

HITSP Communicate Lab Order Message Capability

HITSP/CAP99



Healthcare Information Technology Standards Panel

Submitted to:

Healthcare Information Technology Standards Panel

Submitted by:

Provider Perspective Technical Committee



DOCUMENT CHANGE HISTORY

Version Number	Description of Change	Name of Author	Date Published
0.0.1	Review Copy	Provider Perspective Technical Committee	September 30, 2009
0.0.2	Published for public comment	Provider Perspective Technical Committee	November 9, 2009
0.0.3	Review Copy	Provider Perspective Technical Committee	January 18, 2010
1.0	Released for Implementation	Provider Perspective Technical Committee	January 25, 2010



TABLE OF CONTENTS

1.0	INTRODUCTION.....	5
1.1	Capability Overview.....	6
1.2	Scope.....	6
1.3	Copyright Permissions.....	7
1.4	Reference Documents.....	7
1.5	Guidance For Use of a Capability.....	7
2.0	REQUIREMENTS ANALYSIS	9
2.1	Introduction.....	9
2.2	Requirements	10
2.2.1	Information Exchanges.....	10
3.0	EXTERNAL CAPABILITY OPTIONS	11
3.1	Security and Privacy.....	11
4.0	DESIGN SPECIFICATION	12
4.1	Requirements Mapped to Constructs.....	12
4.1.1	Constructs.....	12
4.2	Constraints and Assumptions.....	13
4.3	Specified Interfaces by System Role.....	13
4.4	Specified Transaction Mapping by System Role.....	15
5.0	STANDARDS.....	18
5.1	Standards Used.....	18
5.1.1	Regulatory Guidance.....	18
5.1.2	Selected Standards	18
5.1.3	Informative Reference Standards.....	19
5.2	Standards Gaps and Overlaps	19
6.0	APPENDIX	22
6.1	Requirements Analysis for General Lab Orders Extension-Gap.....	22
6.2	Laboratory Order Workflow	33
6.3	Laboratory Order Operational Requirements	35
6.4	Message Structure Guidance.....	37
6.4.1	Message Structure Tables - Usage and Groups.....	38
6.4.2	Message Structure of the Lab Order Message (OML) Event O21 (Lab Order Message).....	38
6.4.3	Message Structure of the Lab Order Message (ORL) Event O22 (General Laboratory Order Response Message).....	40
7.0	DOCUMENT UPDATES	42
7.1	September 30, 2009.....	42
7.2	November 9, 2009	42
7.3	January 18, 2010.....	42
7.3.1	Updates from Public Comment	42
7.3.2	Global Changes	43
7.4	January 25, 2010	43



FIGURES AND TABLES

Figure 2-1 Supported Information Exchanges	10
Figure 6-1 Notional Laboratory Order Workflow	34
Figure 6-2 Notional Lab Order States (Managed Internally by Lab)	36
Figure 6-3 Laboratory Orders Sequence Diagram	37
Table 1-1 Reader's Guide for Capability	5
Table 1-2 Reference Documents	7
Table 2-1 Reader's Guide for Section 2.0	9
Table 2-2 Capability System Roles	9
Table 2-3 Supported Information Exchanges	10
Table 3-1 Reader's Guide for Section 3.0	11
Table 4-1 Reader's Guide for Section 4.0	12
Table 4-2 Information Exchanges Mapped to Constructs	12
Table 4-3 Context	13
Table 4-4 Order Placer System Role Mapped to HITSP Construct Interfaces	13
Table 4-5 Order Filler System Role Mapped to HITSP Construct Interfaces	14
Table 4-6 Surveillance System Role Mapped to HITSP Construct Interfaces	14
Table 4-7 Payer System Role Mapped to HITSP Construct Interfaces	14
Table 4-8 Implementation Conditions	14
Table 4-9 Role and Transaction Mapping	15
Table 4-10 Transaction Constraints	16
Table 5-1 Reader's Guide for Section 5.0	18
Table 5-2 Regulatory Guidance	18
Table 5-3 Selected Standards	18
Table 5-4 Informative Reference Standards	19
Table 5-5 Information Exchange Requirements (IER) and Associated Standards Gaps	19
Table 5-6 Information Exchange Requirements (IER) and Associated Standards Overlaps	21
Table 6-1 Interoperability Specification Requirements Analysis used to Derive Information Exchanges	22
Table 6-2 Data Requirements	32
Table 6-3 Notional Laboratory Order Steps	34
Table 6-4 Laboratory Order Operational Requirements	35
Table 6-5 Control Code Implementation Conditions	35
Table 6-6 Order Message (OML) Event O21 (Lab Order Message) Message Structure	38
Table 6-7 Lab Order Message (ORL) Event O22 (General Laboratory Order Response Message) Message Structure	40



1.0 INTRODUCTION

This Healthcare Information Technology Standards Panel (HITSP) document is divided into Requirements Analysis, External Capability Options, Design Specifications and Standards sections which may be used by analysts, architects and implementers. Analysts refer to this document to determine if the Capability satisfies their requirements. Architects and system implementers refer to this document as the architectural specifications for a system design, while software developers will use a Capability as the source of the design for interoperable information exchange. The Appendix lists requirements satisfied by this Capability.

All sections may be useful to analysts and architects. However as shown in Table 1-1, different readers may find specific sections of greater interest and utility. This table is provided as an aid to readers to assist them in identifying sections to focus on. Readers are encouraged to review all sections of this document to further their understanding of HITSP's work.

