – June 30 — Submitted by the last business day of July
- July 1 – September 30 — Submitted by the last business day of October

- October 1 – December 31 Submitted by the last business day of January
- January 1 – March 31 Submitted by the last business day of April

Payment Memos

The payment memo grants the release of funds for a scheduled payment from eHealth Ontario to the adopter for the OLIS project as specified by the TPA. The schedule of payments is based on the agreed upon terms in schedule C of the planning or implementation TPA.

OLIS PROGRAM TEAM: Please refer to the *OLIS Payment Memo Process Map* for the steps required to complete the *payment memo*.

NOTE: It takes approximately six to eight weeks from the creation of the payment memo to the time the adopter receives the payment. Adopter organizations are encouraged to opt for electronic transfer of funds by completing the *electronic funds transfer (EFT)* form (during the planning or implementation TPA stage), available from the OLIS initiative lead. Electronic transfer of funds allows the adopter to receive payment one to two weeks faster than traditional mail.

Checklist for Project Reporting and Financials

The following steps must be undertaken by both eHealth Ontario and the adopter organization to complete all activities required to complete the project reporting and financials stage.

TIP: The *Checklist for Project Reporting and Financials* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Project Status Report:** **Complete the project status report** monthly	The completed status report must be emailed to the OLIS initiative lead.	Adopter Project Manager	Monthly project status report completed
2	**Financial Report:** **Complete** the **financial report** on a monthly and quarterly basis	The adopter project manager must complete and email the monthly or quarterly financial report to the OLIS initiative lead.	Adopter Project Manager	Monthly or quarterly financial report completed
3	**Financial Report:** **Review the financial report** on a monthly and quarterly basis	The OLIS initiative lead and OLIS finance lead will review the financial status report.	OLIS Initiative Lead	

#	Step	Description	Who Does This?	Deliverable
4	**Financial Report:** **Discuss issues**, if required	Any issues will be discussed between the OLIS initiative lead and adopter project manager. Appropriate action will be pursued depending on the situation.	Adopter Project Manager OLIS Initiative Lead	
5	**Payment Memo:** **Draft** payment memo	The payment memo is drafted by the OLIS initiative lead. The frequency of payment memos is determined by the agreed upon terms of the transfer payment agreements. The OLIS coordinator will coordinate the review and sign off of the payment memo.	OLIS initiative lead (or other OLIS program resource)	Draft payment memo completed
6	**Payment Memo:** **Review** by OLIS program manager and OLIS finance lead	The OLIS program manager and OLIS finance lead must review the payment memo for accuracy. Any required changes must be made by the OLIS initiative lead or coordinator.	OLIS program manager	
7	**Payment Memo:** **Review** by eHealth Ontario Finance	The OLIS coordinator should provide a copy of the payment memo to eHealth Ontario Finance for review. Any required changes must be made by the OLIS initiative lead or coordinator.	eHealth Ontario Finance	
8	**Payment Memo:** **Obtain signatures** from eHealth Ontario leadership	The OLIS coordinator must then obtain signatures from the OLIS director, followed by the VP of CIS, followed by the SVP of development & delivery, followed by the CFO, and lastly from the COO.	OLIS coordinator	Signatures obtained
9	**Payment Memo:** **File a copy of the signed payment memo** on the OLIS shared drive	The OLIS coordinator must make a copy of the payment memo and upload onto SharePoint.	OLIS coordinator	
10	**Payment Memo:** Provide payment memo to **eHealth Ontario Finance**	The OLIS coordinator must mail the original completed payment memo with signatures to eHealth Ontario finance.	OLIS coordinator	
11	**Payment Memo:** **Review and mail** the payment memo to Accounts Payable	eHealth Ontario Finance will conduct a final review the payment memo and provide the payment memo to eHealth Ontario accounts payable.	eHealth Ontario Finance	

#	Step	Description	Who Does This?	Deliverable
12	**Payment Memo:** **Mail cheque or electronically transfer funds** to adopter	eHealth Ontario accounts payable will mail the cheque or electronically transfer funds to the adopter.	eHealth Ontario Accounts Payable	Payment issued to adopter

3.3 – Privacy and Security

Overview

Privacy and security of health information is of prime importance to eHealth Ontario and OLIS. It is critical that measures are taken to protect the confidentiality, integrity and availability of personal information (PI) and personal health information (PHI). Information must be protected from unauthorized access, collection, use, disclosure, destruction and modification.

The Ministry of Health and Long-Term Care (MOHLTC) has custody and control of patients' laboratory test information that is submitted to and stored in OLIS. The MOHLTC provides permission to eHealth Ontario to share lab test results electronically with health care providers. As an agent of the MOHLTC, eHealth Ontario can share this lab information electronically with health care providers who deliver care in Ontario.

This chapter will focus on the steps the OLIS team and the adopter must take to meet the privacy and security requirements for submitting lab results into OLIS.

Please refer to the PRIVACY AND SECURITY PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Key Deliverables
Privacy Impact Assessment (PIA)
Checklist for Privacy and Security

Key Deliverables

Two key privacy and security assessments must be completed before an adopter is permitted to submit lab information into OLIS:

- Privacy Threshold Assessment (PTA)
- Security Threshold Assessment (STA)

Both the PTA and STA address the following key items:

- Client and initiative details
- Business requirements
- Technical requirements
- eHealth Ontario clinical priorities and/or foundational priorities
- Key timelines
- Internal and external individuals or organizations involved
- Type(s) of data
- Collection, use, retention, storage and disclosure of data
- Data safeguards
- Data for testing

The OLIS initiative lead is responsible for the completion of both the PTA and STA documents. The OLIS initiative lead may contact the adopter project manager to obtain specific details to complete the PTA and STA documents. The OLIS initiative lead will submit the PTA to eHealth Ontario's privacy office and the STA to eHealth Ontario's security office for analysis and signoff.

NOTE: eHealth Ontario does not require adopters to complete a privacy impact assessment (PIA) for OLIS data in only projects. This document is only required for OLIS data out projects.

OLIS PROGRAM TEAM: When submitting the PTA and STA to the privacy office and security office respectively, the OLIS initiative lead must include *Schedule A – Project Description, Timelines, and Activities* from the *implementation TPA*. If available, the OLIS initiative lead should also provide any other documents that detail the adopter's architecture or business requirements for the OLIS project (i.e., documents from the planning process) to the privacy office and security office.

The PTA and STA can be completed in parallel (i.e., completion of one form does not need to precede the other). Once completed, the OLIS initiative lead must submit the PTA to the eHealth Ontario privacy office, and the STA to the eHealth Ontario security office.

The eHealth Ontario privacy office and security office will use the data from the PTA and STA respectively to assess data flow and connectivity, and determine if any appropriate privacy and security support services are required by the adopter. For data in projects, additional involvement from the privacy office and security office is usually not required once the PTA and STA have been approved by eHealth Ontario.

Privacy Impact Assessment (PIA)

Although not a mandatory requirement for data in projects, adopters are encouraged to complete a privacy impact assessment (PIA) to identify the potential privacy risks associated with implementing OLIS in their organization. It should address how the adopter protects personal information as it is collected, used, disclosed, stored, and ultimately destroyed.

The PIA should be shared with eHealth Ontario and this will require that the adopter and eHealth Ontario sign a mutual non-disclosure agreement (MNDA). For more information on the MNDA, please refer to CHAPTER 3.4 – LEGAL AGREEMENTS AND SCHEDULES.

Checklist for Privacy and Security

The following steps must be undertaken by the OLIS initiative lead to complete all privacy and security activities.

TIP: The *Checklist for Privacy and Security* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Complete the PTA and STA** and email to the eHealth Ontario privacy office and security office	The OLIS initiative lead will attach a copy of schedule A from the planning TPA and email the PTA to the privacy office and the STA to the security office.	OLIS Initiative Lead	Completed PTA form sent to privacy; completed STA form sent to security
2	**Conduct analysis on the PTA and STA** and obtain required **departmental signatures**	eHealth Ontario privacy office and security office will each assess the initiative and determine the need for support services, if any. The privacy office and security office will sign off on the PTA and STA respectively and email the completed and approved PTA and STA to the OLIS initiative lead.	eHealth Ontario Privacy Office and Security Office OLIS Initiative Lead	Signed PTA and STA emailed to OLIS initiative lead
3	**File the completed PTA and STA** on the shared drive.	The OLIS initiative lead must store the signed documents on the shared drive.	OLIS Initiative Lead	Signed and scanned PTA and STA stored on shared drive

3.4 – Legal Agreements and Schedules

Overview

The adopter must have the appropriate eHealth Ontario and Ministry of Health and Long-Term Care (MOHLTC) legal agreements and schedules in place in order to submit lab information into OLIS. The legal agreements and schedules confirm the terms and conditions of secure data exchange amongst the adopter, eHealth Ontario and the MOHLTC.

The MOHLTC has custody and control of patients' laboratory test information that is submitted to and stored in OLIS. The MOHLTC provides lab test results to eHealth Ontario, to enable eHealth Ontario to share this information electronically with health care providers. As an agent of the MOHLTC, eHealth Ontario can share this lab information electronically with health care providers who deliver care in Ontario.

This chapter will focus on the steps an adopter must take to meet the legal requirements for submitting lab information into OLIS.

Please refer to the LEGAL AGREEMENTS AND SCHEDULES PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Legal Agreements
eHealth Ontario Schedules
Process to Complete Legal Agreements and Schedules
Mutual Non-Disclosure Agreement
Checklist for Legal Agreements and Schedules

Legal Agreements

The MOHLTC data disclosure agreement and the eHealth Ontario services agreement must be signed by all appropriate parties for an adopter to submit lab information into OLIS.

OLIS Hospital Lab Data Disclosure Agreement

The adopter must have a signed *OLIS hospital lab data disclosure agreement* with the MOHLTC in order to submit lab information into OLIS. The data disclosure agreement is an agreement between the adopter and the MOHLTC (and *not* with eHealth Ontario).

The OLIS hospital lab data disclosure agreement states that the adopter's laboratory has control of the lab results it submits into OLIS. The results stored in OLIS are considered personal health information (PHI) and, as a result, the adopter's laboratory must take reasonable steps to ensure that the PHI is accurate, complete, and up to date. The adopter's laboratory has the authority to disclose PHI to the MOHLTC and OLIS based on

implied consent of individuals for the provision of health care or assistance in the provision of health care.

eHealth Ontario Services Agreement

The eHealth Ontario services agreement specifies the terms and conditions that apply to the services that eHealth Ontario provides to the adopter. This agreement is held between the adopter and eHealth Ontario. Moreover, the PKI service schedule and ONE ID direct service schedule must be signed and included with the services agreement for the adopter to submit lab information into OLIS. The services agreement, PKI service schedule and ONE ID direct service schedule are legal documents and their contents should not be altered.

NOTE: These schedules are described in the next section of this chapter.

NOTE: During the gap analysis stage, the OLIS initiative lead will confirm if the adopter has an existing eHealth Ontario services agreement and PKI schedule in place, and whether those documents require updating.

The eHealth Ontario services agreement contains the following key components:

- Definitions
- Service request
- Provision of services
- Representatives and end users
- Client content
- Contacts
- Access
- Service equipment
- Client equipment
- Policies
- Security
- Confidential information, privacy and personal information
- Intellectual property
- Pricing, payment and cost allocation
- Term and termination
- Limitation of liability
- Insurance
- Notice

eHealth Ontario Schedules

An eHealth Ontario schedule is an addendum to the services agreement and specifies the service that an adopter requires from eHealth Ontario. The PKI service schedule and the ONE ID direct service schedule must be signed by the adopter before the adopter is permitted to submit lab information into OLIS.

PKI Service Schedule

The public key infrastructure (PKI) service is an identity authentication service. eHealth Ontario provides the adopter with public key infrastructure certificates that allow the adopter to verify the identity of other users of the eHealth Ontario infrastructure, and ensure message security, non-repudiated identity, integrity and confidentiality. The PKI service will enable the adopter to securely exchange sensitive information and conduct transactions over public and private networks, including the internet.

IMPORTANT: The PKI service schedule must be signed and submitted before environment setup and connectivity activities can take place and a PKI certificate can be generated.

NOTE: For more information on PKI certificates, refer to CHAPTER 3.5 – ENVIRONMENT SETUP AND CONNECTIVITY.

ONE ID Direct Service Schedule

The ONE ID service is an identity and access management service used when eHealth Ontario registers and validates users who may not have an account with another organization or association. The adopter is given certain rights and permissions (which may include a limited right to access and use eHealth Ontario's registry system) by eHealth Ontario so that the adopter may perform certain registration, enrolment, and authentication activities.

IMPORTANT: Exhibit two (RA acknowledgement) and exhibit three (LRA acknowledgement) within the schedule do not need to be completed. These individuals will be identified during the registration process (refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS).

NOTE: For more information on registration processes, refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS.

Process to Complete Legal Agreements and Schedules

NOTE: It is recommended that all legal agreements be completed early in the implementation phase since these documents must be signed before the adopter receives access to the client self-test (CST) environment.

OLIS Hospital Lab Data Disclosure Agreement

Although the data disclosure agreement is not with eHealth Ontario, to ensure timeliness and provide guidance to the adopter, the OLIS initiative lead will facilitate the completion of this agreement. The OLIS initiative lead will provide the eHealth liaison branch at the MOHLTC with the adopter project manager's contact information. The MOHLTC will then email the data disclosure agreement to the adopter project manager, who will ensure that it is signed by a representative with signing authority within the adopter organization. The adopter project manager must mail a hard copy of the signed data disclosure agreement to the MOHLTC for signoff.

OLIS PROGRAM TEAM: The OLIS initiative lead must provide the eHealth liaison branch at the MOHLTC with the adopter organization name, adopter project manager contact information (name, phone number, and email address) and estimated timeline for organization go-live. The OLIS initiative lead should also follow up with the MOHLTC regularly to ensure timely completion of this agreement. Note: Contact information for the eHealth liaison branch at the MOHLTC is available from the OLIS program office manager.

eHealth Ontario Services Agreement and Schedules

- The OLIS initiative lead will email the services agreement, PKI service schedule and ONE ID direct service schedule to the adopter project manager.

- The adopter project manager must obtain the signature of a representative within the adopter organization with signing authority on two copies of each document (services agreement, PKI service schedule, and the ONE ID direct service schedule). The adopter project manager must mail both copies of the services agreement, and one copy each of the schedules (keeping one copy for their records) to the OLIS initiative lead.

- Upon receipt, the OLIS initiative lead will scan each copy of the schedules and store on the OLIS shared drive. The OLIS initiative lead will then forward the two copies of the services agreement and one copy each of the schedules to eHealth Ontario legal services.

- eHealth Ontario legal services will sign both copies of the services agreement, and forward one copy to the OLIS initiative lead, who will scan and store on the OLIS shared drive. The original copy of the signed services agreement will then be mailed to the adopter for their records.

Mutual Non-Disclosure Agreement (MNDA)

Although not a mandatory requirement for data in projects, adopters are encouraged to complete a privacy impact assessment (PIA) to identify the potential privacy risks associated with implementing OLIS in their organization. It should address how the adopter protects personal information as it is collected, used, disclosed, stored, and ultimately destroyed.

The PIA should be shared with eHealth Ontario and this will require that the adopter and eHealth Ontario sign a mutual non-disclosure agreement (MNDA).

> **OLIS PROGRAM TEAM:** The OLIS initiative lead should refer to the *OLIS MNDA Quick Reference* for details on completing the MNDA.

Checklist for Legal Agreements and Schedules

The following steps must be undertaken by the adopter project manager to ensure that all required legal agreements and schedules are completed prior to submitting data into OLIS.

TIP: The *Checklist for Legal Agreements and Schedules* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Services Agreement and Schedules:** **Email** the services agreement, PKI service schedule and ONE ID direct service schedule to adopter project manager	The OLIS initiative lead will email the services agreement, PKI service schedule and ONE ID direct service schedule to the adopter project manager for review.	OLIS Initiative Lead	Services agreement and schedules emailed to adopter project manager
2	**Services Agreement and Schedules:** **Receive and review** the services agreement and schedules	The adopter project manager will review the documents with appropriate resources within the adopter organization.	Adopter Project Manager	
3	**Services Agreement and Schedules:** Obtain required **signatures** for the services agreement and schedules	The adopter project manager must obtain the signature of a representative within the adopter organization with signing authority on two copies of each document (services agreement, PKI service schedule, and the ONE ID direct service schedule). The adopter project manager must mail both copies of the services agreement, and one copy each of the schedules (keeping one copy of the schedules for their records) to the OLIS initiative lead.	Adopter Project Manager	Two hard copies of the signed services agreement and one copy of schedules sent to OLIS initiative lead
4	**Services Agreement and Schedules:** **Scan schedules**	Upon receipt, the OLIS initiative lead will scan each copy of the schedules and store on the OLIS shared drive.	OLIS Initiative Lead	Scanned copy of signed schedules stored on shared drive
5	**Services Agreement and Schedules:** Send all documents to the eHealth Ontario legal office for **signature**	The OLIS initiative lead will then forward the two copies of the services agreement and one copy each of the schedules to eHealth Ontario legal services.	OLIS Initiative Lead	Signed services agreements and schedules received by the eHealth Ontario legal office

#	Step	Description	Who Does This?	Deliverable
6	**Services Agreement and Schedules:** **Sign** the services agreement send to the OLIS initiative lead	eHealth Ontario legal services will sign both copies of the services agreement, retain one copy for their files, and forward one copy to the OLIS initiative lead.	eHealth Ontario Legal Services	Signed services agreement received by the OLIS initiative lead
7	**Services Agreement and Schedules:** **Scan agreement** and **mail** to adopter	After receiving the signed copy of the services agreement from eHealth Ontario legal services, the OLIS initiative lead will mail the document to the adopter for their records.	OLIS Initiative Lead	Signed services agreement received by adopter
8	**Data Disclosure Agreement:** Provide the **MOHLTC with the adopter's contact information** for the data disclosure agreement	The OLIS initiative lead must provide the MOHLTC eHealth liaison branch with the adopter organization name, adopter project manager contact information and estimated timeline for organization go-live.	OLIS Initiative Lead	Contact information provided to MOHLTC eHealth liaison branch
9	**Data Disclosure Agreement:** **Receive and review** the OLIS hospital lab data disclosure agreement	The MOHLTC will provide the data disclosure agreement to the adopter project manager. If necessary, the OLIS initiative lead can follow up periodically with the adopter and MOHLTC to ensure timely completion of the agreement.	Adopter Project Manager	
10	**Data Disclosure Agreement:** Obtain required **signature** for data disclosure agreement	The adopter project manager must obtain the signature of a representative within their organization with signing authority, and then mail the signed agreement to the MOHLTC.	Adopter Project Manager	Signed data disclosure agreement by the adopter
11	**Data Disclosure Agreement:** **Receive** the data disclosure agreement with signature from the MOHLTC	The MOHLTC will sign and mail a final copy of the signed data disclosure agreement to the adopter project manager.	Adopter Project Manager	Signed data disclosure agreement sent to adopter project manager

3.5 – Environment Setup and Connectivity

Overview

All adopter applications that will be communicating with OLIS must be registered with eHealth Ontario. As well, any messages sent to OLIS must travel through a secure connection to guard patient confidentiality. Separate eHealth Ontario issued PKI certificates are required for the OLIS client self-test (CST) environment and the OLIS production environment. PKI certificates are issued to each adopter organization application that will be using the certificates to sign payload messages to OLIS and/or authenticate the client for the respective OLIS environment.

Once an eHealth Ontario services agreement and associated PKI schedule is in place, an eHealth Ontario PKI certificate must be implemented first for CST. Subsequently, once testing is successfully completed in OLIS CST, an eHealth Ontario PKI certificate will be implemented for the OLIS production environment.