Table 1-1 Reader's Guide for Capability

Document Section	Section Number	Intended Audience	Information Contained
Section 2.0 Requirements Analysis	2.1 Introduction	Policy Managers Policy Analysts Executive Leadership	Provides an overview of the requirements which this Capability addresses, and identifies the system roles supported by the Capability
	2.2 Requirements	Program Managers Policy Analysts Executive Leadership Architects Business Analysts	Defines the actual information exchanges supported by the Capability in terms of exchange actions and exchange content. It shows how these roles can be assigned at a higher level to real world systems, such as an Electronic Health Record
Section 3.0 External Capability Options	3.1 Security and Privacy	Policy Analysts Architects Business Analysts Developers	Describes the integrated and optional security and privacy functions supported by the Capability
Section 4.0 Design Specification	4.1 Requirements Mapped to Constructs	Program Managers Architects Business Analysts Developers	Maps the information exchanges developed in requirements to the actual HITSP construct used by the Capability to support the exchange
	4.2 Constraints and Assumptions	Business Analysts Developers	Lists the context that is necessary to use the Capability, including constraints, assumptions, pre-conditions, post-conditions and triggers
	4.3 Specified Interfaces by System Role	Business Analysts Developers	Identifies the constructs and their interfaces assigned to each system role. It also lists the implementation conditions for use
Section 5.0 Standards	5.1 Standards Used	Program Managers Policy Analysts Architects Business Analysts Developers	Lists regulatory guidance, selected standards and informative references used by the Capability and all its supporting constructs
	5.2 Standards Gaps and Overlaps	Program Managers Policy Analysts Architects Business Analysts Developers	Identifies gaps or overlaps in standards to implement the Capability including a plan to resolve issues



1.1 CAPABILITY OVERVIEW

This Capability satisfies the information exchange requirements for the sending and receiving of a set of HL7 laboratory order, control and status messages. Laboratory orders may be from an inpatient or outpatient (e.g., Clinic, ER, office, etc) environment.

Ordering Providers of Care receive results as a laboratory results message. The communication of the laboratory results is out of scope for this Capability (See HITSP/CAP126 and HITSP/CAP127). This Capability will support de-identification if the placer determines it is necessary to support patient confidentiality and will follow local and federal rules. De-identification in the context of public health will be managed in accordance with HITSP/IS02 - Biosurveillance.

1.2 SCOPE

A Capability enables business and policy requirements for a business need to be implemented through information exchanges specified in HITSP constructs. The objective of a Capability is to provide the bridge between the business, policy and implementation disciplines by defining a set of information exchanges at a level relevant to policy and business decisions and specifying the use of HITSP constructs sufficiently for implementation. A Capability supports stakeholder requirements and business processes and includes information content, infrastructure, security and privacy. The design of Capabilities leverages existing HITSP constructs and communication methodologies. As new constructs become available, the scope of this Capability may be extended.

The scope of this document is to provide a robust General Laboratory Order Capability between an Order Placer and an Order Filler, i.e. an Order from a Placer to a Filler.

This capability does not specifically address, but if necessary should support through further extension, more complex business requirements regarding workflows, appropriate business rules as to when particular actions are permissible (e.g. when it is too late to send a cancel message, when to send an order cancel or discontinue message). The robust treatment of Repeating Orders and the ability to Discontinue these types of orders are advanced concepts and are considered out of scope. In general dealing with repeat orders is more complicated. Repeat and repeating orders can be addressed by the Placer, the Filler, or both and of necessity would include an Order Management System. The Order Management System can operate within either, both or even a separate environment. The capabilities of an Order Management System are out of scope for this work product.

When one does need to provide messages involving repeating orders and the ability to discontinue these, please use HL7 V2.5.1 Chapter 4 directly, while noting the difference between using the Cancel order control code (supported in this capability) and the Discontinue order control code (not yet supported in this capability)

If the Placer intends to cancel a repeating order it must send a Discontinue Request message to the Filler. This has the effect of cancelling those instances of the repeating order that have not been performed by the filler. The portion of the repeating order that is complete or in progress will normally be unaffected by the discontinue request. Typically there is some up-front agreement as to when in the order fulfillment workflow cycle the Placer can and cannot request the discontinuation of an Order.

The Filler may also want to discontinue a repeating order. The Filler may either notify the Placer that it discontinued the repeating order based on agreed to or established protocol (e.g., removal of duplicate orders, contamination of a specimen), or it may request the Placer to discontinue the repeating order.

The capabilities for communicating the thresholds when a repeating order can still be discontinued, or the rules that govern when a Filler can discontinue a repeating order without a request are out of scope for this work product/Capability.



This document covers orders for human specimen based laboratory tests. All tests on non-human specimens (E.g.: Environmental testing, animal testing, etc) are out of scope due to lack of available vocabulary for environmental specimens.

1.3 COPYRIGHT PERMISSIONS

COPYRIGHT NOTICE

© 2010 ANSI. This material may be copied without permission from ANSI only if and to the extent that the text is not altered in any fashion and ANSI's copyright is clearly noted.

Certain materials contained in this Capability are reproduced from HL7 U.S. Realm – Interoperability Specification: Lab Result Message to EHR and HL7 Version 2.5.1 with permission of Health Level Seven, Inc. No part of the material may be copied or reproduced in any form outside of the Capability documents, including an electronic retrieval system, or made available on the Internet without the prior written permission of Health Level Seven, Inc. Copies of standards included in this Capability may be purchased from the Health Level Seven, Inc. Material drawn from these standards is credited where used.

1.4 REFERENCE DOCUMENTS

A list of key reference documents and background material is provided in the table below. These documents can be retrieved from [HITSP Web Site](#).

Table 1-2 Reference Documents

Reference Documents	Document Description
HITSP Acronyms List	Lists and defines the acronyms used in this document
HITSP Glossary	Provides definitions for relevant terms used by HITSP documents
TN900 – Security and Privacy	TN900 is a reference document that provides the overall context for use of the HITSP Security and Privacy constructs
TN901 - Clinical Documents	TN901 is a reference document that provides the overall context for use of the HITSP Care Management and Health Records constructs
TN903 – Data Architecture	TN903 is a reference document that provides the overall context for use of the HITSP Data Architecture constructs
TN904 – Harmonization Framework and Exchange Architecture	TN904 is a reference document that provides the overall context for use of the HITSP Harmonization Framework and Exchange Architecture constructs
General Lab Orders Extension	Functional requirements from ONC for the General Lab Orders Extension

1.5 GUIDANCE FOR USE OF A CAPABILITY

NOTE: For questions related to details on HITSP Capabilities and HITSP System Roles, please refer to HITSP/TN904 Harmonization Framework and Exchange Architecture Technical Note.

To use a HITSP Capability, a HITSP Interoperability Specification or an implementation conformance statement must assign specific systems to one or more HITSP Capability System Roles and identify how the HITSP Capability Options are to be addressed. In order to assign systems to HITSP System Roles, the reader uses Table 2-3 to determine what systems can support the specific information exchanges required. For an example of how HITSP System Roles and systems are mapped, readers can consult a HITSP Interoperability Specification Table 3-3 Orchestration of Capabilities by System. In the case of an Implementation Guide, systems can be assigned to HITSP System Roles using a similar methodology.

The use of a HITSP Capability implies that these specific rules will be followed:

- For each HITSP Capability System Role listed in Table 2-2 Capability System Roles, the defined responsibilities of that HITSP Capability System Role are supported. Responsibilities for the HITSP Capability System Role are defined as support for the HITSP Construct interfaces listed in Section 4.3 Specified Interfaces by System Role. Support implies that the system assigned to the



HITSP Capability System Role makes the associated HITSP construct interfaces available for use by other systems. For those HITSP construct interfaces in Section 4.3 that have associated content optionality, the HITSP Capability System Role must comply with the optionality condition listed in Table 4-8 Implementation Conditions.

- Responsibilities also include the constraints and assumptions associated with use of a Capability, as outlined in Table 4-3 Context. For those Capabilities with Section 3.2 options, the following additional rules apply:
 1. Each topology option listed in Table 3-2 Topology Related Options should be supported by the implementation
 2. Each content import option listed in Table 3-3 Content Import Options should be supported by the implementation
 3. Each document content option listed in Table 3-4 Document Content Options should be supported by the implementation



2.0 REQUIREMENTS ANALYSIS

The following table is provided as an aid to readers to assist them in identifying the parts of this section to focus on. Readers are encouraged to review all sections of this document to further their understanding of HITSP's work.

Table 2-1 Reader's Guide for Section 2.0

Document Section	Section Number	Intended Audience	Information Contained
Section 2.0 Requirements Analysis	2.1 Introduction	Policy Managers Policy Analysts Executive Leadership	Provides an overview of the requirements which this Capability addresses, and identifies the system roles supported by the Capability
	2.2 Requirements	Program Managers Policy Analysts Executive Leadership Architects Business Analysts	Defines the actual information exchanges supported by the Capability in terms of exchange actions and exchange content. It shows how these roles can be assigned at a higher level to real world systems, such as an Electronic Health Record

2.1 INTRODUCTION

Table 2-2 and Figure 2-1 summarize the external interfaces of the capability. Use of particular interfaces represents capability options, depending on a system's information exchange role. Section 3.0 defines any architectural options. The tables in Section 4.0 provide the implementation constraints and optionality specifications for each capability's interface.

This Capability specifies standards-based messages for the exchange of laboratory order, control and status. Laboratory orders may be from an inpatient or outpatient (e.g., Clinic, ER, office, etc) environment to a laboratory capable of processing the order. The communication of the laboratory results is out of scope for this Capability (See HITSP/CAP126). This Capability may use content anonymization as appropriate based on local and federal rules.

A key piece of information that both the Lab Order Placer and the Lab Order Filler need to include is the placer and order filler numbers for an order. The acknowledgement of the order from the filler must contain the Placer and Filler order numbers. The Lab Order Filler should put the lab order placer and the lab order filler identifiers in the result so that the result can be tied to the order.

A Lab Order Catalogue will allow the clinician to order a test for one single "substance", a "panel" or "profile" (multiple tests based on a single body system or function—Cardiac Panel, Renal Profile, etc.) or a "battery" (multiple tests to determine overall health). Though a "panel", "profile" or "battery" contains requests for multiple tests, each is considered one order. The Lab Order Catalogue may allow the prescriber to order one test and secondary test/s (on the same specimen sample) that the laboratory will perform when/if "triggered" by results from the initial test. A secondary or "triggered" test is referred to as a "REFLEX" test and is considered as a component of the original order.

Reflex test rules are established based on local regulations and medical policies and are out of scope for this document.

Table 2-2 summarizes the system roles of the Capability. Section 2.2 identifies how these system roles participate in the set of information exchanges.