The process to request PKI certificates for the OLIS CST and production environments should be started early in the environment setup and connectivity stage of the project as the process from certificate request to completion of testing can take several weeks.

Please refer to the Environment Setup and Connectivity Process Map and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Important: The adopter must have a signed eHealth Ontario services agreement and PKI schedule before they can submit forms to register an adopter organization, application or application owner. Please refer to Chapter 3.4 – Legal Agreements and Schedules for details.

Note: eHealth Ontario PKI certificates must be renewed every three years. Test results cannot be sent to OLIS without a valid eHealth Ontario PKI certificate. Approximately three months before the certificate expires, the eHealth Ontario service desk (working with IAM business support and security operations) will contact the last known certificate owner to renew the certificate. If the certificate owner leaves the organization, the adopter must contact the eHealth Ontario service desk to transfer ownership to another individual.

Tip: It is suggested that the adopter project manager share this chapter of the guide with the network and connectivity resources at his/her organization. This will ensure full understanding of the process to register the adopter organization and application, and connect to the OLIS environments.

Quick Links

OLIS Environments
Connecting to OLIS
Registering an Organization
Registering an Application

OLIS Environments

Adopters will interact with the OLIS client self-test (CST) and production environments.

Client Self-Test (CST)

CST is designed to be used by adopters to confirm their ability to communicate with OLIS before being granted rights to access the production environment. Adopters can also use the CST environment to test their interface and nomenclature mappings prior to running their conformance test. The CST environment contains only test patients. For more details on CST, please refer to CHAPTER 3.8 – CLIENT SELF-TEST (CST).

Production

The OLIS production environment is used by the adopter's systems and end users (e.g., using the OLIS portlet for data quality checks and troubleshooting). The production environment is deployed across two eHealth Ontario computer centres to facilitate redundancy and disaster recovery. It is highly available and disaster resilient.

> **OLIS PROGRAM TEAM:** Please refer to the *Technical Architecture: OLIS Technical Infrastructure Architecture* document for more details on all OLIS environments.

Connecting to OLIS

There are two options to connect to OLIS:

- Through the **Internet** – the adopter can utilize their existing Internet provider, or eHealth Ontario can assist with setting up a new connection
- Through an existing eHealth Ontario **managed private network (MPN)** connection – an MPN connection will only be used if the private network already exists at the adopter site

The OLIS core application provides a single web service for users. The web service has a single method, OLISRequest, and it synchronously returns a single response, OLISResponse. The request contains the HL7 content for any of the OLIS operations (order, update, query, etc.) and the response contains the corresponding HL7 response to the request. The OLIS web service call is made over a mutually authenticated SSL/TLS connection.

eHealth Ontario issues one PKI certificate to adopters to be used for both SSL/TLS client authentication and message signing, or issues two PKI certificates – one dedicated SSL client certificate for SSL/TLS client authentication, and a second digital signing certificate to sign the message sent to OLIS. eHealth Ontario has an SSL server certificate for server authentication in CST and production separately. In order to authenticate OLIS servers,

adopters should have an eHealth Ontario CA root certificate installed in their environment.

IMPORTANT: In some cases a single certificate (per OLIS environment) is required to establish an SSL/TLS tunnel with mutual authentication and for message signing. However, some adopter organizations may require multiple certificates if they are using a hub (interface engine), which will authenticate, but wish to have their individual locations and/or partner organizations sign messages. In that scenario, each individual location and/or partner organization will require a PKI certificate (per OLIS environment) to sign messages. Please refer to *OLIS Connectivity Scenarios* for more information.

Registering an Organization

The first step to connecting to OLIS is for the adopter to review the *OLIS – Organization Setup and Service Enrolment* form provided by the OLIS initiative lead (who works with the OLIS governance and sustainment team to gather the site name, environment, ORG ID, ORG type and DN information). Once the adopter project manager has reviewed the form, the OLIS initiative lead will email the form to registration.agents@ehealthontario.on.ca.

OLIS PROGRAM TEAM: The *OLIS – Organization Setup and Service Enrolment* form is pre-populated by the OLIS initiative lead, and provided to the adopter project manager for review and modifications that are specific to the adopter. Refer to the *Connectivity Registration Forms Quick Reference* for more details on completing this form.

NOTE: eHealth Ontario's business desk agents are a group within eHealth Ontario's service desk.

Upon receipt of the completed form, eHealth Ontario will add the adopter organization to eHealth Ontario's active directory (AD), enrol the organization into the OLIS management database and reference database, and then add the organization to the incident management application (Remedy). This process is frequently referred to as a "site configuration" addition.

NOTE: The organizational registration and setup process can take up to 15 business days to be completed by the various teams within eHealth Ontario.

Registering an Application

Once the adopter organization has been registered, the adopter project manager must complete the following two "application" registration forms associated with registering the organization's application.

NOTE: The OLIS initiative lead will review these registration forms with the adopter project manager to ensure accurate completion.

OLIS PROGRAM TEAM: The OLIS initiative lead should review these forms in detail with the adopter to ensure accurate completion. The OLIS initiative lead can refer to the *Connectivity Registration Forms Quick Reference* for more details on completing these forms.

Application Owner Registration Form

The *General – Application Owner Registration Form* is used to register and/or enrol an individual as the owner of the application that will be using the eHealth Ontario PKI certificate. The application owner is responsible for managing the PKI certificate, and serves as a point of contact when renewing the certificate every three years or in the event of a security breach. The adopter project manager can complete the first part of the form, but the form must be signed by the organization's local registration authority (LRA) and sponsor. The LRA must fax the completed form to eHealth Ontario at 1-866-831-0107 and notify the OLIS initiative lead via email. For more information on registration processes, please refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS.

IMPORTANT: It is important to notify the eHealth Ontario service desk if the application owner changes. In such an event, please complete both an *Individual Suspend Reinstate Revoke Request Form* and a *General – Application Owner Registration Form* to register and replace the application owner. Both forms must be submitted for the change to be processed.

Computer Application Form

The *General – Computer Application Form* must be completed in order to generate the eHealth Ontario PKI certificate for each site/environment/application. The adopter project manager will be required to reference the application owner provided on the *General – Application Owner Registration* form. This form collects the following information:

- Computer application type
- Computer application enrolment (i.e., OLIS)
- Computer application details (e.g., vendor, platform)
- Organization and location(s)
- Application owner contact information (see *General – Application Owner Registration* form)
- Sponsor details (refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS for details on the OLIS sponsor)

The adopter project manager must email the completed form to eHealth Ontario at registration.agents@ehealthontario.on.ca, and c.c. the OLIS initiative lead.

Certificates

eHealth Ontario issues one PKI certificate to adopters to be used for both SSL/TLS client authentication and message signing, or issues two PKI certificates – one dedicated SSL client certificate for SSL/TLS client authentication, and a second digital signing certificate to sign the message sent to OLIS. eHealth Ontario has an SSL server certificate for server authentication in CST and production separately. In order to authenticate OLIS servers, adopters should have an eHealth Ontario CA root certificate installed in their environment.

NOTE: There is nothing secret or private about a certificate. A certificate contains what is considered to be public (non-sensitive) information – a public key and some attributes (a name, for instance). Only private keys are secret and must not be disclosed.

The adopter creates a certificate signing request (CSR) based on the reference number provided by the eHealth Ontario security team. In the process of generating the CSR, the tool used to create the CSR creates a 1024 bit RSA public and private key pair. The CSR tool puts the public key into the CSR, along with some other attributes, and then digitally signs the CSR with the private key. This does not disclose the private key; the private key is kept secret on the machine that generated the CSR.

N **NOTE:** When eHealth Ontario's ONE ID business support (IAM) emails the PKI certificate to the adopter's application owner, the service desk will also copy an internal OLIS program team mailbox to ensure that the OLIS initiative lead stays informed of this activity.

T **TIP:** The adopter project manager will be emailed instructions on how to create a certificate signing request (CSR) from eHealth Ontario's ONE ID business support (IAM). The certificate will be for client authentication, or digital signing, or both, depending on the adopter's connectivity implementation. For additional details, please refer to *OLIS Connectivity Scenarios* and the *PKI Certificate Installation Guide*.

Public Key Infrastructure (PKI) Certificate

PKI refers to a set of policies, processes, server platforms and software used to administer certificates and public-private key pairs, including the ability to issue, maintain, and revoke public key certificates. For additional details on public key infrastructure certification, refer to the *eHealth Ontario PKI Certification Policy Manual*.

I **IMPORTANT:** Before a PKI certificate can be issued, an eHealth Ontario services agreement and associated PKI schedule must be signed by the adopter. For more details on legal requirements, please refer to CHAPTER 3.4 – LEGAL AGREEMENTS AND SCHEDULES.

I **IMPORTANT:** PKI certificates expire every three years. eHealth Ontario will contact the individual identified on the *General – Application Owner Registration form* three months in advance of expiry to begin the renewal process. It is imperative that eHealth Ontario have the most current information for the application owner.

Installing Certificates and Testing Connectivity

The adopter is required to attend a teleconference with OLIS where, using WebEx, OLIS will observe and provide guidance to the adopter while they install the PKI certificates. The OLIS team's participation in this activity is has been proven to be very helpful and contributes to a successful installation. After the adopter installs an eHealth Ontario PKI certificate, testing must be conducted to ensure proper setup. Sufficient time must be built into project plans to allow for this step. If there are issues, the adopter project manager must work with the OLIS initiative lead to identify the root cause and establish a solution.

IMPORTANT: This testing must be completed early in the implementation project for the CST environment, and again approximately one week in advance of the go-live date for the production environment.

OLIS PROGRAM TEAM: The OLIS initiative lead must ensure that all required activities are updated before connectivity testing can be performed (refer to the *OLIS Connectivity Process Checklist* document for details). These activities must be performed at the time of testing connectivity to the CST environment, and again when testing connectivity to the production environment.

The following documents provide valuable information to assist the adopter with the installation process:

- ***PKI Certificate Installation Guide*** – this guide contains instructions to create and install the PKI certificate
- ***PKI Certification Registration and Installation Timelines*** – this document provides important information about expected timelines
- ***OLIS Connectivity Testing Instructions*** – this document provides details on the steps to test an adopter's connectivity to the OLIS environments
- ***OLIS Transport Specification Sample*** – this document is available upon request from the OLIS initiative lead and describes an unsupported Microsoft .Net 1.1. sample implementation of the OLIS transport protocol specification. It includes all the C# code for the implementation and implements all aspects of the specification, including all XML formatting, digital signing, calling of the OLIS web service over mutually authenticated SSL/TLS, parsing the response, verifying the digital signature (including certificate revocation list (CRL) checking) extracting the HL7, and exception handling. This code is very useful for an adopter implementing the interface, as the basis for a .Net implementation, or as an example for an implementation in another programming language or on a different operating system.

OLIS PROGRAM TEAM: The *OLIS Transport Specification Sample* document can be provided to the adopter, upon request.

NOTE: If an adopter plans to connect through the Internet and through MPN, the adopter should use "olis.ehealthontario.ca" when connecting through the Internet, and use "olis.ssha.ca" when connecting through MPN.

OLIS PROGRAM TEAM: Please note that DNS names "olis.ehealthontario.ca" and "olis.ssha.ca" are both registered and used for accessing OLIS. Only one application control engine exists to handle both DNS names. Therefore, to enable the SSL/TLS mutual authentication, a certificate is required for both DNS names.

If there are issues with testing connectivity, the adopter should conduct preliminary tests. For example:

- A **ping test** can be used to verify that the DNS name resolution is correct (however, eHealth Ontario cannot reply to the ping due to restricted ICMP traffic on firewalls)
- A **telnet test** should be used to verify the connectivity at the network level
- A **trace route** (depending on ICMP traffic restrictions) can be used for troubleshooting possible routing issues if telnet testing fails

The adopter should also verify the existence of the following:

- SSHA root certificate (eHealth Ontario root certificate)
- SSL/TLS certificate issued by eHealth Ontario for client authentication
- Private key generated by the adopter

If the adopter continues to have issues, they should notify the OLIS initiative lead, who will ensure that eHealth Ontario completes a technical assessment with regard to the network.

OLIS PROGRAM TEAM: If there is an issue with testing, the OLIS initiative lead will first have the CPIS review the message payload. If the issue is related to connectivity (or the CPIS cannot resolve the issue), the OLIS initiative lead will request that the service desk open a Remedy ticket and assign it to a member of the OLIS governance and sustainment team with a description of the issue and supporting details. The OLIS governance and sustainment team member will perform an initial assessment and, depending on the nature of the issue, will assign it to the appropriate eHealth Ontario team. The OLIS governance and sustainment team member will coordinate and monitor the resolution of the issue, and update the OLIS initiative lead when the issue has been resolved.

Steps to Environment Setup and Connectivity

The following is a list of the high level steps involved in environment setup and connectivity. For a more detailed view of the steps in this process, please refer to the ENVIRONMENT SETUP AND CONNECTIVITY PROCESS MAP.

Checklist for Environment Setup and Connectivity

The following steps need to be undertaken by the adopter project manager and other resources in the adopter organization (e.g., network/connectivity) to register the adopter organization and its applications, and provide connectivity to the OLIS environments.

TIP: The *Checklist for Environment Setup and Connectivity* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Prerequisite:** Provide the network and/or connectivity resources with a copy of this chapter, **3.5 – ENVIRONMENT SETUP AND CONNECTIVITY**	Details about all relevant information and activities, as well as this checklist, are available in the guide. **TIP:** The adopter project manager may need to download any additional documents that are provided as hyperlinks in this guide, and provide them to the applicable resources in the organization.	Adopter Project Manager	
2	**Prerequisite:** **Retrieve registration forms** from the RA (registration agent) portal and give them to applicable resources	Forms include: • *General – Computer Application Registration* • *General – Application Owner Registration and Enrolment*	Adopter Project Manager	
3	**Prerequisite:** Ensure **understanding of forms** and clarify instructions with OLIS initiative lead if required	The OLIS initiative lead can provide guidance and additional details with regard to the required forms.	Adopter Project Manager (or other resource)	
4	**Register Organization:** Receive the draft version of ***OLIS – Organization Setup and Service Enrolment form***, add content specific to the adopter site and email to adopter project manager	The OLIS initiative lead will complete the draft version of the form and then finalize with the adopter project manager (or other resource).	OLIS Initiative Lead Adopter Project Manager (or other resource)	Completed *Organizational Setup and Service Enrolment* form

#	Step	Description	Who Does This?	Deliverable
5	**Register Organization:** Email **final version** of ***OLIS – Organization Setup and Service Enrolment form*** to eHealth Ontario business desk agents (c.c., OLIS initiative lead)	Once the form has been finalized, the OLIS initiative lead must email the form to **registration.agents@ehealthontario.on.ca.**	OLIS Initiative Lead	Completed *Organizational Setup and Service Enrolment* form emailed to eHealth Ontario business desk agents
6	**Register Application:** **Complete *General – Computer Application Registration*** and ***General – Application Owner Registration and Enrolment*** forms, and submit to eHealth Ontario	The LRA must fax the completed owner registration form to the eHealth Ontario business desk agents at **1-866-831-0107**, and email the OLIS initiative lead once the form is faxed. The adopter project manager must email the completed computer application form to **registration.agents@ehealthontario.on.ca** and c.c. the OLIS initiative lead.	Adopter Project Manager LRA	Completed forms submitted to eHealth Ontario business desk agents
7	**Process Registrations:** Receive **reference number** once forms are processed	All registration forms will be processed. eHealth Ontario will generate a reference number and email it to the person identified as the application owner.	Application Owner	Reference number generated and received by application owner
8	**Process Registrations:** Generate **CSR file** and email to eHealth Ontario ONE ID business support (IAM) representative (who initially emailed the reference number)	The CSR (certificate signing request) is a message sent from the adopter to the certificate authority (eHealth Ontario) in order to apply for a digital identify certificate.	Adopter Project Manager (or other resource)	CSR file generated
9	**Install PKI Certificates:** Receive the PKI certificates from eHealth Ontario ONE ID business support (IAM) and **install the PKI certificate**	The adopter must attend a WebEx telecom with the OLIS team, who will provide guidance during the installation process. In preparation, the adopter should refer to the *PKI Certificate Installation Guide* for detailed instructions.	Adopter Project Manager (or other resource)	PKI certificate is generated and sent to application owner
10	**Configure Connectivity:** **Setup connection** to OLIS, and complete firewall changes	The OLIS initiative lead will provide the DN and configuration parameters for setup. Complete the connection to OLIS and make firewall changes, as required.	Adopter Project Manager (or other resource)	

#	Step	Description	Who Does This?	Deliverable
11	**Configure CST Connectivity:** **Create OLIS gateway mapping** for CST environment	**Minimum 1 week before access to CST is required:** The OLIS initiative lead must ensure that the gateway mapping is updated in the CST environment before connectivity testing can be performed (refer to the *OLIS Connectivity Process Checklist* document for more details).	OLIS Initiative Lead	
12	**Test CST Connectivity:** **Test PKI connectivity** to the CST environment	The adopter should send a test message to the CST environment using the following test patient: • **Patient ID:** 9999999999 • **ID Type:** Jurisdictional health number • **Jurisdiction:** Ontario • **Name:** TestPatientLN, TestPatientFN Test Patient MN • **Sex:** Male • **DOB**: 01/01/1950	Adopter Project Manager (or other resource)	
13	**Test CST Connectivity:** **Notify the OLIS initiative lead** when connectivity has been successfully established	Refer to the *OLIS Connectivity Testing Instructions* for more details. The adopter project manager must send an email to the OLIS initiative lead to notify him/her of successful connectivity. If issues arise, please contact the initiative lead who will create a service desk ticket and assign to appropriate team for resolution.	Adopter Project Manager (or other resource)	Email notifying OLIS initiative lead of successful connectivity
14	**Configure Production Connectivity:** **Create gateway mapping** for production environment	**Minimum 1 week before access to production is required:** The OLIS initiative lead must ensure that the gateway mapping is updated in the production environment before connectivity testing can be performed (refer to the *OLIS Connectivity Process Checklist* document for more details).	OLIS Initiative Lead	

#	Step	Description	Who Does This?	Deliverable
15	**Test Production Connectivity:** **Test PKI connectivity** to the production environment	The adopter should send a test message to the production environment using the following test patient: • **Patient ID:** 9999999999 • **ID Type:** Jurisdictional health number • **Jurisdiction:** Ontario • **Name:** TestPatientLN, TestPatientFN Test Patient MN • **Sex:** Male • **DOB**: 01/01/1950	Adopter Project Manager (or other resource)	
16	**Test Production Connectivity:** **Notify the OLIS initiative lead** when connectivity has been successfully established	Refer to the *OLIS Connectivity Testing Instructions* for more details. The adopter project manager must send an email to the OLIS initiative lead to notify him/her of successful connectivity. If issues arise, please contact the initiative lead who will create a service desk ticket and assign to appropriate team for resolution.	Adopter Project Manager (or other resource)	Email notifying OLIS initiative lead of successful connectivity

3.6 – Registration and Enrolment of Individuals

Overview

During testing, and later after go-live, anyone (e.g., tester or clinician) in the adopter organization that needs to view results from the OLIS repository using the OLIS portlet must be *registered* with ONE® ID from eHealth Ontario, and be *enrolled* into one or more OLIS services in the client self-test (CST) or the production environment, or both. The purpose of the ONE ID service is to ensure that only those people who are authorized to electronically access personal health information are permitted to do so.

N **NOTE:** An individual is registered once with ONE ID but may be enrolled into one or more services protected by ONE ID.

Each adopter must appoint an OLIS sponsor to identify users who will access the OLIS portlet in the CST environment (i.e., testers) and in the production environment (e.g., for data quality checks, or if the adopter is using the OLIS portlet to view results). In addition, existing or new local registration authorities (LRAs) must complete the individual face-to-face registrations and manage ongoing registration activities.