Table 2-2 Capability System Roles

System Role	System Role Definition
Order Placer	The application requesting a laboratory service or laboratory observation
Order Filler	The application providing a laboratory service or laboratory observation
Surveillance	The application receiving a select subset of laboratory orders that pertain to



	public health surveillance
Payer	The application that provides eligibility and authorization verification

2.2 REQUIREMENTS

2.2.1 INFORMATION EXCHANGES

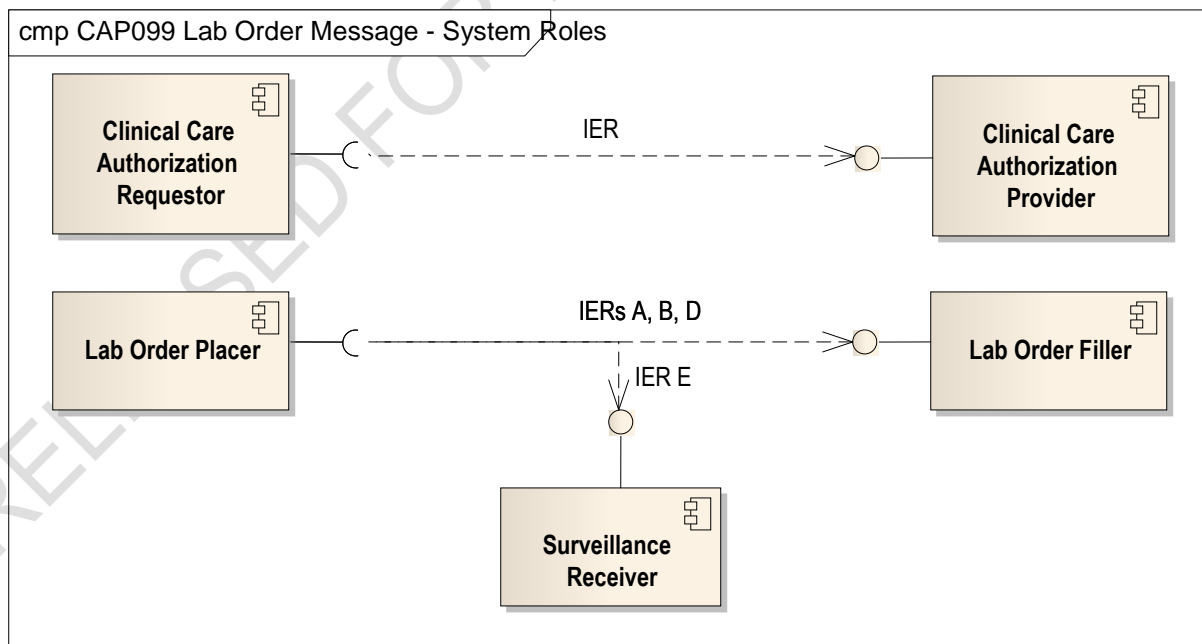
Table 2-3 defines each of the Information Exchanges supported by this Capability in terms of the Exchange Action (EA) or Exchange Content (EC) used.

Table 2-3 Supported Information Exchanges

Information Exchange Identifier	Exchange Action	Exchange Content
A	Send	Laboratory Order
B	Request and Response	Catalogue of Orders
C	Request and Response	Patient Health Plan Eligibility Verification Data
D	Request and Response	Query and Response for Supporting Information
E	Send	Pseudonymized Laboratory order

Figure 2-1 identifies how this Capability supports various system roles within multiple system architectures. For example, either an Electronic Health Record (EHR) system or a Health Information Exchange (HIE) might fill a document repository system role in an information exchange). In an implementation architecture, system roles may be combined locally (e.g., Hospital EHR System) and in others, the system roles may be provided by multiple-distributed trusted third parties (e.g., laboratories within an HIE).

Figure 2-1 Supported Information Exchanges



3.0 EXTERNAL CAPABILITY OPTIONS

The following table is provided as an aid to readers to assist them in identifying the parts of this section to focus on. Readers are encouraged to review all sections of this document to further their understanding of HITSP's work.

Table 3-1 Reader's Guide for Section 3.0

Document Section	Section Number	Intended Audience	Information Contained
Section 3.0 External Capability Options	3.1 Security and Privacy	Policy Analysts Architects Business Analysts Developers	Describes the integrated and optional Security and Privacy functions supported by the Capability

This section is primarily for architects, engineers and analysts. It allows those who consider using this Capability to evaluate and/or constrain the options that are externally made available for the Capability implementers.

Interoperability among system roles defined by this Capability often requires the selection of consistent options.

3.1 SECURITY AND PRIVACY

The application of Security and Privacy is highly influenced by the security and privacy policies. The HITSP Security and Privacy Technical Note (HITSP/TN900) provides a detailed discussion of the security and privacy constructs, including consideration and appropriate context for needed security and privacy related policy decisions. Security and privacy constructs are integrated comprehensively into the Service Collaborations. The actual constructs used and the way in which the constructs are used is dependent on the policies and physical setting. Conformance claims are against the security and privacy constructs that are chosen to enforce the policies.



4.0 DESIGN SPECIFICATION

The following table is provided as an aid to readers to assist them in identifying the parts of this section to focus on. Readers are encouraged to review all sections of this document to further their understanding of HITSP's work.

Table 4-1 Reader's Guide for Section 4.0

Document Section	Section Number	Intended Audience	Information Contained
Section 4.0 Design Specification	4.1 Requirements Mapped to Constructs	Program Managers Architects Business Analysts Developers	Maps the information exchanges developed in requirements to the actual HITSP construct used by the Capability to support the exchange
	4.2 Constraints and Assumptions	Business Analysts Developers	Lists the context that is necessary to use the Capability, including constraints, assumptions, pre-conditions, post-conditions and triggers
	4.3 Specified Interfaces by System Role	Business Analysts Developers	Identifies the constructs and their interfaces assigned to each system role. It also lists the implementation conditions for use

4.1 REQUIREMENTS MAPPED TO CONSTRUCTS

4.1.1 CONSTRUCTS

Table 4-2 defines the mapping of the Information Exchanges supported by this Capability in terms of the Exchange Action (EA), Exchange Content (EC) and any Constraints applied to the Information Exchange with specific initiating and/or responding system interfaces. This provides the traceability of constructs to the information exchanges identified in Section 2.0 above. Content modules and terminology Components are not listed here because they are referenced by other constructs, but do not provide an interface. HITSP/TN903 discusses how content modules and terminology Components are referenced by other constructs.

Table 4-2 Information Exchanges Mapped to Constructs

Information Exchange Identifier	Exchange Type	Construct Identifier	Description
A – Send Laboratory Order	Content	HITSP/C163 - Laboratory Order	The Laboratory Order Message Component describes the specification for a lab order message and a general laboratory response message. This Lab Order Message Component is the result of a considered assessment of the current practices in electronic laboratory order management and the requirements of the Harmonization Request. In order to encourage rapid and widespread adoption of this Component, HITSP placed emphasis on the message content in current implementations and the ease with which current implementations can become compliant
B – Request and Response Catalogue of Orders	Content	GAP- Laboratory Catalogue of Orders	The EHR-S maintains the catalogue of lab tests that may be ordered by laboratory (see HL7 V2.5.1 CH8 for lab order catalogue, how do we query for updates no Implementation Guide) EHR maintains a directory



Information Exchange Identifier	Exchange Type	Construct Identifier	Description
C – Request and Response Patient Health Plan Eligibility Verification Data	Content	HITSP/T40 – Patient Health Plan Eligibility Verification	The HITSP Patient Health Plan Eligibility Verification Transaction is intended to provide the status of a health plan covering the individual, along with details regarding patient liability for deductible, co-pay and co-insurance amounts for a defined base set of generic benefits or services. The base set of benefits includes, but is not limited to, coverage status and patient liability for medical, chiropractic, dental, hospital inpatient, hospital outpatient, emergency, physician office visit, pharmacy and vision services that are included in the patient's generic health plan benefit
D – Request and Response Query and Response for Supporting Information	Content	GAP – Query and Response for Supporting Information	Query and Response for Supporting information
C – Request and Respond Patient Health Plan Eligibility Verification Data	Action	HITSP/SC114 – Administrative Transport to Health Plan	The HITSP Administrative Transport to Health Plan Service Collaboration provides the transport mechanism for conducting administrative transactions with health plans
A – Send Laboratory Order B – Request and Response Catalogue of Orders D – Request and Response Query and Response for Supporting Information	Action	HITSP/SC115 – HL7 Messaging	The HITSP HL7 Messaging Service Collaboration provides the capability to send and receive HL7 messages. The Service Collaboration applies the necessary Security and Privacy constructs

4.2 CONSTRAINTS AND ASSUMPTIONS

Table 4-3 specifies the context that must be provided in order to use the Capability, identifying any assumptions, pre-conditions, post-conditions, and triggers relevant for use of the Capability.

Table 4-3 Context

Assumptions, Pre-conditions, Post-conditions, and Triggers	Type of Context
Orders for patient care shall be initiated by authorized order placers.	Assumption
If the placer needs a patient to be Pseudonymized (E.g.: The patient is a VIP having sensitive tests done) then Pseudonymization shall be done prior to sending the order to the laboratory.	Assumption
Lab orders shall be communicated via messages and not documents	Constraint
The data required to associate lab results with related lab order shall be captured from the lab order. E.g., Laboratory order unique IDs must be maintained in lab results that are a response to an order	Post-Condition

4.3 SPECIFIED INTERFACES BY SYSTEM ROLE

This section specifies the HITSP Capability interfaces in terms of the System Roles identified in Table 2-2 Capability's System Roles.

Table 4-4 below specifies interfaces for the first system role as defined in Table 2-2.

Table 4-4 Order Placer System Role Mapped to HITSP Construct Interfaces

Construct Interface	Interface Type	T/TP/SC or Content	T/SC/Content Optionality
N/A	Initiating	HITSP/C163 – Laboratory Order Content	R



Request HL7 Message	Initiating	HITSP/SC115 -- HL7 Messaging	R
N/A	Initiating	HITSP/T40 - Patient Health Plan Eligibility Verification	C ^[401]
Request Administrative Transport to Health Plan	Initiating	HITSP/SC114 - Administrative Transport to Health Plan	C ^[401]

Optionality Legend: "R" for Required, "O" for Optional, or "C" for Conditional

Table 4-5 Order Filler System Role Mapped to HITSP Construct Interfaces

Construct Interface	Interface Type	T/TP/SC or Content	T/SC/Content Optionality
N/A	Responding	HITSP/C163 – Laboratory Order Content	R
Receive Lab Order Message	Responding	HITSP/SC115 -- HL7 Messaging	R
N/A	Initiating	HITSP/T40 - Patient Health Plan Eligibility Verification	C ^[401]
Request Administrative Transport to Health Plan	Initiating	HITSP/SC114 - Administrative Transport to Health Plan	C ^[401]

Optionality Legend: "R" for Required, "O" for Optional, or "C" for Conditional

Table 4-6 Surveillance System Role Mapped to HITSP Construct Interfaces

Construct Interface	Interface Type	T/TP/SC or Content	T/SC/Content Optionality
N/A	Responding	HITSP/C163 – Laboratory Order Content	R
Respond to HL7 Message	Responding	HITSP/SC115 -- HL7 Messaging	R