Please refer to the REGISTRATION AND ENROLMENT OF INDIVIDUALS PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

I **IMPORTANT:** Before individuals can gain access to the OLIS CST and production environments, an adopter must also complete additional registration activities (refer to CHAPTER 3.5 – ENVIRONMENT SETUP AND CONNECTIVITY for more details). Access to the OLIS production environment can only be provided to end users once all privacy, security and legal activities are complete (refer to CHAPTER 3.3 – PRIVACY AND SECURITY and CHAPTER 3.4 – LEGAL AGREEMENTS AND SCHEDULES for more details).

N **NOTE:** For information on registering individuals in an organization for access to the OLIS collaboration portal, please refer to CHAPTER 1.1 – INITIAL ENGAGEMENT for more details.

T **TIP:** It is suggested that the adopter project manager share this chapter of the implementation guide with the LRAs at the organization in order that they fully understand the specifics of registration and enrolment for OLIS services.

Quick Links

Registration Roles and Responsibilities

The following roles are required at an adopter organization to perform registration and enrolment activities.

NOTE: For more information on eHealth Ontario registration (roles and responsibilities, LRA training, registration procedures and forms, and the online ONE ID system), please refer to the RA (registration agent) portal.

Legally Responsible Person (LRP)

The LRP is the individual who is legally accountable for the registration process in an organization, and is usually a senior executive (such as, the CEO or COO). The LRP's duties include:

- Signing a ONE ID agreement with eHealth Ontario
- Nominating and sponsoring the local registration authorities (LRAs)
- Ensuring the LRAs sign an acknowledgement of their understanding of their obligations of this position
- Acting as sponsor or identifying others as sponsors for enrolment in services

TIP: To determine who the LRP is at an organization, the adopter project manager should contact the organization's legal department.

Sponsor for OLIS

The sponsor is nominated by the LRP. The sponsor's role is to identify and nominate the individuals in an organization who should be registered and enrolled for OLIS services. The OLIS sponsor is often the lab director (or equivalent) at the adopter organization.

HINT: It is recommended that the OLIS sponsor delegate the responsibility for authorizing each individual registration request to one or more LRAs. It is left to the discretion of the adopter as to the best method to do this (e.g., internally within the organization by email, memo, other). The LRA(s) to whom sponsorship has been delegated will need to state this method during the registration process.

IMPORTANT: If the adopter organization has multiple locations (sites) with different OLIS sponsors, and end users require access to OLIS data from multiple location, the LRA must submit separate enrolments for each unique location/sponsor combination.

Local Registration Authority (LRA)

LRAs are responsible for the registration and service enrolment processes within the adopter organization. LRAs conduct face-to-face registration of applicants, and manage the ongoing registration maintenance process (e.g., registering new users, revoking, suspending or reinstating existing users). It is recommended that an adopter use existing LRAs, where possible, to register and enrol OLIS end users.

TIP: Small to medium hospitals with one site (less than 25 registrants) should have at least two LRAs. Medium to large hospitals with one or more sites (more

than 50-100 registrants) should have at least three LRAs. The hospital should have enough LRAs to cover each shift, as well as vacation and sick days.

Tip: For a list of the existing LRAs at an organization, the adopter project manager should contact the adopter's LRP or OLIS sponsor. Or, the adopter project manager can provide the OLIS initiative lead with the contact information (name, organization, phone number and email) for the LRP or OLIS sponsor, and the initiative lead will open a ticket with the eHealth Ontario service desk (which will be assigned to IAM business solutions and support). Within two to three business days, eHealth Ontario will send the LRP or OLIS sponsor an email with the list of LRAs at the organization.

End Users

An end user is any person or individual who is nominated by the OLIS sponsor for registration and enrolment for OLIS services available in either the CST or production environments. During the registration process, the individual is referred to as the applicant. Once the individual is registered, he/she is referred to as the registrant.

Note: Some individuals at an organization may already be registered for eHealth Ontario services and have an existing ONE ID account. These registrants only need to be *enrolled* into OLIS services.

Important: End users (e.g., testers) who will be viewing OLIS data on behalf of more than one adopter organization must complete OLIS enrolments for *each* location within an adopter organization. If using paper forms, this means that the LRA must submit multiple forms (i.e., one for each unique adopter location within an organization). If the end user requires OLIS access to multiple sites within the same adopter organization, and the sponsor is the same, the LRA can record this information in the "Notes" section of a single paper form. If the sponsor is different, the LRA must complete separate forms.

Important: Each location within an organization that will be performing laboratory tests will require at least 1 end user to be enrolled to view OLIS data in the production environment for periodic data quality checks. End users (e.g., practitioners) who will be viewing OLIS data from a third party view (e.g., the adopter's own view application) will not need to be enrolled for the OLIS portlet in the production environment.

Online ONE ID System

eHealth Ontario provides LRAs with access to the online ONE ID system which can be used to both register and enrol end users into OLIS services, as well as to perform ongoing registration maintenance activities (i.e., suspend, reinstate and revoke access, change a registrant's demographic information). The LRA and applicant are able to enter all registration and enrolment information directly into the system, eliminating the need to complete paper forms.

Important: Use of the ONE ID system requires that the LRA attend a scheduled ONE ID system training session (provided by eHealth Ontario) and access the system with an RSA SecurID token provided by eHealth Ontario. More

information on the ONE ID system and RSA SecurID tokens is available from the RA portal.

NOTE: For situations where Internet access is unavailable, eHealth Ontario provides a paper registration form and process. More information on this process is available from the RA portal.

End Users Needing Access to Both CST and Production Environments

If an applicant requires access to both the OLIS CST and production environments, the login ID and temporary password presented through the ONE ID system are for the CST environment only. The applicant and LRA must then complete the *OLIS – Individual Registration and Service Enrolment Form (HC Providers)* for enrolment into the production environment.

TIP: The OLIS initiative lead can assist the adopter by pre-populating section 2A of the individual registration form: Service Enrolment Details (check OLIS Web Application/Patient Lab Result Portlet); OLIS environments (check production – CST has been enrolled using ONE ID system); OLIS Organization Type (check 'LAB'); Role (check 'Other' and enter 'Periodic quality data checks').

Upon receipt of the faxed registration form, the eHealth Ontario business desk agents will manually process the second environment request (i.e., production) and provide the LRA with a second login ID via email, which the LRA can then distribute to the registrant.

NOTE: End users will receive a separate login for each OLIS environment (i.e., CST and production). These login credentials, however, can be used to access data across multiple organizations and locations, as per the end user's enrolments.

Prerequisites

Before the adopter can begin registering individuals to access OLIS, the following activities must be completed:

- The LRP must nominate the OLIS sponsor
- If required, the LRP (or designate) must identify and register any new LRA(s)
- The OLIS sponsor must nominate individuals for access to OLIS in the CST and production environments
- To use the online ONE ID system, the LRA must have: received training, received an RSA SecurID token, self-completed his/her registration online, and activated the RSA token

NOTE: It is the responsibility of the existing LRA(s) at the adopter organization to ensure that any new LRA(s) have been trained on ONE ID policy, standards, procedure, and system. Registration training material is available from the RA portal.

Options for OLIS Enrolment

The OLIS sponsor must provide the LRAs with a list of OLIS applicants and indicate the service enrolment(s), the OLIS environment(s), and the role associated with each applicant.

TIP: The OLIS sponsor may choose to use the *ONE ID Registration and OLIS Enrolment Applicant List* to identify applicants and indicate their enrolment information.

NOTE: Each applicant is automatically enrolled into the eHealthOntario portal, where access to the OLIS portlet is provided.

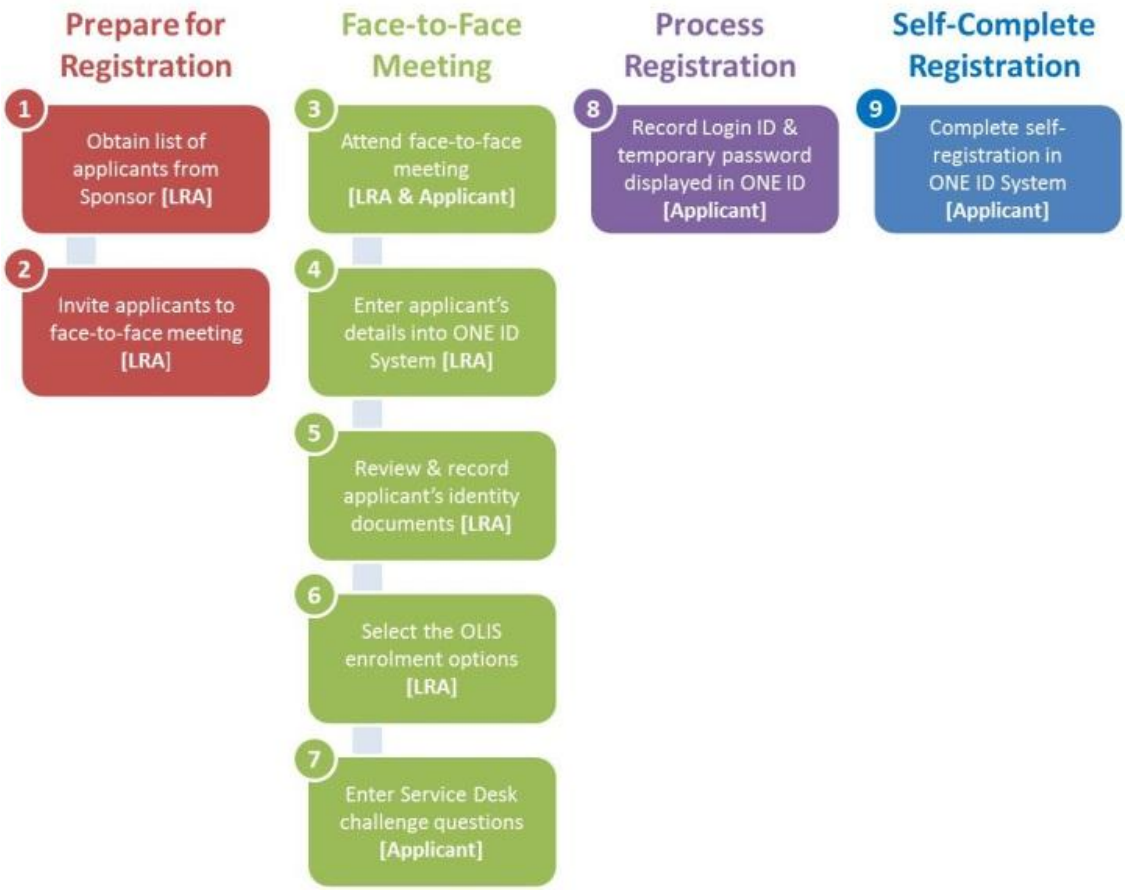
Element	Testing End Users	Production End Users (data in projects only)
Service Enrolment	eHealth Ontario Portal OLIS Web Application/ Patient Lab Result Portlet	eHealth Ontario Portal OLIS Web Application/ Patient Lab Result Portlet
OLIS Environment	Client Testing (Client Self-Test/ Conformance Testing)	Production (includes Personal Health Information)
OLIS Organization Type	Lab	Lab
OLIS Organization Identifier	Lab Licence Number	Lab Licence Number
Role	Other	Other

NOTE: It is important to enrol a few users with the role of "other" to perform periodic data quality checks in the production environment. These users are able to view all data. End users who are also "practitioners", and who will be performing the role of periodic data quality checks, may enrol as either "other" or "practitioner".

Steps to Register and Enrol End Users

End Users Needing Access to Either CST or Production Environment

The following is a list of the high level steps involved in registering and enrolling individual applicants into the OLIS services into *only one* OLIS environment, or the *first of two* OLIS environments.



End Users Needing Access to Both CST and Production Environments

In addition to the steps above, the following steps must be completed for end users requiring access to *both* OLIS environments.

I **IMPORTANT:** End users who are enrolled into both CST and production environments will receive two separate login IDs. End users will not receive any additional login IDs if they also require access to multiple adopter organizations (i.e., their login ID for the CST environment, or the production environment, will provide access to data from all adopter organizations for which they are enrolled).

T **TIP:** The *ONE ID Registration and OLIS Enrolment Quick Reference for LRAs* summarizes the registration and enrolment steps and can be provided to the adopter's LRAs for reference.

Access to Environments

Once the registrant has completed self-registration, a link to the CST and/or production environment will be displayed (depending on which environment(s) the registrant enrolled in). Access to the OLIS portlet will only be available when the environment is available (e.g., legal agreements and schedules have been completed, PKI certificates installed, and connectivity confirmed).

Registration Documents Summary

The following is a list of all eHealth Ontario registration documents associated with OLIS registration and enrolment:

Document Name	Description	Used By
PREPARE FOR REGISTRATION		
LRA Procedures Manual	This manual provides step-by-step procedures for LRAs to register other LRAs or end users within their organization with eHealth Ontario, to enrol them into services, and to support them once they are registered and enrolled.	LRA
ONE ID Overview Presentation Generic	This presentation provides an overview of the ONE ID identity and access management system and other key information such as roles, registration steps, etc.	LRA
LRA Registration and Services Enrolment Form	Use this form to register and enrol an individual as an LRA for the adopter organization.	LRP / LRA
LRA Suspend Reinstate Revoke Request	Use this form to suspend, reinstate or revoke an LRA registration and/or enrolment.	LRP / LRA
Registration FAQs RA-LRAs	This document provides a list of frequently asked questions (FAQs). LRAs may be asked to answer any of these FAQs by individuals who are registering or enrolling in eHealth services protected by ONE ID.	LRA
Privacy FAQs	This document provides a list of frequently asked questions (FAQs) about privacy. LRAs may be asked to answer any of these FAQs by individuals who are registering or enrolling in eHealth services protected by ONE ID.	LRA

Document Name	Description	Used By
Getting Started with Registration	This document is intended for those individuals responsible for setting up registration in their organization. The reference provides an overview of the sponsorship model, and the roles which must be set up for registration to occur.	LRP
Registration Implementation Checklist	This form must be completed and submitted to eHealth Ontario upon registration setup in an organization. It lists the sponsor(s) and LRAs associated with a specific service (e.g., OLIS).	LRA
ONLINE ONE ID SYSTEM FOR LRAS		
ONE ID Local Registration Authority Guide	This user guide describes the detailed procedures of the various registration functions that an LRA can perform in the ONE ID system. Each function has a brief description, followed by steps on how to perform the function in the system.	LRA
ONE ID LRA Training Generic	This presentation provides an overview on how to use the ONE ID system to register and enrol individuals into various eHealth services protected by ONE ID.	LRA
ONEID LRA Online Quick Reference for LRAs	This document summarizes the function that an LRA can perform or cannot perform using the ONE ID system.	LRA
ONEID LRA Online Reg UI – LRA Audience	This presentation provides step-by-step instructions on how to use ONE ID to register, enrol and maintain individuals into eHealth services protected by ONE ID.	LRA
REGISTER END USERS		
Sample Communication – How to Register	**Optional:** Provides the LRA with sample text to notify applicants (end users) that they must register and enrol for OLIS services.	LRA
Sample Registrant Letter	**Optional:** Provides the LRA with a template to inform registrants (end users) of their login ID and temporary password. To be used when using the paper registration method, or when an end user requires access to the production environment after previously enrolling in the CST environment.	LRA
eHealth Service Support Information	**Optional:** This template allows the LRA to provide customized support details to the end user.	LRA

Document Name	Description	Used By
OLIS – Individual Registration and Service Enrolment Form (HC Providers)	Use this form to enrol an applicant into the OLIS production environment (once the applicant has been registered and enrolled into the OLIS CST environment using the ONE ID system).	LRA / Applicant (end user)
ONE ID Registrant Reference Guide	This guide provides detailed instructions for end users using the ONE ID system for the first time (i.e., to self-complete registration), and for ongoing registration maintenance (e.g., to reset or change passwords, reset service desk challenge questions).	Registrant (end user)

Checklist for Registration and Enrolment of Individuals

Following are activities that need to be undertaken by the adopter project manager and LRAs in preparation to register and enrol users for OLIS services.

TIP: The *Checklist for Registration and Enrolment of Individuals* is available as a separate, printable document.

#	Step	Description	Who?	Deliverable
1	**Prerequisite:** If required, identify the organization's **LRAs** and **legally responsible person (LRP)**	The adopter project manager should contact their legal department to obtain the name of the LRP. For a list of the existing LRAs at an organization, the adopter project manager should contact the organization's LRP or OLIS sponsor. Or, the adopter project manager can provide the OLIS initiative lead with the contact information (name, organization, phone number and email) for the LRP or OLIS sponsor, and the initiative lead will open a ticket with the eHealth Ontario service desk (which will be assigned to IAM business solutions and support). Within two to three business days, eHealth Ontario will send the LRP or OLIS sponsor an email with the list of LRAs at the organization.	Adopter Project Manager Initiative Lead	List of LRAs and name of LRP
2	**Prerequisite:** Provide the LRAs with a copy of this chapter, **3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS**	Details about all relevant registration and enrolment information and activities, as well as this checklist, are available in the guide. **TIP:** The adopter project manager may need to download additional documents that are provided as hyperlinks in this guide, and provide them to the organization's LRAs.	Adopter Project Manager	

#	Step	Description	Who?	Deliverable
3	**Prerequisite:** Confirm that an **OLIS sponsor** has been identified	The organization's LRP must nominate the OLIS sponsor and inform the LRAs and adopter project manager.	Adopter Project Manager	
4	**Prerequisite:** Confirm that LRAs have been trained and provided access to the **ONE ID system**	LRAs at many organizations have already been trained on the ONE ID system. However, if the adopter requires training and access, please have the LRAs contact the eHealth Ontario business desk agents.	Adopter Project Manager LRAs	
5	**Prerequisite:** Confirm if **additional LRAs** are required to support OLIS registration and enrolment	It is recommended that an adopter use existing LRAs to perform OLIS registration and enrolment activities. However, should new LRAs be required, please have the existing LRP follow the process to nominate new LRAs, and have an existing LRA register and train the new LRA(s).	Adopter Project Manager LRAs	
6	**Preparation:** Have the OLIS **sponsor nominate individuals** for registration and enrolment to OLIS services	The OLIS sponsor must provide a list of all end users nominated to access OLIS services in either the CST or production environments. **NOTE:** The OLIS sponsor may use the *ONE ID Registration and OLIS Enrolment Applicant List* template to create the list to provide to the LRAs.	OLIS Sponsor	List of OLIS applicants
7	**Preparation:** Send an email to all applicants **inviting them** to attend a face-to-face registration meeting	Remind the applicant to bring two pieces of approved photo identification to the meeting. **NOTE:** The LRA may use the *Sample Communication – How to Register* template to create the invitation email. It is recommended that they include the list of approved primary and secondary identity documents (refer to section 10.1 .1 and 10.1.2 in the *LRA Procedure Manual*).	LRAs	Invitation for OLIS registration and enrolment