Optionality Legend: "R" for Required, "O" for Optional, or "C" for Conditional

Table 4-7 Payer System Role Mapped to HITSP Construct Interfaces

Construct Interface	Interface Type	T/TP/SC or Content	T/SC/Content Optionality
N/A	Responding	HITSP/T40 – Patient Health Plan Eligibility Verification	R
Respond to Administrative Transport to Health Plan	Responding	HITSP/SC114 – Administrative Transport to Health Plan	R

Optionality Legend: "R" for Required, "O" for Optional, or "C" for Conditional

Table 4-8 specifies optionality conditions referenced in Table 4-4 through Table 4-7 above.

Table 4-8 Implementation Conditions

Condition ID	Condition Description
[401]	If no administrative or financial system exists separate from the order placer, then Eligibility Information Receiver MUST be used.



4.4 SPECIFIED TRANSACTION MAPPING BY SYSTEM ROLE

The Laboratory Order Capability further constrains the HL7 V2.5.1 specifications for the order placer and order filler roles. Only those requirements that differ from the base HL7 standard for the defined message constructs are listed in Table 4-9

For guidance on the OML and ORL message structures, see Appendix 6.4 Message Structure Guidance.

Table 4-9 Role and Transaction Mapping

Role	Transaction/Content	Constraint	Optionality ¹
Order Placer	Send Lab Order Message	C[402] C[403] C[404] C[405] C[410] C[411]	R
	Change Existing Lab Order Message	C[402] C[403] C[405] C[409] C[410] C[411]	R
	Cancel Existing Lab Order Message	C[402] C[403] C[409] C[410] C[411]	R
	Acknowledge Change of Existing Lab Order Message	C[402] C[406] C[407]	R
	Acknowledge Cancel of Existing Lab Order Message	C[402] C[406] C[407]	R
	Acknowledge Notification of Order Status Change	C[402] C[406] C[407]	R
	General Message Acknowledgement	C[402] C[408]	O
Order Filler	Notification of Lab Order Status Change	C[402] C[403] C[409] C[410] C[411]	R
	Change existing Lab Order Message	C[402] C[403] C[409] C[410] C[411]	O
	Cancel Existing Lab Order Message	C[402] C[403] C[409] C[410] C[411]	R

¹ Optionality = "R" for Required, or "O" for Optional, or "C" for Conditional. If applicable, conditional footnotes are further described below.



Role	Transaction/Content	Constraint	Optionality ¹
	Acknowledge Lab Order Message	C[402] C[406] C[407]	R
	Acknowledge Change of Existing Lab Order Message	C[402] C[406] C[407]	R
	Acknowledge Cancel of Existing Lab Order Message	C[402] C[406] C[407]	R
	General Message Acknowledgement	C[402] C[408]	O

Table 4-10 Transaction Constraints²

Constraint ID	Constraint Description
[402]	Implementations claiming conformance SHALL support the Health Level Seven (HL7) Version 2.5.1 April, 2007 Chapter 4, adhere to all requirements of the base HL7 standard including but not limited to message structure, segment usage and cardinality, and field usage/cardinality as defined therein for Laboratory Order Messages
[403]	This Transaction SHALL support the Health Level Seven (HL7) Version 2.5.1 April, 2007 Chapter 4, Lab Order Message (OML) Event O21 (Lab Order Message)
[404]	<p>This Transaction SHALL include a minimum of the following segments and segment groups in OML Messages:</p> <ul style="list-style-type: none"> • Message Header Segment (MSH) • PATIENT Group <ul style="list-style-type: none"> ○ Patient Identification (PID) • ORDER Group <ul style="list-style-type: none"> ○ Common Order (ORC) ○ OBSERVATION REQUEST Group <ul style="list-style-type: none"> ▪ Observation Request (OBR) <p>Note: All other segments defined in the HL7 OML^O21 message are supported per the HL7 message structure requirements (HL7 2.5.1 Section 4.4.6).</p>
[405]	If the Order Filler requires insurance information for eligibility verification, then this Transaction SHALL include the IN1 segment in OML messages.
[406]	<p>This Transaction SHALL support the Health Level Seven (HL7) Version 2.5.1 April, 2007 Chapter 4, Lab Order Message (ORL) Event O22 (General Laboratory Order Response Message)</p> <p>Note: OML O21 message receivers may send an ORL O22 message in place of an HL7 General Acknowledgment Message.</p>
[407]	<p>This Transaction SHALL include a minimum of the following segments and segment groups in ORL Messages:</p> <ul style="list-style-type: none"> • Message Header Segment (MSH) • Message Acknowledgment Segment (MSA) • PATIENT Group <ul style="list-style-type: none"> ○ Patient Identification (PID) • ORDER Group <ul style="list-style-type: none"> ○ Common Order (ORC) <p>Note: All other segments defined in the HL7 OML^O21 message are supported per the HL7 message structure requirements (HL7 2.5.1 Section 4.4.6).</p>

² Most lab order messages from a clinician to a laboratory can be handled with the HL7 OML^O21 and ORL^O22 messages as defined in this capability. Specimen centric order messages are not currently addressed in this capability. If specimen centric messaging is a requirement, they may be expressed as general laboratory orders, however that is not a requirement. For information on how to express specimen centric laboratory order messages, please refer to the HL7 V2.5.1 Chapter 4 OML O33 and O35 type messages.