#	Step	Description	Who?	Deliverable
8	**Registration and enrolment:** Attend the **face-to-face meeting** and register and enroll the applicant	The applicant will meet with the LRA. Each meeting takes approximately five to ten minutes to complete. **TIP:** The LRA should provide the applicant with the *ONE ID Registrant Reference Guide*. **NOTE:** For more information on the steps to register and enrol an applicant using the ONE ID system please refer to the *ONE ID Local Registration Authority Guide* and *LRA Procedure Manual*. **IMPORTANT:** If the applicant requires access to both the OLIS CST and production environments, please refer **to Step 11.**	LRA Applicant	
9	**Registration and enrolment:** Record the **login ID** and **temporary password**	At the completion of the session, the registrant's login ID and temporary password are displayed. The LRA should ensure that the applicant records this information. **NOTE:** If this information is not recorded, the registrant must contact the eHealth Ontario service desk to receive a new temporary password.	LRA Registrant	Registrant's login ID and temporary password
10	**Registration and enrolment:** **Self-complete** the registration process	Using the login ID and temporary password provided, the registrant must access the ONE ID system and self-complete their registration. **IMPORTANT**: All associated legal agreements and schedules must be signed, and PKI certificates installed, before the hyperlinks to the OLIS environments, available from the eHealthOntario portal, are active.	Registrant	
11	**CST and production registrants only:** Complete paper **registration and enrolment form**	Registrants who require access to *both* the CST and production environments will need to complete the following sections of the *OLIS – Individual Registration and Enrolment Form (HC Providers)* for the production environment only: • Section 1A – Applicant details (login name only) • Section 1E – Notice of collection (signature) **NOTE:** This form can be quickly completed at the end of the online ONE ID session.	Registrant	

#	Step	Description	Who?	Deliverable

12	**CST <u>and</u> production registrants only:**
	Complete paper **registration and enrolment form**
		The LRA will need to complete the following sections of the *<u>OLIS – Individual Registration and Enrolment Form (HC Providers)</u>*:
		• On behalf of OLIS sponsor:
		  • Section 2A – Service enrolment details (select the required service enrolment and the 'production' OLIS environment)
		  • Section 2B – Sponsor details
		• LRA:
		  • Section 3A – Local registration authority details
			LRA	Completed paper registration and enrolment form

13	**CST <u>and</u> production registrants only:** **Fax** completed registration and enrolment form to eHealth Ontario business desk agents	The LRA must fax the completed registration and enrolment form to the eHealth Ontario business desk agents at **1-866-831-0107**. **NOTE:** This form contains some of the registrant's personal information so it must be faxed.	LRA	Completed paper registration and enrolment form faxed to business desk agents
14	**CST <u>and</u> production registrants only:** **Email** the registrant's name to eHealth Ontario business desk agents	The LRA must send a brief email containing the registrant's name to the eHealth Ontario business desk agents at **registration.agents @ehealthontario.on.ca.** **NOTE:** This will let the eHealth Ontario business desk agents know to expect the fax and they can follow-up if there are any issues. Please do not email the completed form.	LRA	Registrant's name emailed to business desk agents
15	**CST <u>and</u> production registrants only:** Receive and distribute the registrant's **login ID** for production environment	The eHealth Ontario business desk agents will process the additional enrolment to the OLIS production environment and email the registrant's additional login ID to the LRA. The LRA will distribute the second login ID to the registrant. **NOTE:** The first login ID (to the CST environment) was generated during the online ONE ID system session. Generation of the second login ID by the eHealth Ontario business desk agents for the production environment can take up to five business days.	LRA	Registrant's second login ID for OLIS production environment

#	Step	Description	Who?	Deliverable
16	**CST and production registrants only:** Contact the eHealth Ontario service desk to **obtain temporary password** and **self-complete** the registration process	Once the registrant has received the second login ID, he/she must contact the eHealth Ontario service desk to obtain a temporary password to self-complete the enrolment to the OLIS production environment.	Registrant	Temporary password provided to the registrant

3.7 – System Development

Overview

During this stage of the implementation project, the adopter must transform the detailed requirements from the planning phase into a complete and detailed system design that focuses on how to deliver the functionality necessary to submit laboratory data into the OLIS repository. This design must then be converted into a complete information system, which may include acquiring and installing systems environments, creating and testing databases, coding, compiling, and refining programs.

It is important to note that the development stage occurs concurrently with the client self-testing (CST) and conformance test (CT) stages. Additional development may be required to fix issues identified during CST and/or the formal conformance test.

Please refer to the SYSTEM DEVELOPMENT PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Test Patients and Practitioners
Checklist for System Development

Test Patients and Practitioners

Test Patients

The CPIS will provide each adopter with a variety of test patients to be used during CST. These patients will accommodate gender and age specific reference ranges. As well, at least one patient will have very long entries in each field to test that maximum field lengths are handled correctly. Additional test patients may be provided by the CPIS if required by the adopter's CST plan. It is important that the adopter use only the test patients provided to them when submitting test HL7 messages to the CST environment. The adopter will be provided with additional test patients prior to conformance testing.

TIP: An adopter can create a newborn patient, without having a patient in OLIS, by treating the health card number as a pre-authorized health number (PAHN).

OLIS PROGRAM TEAM: The CPIS should refer to the *OLIS Test Patient Process* document for detailed procedures on assigning test patients to organizations.

Practitioners

It is necessary that adopters map their practitioners to the OLIS list of practitioners (the practitioner extract is updated monthly and available from the OLIS collaboration portal). The CST environment also contains these practitioners. During testing, the adopter must

use actual practitioners from their organization (and mapped to the OLIS list of practitioners) in their test messages.

NOTE: Please note that there are occasions when the practitioner within the organization is unavailable (e.g., with generic emergency and medical directives, students, or practitioner has not yet been setup in the adopter's systems). The adopter should also ensure that the "provider unavailable" practitioner is available in their systems.

Checklist for System Development

The following steps need to be undertaken by the adopter organization to ensure that system development is successfully completed to support the LIS-to-OLIS interface.

TIP: The *Checklist for System Development* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Review** process and system r**equirements**	The adopter's development team should review the process and system requirements developed during the planning phase.	Adopter development team	
2	Create **detailed design** document	Using the process and system requirements documents, the adopter should develop a detailed design document.	Adopter development team	Detailed design document
3	**Develop and/or modify systems** to support LIS-to-OLIS interface	The adopter must develop and/or modify their systems to meet the requirements of the OLIS interface specification.	Adopter development team	
4	Request **test patients** from CPIS	The adopter project manager must request the test patients to be used during client self-testing (CST) from their CPIS.	Adopter Project Manager CPIS	
5	Email list of **test patients** to adopter project manager	The CPIS will provide a list of test patients to the adopter project manager.	Adopter Project Manager CPIS	List of test patients emailed to adopter project manager
6	Obtain list of **OLIS practitioners** from OLIS collaboration portal	The OLIS list of practitioners is updated monthly and available from the OLIS collaboration portal.	Adopter resource	
7	**Map adopter practitioners to OLIS list** of practitioners	The adopter must map their practitioners to the OLIS list of practitioners.	Adopter resource	Adopter practitioners mapped

3.8 – Client Self-Test (CST)

Overview

IMPORTANT: This release of the guide contains information and details for hospital laboratories implementing data in projects. Future releases of this guide will include details regarding additional functional areas such as referrals in/out, data out (including testing of third party clinical viewers), and eOrdering (including order retrieval and walk-ins). Please note that some supporting documents available from hyperlinks in this version of the guide may reference these additional functional areas.

During the client self-test (CST) stage, an adopter is required to:

- Fully and extensively test the functionality of their LIS-to-OLIS interface that was built by them (or by an external vendor), against the OLIS interface specification requirements
- Test appropriate OLIS conformance test scenarios (for each workstream , based on the particular functionality that is being taken into the production environment (which may be done in conjunction with the above))
- Test the OLIS nomenclature mappings for all laboratory tests (including panel codes) for which they report clinical results, from all the sections of the laboratory that are participating in this stage of the implementation

NOTE: Although an adopter may proceed to conformance testing without full completion of mapping and testing of OLIS nomenclatures, they will not be able to go-live and proceed to production until that testing is complete. Refer to CHAPTER 3.10 – NOMENCLATURE MAPPING ACCEPTANCE for more details.

To aid in the client self-testing activities, adopters utilize the CST environment – an open environment with minimal restrictions, where the adopter may test their software at any time against a copy of the OLIS production environment. The adopter must test to ensure that their applications are working to design and correctly communicating with OLIS.

Fixes or upgrades to an adopter's application can be made until the adopter and their vendor are confident that they are ready to proceed to conformance testing (CT). To test fixes and/or changes to the software, an adopter and their vendor may return to the CST environment for additional tests at any time.

NOTE: During the CT stage, an adopter may be required to perform additional development to fix issues identified during the formal conformance test. Therefore, it is not unusual for CST activities to overlap with CT activities.

Please refer to the CLIENT SELF-TEST (CST) PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

TIP: It is suggested that the adopter project manager share this chapter of the implementation guide, and supporting documents, with those individuals at their organization that will be involved in CST in order that they fully understand the specifics of this activity.

Quick Links

Prerequisites

Connectivity

Before an adopter can send HL7 messages to the CST environment, they must ensure that their systems have access to that environment. Ensure that the PKI certificates have been installed and configured for the laboratory (results-to-OLIS) interface. Please refer to CHAPTER 3.5 – ENVIRONMENT SETUP AND CONNECTIVITY for more details on obtaining and testing connectivity.

TIP: If the adopter has not yet obtained connectivity to the CST environment, they can submit raw text HL7 messages to the CPIS for ongoing analysis (e.g., if the adopter has updated database tables and would like to see the impact on their interface). Please refer to the sample HL7 message section in CHAPTER 2.2 – GAP ANALYSIS for details.

Registration and Enrolment of Testers

To view OLIS data in the CST environment using the OLIS portlet, an adopter must register and enrol developers and testers. Please refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS for more details.

Test Patients and Practitioners

During the system development stage, the adopter was provided with a variety of test patients to be used during CST. These test patients will accommodate gender and age specific reference ranges. As well, at least one test patient will have very long entries in each field to test that maximum field lengths are handled correctly. Additional test patients may be provided by the CPIS if required by the adopter's CST plan. It is important

that an adopter use only the test patients provided to them when submitting test HL7 messages to the CST environment. The adopter will be provided with additional test patients prior to conformance testing.

TIP: An adopter can create a newborn patient, without having a patient in OLIS, by treating the health card number as a pre-authorized health number (PAHN).

During the system development stage, the adopter was also directed to map their list of practitioners to the OLIS list of practitioners. These practitioners must be used when submitting test messages.

NOTE: The CST environment contains a reasonably current database of practitioners in Ontario. Please note that some practitioners may not be available.

OLIS Conformance Test Scenarios

During the kickoff stage of the planning phase, the adopter was provided with the *OLIS Conformance Test Scenarios* and *OLIS Conformance Testing Guide* to help them better understand the OLIS conformance test requirements. During the conformance test stage, the adopter will be required to successfully execute these tests in the CST environment prior to promoting their interface to the production environment.

These test scenarios should be used by an adopter to develop test scripts for use during CST. It is up to an adopter to determine what testing they feel meets the needs of their organization's quality requirements. The CST stage of the project provides an opportunity to test each scenario prior to formally completing the conformance test.

Some testing scenarios test each of the HL7 message segments and processes that require special handling of specific message segments. There are also supplemental test scenarios that can be used for more comprehensive testing when required.

NOTE: Adopters are not required to complete all conformance test scenarios during CST, but are encouraged to use as many scenarios as necessary to thoroughly test their LIS-to-OLIS interface.

CST Environment

CST is a testing environment provided by OLIS to adopters for the purpose of testing the functionality of the LIS-to-OLIS HL7 interface. This environment provides an equivalent-to-production OLIS environment to support system developers and other stakeholders who adapt software that will interface with OLIS.

CST is an open environment where an adopter can test their software at any time with minimal restrictions in the "sandbox". Multiple users from multiple organizations may interact in a shared-mode with OLIS, testing their system's capability to send to and receive messages from OLIS. Activity logs are maintained and available upon request from the CPIS to assist in problem resolution.

NOTE: The CST environment is available to adopters even after they move their interface into production to support testing at any time.

Availability

The CST environment is available at any time (24 hours a day, 7 days a week, 365 days a year) and requires no scheduling.

Difference between CST and CT

Characteristic	CST	CT
End user registration required	Yes	Yes
PKI certificate required	Yes	Yes
Testing as pre-requisite for OLIS production use	No	Yes
Scheduling required	No	No *
Use OLIS provided test patients	Yes	Yes
Session monitored (activity logs reviewed)	Yes	Yes
Testing scripts available	No **	Yes
Certification following successful completion of testing	No	Yes
eHealth Ontario service desk support available	Yes	Yes

* The adopter must inform the OLIS initiative lead and CPIS to receive CT test patients

** It is strongly recommended that an adopter practice with the CT scenarios

CST Test Plan

Before beginning CST, it is strongly recommended that an adopter develop a CST test plan to provide an understanding of the approach, as well as an overview of the activities, deliverables, and testing strategy. Depending on the functionality an adopter is implementing, and the specifics of their organization discussed during the gap analysis stage of the project, an adopter may need to include testing for the following:

- Workaround solution implemented to resolve difficulties in tracking practitioners
- Overlapping order IDs that come from different locations

N **NOTE:** It is required that the person who will sign off on nomenclature mapping testing (e.g., lab director, medical director, QA manager, or equivalent) review and approve the CST test plan.

H **HINT:** An adopter may choose to use the *OLIS CST Testing Tracker (Template)* to help them keep track of nomenclature testing, testing issues, etc.

OLIS Portlet

The OLIS portlet provides the ability for an adopter's end users to retrieve lab test results during both CST and CT testing. It has multiple layers of security to guard against improper access and inappropriate use of patient data.

NOTE: For more information on the OLIS portlet and how to use it, the adopter should access the computer based training that will review the various features of the OLIS patient lab results portlet, and provide a reference to key features. The adopter may also refer to the *Accessing the OLIS Portlet* for instructions on accessing the OLIS portlet.

Each end user requiring access to the OLIS portlet from the eHealth Ontario portal must be registered and enrolled. Please refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS for more details.

OLIS Portlet System Requirements

Item	Details
Personal computer	A desktop or laptop with Pentium 4 or later processor and 512 MB of memory
Operating system	Microsoft Windows XP or Microsoft Windows 7
Web browser	Microsoft Internet Explorer 5.5 or later or Firefox 4 or later
Network connection	Internet connection (a high speed Internet, cable or DSL connection is highly recommended)

Sending HL7 Messages to CST

Unsuccessful Messages

Improperly formatted messages will be rejected by OLIS. If a message is rejected because of improper formatting (either SOAP or HL7), the contents of the message are not verified by OLIS.

If a message is correctly formatted, the contents are verified by OLIS for conformance with the business rules. Error codes and text will be returned if message contents do not conform to business rules.

An adopter is required to develop a process for appropriate end users to monitor and correct all types of error messages received from the OLIS interface.

HINT: If the adopter's developers and testers require assistance interpreting OLIS error messages, please contact the CPIS as soon as possible. The CPIS is there to provide support during this stage of the project and can often quickly pinpoint the problem, reducing the time and effort required by the adopter's staff to identify the cause of the issue.

Successful Messages

Once an HL7 message has been successfully received by the OLIS interface, developers and testers can view the content of the message using the OLIS portlet.

Analyzing HL7 Messages Sent to CST

At any time during CST an adopter's developers and testers may request assistance from the CPIS to provide detailed analysis of their test HL7 messages. The CPIS has access to tools that will quickly and consistently identify data content errors, non-compliance to conformance test scenarios, or discrepancies between what was sent between the adopter's LIS and their interface engine, and the interface engine and OLIS (where applicable).

HL7 Message Compliance to Conformance Test Scenarios

The CPIS is available to analyze one or more HL7 messages for compliance to conformance test scenarios. After sending the HL7 message(s) to the CST environment, an adopter should email the following to the CPIS for each message (where available):

- Copy of HL7 message submitted to OLIS (text file format)
- Copy of HL7 acknowledgement message received from OLIS (text file format)
- OLIS portlet screenshot
- External LIS report (typically the paper report for the provider)
- Internal LIS report

Upon completion of the analysis, the CPIS will provide the adopter with the details of any discrepancies that are found.

NOTE: This sample *OLIS CT Assessment Report* lists some of the discrepancies that are typically found.

OLIS PROGRAM TEAM: The CPIS can click here to access detailed procedures and tools to analyze HL7 messages for compliance to conformance test scenarios.

Data Quality Audit Report

For analysis of several HL7 messages to validate data quality (such as alignment between LOINC scale and the observation result), an adopter can request a *Data Quality Audit Report* from the CPIS. The CPIS will obtain an extract of all HL7 messages for the adopter from the CST environment for a defined time period, and then perform automated and manual validation. The adopter will be provided with the details of the analysis, which can be reviewed with others in the adopter organization (e.g., developers, testers, nomenclature resource). The adopter may also request a teleconference with the CPIS to review the results in more detail. This report is a quick and easy way to review large quantities of data.

NOTE: This sample *OLIS Data Quality Audit Report* lists some of the discrepancies that are typically found.

OLIS PROGRAM TEAM: The CPIS can click here to access detailed procedures and tools for creating a *Data Quality Audit Report*.

Acceptable OLIS Nomenclature Pairings

To ensure the highest level of data quality in the OLIS repository, adopters are required to provide a test request/test result linkages (or "pairings") file exported from the OLIS nomenclature mapping tool) to the CPIS during the CST stage.

NOTE: Refer to the *OLIS Mapping Tool User Guide* for details on exporting the test request/test result linkages file. The file should be extracted and provided to the CPIS once all mappings and linkages have been completed.

The information in this file is compared to an existing acceptable pairings database, and is referenced when an adopter sends HL7 messages to OLIS. If the test request/test result pairing included in a message is not found in the acceptable pairings database, a warning message is included in the ACK response message.

NOTE: At any time an adopter can ask the CPIS to update the acceptable pairings database (e.g., the adopter has added a new test request or test result to their LIS). As well, at any time during testing, the CPIS may request updated nomenclature files from the adopter, including the test request/test result linkages file.

New Pairings

Warning messages are reviewed weekly by the CPIS team when a test request/test result pairing is received that is not in the acceptable pairings database. An adopter will be notified if the new test request/test result pairing will be added to the acceptable pairings database, or if it represents an issue with the data received from an adopter.

OLIS PROGRAM TEAM: OLIS team members can click here to access detailed procedures for updating the acceptable pairings database.

Testing Nomenclature Mappings

During the planning phase, the adopter began mapping and linking their test request, test result, specimen and microorganism codes to OLIS codes. While it is recommended that this activity be completed before proceeding to the implementation phase, it is recognized that it may continue well into the CST stage.

NOTE: Refer to CHAPTER 3.10 – NOMENCLATURE MAPPING ACCEPTANCE for more details.

Once nomenclature mapping and linking is complete, an adopter is required to test each and every test request code, test result code, specimen code, and microorganism code. This testing must be completed before an adopter can proceed to go-live.

HINT: An adopter may choose to use the *OLIS CST Testing Tracker (Template)* to help them keep track of nomenclature testing.

IMPORTANT: For multi-site organizations, it is imperative that the adopter verify that their LIS codes are unique across their organization's laboratory enterprise to ensure that there is no duplication of codes between laboratory sections.

The adopter should also ensure that the following processes are in place before proceeding to go-live:

- Ensure new or modified LIS codes are correctly mapped to the appropriate OLIS codes as they are created and/or modified
- Review all new OLIS nomenclature releases and to remap LIS codes, when appropriate
- Ensure new code submissions are communicated to OLIS in a timely manner. Refer to CHAPTER 2.3 – NOMENCLATURE MAPPING AND CHANGE REQUESTS for more details on submitting nomenclature change requests.

Expedited Assistance

For adopters that may be short on time, resources and/or knowledge, OLIS testing resources are available to assist the adopter in performing client self-testing. The adopter should contact their CPIS for more details.

OLIS Client Self-Test (CST) Gateway Checklist

Before an adopter can proceed to conformance testing, they must have satisfactorily completed their systems development tasks. These tasks are listed on the *OLIS Client Self-Test (CST) Gateway Checklist*, which is prepared by the CPIS and sent to the adopter project manager. The adopter project manager must confirm that these tasks have been completed by signing the document. The adopter project manager must email a scanned copy of the signed document to the CPIS.

OLIS Testing Documents Summary

The following is a list of all OLIS documents that may be useful to an adopter while they perform client self-testing:

Document Name	Description	Used By
NOMENCLATURE		
A Guide to the OLIS Nomenclatures	This guide provides detailed information on the OLIS nomenclatures for test requests, test results, specimens and microorganisms, as well as the process to request changes.	Nomenclature Resource
OLIS Nomenclatures	This MS Excel spreadsheet provides a complete list of the OLIS nomenclatures.	Nomenclature Resource
Logical Observation Identifiers Names and Codes (LOINC ®) Users' Guide	The user guide provides details on the LOINC database – a set of universal names and ID codes for identifying laboratory and clinical test results.	Nomenclature Resource

Document Name	Description	Used By
INTERFACE SPECIFICATIONS		
OLIS Interface Specification	This document describes the interface specification for OLIS, including HL7 message definitions, message transport protocols, OLIS test and results nomenclatures, as well as conformance testing and registration/ enrolment requirements.	Adopter Project Manager Developer Lab SME IT SME Vendor
TESTING		
OLIS Conformance Test Scenarios	This document outlines the OLIS conformance test scenarios that adopters must successfully execute in the CST environment before promoting their interface to the production environment.	Adopter Project Manager Developer Lab SME IT SME Vendor Tester
Testing in the Client Self-Test Environment	This document provides an overview of the OLIS CST environment and how to access it. It also provides more detailed information on the CST process.	Adopter Project Manager Developer Lab SME IT SME Vendor Tester
OLIS Conformance Testing Guide	This document describes the various aspects of the OLIS CT process. It details information on each category of conformance tests, the requirements for submission of conformance test scenarios, and the criteria for successful completion of conformance testing.	Adopter Project Manager Developer Lab SME IT SME Vendor Tester
OLIS PORTLET		
Accessing the OLIS Portlet	This quick reference provides the detailed steps for authorized new users to access the OLIS portlet from the eHealth Ontario portal.	Adopter Project Manager Developer Lab SME IT SME Vendor Tester

Checklist for CST

Following are activities that need to be undertaken by the adopter project manager, developers, and testers to self-test the adopter's interface and nomenclature mappings in the CST environment.

TIP: The *Checklist for CST* is available as a separate, printable document.

#	Step	Description	Who?	Deliverable
1	**Prerequisite:** Provide the developers and testers with a copy of this chapter, **3.8 – CLIENT SELF-TEST (CST)**	Details about all relevant client self-test (CST) information and activities, as well as this checklist, are available in the guide. **TIP:** The adopter project manager may need to download any additional documents that are provided as hyperlinks in this guide, and provide them to the developers and testers.	Adopter Project Manager	
2	**Prerequisite:** Confirm **connectivity** to the CST environment	Ensure that the adopter's systems can communicate with the OLIS CST environment. **NOTE:** Refer to CHAPTER 3.5 – ENVIRONMENT SETUP AND CONNECTIVITY for more details.	Developer or Network Resource	
3	**Prerequisite:** Confirm **registration and enrolment of developers and testers**	Ensure that all appropriate end users (e.g., developers and testers) have been registered and enrolled, and can access the OLIS portlet in the CST environment. **NOTE:** Refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS for more details.	LRA	
4	**Prerequisite:** Confirm **setup of test patients**	Ensure that test patients provided by OLIS, and to be used during CST, have been setup in the adopter's test environment.	Tester or Master File Maintenance Resource	
5	**Prerequisite:** Confirm **understanding of OLIS conformance test scenarios**	Ensure that the developers and testers are conversant with the requirements of the CT scenarios. **NOTE:** Refer to the *OLIS Conformance Test Scenarios* document for more details.	Adopter Project Manager Developer Tester	

#	Step	Description	Who?	Deliverable
6	Develop **CST test plan** and distribute to testing team	Create the CST test plan to ensure that everyone knows how and what to test. **NOTE:** The CST test plan should be approved by the person who will sign off on nomenclature mapping testing (e.g., lab director, medical director, QA manager, or equivalent).	Adopter Project Manager	CST test plan
7	**Execute CST testing** according to the CST test plan	Execute all tests in the CST test plan. **NOTE:** Don't forget to ask the CPIS for assistance and support in analyzing the HL7 messages or troubleshooting issues. **TIP:** Use the *OLIS CST Testing Tracker (Template)* to assist with nomenclature testing.	Tester	
8	**Send** nomenclature test request/test result linkages file to CPIS	The adopter must send the test request/test result linkages files to the CPIS to ensure pairings are acceptable to OLIS.	Nomenclature Resource	Nomenclature test request/test result linkages file sent to CPIS
9	**Confirm** test request/test result pairings are acceptable	The CPIS must review the linkages file and confirm that that pairings are acceptable to OLIS.	CPIS	
10	Complete the ***OLIS Client Self-Test (CST) Gateway Checklist*** and send to the adopter project manager for signature	The OLIS CPIS must complete the *OLIS Client Self-Test (CST) Gateway Checklist* and send to the adopter project manager for signature.	CPIS	*OLIS Client Self-Test (CST) Gateway Checklist* sent to adopter project manager
11	Sign the ***OLIS Client Self-Test (CST) Gateway Checklist*** and send to the CPIS	The adopter project manager must confirm that the activities identified on the *OLIS Client Self-Test (CST) Gateway Checklist* have been completed. The adopter project manager must sign and scan the form, and email it to the CPIS.	Adopter Project Manager	*OLIS Client Self-Test (CST) Gateway Checklist* signed and returned to CPIS
12	**File the signed gateway checklist** on the shared drive	The CPIS must store the signed form on the shared drive, and notify the OLIS initiative lead of its receipt.	CPIS	Signed and scanned *OLIS Client Self-Test (CST) Checklist* stored on shared drive

3.9 – Conformance Test (CT)

Overview

IMPORTANT: This release of the guide contains information and details for hospital laboratories implementing data in projects. Future releases of this guide will include details regarding additional functional areas such as referrals in/out, data out (including testing of third party clinical viewers), and eOrdering (including order retrieval and walk-ins). Please note that some supporting documents available from hyperlinks in this version of the guide may reference these additional functional areas.

When both the adopter and OLIS are satisfied that client self-testing has been successfully completed, and an adopter has signed their *CT Gateway Checklist*, the adopter can proceed to the conformance test stage of the project.

Conformance testing is the last stage of testing by an OLIS adopter prior to go-live (or following any revisions to their systems that impacts the interface to OLIS). The adopter must demonstrate that their interface is able to successfully interact with OLIS. This is done by successfully completing the CT scenarios provided by the OLIS program team. Conformance testing takes place once there is mutual agreement between the adopter and the CPIS that a version of their interface is ready to be conformance tested for compliance.

Conformance testing a formal assessment of how well systems which interact with OLIS conform to the OLIS interface specification. It should be noted that conformance testing does not validate mapping of local nomenclatures codes with those from OLIS (this is done during client self-testing), however, it does verify the proper use of OLIS nomenclature.

Conformance testing establishes that HL7 interactions (messages), as specified in the OLIS interface specification, are correctly generated by the software and transmitted to the CST environment. Conformance testing also establishes that HL7 response messages from the CST environment are correctly managed by an adopter's software.

In the conformance testing stage, an adopter will be required to execute pre-defined sets of scenarios in the CST environment. The products of the execution are sets of HL7 messages and documents. These will be assessed by the CPIS to determine the degree of compliance of the LIS-to-OLIS interface. Upon successful completion of conformance testing, the OLIS program team will provide the adopter with a notice of acceptance and allow submission of test results into the OLIS production environment.

NOTE: An adopter must complete conformance testing whenever they change their interface to OLIS (new, modified, upgraded, etc.). They may elect to repeat conformance testing at any time. Conformance tests may also be required when eHealth Ontario implements changes to the OLIS repository (or software controlling the OLIS environments).

Please refer to the CONFORMANCE TEST (CT) PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

TIP: It is suggested that the adopter project manager share this chapter of the implementation guide, and supporting documents, with those individuals at their organization that will be involved in conformance testing so that they fully understand the specifics of this activity.

Quick Links

Conformance Test Kickoff Meeting

The adopter project manager will arrange a conformance test kickoff meeting (or teleconference) with the OLIS initiative lead to orient the adopter project manager and their organization's testing team members with the specifics and requirements to successfully complete conformance testing.

NOTE: This topic can be added by the OLIS initiative lead as an agenda item to a regularly scheduled weekly project status meeting.

OLIS PROGRAM TEAM: The CPIS must update the *OLIS Conformance Test (CT) Kickoff Presentation* to reflect the specifics for each adopter.

Scope of Testing

In Scope

An adopter is required to execute and pass all conformance test scenarios determined by the OLIS program team (within scope of the OLLS initiative at the organization) before promoting their interface to the production environment. Depending on the scope of the initiative, conformance testing can include tests for:

- HL7 message structure and format
- Ability to appropriately populate HL7 fields with data captured in the LIS
- Ability to amend or correct orders and results that have been submitted
- Ability to invalidate orders and results that have been submitted
- Send additional orders and results to an existing order
- Comparison of data elements between OLIS submissions and the adopter's external reporting

- Proper use of microorganism, specimen (source), test request, test result codes and description in accordance with the OLIS nomenclature code tables

Out of Scope

The following are out of scope for conformance testing:

- Vendor/adopter application technical specifications
- Testing of modifications of HIS and LIS systems not related to the OLIS interface
- Mapping of OLIS nomenclature
- Establishing connectivity to the CST and production environment

NOTE: For more details on all aspects of conformance testing, please refer to the *OLIS Conformance Testing Guide*.

Guiding Principles

Conformance test design is based on the general principles of ISO/IEC 9646 standard. The OLIS CT framework includes the following principles:

- Data integrity (accuracy and completeness)
- Consensus between adopter and OLIS
- Consistency in reporting of lab test results
- Conformance of HL7 messages to specification
- Repetition of conformance testing until all non-conformance issues are resolved
- Open sharing of all scenarios and assessment criteria

CST Environment

CST is a testing environment provided by OLIS to adopters for the purpose of testing the functionality of the LIS-to-OLIS HL7 interface. This environment provides an equivalent-to-production OLIS environment to support systems developers and other stakeholders who adapt software that will interface with OLIS.

CST is an open environment where an adopter can test their software at any time with minimal restrictions in the "sandbox". Multiple users from different organizations may interact in a shared-mode with OLIS, testing their system's capability to send to and receive messages from OLIS. Activity logs can be generated upon request from the CPIS to assist in problem resolution or validation of the messages.

OLIS Portlet

The OLIS portlet provides the ability for an adopter's end users to view lab test results during both CST and conformance testing. It has multiple layers of security to guard against improper access and inappropriate use of patient data.

NOTE: For more information on the OLIS portlet and how to use it, the adopter should access the computer based training that will review the various features of the OLIS patient lab results portlet, and provide a reference to key features. The adopter may also refer to the *Accessing the OLIS Portlet* for instructions on accessing the OLIS portlet.

Each end user requiring access to the OLIS portlet from the eHealth Ontario portal must be registered and enrolled. Please refer to CHAPTER 3.6 – REGISTRATION AND ENROLMENT OF INDIVIDUALS for more details.

Scheduling

The CST environment is available at any time (24 hours a day, 7 days a week, 365 days a year) and requires no scheduling, although it is important that the adopter project manager notify the OLIS initiative lead when their organization is about to begin conformance testing so he/she can ensure CPIS support is available.

Test Scenarios and Data

During client self-testing an adopter should have fully tested the *OLIS Conformance Test Scenarios* in the CST environment to ensure they are prepared to successfully complete them during conformance testing.

The CPIS, in consultation with the OLIS program team, will indicate which test cases an adopter is required to complete based on the functionality that has been built or changed by their organization.

Each scenario will be run using actual test requests codes, test results codes, organization identifier(s), and practitioner identifiers, but using fictitious patients.

NOTE: If an adopter does not perform tests outlined in a CT scenario an alternate test which is available from their test menu may be substituted.

IMPORTANT: Please refer to the *OLIS Conformance Test Scenarios* document for specifics.

CT Scenario Categories

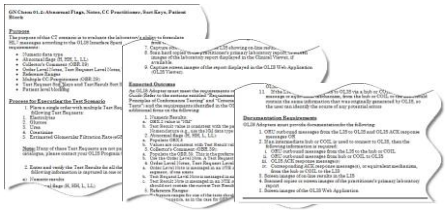
For data in projects, there are three categories of conformance test scenarios:

- General
- LIS error handling
- Blocked lab information override

CT Scenarios Format

The *OLIS Conformance Test Scenarios* document provides the following information for each of the scenarios:

- Purpose
- Process for executing the test scenario
- Expected outcome
- Documentation requirements



Test Patients

An adopter must contact the CPIS to obtain test patient information that they will need to use during conformance testing. These patients will be different from the test patients provided to the adopter during CST. It is important that an adopter use only the test patient names provided to them when submitting test HL7 messages to the CST environment.

IMPORTANT: It is recommended that an adopter use a variety of test patients when executing their conformance testing – do not use just a single patient.

Required Testing Documentation

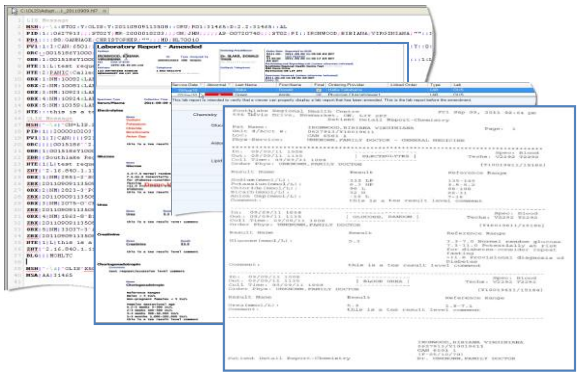
The *OLIS Conformance Test Scenarios* documentation provides the necessary information to demonstrate that the intent of each test has been completed. Detailed documentation must be provided to the CPIS so that the results of an adopter's conformance tests can be properly assessed. The adopter must ensure that the required documentation is provided for each scenario, as listed below, so that the CPIS can validate the proper placement of data in the HL7 messages by the LIS interface.

- **OLIS portlet screenshots** – screenshots (.pdf files) from the OLIS portlet that clearly show all the data provided in the test case document and/or supplied by the laboratory.

- **HL7 messages** – a copy of the HL7 messages submitted to OLIS for each test case, and a copy of the HL7 acknowledgement message, including errors and warnings, received from OLIS for each test case. Submission of all HL7 messages should be in text file format (.txt). If intermediate systems, such as an interface engine or a different computer system, is used to generate the message sent to OLIS, both the message sent from the LIS to the intermediate system and the message sent from the intermediate system to OLIS should be submitted.

- **Copy of the laboratory reports** – an external report (typically information that would be delivered to the practitioner in paper form), or an internal report (that is viewable only by the laboratory).

- **Third party clinical viewer screenshots –** if a third party clinical viewer is used by the adopter's practitioners to view results instead of printed laboratory reports, then screenshots from such viewer should be captured as well.



Criteria for Assessing CT

Generally applicable criteria

- All aspects of the CT scenario are fulfilled
- HL7 messages and queries sent to OLIS are structured and formatted in accordance with the current OLIS interface specification
- All OLIS acknowledgement messages, rejection messages, and warning messages are handled appropriately

Criteria applicable to LIS

- All required and scenario-specific HL7 fields are populated
- Errors are identified, corrected, and HL7 messages re-submitted
- OLIS functionality and reporting protocols are implemented properly
- Data provided to OLIS is meaningful and consistent with data sent to ordering practitioner

IMPORTANT: Conformance certification will be granted only on strict compliance with all requirements in the conformance test scenarios and the OLIS interface specification.

Conformance Testing Summary

The CPIS will review the HL7 messages, and supporting documentation, to determine if an adopter passed or failed each test scenario, and will document the outcome on the *OLIS CT Assessment Report* (which is provided to the adopter project manager).

NOTE: This sample *OLIS CT Assessment Report* provides an adopter with an indication of what they might expect.

OLIS PROGRAM TEAM: The CPIS can click here to access detailed procedures and tools to analyze HL7 messages for compliance to conformance test scenarios.

Next Steps Following Completion of CT

Success!

If an adopter has successfully passed all applicable conformance tests, the adopter project manager will receive an *OLIS Conformance Certificate*. This indicates that the adopter may proceed to the go-live and ramp-up stages of the project.

NOTE: Please refer to CHAPTER 3.11 – GO-LIVE PLANNING AND GO-LIVE for more details.

Failure

If an adopter failed one or more conformance test scenarios, they will need to have a discussion with the CPIS (and, where required, other members of the OLIS program team). Depending on the circumstances, the adopter may be required to:

- Repeat just the failed conformance test scenario(s)
- Repeat all test scenarios, or a sub-set of test scenarios that the adopter previously passed
- Move to production with written authorization from the OLIS program team indicating that the adopter will agree to address the functionality associated with the failed test scenario(s) within a mutually agreed upon timeline

> **NOTE:** Any exceptions and associated timelines for resolution will be recorded on the *OLIS Conformance Certificate*.

OLIS Conformance Certificate

If an adopter has successfully completed conformance testing, the CPIS will create an *OLIS Conformance Certificate* indicating the test scenarios relevant to the organization, the outcome of each test, and any exceptions.

The *OLIS Conformance Certificate* is signed by the CPIS, OLIS initiative lead, OLIS implementation manager, and OLIS program director. The OLIS initiative lead will provide a scanned version of the signed form to the adopter project manager.

> **OLIS PROGRAM TEAM:** The CPIS can modify the *OLIS Conformance Certificate (Version 2.1)* template, *OLIS Conformance Certificate (Version 2.2)* template or *OLIS Conformance Certificate (Version 3.0)* template to reflect the conformance test scenarios that are relevant to the adopter.

Checklist for Conformance Testing

Following are activities that need to be undertaken by the adopter project manager, developers, and testers to complete conformance testing of the adopter's LIS-to-OLIS interface in the CST environment.

TIP: The *Checklist for Conformance Testing* is available as a separate, printable document.