Constraint ID	Constraint Description
[408]	This Transaction SHALL support the Health Level Seven (HL7) Version 2.5.1 April, 2007 Chapter 2, Section 2.14.1 General Acknowledgment Message.
[409]	<p>This Transaction SHALL include a minimum of the following segments and segment groups in OML Messages:</p> <ul style="list-style-type: none"> • Message Header Segment (MSH) • PATIENT Group <ul style="list-style-type: none"> ○ Patient Identification (PID) • ORDER Group <ul style="list-style-type: none"> ○ Common Order (ORC)
[410]	This Transaction SHALL support the receipt of Health Level Seven (HL7) Version 2.5.1 April, 2007 Chapter 2, Section 2.14.1 General Acknowledgment Message in response to a Lab Order Message (OML) Event O21 (Lab Order Message).
[411]	<p>This Transaction SHALL support the receipt of Health Level Seven (HL7) Version 2.5.1 April, 2007 Chapter 4, Lab Order Message (OML) Event O22 (General Laboratory Order Response Message) in response to a Lab Order Message (OML) Event O21 (Lab Order Message) in place of an HL7 General Acknowledgment Message.</p> <p>Note: Senders of OML O21 messages need to be able to accept HL7 General Acknowledgment Messages, but should not expect that they will be sent by the OML O21 receiver (It is optional for an OML O21 message receiver to send an HL7 General Acknowledgement Message). Senders of OML O21 messages need to be able to accept ORL O22 messages in place of an HL7 General Acknowledgment Message.</p>



5.0 STANDARDS

The following table is provided as an aid to readers to assist them in identifying the parts of this section to focus on. Readers are encouraged to review all sections of this document to further their understanding of HITSP's work.

Table 5-1 Reader's Guide for Section 5.0

Document Section	Section Number	Intended Audience	Information Contained
Section 5.0 Standards	5.1 Standards Used	Program Managers Policy Analysts Architects Business Analysts Developers	List regulatory guidance, selected standards and informative references used by the Capability and all its supporting constructs/
	5.2 Standards Gaps and Overlaps	Program Managers Policy Analysts Architects Business Analysts Developers	Identifies gaps or overlaps in standards to implement the Capability including a plan to resolve issues

5.1 STANDARDS USED

5.1.1 REGULATORY GUIDANCE

Table 5-2 lists any regulatory guidance that determines or constrains use of standards. Laboratories are expected to comply with their local regulatory or accreditation requirements that apply to them in addition to those listed in this section.

Table 5-2 Regulatory Guidance

Regulation	Description
Clinical Laboratory Improvement Amendments (CLIA) of 1988	Establishes quality standards for all laboratory testing to ensure the accuracy, reliability, and timeliness of patient test results regardless of where the test is performed. The Centers for Medicare and Medicaid Services (CMS) regulates all laboratory testing (except research) performed on humans in the U.S. based on CLIA. For more information visit http://www.fda.gov and http://www.cms.hhs.gov

5.1.2 SELECTED STANDARDS

Table 5-3 lists the standards selected as relevant to this Capability.

Table 5-3 Selected Standards

Standard	Description
Health Level Seven (HL7) Version 2.5.1, Lab Order Message (OML) and General Laboratory Response (ORL)	The HL7 Version 2.5.1 Messaging Standard is an application protocol for electronic data exchange in healthcare. It and prior versions have widespread use in the U.S. and internationally. Both message formats and value sets/code tables (e.g., diagnosis type, gender, patient class, result status, specimen collection method, abnormal flags, observation result status codes interpretation, timestamp format) are contained in the standard. Of particular focus for HITSP Interoperability Specifications are message formats described in Chapters 2, 3, 4, 5, and 7 including patient demographic (ADT) and lab result reporting. These are also used within composite standards from IHE for Patient Identity Cross-Referencing and Feed (PIX), Patient Demographics Query (PDQ) and Acknowledgements. They are also used in HL7 order messages. For more information visit www.hl7.org



Standard	Description
Logical Observation Identifiers Names and Codes (LOINC®)	A database of universal identifiers for laboratory and other clinical observations. The laboratory portion of the LOINC database contains the usual categories of chemistry, hematology, serology, microbiology (including parasitology and virology), and toxicology; as well as categories for drugs and the cell counts typically reported on a complete blood count or a cerebrospinal fluid cell count. Antibiotic susceptibilities are a separate category. The clinical portion of the LOINC database includes entries for vital signs, hemodynamics, intake/output, EKG, obstetric ultrasound, cardiac echo, urologic imaging, gastroendoscopic procedures, pulmonary ventilator management, selected survey instruments, and other clinical observations. For more information visit www.loinc.org
International Health Terminology Standards Development Organisation (IHTSDO) Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT®)	SNOMED CT consists of a technical design, core content architecture, and Core content. SNOMED CT Core content includes the technical specification of SNOMED CT and fully integrated multi-specialty clinical content. The Core content also includes a concepts table, description table, relationships table, history table, ICD-9-CM mapping, and Technical Reference Guide. Additionally, SNOMED CT provides a framework to manage language dialects, clinically relevant subsets, qualifiers and extensions, as well as concepts and terms unique to particular organizations or localities. For more information visit www.ihtsdo.com
Unified Code for Units of Measure (UCUM)	A code system intended to include all units of measures being contemporarily used in international science, engineering, and business. The purpose is to facilitate unambiguous electronic communication of quantities together with their units. The focus is on electronic communication, as opposed to communication between humans. For more information visit http://aurora.regenstrief.org

5.1.3 INFORMATIVE REFERENCE STANDARDS

Table 5-4 includes reference standards that inform the overall semantic interoperability.