#	Step	Description	Who?	Deliverable
1	**Prerequisite:** Attend the **conformance test kickoff meeting** (or teleconference)	The OLIS initiative lead will work with the adopter project manager to arrange a conformance testing kickoff meeting (or teleconference) to orient the adopter's testing team members with the specifics and requirements to successfully complete conformance testing. **NOTE:** The CPIS must customize the *OLIS Conformance Test (CT) Kickoff Presentation* to reflect the needs of this adopter.	Adopter Project Manager Developer Tester	Updated OLIS *Conformance Test (CT) Kickoff Presentation*
2	**Prerequisite:** Provide the developers and testers with a copy of this chapter, **3.9– CONFORMANCE TEST (CT)**	Details about all relevant CT information and activities, as well as this checklist, are available in the guide. **TIP:** The adopter project manager may need to download any additional documents that are provided as hyperlinks in this guide, and provide them to the developers and testers.	Adopter Project Manager	
3	**Prerequisite:** **Read the *OLIS Conformance Testing Guide*** and ***OLIS Conformance Test Scenarios*** to fully understand the requirements of conformance testing	The adopter project manager, developers and testing team should read the *OLIS Conformance Testing Guide* and *OLIS Conformance Test Scenarios* to ensure that they are fully conversant of conformance testing expectations and requirements.	Adopter Project Manager Developer Tester	
4	**Prerequisite:** Confirm **setup of test patients**	Ensure that test patients provided by OLIS for conformance testing, have been setup in the adopter's test environment.	Tester (or other)	

#	Step	Description	Who?	Deliverable
5	**Prerequisite:** Notify OLIS initiative lead and CPIS of **conformance testing dates**	To ensure sufficient support, the adopter project manager must notify the OLIS initiative lead and CPIS of the dates when the adopter will be engaged in conformance testing.	Adopter Project Manager	
6	**Execute conformance testing** according to the plan	Execute all OLIS conformance test scenarios relevant to the adopter organization. **NOTE:** Collect HL7 messages and documents as they are generated, not at the end of the scenario execution.	Tester	Supporting documentation collected
7	**Email supporting documentation** for all executed test scenarios to the CPIS	The tester must send all required supporting documentation for all tests executed to the CPIS. **NOTE:** It is strongly recommended that an adopter execute all required test scenarios first, and then send the supporting documentation in a bundled file. **IMPORTANT:** Please refer to the *OLIS Conformance Test Scenarios* document for details on the specific documentation required for each test scenario.	Tester	Supporting documentation emailed to CPIS
8	**Analyze conformance test scenario outcomes** and email summary to adopter project manager	The CPIS will file all conformance testing artifacts on the shared drive, and analyze the documentation outcome of the conformance testing and provide the adopter project manager with a detailed summary. **NOTE:** It may take up to five business days to assess the results of the testing.	CPIS	*OLIS CT Assessment Report* emailed to adopter project manager

#	Step	Description	Who?	Deliverable
9	**Discuss next steps** with the CPIS	If an adopter failed one or more conformance test scenarios, they will need to have a discussion with the CPIS (and, where required, other members of the OLIS program team). Depending on the circumstances, an adopter may be required to repeat some or all test scenarios. **Go to Step 5.** If an adopter successfully passed all applicable conformance tests, the adopter project manager will receive the *OLIS Conformance Certificate*. This indicates that an adopter may proceed to the go-live and ramp-up stages of the project. **Go to Step 10.**	Adopter Project Manager Tester CPIS	
10	Complete the ***OLIS Conformance Certificate*** and send to the adopter project manager	The *OLIS Conformance Certificate* is signed by the CPIS, OLIS initiative lead, OLIS implementation manager, and OLIS program director. The OLIS initiative lead will provide a scanned version of the signed form to the adopter project manager.	OLIS Initiative Lead	Signed and scanned *OLIS Conformance Certificate* emailed to adopter project manager
11	**File the signed certificate** on the shared drive	The OLIS initiative lead must store the signed certificate on the shared drive.	OLIS Initiative Lead	Signed and scanned *OLIS Conformance Certificate* stored on shared drive

3.10 – Nomenclature Mapping Acceptance

Overview

Adopters must complete all nomenclature mapping and test request/test result linking activities, and testing of same, before proceeding to go-live in the production environment. An appropriate resource (e.g., medical director, lab director or QA manager, or equivalent) must indicate completion and acceptance of these activities by signing the *Nomenclature Mapping Acceptance Letter*.

Please refer to the NOMENCLATURE MAPPING ACCEPTANCE PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

NOTE: For more information on nomenclature mapping, please refer to CHAPTER 2.3 – NOMENCLATURE MAPPING.

Quick Links

Criteria for Completion
Nomenclature File Extracts
Nomenclature Mapping Acceptance Letter
Checklist for Nomenclature Mapping Acceptance

Criteria for Completion

It is required that an adopter complete all nomenclature mapping, test request/test result linking, and testing of both mapping and linking before proceeding to go-live in the production environment. Each site within the adopter organization must meet the following completion criteria:

- All local test request codes have been mapped to OLIS test request codes
- All local test result codes have been mapped to OLIS test result codes
- All local specimen codes have been mapped to OLIS specimen codes
- All local microorganism codes have been mapped to OLIS microorganism codes
- All local test request codes have been linked to one or more local test result codes

Nomenclature File Extracts

If an adopter has met the completion criteria, the adopter project manager must notify the OLIS initiative lead, and the latest version of the following file extracts for each site must be exported from the adopter's instance of the OLIS nomenclature mapping tool and sent to the CPIS:

- Test requests (including panels)
- Test results
- Specimens
- Microorganisms
- Test request/test result linkages

NOTE: Please refer to the *OLIS Mapping Tool User Guide* for instructions on exporting the extract files from the OLIS nomenclature mapping tool.

Nomenclature Mapping Acceptance Letter

Once the CPIS has confirmed successful completion of an adopter's mapping and linking activities, the CPIS will complete and email the *OLIS Nomenclature Mapping Acceptance Letter* to the adopter project manager. The letter must be signed by an appropriate person in the adopter organization, such as the medical director, lab director, or QA manager. A scanned copy of the signed document must be sent to the CPIS by email. The CPIS will then sign the letter to confirm that the adopter may proceed to conformance testing for the specified modality(ies), and send a scanned copy back to the adopter project manager.

NOTE: It is not possible for the CPIS to confirm that an adopter has tested all mappings. It is the responsibility of the signatory on the *OLIS Nomenclature Mapping Acceptance Letter* to ensure that this has been completed. If required, the CPIS can provide an *OLIS Data Quality Audit Report* to the adopter to help determine if the adopter has tested all mappings.

Checklist for Nomenclature Mapping Acceptance

Following are activities that need to be undertaken by the adopter project manager and nomenclature mapping resource to obtain acceptance that the nomenclature mapping and linking activities, including testing, have been completed for the specified modality(ies).

TIP: The *Checklist for Nomenclature Mapping Acceptance* is available as a separate, printable document.

#	Step	Description	Who?	Deliverable
1	Notify the OLIS initiative lead that the adopter has completed nomenclature testing, and send the **latest version of the nomenclature extract files** to the CPIS	The nomenclature mapping resource must export and send the latest version of the nomenclature extract files to the CPIS. **TIP:** Refer to the *OLIS Mapping Tool User Guide* for instructions on how to export these files.	Nomenclature Mapping Resource	Latest version of nomenclature extract files sent to CPIS
2	**Review the extract files** for completeness and accuracy	The CPIS will complete a final review of the extract files to ensure that all local codes have been mapped to OLIS codes, and test request/test result linkages are complete. **NOTE:** The CPIS will save a copy of the validated extract file on the shared drive.	CPIS	

#	Step	Description	Who?	Deliverable
3	Complete the **Nomenclature Mapping Acceptance Letter** and send to the adopter project manager	The CPIS will complete the *OLIS Nomenclature Mapping Acceptance Letter* and email to the adopter project manager for signoff.	CPIS	Completed *Nomenclature Mapping Acceptance Letter* emailed to adopter project manager
4	**Adopter signs the letter**, scans and emails to the CPIS	The adopter project manager must obtain the appropriate signature on the form. Once signed, the form must be scanned and emailed to the CPIS for signature. **NOTE:** The CPIS will not confirm that an adopter has tested all nomenclature during the client self-test stage. It is the adopter's responsibility to do this and the signature on this acknowledges that.	Adopter Project Manager	Signed and scanned *Nomenclature Mapping Acceptance Letter* emailed to CPIS
5	**CPIS signs the letter**, scans and emails to the adopter project manager	Upon receipt of the signed form, the CPIS will also sign the form. Once signed, the form will be scanned and emailed to the adopter project manager for their records.	CPIS	Signed and scanned *Nomenclature Mapping Acceptance Letter* emailed to adopter project manager
6	**File the signed letter** and notify the OLIS initiative lead	The CPIS must store the signed form on the shared drive, and notify the OLIS initiative lead of the task completion	CPIS	Signed and scanned *Nomenclature Mapping Acceptance Letter* stored on shared drive

3.11 – Go-Live Planning and Go-Live

Overview

Planning for go-live in the OLIS production environment involves activities to ensure that all operational processes have been put in place for the adopter to support the OLIS interface. This stage also ensures that training has been planned for and delivered, and that communication has taken place with key stakeholders. The successful completion of this stage will prepare the adopter for the ramp-up stage.

> **NOTE:** Depending on the adopter's implementation approach, there may be staggered go-lives for each modality. For example, an adopter may choose to go-live with chemistry and hematology results first, and then at a later date, go-live with microbiology results. Therefore, transitioning to go-live may be an iterative process.

Please refer to the GO-LIVE PLANNING AND GO-LIVE PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Go-Live Date
Operational Materials
Training
OLIS Collaboration Portal
Communication
Go-Live and Ramp-Up
OLIS Go-Live Gateway Checklist
Checklist for Go-Live Planning and Go-Live

Go-Live Date

The go-live date is determined by the adopter project manager and the OLIS initiative lead. The earliest go-live date is based on the completion dates of the pre go-live activities in the project schedule (refer to CHAPTER 2.5 – DETAILED IMPLEMENTATION PLANNING).

Once the go-live date has been determined, the OLIS initiative lead will communicate the date and an overview of the project to other eHealth Ontario teams (i.e., OLIS program office team, OLIS implementation team, OLIS business delivery team, network team, and service desk).

Operational Materials

During this stage of the project, the adopter project manager should obtain the following operational materials from the hyperlinks below:

- ***Health Care Provider Guide*** – This guide provides an overview of OLIS and is directed towards clinical users. The health care provider guide details information on benefits, searching in OLIS, privacy and security, and frequently asked questions. For data out projects, this guide should be provided to any users who will be accessing data in the production environment.

- ***eHealth Ontario Site Support Guide (General)*** – This guide provides information about processes for connecting new users and contacting eHealth Ontario for support. It also contains information about support and maintenance, as well as privacy and security procedures and obligations. This guide should be provided to adopter resources involved in supporting the OLIS interface.

- ***eHealth Ontario Client Site Profile Form*** – This form must be completed by the adopter project manager and provided to the OLIS initiative lead before the adopter can go live in the production environment. This form gathers contact information for the following roles at the adopter organization: helpdesk, privacy office, notification, and system security. The OLIS initiative lead provides this information to the eHealth Ontario business delivery team, who will add the adopter's contacts to the adopter's account in Remedy.

N **NOTE:** The adopter should notify the OLIS business delivery team if there are any changes to the helpdesk, privacy office, notification, and system security contacts.

Training

The adopter project manager is accountable for the creation of training materials and delivery of training to the appropriate individuals within the adopter organization. Please note that users involved in the development and testing of the OLIS interface may have received training earlier in the project. Training at this stage of the project refers to training of additional users who will support the interface in the production environment. Some of the key components of training to consider are:

- **Training audience** – OLIS training must be developed for IT users, help desk users, and lab users who will access OLIS to support data-in projects

- **Training topics** – there are several topics that should be covered during training to familiarize users with OLIS, including:

    - Querying the historical lab data
    - Web based access to OLIS(the OLIS portlet)
    - Capturing orderable and reportable codes not in the dictionary
    - Managing OLIS interface errors

- **Training plan** – the adopter project manager is accountable for the development and execution of a training plan which documents the logistics, roles and responsibilities, participants, topics, materials, and schedule for training

NOTE: Training may be conducted during the ramp-up stage.

Blocking Lab Results

Patients have the right under the Personal Health Information Protection Act (PHIPA) to restrict or reinstate access to their personal health information. OLIS handles this requirement by placing "blocks" on lab results upon request by a patient. If blocked, the lab test and result can only be accessed by the ordering practitioner or a practitioner named on the lab order, or by another practitioner that has obtained the express consent from the patient to view the lab result(s). When a restricted provider queries lab results for this patient, OLIS will notify him/her of this when returning the results of a patient query.

The adopter should refer to the *Health Care Provider Guide* for the appropriate steps on submitting and processing a request to reinstate or withdraw access to lab results in OLIS.

IMPORTANT: Ordering practitioners and patients must be notified that test requests and test results will be submitted to OLIS. In addition, necessary information about how patients can block the display of their data must also be provided.

NOTE: It must be communicated within the adopter organization that patients have the option to withdraw consent for the MOHLTC and/or health care providers who have not ordered their lab tests to access their lab test information contained in OLIS. Please see the MOHLTC's health bulletin http://www.health.gov.on.ca/en/news/bulletin/2010/20101119.aspx for more information.

OLIS Collaboration Portal

Adopter resources responsible for the ongoing maintenance of the LIS-to-OLIS interface will need access to OLIS documents, available from the OLIS collaboration portal, on a regular basis (e.g., practitioner extract, OLIS nomenclature). While most of these documents are available to any visitor to the portal, some will require that the user log in to the portal. The adopter should ensure that any resources responsible for maintenance activities (e.g., nomenclature updates) are registered for the portal.

The adopter project manager should provide a list of names and emails of individuals who will require access for ongoing maintenance activities to the OLIS collaboration portal community manager (servicedesk@ehealthontario.on.ca) and request that invitations are emailed to these individuals to register for the OLIS collaboration portal. The community manager will provide a link where adopter staff can complete an online registration to the collaboration portal.

Communication

The adopter project manager must ensure that key stakeholders, included impacted clinicians, technical staff, administration and senior leadership are educated and informed about the OLIS project. A critical success factor for the project is the engagement and participation of stakeholders in all aspects of the project's delivery cycle. Stakeholders should be encouraged to adopt and support changes in processes and tools related to OLIS.

Communications Plan

Developing a communications plan will help the adopter project manager define the audience and their communications needs. For more information on the communication plan, please refer to CHAPTER 2.5 – DETAILED IMPLEMENTATION PROJECT PLANNING.

> **OLIS PROGRAM TEAM:** The OLIS program office will work with the eHealth Ontario communications team to communicate the date(s) when an adopter will go-live with OLIS in the production environment.

Go-Live and Ramp-Up

When an adopter has been approved for go-live into the OLIS production environment, this means that the adopter will promote their interface into that environment but will "throttle" (or "filter") that interface until the adopter and the OLIS program are satisfied with the quality of the data. This initial limited "go-live" is referred to as "ramp-up" and will be followed by a full go-live after the ramp-up period ends.

For details on the steps completed after a go-live filter (or throttle) is put in place, please refer to CHAPTER 3.12 – RAMP-UP for more details. For more details on the filter/throttle requirements, please refer to CHAPTER 2.4 – PROCESS AND SYSTEM REQUIREMENTS for more details.

OLIS Go-Live Gateway Checklist

This stage of the project includes activities to ensure that the adopter and the OLIS program team are ready for the adopter to promote their interface to the OLIS production environment. The OLIS initiative lead will work with the adopter project manager to ensure that the key activities listed on the *OLIS Go-Live Gateway Checklist* have been completed. Satisfactory completion of the tasks associated with this checklist is a prerequisite to submitting data into the OLIS production environment.

After discussion with the adopter project manager, the OLIS initiative lead will create the *OLIS Go-Live Gateway Checklist* and send to the adopter project manager for signoff. The adopter project manager must sign the completed checklist and email to the OLIS initiative lead who will obtain the signature of the OLIS program office manager.

> **TIP:** The *Go-live Gateway Checklist* should be completed with adequate time in advance of the go-live date.

Checklist for Go-Live Planning and Go-Live

The following steps must be undertaken to ensure that the adopter is ready to go-live with their interface in the OLIS production environment.

TIP: The *Checklist for Go-Live Planning and Go-Live* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Go-Live:** **Determine go-live date**	The go-live date will be determined by the adopter project manager and OLIS initiative lead. Once approved, the OLIS initiative lead will forward the date and an overview of the project to the OLIS program office, OLIS implementation team, OLIS business delivery team, network team, and service desk.	Adopter Project Manager	
2	**Training:** Determine training **requirements**	Training requirements may include: End user needs, training materials, train-the-trainer needs, training communication needs, and training implementation needs.	Adopter Project Manager	Training requirements completed
3	**Training:** Develop training **plan**	The training plan will formally document the logistics, roles and responsibilities, participants, and schedule for training.	Adopter Project Manager	Training plan developed
4	**Training:** Determine training **logistics**	The adopter project manager must identify all logistical details (e.g., location(s), users, trainers, and schedules) required for training.	Adopter Project Manager	Training logistics determined
5	**Training:** Develop training **material**	Training material includes the content the instructor will use to teach users, as well as guides that users can take away after training.	Adopter Project Manager	Training material developed
6	**Training:** **Train** IT, help desk, and users	Training of additional users may be conducted during the ramp-up stage. Note: Necessary information about how patients can block access to their data must also be provided.	Adopter Project Manager	Training completed
7	**OLIS Collaboration Portal:** **Register** maintenance resources for access to the portal	OLIS maintenance resources will need regular access to OLIS documents (e.g., nomenclature) that require login to the OLIS collaboration portal.	Adopter Project Manager	

#	Step	Description	Who Does This?	Deliverable
8	**Communication:** **Complete communication** with stakeholders	All ordering practitioners and patients must be notified that test requests and test results will be submitted to OLIS.	Adopter Project Manager	Communications and media event completed
9	**Go-Live:** Complete and email ***client site profile form***	The adopter project manager should email the completed form to the OLIS initiative lead. The OLIS initiative lead will provide this form to the OLIS business delivery team.	Adopter Project Manager	Client site profile form completed and emailed to OLIS initiative lead
10	**Go-Live:** Add **organizational contacts** in the adopter's Remedy account	The OLIS business delivery team will modify the adopter's account in Remedy by adding helpdesk, privacy, notification, and security contacts.	OLIS Business Delivery Team	Account updated in Remedy
12	**Go-Live:** Complete ***go-live gateway checklist***	The OLIS initiative lead will work with the adopter project manager to complete the go-live gateway checklist. The adopter project manager, OLIS initiative lead, and OLIS program office manager must sign off.	OLIS Initiative Lead	Go-live gateway checklist completed
13	**Go-Live:** **Promote solution code** to site production environment	The adopter will promote their interface solution code to the adopter's production environment.	Adopter Project Manager	Code promoted to adopter's production environment
14	**Go-Live:** **Configure** production interface and implement **go-live filter**	The production interface may need to be configured after the solution code has been promoted, and the go-live filter/throttle must be put in place.	Adopter Project Manager	Production interface configured and go-live filter put in place
15	**Go-Live:** **Activate** production interface	The adopter will activate (turn on) the interface and "go-live" in the OLIS production environment.	Adopter Project Manager	Production interface active

3.12 – Ramp-Up

Overview

Once connectivity to the OLIS production environment is established and the go-live filter (throttle) has been implemented, adopters are required to send only a few HL7 messages to the OLIS production environment in the early stages of go-live. These messages are reviewed to ensure that the data is transmitted and received correctly. Once the adopter and the OLIS program are confident that the data is complete and accurate, the go-live filter will be removed. The ramp-up stage can last a few weeks.

Please refer to the RAMP-UP PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

Submitting Messages
Lessons Learned
Checklist for Ramp-Up

Submitting Messages

Although the adopter has completed client self-testing (CST) and passed their conformance test (CT), it is necessary to confirm that their production interface is working as expected. Occasionally issues are identified at this stage of the project, and the adopter is required to tweak or modify their interface to address them. This can take time, and the CPIS will work with the adopter to establish mutually acceptable timelines for resolution.

Submit One HL7 Message

Once connectivity has been established, the adopter should submit only a single HL7 message to the OLIS production environment. The CPIS will request a data extract of this message, which can take up to two days to receive. Upon receipt, the CPIS will analyze the message to identify any technical or data issues. If the message is acceptable, the CPIS will notify the adopter to proceed with submitting more messages.

> **OLIS PROGRAM TEAM:** The CPIS must send an email to the OLIS business delivery team requesting the data extract. The OLIS business delivery team will send an email to the eHealth Ontario business desk requesting they create a service request (medium priority) for SQL operations to execute a query against the OLIS clinical database in the production environment. The business delivery team will provide the parameters (e.g., server name, database name), the output requirements, and distribution list to receive the results.

Submit Ten HL7 Messages

The adopter should now submit only ten HL7 messages to the production environment. The CPIS will request a data extract of these messages, and will analyze them to identify any further technical or data issues. If the messages are acceptable, the CPIS will notify the adopter to proceed with submitting more messages.

> **OLIS PROGRAM TEAM:** The CPIS can click here to access detailed procedures and tools for creating a *Data Quality Audit Report* to assist in identifying issues.

Submit 100 HL7 Messages

The adopter should now submit 100 HL7 messages to the production environment. The CPIS will request a data extract of these messages, and will analyze them to identify any further technical or data issues. If the messages are acceptable, the CPIS will notify the adopter that they can proceed to transitioning their interface to operational mode (refer to CHAPTER 3.13 – TRANSITION TO OPERATIONS for more details).

Lessons Learned

During the ramp-up stage, the adopter should conduct a lessons learned workshop to review the events of the project (or phase of the project) in order to understand the impact that these events had on the successes and challenges of the project. This assessment is done to improve the processes and likelihood of success in the next project by understanding what events had a negative or positive impact and why. A lessons learned session is *not* a blame session or an attempt to find fault with individuals or groups of individuals who were involved with the project.

The outcome of the lessons learned workshop should be shared with the OLIS initiative lead, who will share with other OLIS program teams, so that recommendations for improvement can be incorporated into the adoption processes and/or documentation for future adopters.

> **TIP:** The *Lessons Learned Workshop Guide* provides the adopter project manager with the step-by-step process to follow for the planning and facilitation of a successful lessons learned workshop.

Checklist for Ramp-Up

The following steps need to be undertaken by the adopter to complete the activities of ramping up in the production environment before final go-live.

> **TIP:** The *Checklist for Ramp-Up* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Submit one** HL7 message	The adopter should submit a single HL7 message to the production environment.	Adopter Project Manager	One HL7 message sent to the production environment

#	Step	Description	Who Does This?	Deliverable
2	**Review one** HL7 message	The CPIS will request the data extract, review the HL7 message, and identify any issues. Issues will be discussed with adopter and timelines for resolution will be mutually agreed upon. If appropriate, the CPIS will notify the adopter to proceed with submitting more messages.	CPIS	Issues communicated to adopter
3	**Submit ten** HL7 messages	The adopter should submit ten HL7 messages to the production environment.	Adopter Project Manager	Ten HL7 messages sent to the production environment
4	**Review ten** HL7 messages	The CPIS will request the data extract, review the HL7 messages, and identify any issues. Issues will be discussed with adopter and timelines for resolution will be mutually agreed upon. If appropriate, the CPIS will notify the adopter to proceed with submitting more messages. **NOTE:** The CPIS may use the *Data Quality Audit Report* and provide the outcome to the adopter.	CPIS	Issues communicated to adopter, including *Data Quality Audit Report*, if applicable
5	**Submit 100** HL7 messages	The adopter should submit 100 HL7 messages to the production environment.	Adopter Project Manager	100 HL7 messages sent to the production environment
6	**Review 100** HL7 messages	The CPIS will request the data extract, review the HL7 messages, and identify any issues. Issues will be discussed with adopter and timelines for resolution will be mutually agreed upon. If appropriate, the CPIS will notify the adopter that they can proceed to transitioning their interface to operational mode (refer to CHAPTER 3.13 – TRANSITION TO OPERATIONS for more details). **NOTE:** The CPIS may use the *Data Quality Audit Report* and provide the outcome to the adopter.	CPIS	Issues communicated to adopter, including *Data Quality Audit Report*, if applicable

#	Step	Description	Who Does This?	Deliverable
7	**Review** *Lessons Learned Workshop* ***Guide***	During the ramp-up stage, the adopter conduct a lessons learned workshop. The adopter can refer to the *Lessons Learned Workshop Guide* for detailed instructions.	Adopter Project Manager	
8	**Prepare** for the lessons learned workshop	The adopter project manager should determine and invite the participants, develop an agenda, topics for discussion, and handouts (refer to the *Lessons Learned Workshop Guide* for more details).	Adopter Project Manager	Lessons learned workshop invitations sent to participants Lessons learned workshop topics, agenda and handouts developed
9	**Conduct** lessons learned workshop	The adopter project manager should conduct the lessons learned workshop.	Adopter Project Manager	
10	**Document** lessons learned and recommendations	After the completion of the lessons learned workshop, the adopter project manager should document the outcomes and recommendations.	Adopter Project Manager	Lessons learned outcome and recommendations documented
11	**Discuss** lessons learned and recommendations with OLIS initiative lead	The adopter project manager should share the lessons learned findings with the OLIS initiative lead,	Adopter Project Manager OLIS Initiative Lead	
12	**Share** lessons learned and recommendations with other OLIS program teams	The OLIS initiative lead should share the lessons learned findings with other OLIS program teams so that processes and documentation can be improved for future adopters.	OLIS Initiative Lead	

3.13 – Transition to Operations

Overview

> **NOTE:** Depending on the adopter's implementation approach, there may be staggered go-lives for each modality. For example, an adopter may choose to go-live with chemistry and hematology results first, and then at a later date, go-live with microbiology results. Therefore, transitioning to go-live may be an iterative process.

Once the adopter and the OLIS program team are in agreement that the production HL7 messages sent to the OLIS production environment during the ramp-up stage are acceptable, the adopter will remove the go-live filter (or throttle) from their interface and allow all of their HL7 messages into OLIS. The OLIS business delivery team will commence interface monitoring.

At this time, the adopter will transition from a project state to an operational state and will direct all future questions and requests to the eHealth Ontario service desk (rather than to their OLIS initiative lead or CPIS). To support this transition, the OLIS initiative lead will provide the OLIS business delivery team with a summary of the project's activities, outstanding issues, interface exceptions, and other information that will ensure that the adopter receives the best possible ongoing support by all teams within eHealth Ontario. The OLIS business delivery team will then transition this knowledge to other eHealth Ontario support teams.

Once all modalities and scope of functionality identified in the implementation transfer payment agreement (TPA) has been successfully delivered, the OLIS initiative lead will create the *OLIS Implementation Project Close-Out Report*. When this report is signed by the adopter's OLIS executive and final payments received, the project is considered closed.

Please refer to the TRANSITION TO OPERATIONS PROCESS MAP and the printable checklist for a summary of the key activities and roles involved in this stage of the project.

Quick Links

OLIS Operational Transition Gateway Checklist
Removing the Interface Filter
eHealth Ontario Operational Support
Implementation Project Close-Out Report
Data Quality Audit Reports
Checklist for Transition to Operations

OLIS Operational Transition Gateway Checklist

At least two weeks before an adopter removes the go-live filter from their LIS-to-OLIS interface at the conclusion of the ramp-up stage, the OLIS initiative lead must complete the *OLIS Operational Transition Gateway Checklist* to inform the OLIS business delivery team of key information about the adopter organization. The checklist includes details such as:

- **Overview information** – go-live date, ramp-up end date, interface specification version, conformance testing version, high level summaries of the project, LIS/HIS systems, high level functional overview of data collection feed
- **Conformance test** result files, summary, and exceptions
- **Nomenclature mapping** files
- **Business and application support** – confirmation that site support guides were provided, and that training was provided for support services, privacy and security, OLIS portlet, and LRAs
- **Project logs** – decision log, risk log, and outstanding items log files
- **PKI certificates** – summary of PKI certificate details (type, expiration date, application owner, operating system)

> **OLIS PROGRAM TEAM:** The OLIS initiative lead must complete the *OLIS Operational Transition Gateway Checklist* and distribute to the OLIS implementation manager, business delivery manager, and application support manager.

OLIS Program Teams Transition Meeting

One week after distributing the gateway checklist to the OLIS program team (implementation manager, business delivery manager, and application support manager), the OLIS initiative lead must arrange a meeting to discuss the details. This will ensure that the OLIS teams responsible for ongoing support are able to provide the best possible support to the adopter.

Following the transition meeting, the initiative lead and OLIS program team (implementation manager, business delivery manager, and application support manager) must sign the gateway checklist.

NOTE: The OLIS business delivery team will ensure that the eHealth Ontario service desk receives the appropriate information to provide ongoing support to adopters.

Removing the Interface Filter

Once the *OLIS Operational Transition Gateway Checklist* has been signed by the OLIS program team, the OLIS initiative lead will contact the adopter project manager to inform them that the adopter's go-live filter can be removed and all of the adopter's production HL7 messages can be sent to the OLIS production environment.

Interface Monitoring

Once the go-live filter (throttle) has been removed, the adopter's interface will be automatically monitored to ensure the organization is submitting messages. As well, the OLIS program team may perform periodic audits to ensure data quality is maintained.

eHealth Ontario Operational Support

Once an adopter removes their interface filter and interface monitoring commences, the adopter will direct all future questions and requests to the eHealth Ontario service desk (rather than their OLIS initiative lead or CPIS) for the modality(ies) that have gone live.

NOTE: Please refer to the *eHealth Ontario Site Support Guide* for more information on the support provided to adopters.

eHealth Ontario Service Desk

For questions or issues related to the modalities and functionality that are moving to production, the eHealth Ontario service desk will be the adopter's main point of contact for all operational needs. The service desk is open seven days per week, 24 hours per day.

Method	Details
Phone	905-826-5551
Toll Free	1-866-250-1554
Phone Option 1	Technical Support
Phone Option 2	Registration Support
Email	servicedesk@ehealthontario.on.ca
Email (registration)	registration.agents@ehealthontario.on.ca
Website	http://www.ehealthontario.on.ca/en/initiatives/view/olis

IMPORTANT: The adopter must contact the eHealth Ontario service desk for all questions or issues related to operational modalities and/or functionality. The OLIS initiative lead and CPIS are only available to address questions and issues related to modalities and/or functionality that are still in project mode.

NOTE: For a list of other contact numbers within eHealth Ontario, please visit http://www.ehealthontario.on.ca/en/contact.

Support Scenarios

The adopter should contact the eHealth Ontario service desk to report an issue with the OLIS service, such as:

- Privacy breach
- Privacy breach – facility audit requests
- Privacy requests – freedom of information request (redirect to privacy officer)
- Application error messages
- Adopter maintenance activities that will impact OLIS connectivity
- Problems with access (e.g., username and password errors)
- Registration and enrolment for (new, changes, revocations)

The adopter can also contact the eHealth Ontario service desk to request information, such as:

- Questions about application functionality
- Nomenclature mapping questions
- Requests to add new nomenclature codes
- Questions about OLIS
- Questions about scheduled OLIS maintenance activities that will impact adopter's ability to transmit to OLIS
- Scheduled downtimes impacting results submissions
- Unscheduled interface disruptions
- Reporting any unusual errors during results submission process

Occasionally an adopter will be contacted directly by the eHealth Ontario service desk. For example:

- For clarification around an incident or request that the adopter reported (eHealth Ontario's privacy and security team contacts adopters during privacy breach investigations)
- To notify an adopter of maintenance activities at OLIS that will impact service
- To report a failure in the OLIS application
- To provide information around OLIS release dates and application improvement activities

Phone or Email?

For high severity issues (e.g., production is down or environment is severely degraded), please contact the eHealth Ontario service desk by phone (option 1, technical support). For medium or low severity issues, please email the service desk.

Sending Service Requests by Email

To expedite a service request sent by email, the adopter should include the following information in the body of the email:

- Person making the request (name, location, email, phone number, backup contact information where applicable)
- eHealth service name related to issue (e.g., OLIS portlet)
- eHealth service environment(e.g., CST, production)

- Description of issue
- Steps to reproduce issue and troubleshooting diagnostic steps taken

OLIS Collaboration Portal

The OLIS collaboration portal provides access to many self-help resources, including documents and tools that the adopter will need to maintain their interface (e.g., OLIS nomenclature files, updated OLIS interface specification). The portal can be accessed at https://www.ehealthontario.ca/portal/server.pt/community/home/204.

In addition to all hyperlinked documents contained in this guide, the OLIS collaboration portal provides quick links to the following documents:

- OLIS interface specification
- OLIS nomenclature mapping tool
- OLIS nomenclatures
- Hospital extract (current list of all hospitals in Ontario)
- Lab and SCC extract (current list of all laboratories and specimen collection centres)
- Practitioner extract (current list of all practitioners in Ontario)
- Practitioner extract (delta)
- OLIS provider guide

Data Quality Audit Reports

An adopter may wish to introduce a data quality audit process to periodically review data in the OLIS production environment. The OLIS program can provide data quality audit reports to assist in this type of review to facilitate easy review of key elements. Some of these elements are best reviewed by someone with a clinical understanding of the data. Other fields are best reviewed by someone with a strong understanding of HL7. The adopter can contact eHealth Ontario and request a data quality audit report at any time.

Implementation Project Close-Out Report

The *OLIS Implementation Project Close-Out Report* outlines the tasks that need to be completed successfully by the end implementation phase for all modalities and functionality in scope for the project, as identified in the implementation transfer payment agreement (TPA). The report is created by the OLIS initiative lead. It will need to be signed by the adopter's OLIS executive (refer to the governance document for details), then scanned and returned to the OLIS initiative lead. The OLIS program director will also sign the report, and a copy will be emailed to the adopter project manager.

> **OLIS PROGRAM TEAM:** The OLIS initiative lead should modify the *OLIS Implementation Project Close-Out Report* to align the activities with the adopter's transfer payment agreement (TPA).

NOTE: For more information on finalizing project financials please refer to CHAPTER 3.2 – PROJECT REPORTING AND FINANCIALS.

Checklist for Transition to Operations

The following steps need to be undertaken by the OLIS initiative lead and adopter project manager to ensure that the project successfully transitions to an operational state.

TIP: The *Checklist for Transition to Operations* is available as a separate, printable document.

#	Step	Description	Who Does This?	Deliverable
1	**Confirm the date** that the ramp-up period will end	The adopter project manager should confirm with the OLIS initiative lead the date that the ramp-up period will end and the adopter will remove their interface filter.	Adopter Project Manager	
2	**Two weeks before ramp-up period ends:** Complete the ***OLIS Transition to Operations Gateway Checklist***	The OLIS initiative lead must complete the gateway checklist and email the document to the managers of the following OLIS teams: • Implementation • Business delivery • Application support The OLIS initiative lead must also schedule the transition meeting.	OLIS Initiative Lead	Completed *OLIS Transition to Operations Gateway Checklist* emailed to OLIS teams
3	**One week before ramp-up period ends:** **Attend the transition meeting** and **approve** the gateway checklist	The OLIS initiative lead will facilitate a meeting to ensure that knowledge associated with the adopter's project is transitioned to the OLIS teams responsible for operational support. OLIS support team managers will sign the gateway checklist at the completion of this meeting.	OLIS Initiative Lead OLIS Implementation Manager OLIS Business Delivery Manager OLIS Application Support Manager	Signed *OLIS Transition to Operations Gateway Checklist*
4	**File the signed checklist** on the OLIS shared drive	The OLIS initiative lead must scan and store the signed checklist on the shared drive.	OLIS Initiative Lead	Signed and scanned *OLIS Transition to Operations Gateway Checklist* stored on shared drive

#	Step	Description	Who Does This?	Deliverable
5	**Project Close:** Ensure all implementation project deliverables and milestones have been **completed or met**	The adopter project manager and OLIS initiative lead must work together to ensure that all deliverables and milestones for the implementation project phase have been completed or met. **IMPORTANT:** The OLIS Implementation Project Close-Out Report is completed only when all project deliverables are completed (e.g., for all modalities and/or functionality). Refer to the implementation transfer payment agreement for a list of deliverables.	Adopter Project Manager OLIS Initiative Lead	
6	**Project Close:** Customize the ***OLIS Implementation Project Close-Out Report***	The OLIS initiative lead will create the *OLIS Implementation Project Close-Out Report* based on the deliverables from the transfer payment agreement and send to the adopter project manager for signature by the adopter's OLIS executive.	OLIS Initiative Lead	*OLIS Implementation Project Close-Out Report* emailed to adopter project manager for sign
7	**Project Close:** **Obtain signature** from adopter's OLIS executive	The adopter project manager must have their OLIS executive sign the *OLIS Implementation Project Close-Out Report*. The signed report must be scanned and emailed to the OLIS initiative lead.	Adopter Project Manager	Signed *OLIS Implementation Project Close-Out Report* emailed to OLIS initiative lead
8	**Project Close:** **Obtain signature** from OLIS program director	The OLIS initiative lead will obtain the OLIS program director's signature, scan the report and email a copy to the adopter project manager.	OLIS Initiative Lead	Signed and scanned *OLIS Implementation Project Close-Out Report* emailed to adopter project manager
9	**Project Close:** **File the signed report** on the OLIS shared drive	The OLIS initiative lead must store the signed report on the shared drive.	OLIS Initiative Lead	Signed and scanned *OLIS Implementation Project Close-Out Report* stored on shared drive

Process Maps

** Available to OLIS program team members only*

1 – Engagement

2 – Planning

3 – Implementation

Checklists

1 – Engagement

2 – Planning

3 – Implementation

Reference Documents

** Available to OLIS program team members only*

About this Guide

About OLIS

- OLIS Benefits
- OLIS Progress to Date

About OLIS Adoption Projects

1 – Engagement

1.1 – Initial Engagement

- OLIS Initiative Checklist – Engagement-Planning *
- OLIS Joint Steering Committee Terms of Reference *

1.2 – Planning TPA

- TPA Process *

2 – Planning

2.1 – Planning Kickoff

- Meeting Minutes Template
- OLIS Conformance Test Scenarios
- OLIS Financial Status Report
- OLIS Gap Analysis Questionnaire
- OLIS Initiative Checklist – Engagement-Planning *
- OLIS Interface Specification
- OLIS Planning Kickoff Presentation *
- OLIS Project Status Report

2.2 – Gap Analysis

- A Guide to the OLIS Nomenclatures
- Adopter Alliances, Organizations and Locations *
- OLIS Conformance Test Scenarios
- OLIS Connectivity Scenarios *
- OLIS CT Limitations Template *
- OLIS Gap Analysis Kickoff Presentation *

- OLIS Gap Analysis Questionnaire
- OLIS Interface Specification
- OLIS Interface Specification Executive Summary Presentation *
- OLIS Interface Specification Overview Presentation *
- Sample HL7 Message Requirements
- Sample HL7 Message Review Report (Sample)
- Sample HL7 Message Review Report Template *

2.3 – Nomenclature Mapping and Change Requests

- A Guide to the OLIS Nomenclatures
- LOINC Users' Guide
- Nomenclature Mapping Status (Spreadsheet) *
- OLIS Mapping Microorganisms Template
- OLIS Mapping Specimens Template
- OLIS Mapping Test Requests Template
- OLIS Mapping Test Results Template
- OLIS Mapping Tool
- OLIS Mapping Tool User Guide
- OLIS Nomenclature
- OLIS Nomenclature Change Request Form
- OLIS Nomenclature Mapping Kickoff Presentation *
- OLIS Nomenclature Pairings Template
- Process to Map Microorganisms *
- Process to Update Nomenclature Pairings Database *
- Reference Laboratory Mappings *

2.4 – Process and Systems Requirements

- OLIS Conformance Test Scenarios
- OLIS Data Quality Audit Report (Sample)
- OLIS Interface Specification
- Practitioner Extract

2.5 – Detailed Implementation Planning

- OLIS Communications Plan Template
- OLIS Implementation Project Schedule

- OLIS Planning Project Close-Out Report *

2.6 – Implementation TPA

- TPA Process *

3 – Implementation

3.1 – Implementation Kickoff

- OLIS Implementation Kickoff Presentation *
- OLIS Initiative Checklist – Implementation *

3.2 – Project Reporting and Financials

- OLIS Financial Status Report
- OLIS Payment Memo *
- OLIS Payment Memo Process Map *
- OLIS Project Status Report
- OLIS TPA Amendment Process Map *
- OLIS Project Change Request *

3.3 – Privacy and Security

- Implementation TPA *
- Privacy Threshold Assessment (PTA) *
- Security Threshold Assessment (STA) *
- OLIS MNDA Quick Reference *

3.4– Legal Agreements and Schedules

- OLIS Hospital Lab Data Disclosure Agreement

3.5 – Environment Setup and Connectivity

- Connectivity Registration Forms Quick Reference *
- eHealth Ontario PKI Certification Policy Manual
- General – Application Owner Registration Form
- General – Computer Application Form
- Individual Suspend Reinstate Revoke Request Form
- OLIS – Organization Setup and Service Enrolment Form *
- OLIS Connectivity Process Checklist *
- OLIS Connectivity Scenarios
- OLIS Connectivity Testing Instructions

- OLIS Transport Specification Sample *
- PKI Certificate Installation Guide
- PKI Certification Registration and Installation Timelines
- Technical Architecture: OLIS Technical Infrastructure Architecture *

3.6 – Registration and Enrolment of Individuals

- OLIS – Individual Registration and Service Enrolment Form (HC Providers)
- ONE ID Registration and OLIS Enrolment Applicant List
- ONE ID Registration and OLIS Enrolment Quick Reference for LRAs

3.7 – System Development

- OLIS Test Patient Process *
- Practitioner Extract

3.8 – Client Self-Test (CST)

- A Guide to the OLIS Nomenclatures
- Accessing the OLIS Portlet
- OLIS Conformance Test Scenarios
- OLIS Conformance Testing Guide
- OLIS CST Testing Tracker (Template)
- OLIS CT Assessment Report (Sample)
- OLIS Data Quality Audit Report (Instructions) *
- OLIS Data Quality Audit Report (Sample)
- OLIS Data Quality Audit Report (Tool) *
- OLIS Interface Specification
- OLIS Mapping Tool User Guide
- OLIS Nomenclature
- OLIS Portlet – Computer Based Training
- Process to Analyze HL7 Messages *
- Process to Update Nomenclature Pairings *
- Testing in the OLIS Client Self-Test Environment

3.9 – Conformance Test (CT)

- Accessing the OLIS Portlet
- OLIS Conformance Certificate, Version 2.1 (Template) *
- OLIS Conformance Certificate, Version 2.2 (Template) *

- OLIS Conformance Certificate, Version 3.0 (Template) *
- OLIS Conformance Test (CT) Kickoff Presentation *
- OLIS Conformance Test Scenarios
- OLIS Conformance Testing Guide
- OLIS CT Assessment Report (Sample)
- OLIS Portlet – Computer Based Training
- Process to Analyze HL7 Messages *
- Process to Update Nomenclature Pairings *

3.10 – Nomenclature Mapping Acceptance

- OLIS Mapping Tool User Guide
- OLIS Nomenclature Mapping Acceptance Letter

3.11 – Go-Live Planning and Go-Live

- eHealth Ontario Client Site Profile Form
- eHealth Ontario Site Support Guide
- Health Care Provider Guide
- OLIS Go-Live Gateway Checklist

3.12 – Ramp-Up

- Lessons Learned Workshop Guide
- OLIS Data Quality Audit Report (Sample)
- OLIS Data Quality Audit Report (Tool) *

3.13 – Transition to Operations

- eHealth Ontario Site Support Guide
- OLIS Implementation Project Close-Out Report *
- OLIS Operational Transition Gateway Checklist *

Glossary

Term, Acronym or Abbreviations	Definition
Adopter	A user of the Ontario laboratories information system (OLIS).
American Standard Code for Information Interchange (ASCII)	A coding system for representing English characters as numbers, with each letter assigned a number from 0 to 127. For example, the ASCII code for uppercase M is ASCII 77. Most computers use ASCII codes to represent text, which makes it possible to transfer data from one computer to another.
Applicant	Person or individual who applies for registration and service enrolment. Once the individual is registered, he/she is referred to as the registrant.
Battery	A group of laboratory tests which are performed on the same specimen and one order is placed for the entire group of tests. A battery is typically performed in a specific clinical specialty and using a common laboratory instrument (e.g., CBC).
Blood bank	A sub-specialty within the laboratory where blood is collected from donors, typed, separated into components, stored, and prepared for transfusion to recipients. A blood bank may be a separate free-standing facility or part of a larger laboratory in a hospital. Also referred to as *transfusion medicine*.
Canada Health Infoway (CHI)	CHI is an independent not-for-profit corporation created by Canada's first ministers in 2001 to foster and accelerate the development and adoption of electronic health record (EHR) systems with compatible standards and communications technologies. CHI works with the country's ten provinces and three territories to implement private, secure EHR systems, enabling best practices and successful projects in one region to be shared or replicated in other regions.
Change request form	An electronic form which is completed by an OLIS adopter to request a new OLIS nomenclature code (i.e., test request, test result, specimen (source) or microorganism code).
Chemistry	A sub-specialty within the laboratory that is generally concerned with analysis of bodily fluids. Also referred to as *clinical biochemistry*.
Client	*See adopter*
Client self-test (CST) environment	Computer servers running the most current version of the OLIS software that can be used to develop and test an LIS-to-OLIS interface. The environment simulates the OLIS production environment but only contains fictitious patient and practitioner data to safeguard patient confidentiality.
Clinical viewer	Clinical viewers are applications that are designed to display clinical data of patients on an on-demand basis. Some of examples of these include practitioner's electronic medical record (EMR) system, hospital information system (HIS) and health care web portal.
Conformance test scenarios	A script outlining the intent, procedure and required outputs for tests that will be done to test a computer application such as a LIS to OLIS interface.

Term, Acronym or Abbreviations	Definition
Conformance testing	A formal process of generating OLIS HL7 conformant messages using specific conformance test scenarios, submitting the messages, and assessing the messages for conformance to the OLIS interface specification as well as fidelity to source LIS data.
Discipline	A sub-specialty within the laboratory that is dedicated to performing groups of tests based on the area of science (discipline).
Duplicate codes	Two or more LIS codes that refer to the same test request or test result.
eHealth Ontario	An agency created by the Ontario government to oversee the development and delivery of e-Health initiatives for the province.
Electronic health record (EHR)	The electronic health record brings together health data stored in a number of different databases and locations, and provides a comprehensive medical profile of a patient.
Electronic medical record (EMR)	An electronic medical record (EMR) is a software application that combines the clinical and administrative aspects of practice management into an integrated electronic record. The EMR encompasses and manages many aspects of practice management and patient care - from appointment scheduling and billing, to clinical encounter notes, medications, test results and a cumulative patient profile.
Enrolment	An enrolment grants a registrant access to an eHealth Ontario service such as the OLIS portlet or ONE Mail. A registrant may have several service enrolments. ONE ID allows a user to register once, but enrol many times.
Error handling	Processes devoted to identifying when errors occur with HL7 messages, their cause, and corrective action to resolve the errors.
Extract	The publication of the local laboratory test request and local laboratory test result codes from the local LIS.
Health level seven standard (HL7)	A standard for the electronic data exchange of health care information. HL7 endeavours to standardize the format and protocol of the exchange of certain key sets of data among health care computer application systems, such as patient administration/registration, discharge, and requisitions for laboratory testing, results and clinical observations.
Hematology	A sub-specialty within the laboratory that deals with the blood and blood-forming tissues, including morphology, physiology, and pathology.
HL7 message	A unit of data transferred between systems. It consists of a group of segments in a defined sequence. Each message has a message type that defines its purpose. A trigger event, an event in the real world of health care, such as a patient being admitted, or a laboratory result being finalized, initiates an exchange of messages.
Hospital information system (HIS)	A comprehensive, integrated information system designed to manage the administrative, financial and clinical aspects of a hospital.
Laboratory information system (LIS)	A class of software which handles receiving, processing and storing information generated by laboratory testing processes. These systems often must interface with instruments and other information systems such as HIS.
Laboratory information system (LIS) codes	Codes used in a laboratory information system to define test request, specimen (source), test result and microorganism codes

Term, Acronym or Abbreviations	Definition
Laboratory test	A laboratory test is a common term for laboratory test requests and laboratory test results. A laboratory test is a scientific analysis performed on a wide variety of specimens such as blood, urine, stool, body fluid, tissue, or from sources derived from a patient during their care or treatment (e.g., swabs, iv solutions, medication, aspirate or biopsies). Laboratory tests are used to determine physiological and biochemical states, such as disease, mineral content, drug effectiveness, and organ function. They are also used for diagnosis, monitoring, therapeutic drug monitoring, or genetic assessment of a patient.
Local laboratory test requests dataset	A collection of information about test requests that a laboratory can perform. This list is also referred to in some laboratory information systems as a dictionary or data dictionary or data dictionary (since it defines the test requests that can be requested).
Local laboratory test results dataset	A collection of information about test results that a laboratory can report. This list is also referred to in some laboratory information systems as a dictionary or data dictionary (since it defines the test results that can be requested).
Local registration agent (LRA)	Individuals responsible for registration and service enrolment processes within an adopter organization.
Local test request code	A test request code that resides in the LIS or HIS.
Local test result code	A test result code that resides in the LIS or HIS.
Logic observation identifier names and codes (LOINC®) nomenclature standard	A set of standard codes and universal nomenclature for identifying and encoding laboratory terms and clinical observations. The LOINC nomenclature standard has over 50,000 codes which provide a structured means of identifying and naming laboratory and medical tests or procedures. http://www.regenstrief.org/medinformatics/loinc/
Metadata	Defined as data about data. Metadata is a concept that applies mainly to electronically archived or presented data and is used to describe the a) definition, b) structure and c) administration of data files with all contents in context to ease the use of the captured and archived data for further use. For example, a web page may include metadata specifying what language it is written in, what tools were used to create it, where to go for more on the subject and so on. Attributes are the assigned qualities for specific elements of the data.
Microbiology	A sub-specialty within the laboratory that can be defined as the biology of microscopic organisms, or life too small to be seen with the naked eye. Microbiology covers several disciplines, including virology (study of viruses), bacteriology (study of bacteria), mycology (study of fungi), and parasitology (study of parasites). Each of these disciplines may include but is not limited to studies of infectious disease-causing microorganisms.
MPN	Managed private network.
Nomenclature linking	The process by which an adopter, manually or using the OLIS nomenclature mapping tool, pairs or "links" an OLIS test request code with an OLIS test result code. The purpose is to identify all mapping OLIS test result codes that are or will be used with a particular mapped OLIS test request code.
Nomenclature mapping	The process by which an adopter, manually or using the OLIS nomenclature mapping tool, associates or "maps" a local code (test request, test result, specimen (source) or microorganism) to an OLIS code that has the same meaning.

Term, Acronym or Abbreviations	Definition
OLIS	*Ontario laboratories information system.* An integrated, province-wide, information and order fulfillment system that allows for the electronic exchange of laboratory test information between authorized practitioners, specimen collection centres and laboratories.
OLIS clinical process integration specialist (CPIS)	An individual from the OLIS program responsible for liaising with and supporting OLIS adopters during the development and implementation of their LIS to OLIS interface. The CPIS typically works with adopters with regard to gap analysis, system requirements, nomenclature mapping, and testing.
OLIS collaboration portal	An area of the eHealth Ontario portal that provides information and tools to registered OLIS users.
OLIS executive (at adopter organization)	The individual (usually the CIO) at the adopter organization who provides support and direction to project leads to resolve barriers and provide authorization of significant changes to the project. Key responsibilities include formal approval of and signoff of key project stages and deliverables, decision making or escalation for issues and risks impacting overall delivery of the project, and setting direction and commitment for the project. The OLIS executive is a member of the joint steering committee.
OLIS initiative lead	An individual from the OLIS program responsible for liaising with and supporting OLIS adopters during the development and implementation of their LIS to OLIS interface.
OLIS interface specification	A technical document outlining the requirements that must be followed when developing an interface between a laboratory information system, hospital information system or electronic medical record system and the OLIS.
OLIS list of microorganisms	Describes names and unique identifier codes for medically significant bacteria, fungi, and viruses. It is used to code a specific microorganism as the value or result of the culture when a code from the OLIS results nomenclature such as "microorganism or agent identified" is used.
OLIS nomenclature	A naming schema which provides an unambiguous and consistent system of names, unique codes and related information which a laboratory information system, hospital information system or clinical management system uses to exchange data with OLIS. The OLIS nomenclature includes the OLIS test requests, test results, microorganism and specimen (source) nomenclature.
OLIS nomenclature maintenance working group	Subject matter experts within the OLIS program who are responsible for maintenance of the OLIS nomenclature.
OLIS portlet	Software that has been developed for eHealth Ontario to allow queries to be submitted to the OLIS repository and to display laboratory test results returned by those queries.
OLIS program	A division within eHealth Ontario responsible for the delivery of OLIS.
OLIS program team	A team from the OLIS program responsible for liaising with and supporting OLIS adopters during the development and implementation of their LIS to OLIS interface. The key points of contact are the OLIS initiative lead and the OLIS CPIS.
OLIS rest results nomenclature	A naming schema used within OLIS to uniquely identify and describe test results and observations.

Term, Acronym or Abbreviations	Definition
OLIS specification	Interface specification for OLIS, including test result nomenclatures, as well as conformance testing and registration / enrolment requirements.
OLIS test requests nomenclature	A naming schema used within OLIS to uniquely identify and describe test requests.
Online transaction processing (OLTP)	Online transaction processing, or OLTP, refers to a class of systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval transaction processing. The term is somewhat ambiguous; some understand a "transaction" in the context of computer or database transactions, while others define it in terms of business or commercial transactions. OLTP has also been used to refer to processing in which the system responds immediately to user requests.
Ontario laboratories information system (OLIS)	An integrated, province-wide, information and order fulfillment system that allows for the electronic exchange of laboratory test information between authorized practitioners, specimen collection centres and laboratories.
Order	An order is a collective term used to refer to one or more test requests from an authorized practitioner to be performed on a specimen(s) obtained from a specific patient.
Order (orderable)	A collective term used to refer to one or more test requests.
Ordering practitioner	Individual who places an order for a laboratory test.
Override	The act or an instance of reversing a consent directive
Pan-Canadian nomenclature standard	A naming schema proposed by CHI for identifying and reporting laboratory test request and test results. This naming schema is based on the HL7 version 3.0 standards and the LOINC nomenclature standard and takes into consideration Ontario and British Columbia's reporting requirements for laboratory test data.
Panel	A common group of test requests and test results that facilitate ordering and reporting.
Pathology	A sub-specialty within the laboratory that is generally concerned with the study and diagnosis of disease through examination of organs, tissues, bodily fluids, and whole bodies (autopsies).
Patient identifier	A unique code or number used to identify a specific individual (e.g. OHIP number, medical record number, driver's license)
Performing laboratory	Laboratory that performs a laboratory test.
PKI	*See public key infrastructure certificate*.
Practitioner	A member of one of the four types of practitioners (physicians, dentists, nurse practitioners and midwives) that OLIS recognizes as authorized to order medical laboratory tests.
Production environment	A suite of computer servers running OLIS software which receive, store and respond to queries. This environment contains copies of patient test requests and test results including confidential personal health information and practitioner information.

Term, Acronym or Abbreviations	Definition
Production system	The final version of a particular product in which the release is considered to be very stable and relatively bug-free with a quality suitable for wide distribution and use by end users. It is sometimes referred to as the LIVE system.
Profile	A group of laboratory tests which are performed on two or more specimens and can belong to a specific clinical specialty or different clinical specialties.
Public key infrastructure (PKI) certificate	A set of hardware, software, people, policies, and procedures needed to create, manage, distribute, use, store, and revoke digital certificates.[1] In cryptography, a PKI is an arrangement that binds public keys with respective user identities by means of a certificate authority (CA). The user identity must be unique within each CA domain. The binding is established through the registration and issuance process, which, depending on the level of assurance the binding has, may be carried out by software at a CA, or under human supervision. The PKI role that assures this binding is called the Registration Authority (RA). For each user, the user identity, the public key, their binding, validity conditions and other attributes are made unforgettable in public key certificates issued by the CA.
Reference laboratory	Is a laboratory to which specific types of tests are forwarded from a referring laboratory because: • the referring laboratory is not licensed to perform the test, or • the referring laboratory is temporarily unable to perform the test, or • the reference laboratory is able to utilize specialized techniques that may yield results that the referring laboratory has been unable to obtain using conventional techniques (e.g., PHLs are reference laboratories for other laboratories in the areas of bacteriology, virology, and mycology, etc.), or • the referring laboratory has a business arrangement with the • reference laboratory to perform specific types of tests on its behalf.
Referrals	Transfer of laboratory tests to another laboratory for testing.
Referring laboratory	Is a laboratory that sends a test request to another laboratory (a reference laboratory) for testing. Specific tests might be referred to a reference laboratory because: • the referring laboratory is not licensed to perform the test, or • the referring laboratory is temporarily unable to perform the test, or • the reference laboratory is able to utilize specialized techniques that may yield results that the referring laboratory has been unable to obtain using conventional techniques (e.g., PHLs are reference laboratories for other laboratories in the areas of bacteriology, virology, and mycology, etc.), or • the referring laboratory has a business arrangement with the • reference laboratory to perform specific types of tests on its behalf.
Regenstrief Institute Inc.	Provides a Windows-based mapping utility called the Regenstrief LOINC Mapping Assistant (RELMA)® to facilitate searches through the LOINC nomenclature standard and to assist mapping of local codes to LOINC codes.
Registrant	Person or individual who applies for registration and service enrolment is referred to as the applicant. Once the individual is registered, he/she is referred to as the registrant.

Term, Acronym or Abbreviations	Definition
Registration	Registration is the process by which an approved individual (local registration authority) verifies the identity of a registrant, enrols them into an eHealth Ontario service, and provides a digital credential.
SCC	*See specimen collection centre*.
Schedule of benefits	A listing of the physician services that are covered by the Ontario Health Insurance Plan. For laboratories there is a separate schedule which lists the insured laboratory procedures.
Self-testing	The stage in which an OLIS adopter tests their systems in the CST environment in order to prepare for conformance testing. Testing in the CST environment is meant to ensure the LIS to OLIS interface functions as specified in the OLIS interface specification and accurately reflects the data in the LIS. Self -testing can be performed by any adopter who is an authorized OLIS user.
Services agreement (SA)	The agreement sets out certain terms and conditions that apply to the services that eHealth Ontario provides to a client (e.g., adopter organization). The services agreement is often accompanied with applicable schedules.
SNOMED –CT	SNOMED CT (Systematized Nomenclature of Medicine – Clinical Terms), is a systematically organized computer processable collection of medical terminology covering most areas of clinical information such as diseases, findings, procedures, microorganisms, substances, etc. The primary purpose of SNOMED CT is to support the effective clinical recording of data with the aim of improving patient care.
Specimen (source)	A specimen is a substance collected from the human body for examination to obtain information for diagnosis, prophylaxis, or treatment.
Specimen (source) file	A specimen list from HL7 version 2.5 table 0070.
Specimen collection centre (SCC)	A place where specimens are taken or collected from the human body for examination to obtain information for diagnosis, prophylaxis or treatment.
Sponsor	The sponsor is the means by which an adopter organization identifies individuals who are eligible for access to eHealth services.
Test	A medical procedure or analysis performed to detect, diagnose, or evaluate disease, disease processes and susceptibility.
Test request	A request for a laboratory test or medical procedure that is generated by a licensed health care provider.
Test result	The results of a laboratory test or medical procedure generated in response to a test request.
Transaction	An exchange of information between two computer systems.
Transfer payment agreement (TPA)	A legal agreement between an adopter and eHealth Ontario laying out the terms and conditions for an OLIS planning or implementation project.

Term, Acronym or Abbreviations	Definition
Walk-in testing	Order retrieval process used by specimen collection centres to obtain orders for laboratory tests from OLIS that were placed by ordering practitioners. The orders will typically be retrieved at the time a patient visits the specimen collection centre (hence the reference to walk-in).
XCA code	A prefix for Canadian specific codes in OLIS results nomenclature.
XON code	A prefix for Ontario specific codes in OLIS results nomenclature.