Table 5-4 Informative Reference Standards

Standard	Description
Integrating the Healthcare Enterprise (IHE) Laboratory Technical Framework Revision 2.1, Final Text, August 8, 2008	The IHE Laboratory Technical Framework (LAB TF), defines specific implementations of established standards to achieve integration goals of clinical laboratories with other components of a healthcare enterprise or with a broader community of healthcare providers, hereafter called a healthcare community

5.2 STANDARDS GAPS AND OVERLAPS

Table 5-5 identifies the information exchange requirements and known standards gaps, along with the recommended resolutions to the gaps.

Table 5-5 Information Exchange Requirements (IER) and Associated Standards Gaps

IER Gap Description	Responsible HITSP TC	Design Approach	Required Standards Now Unavailable for Constructs	SDO Working on Unavailable Standards	Expected Availability
IE-A Send Laboratory Order HL7v2.5.1 currently supports only Order Placer to Order Filler Cancel Request. Cancel request from Filler to Placer is required for the Long Term Care setting.	CMHR and Provider PTC	Update C163 and CAP99 when order code is available	HL7 activity currently underway to add the ability for an Order Filler to initiate the Cancel Request.	HL7	June 2010



IER Gap Description	Responsible HITSP TC	Design Approach	Required Standards Now Unavailable for Constructs	SDO Working on Unavailable Standards	Expected Availability
<p>IE-A Send Laboratory Order</p> <p>HL7 2.5.1 does not have enough information for copy-to provider to be specified.</p>	CMHR and Provider PTC	Update C163 and CAP99 when HL7 v2.7 has been updated	<p>HL7 v2.8 needs to add a new field to the end of OBR segment to capture detailed provider copy-to information including:</p> <ul style="list-style-type: none"> • Address • Fax number • Lab account number <p>Inclusion of these new fields will be able to be pre-adopted once approved by HL7</p>	HL7	September 2010 or January 2011
<p>IE-B Request and Response Laboratory Catalogue of Orders</p> <p>There is no Implementation Guide Query if catalogue is updated The construct for sending a Laboratory Catalogue of Orders does not yet exist within HITSP</p>	CMHR and Provider PTC	Create construct and update CAP99	Need Implementation Guide, follow up with HL7. (see Chapter 8 of HL7 V.2.5.1)	The American Clinical Lab Association (ACLA) will have an Implementation Guide to HL7 V.2.6	March 2010



IER Gap Description	Responsible HITSP TC	Design Approach	Required Standards Now Unavailable for Constructs	SDO Working on Unavailable Standards	Expected Availability
<p>IE-D Request and Response Supporting Information</p> <p>Sending supporting information within the HL7 message is currently supported; however a separate query for supporting information is also needed</p> <p>After the order is placed and additional information is deemed necessary, the lab needs to be able to request additional supporting information for the order. Currently this is handled by telephone or email. HITSP will need to create a construct or Implementation Guide to fill this Gap</p>	CMHR and Provider PTC	Create construct and update CAP99	N/A	N/A	2010
<p>IE-E Send Pseudonymized Laboratory order</p> <p>There is currently no Pseudonymization construct for sending laboratory orders to public health.</p>	Population PTC and Provider PTC and SPI DTC	New de-identification construct for lab orders, if necessary	N/A	N/A	Estimated to be available in 2010

Table 5-6 lists any standards overlaps and describes plans to resolve each of the overlaps.

Table 5-6 Information Exchange Requirements (IER) and Associated Standards Overlaps

IER Number	Summary Description	Standard Overlap	Recommended Resolution
B	Laboratory Catalogue of Orders	There are multiple standards and types of laboratory catalogues.	HITSP needs to perform Tier 2 Analysis on Laboratory Catalogues and determine how to harmonize across the multiple standards.



6.0 APPENDIX

This section may include additional materials referenced throughout this document, such as requirements analysis tables and figures.

6.1 REQUIREMENTS ANALYSIS FOR GENERAL LAB ORDERS EXTENSION-GAP

The following table references functional requirements as outlined in the 2009 ONC [General Lab Orders Extension/Gap](#) document, and the Information Exchange Requirements and Data Requirements as analyzed by HITSP.

How to read this table:

- Information Exchanges listed in the Information Exchange column are documented in more detail in Table 2-3 earlier in this document
- Items listed in the Data Requirements column are listed in more detail in Table 6-3 later in this document

Table 6-1 Interoperability Specification Requirements Analysis used to Derive Information Exchanges

Functional Requirements		Information Exchange	Data Requirements
A. The ability to review a listing of available general laboratory orders	i. When selecting orders, the clinician may need the ability to review a listing of the available general laboratory orders. These listings may be acquired through libraries of commonly used general laboratory orders. These listings of available general laboratory orders may be referred to as laboratory orders catalogues or compendiums of general laboratory orders. These catalogues or compendiums may be made available by the knowledge suppliers, the ordering entity, other healthcare entities, the receiving laboratory, other laboratories, laboratory associations, public health, or regulatory associations. A catalogue may simply include the names of available general laboratory orders and/or additional relevant information to assist both the ordering clinician and the receiving laboratory	IE-B Request and Response Laboratory Catalogue of Orders Note: The order catalogue should list orderable tests, not tests that have already been ordered.	DR-AA Catalogue of Laboratory Orders
B. The ability to select a general laboratory order	i. Using the list of available general laboratory orders, the clinician may select and order general laboratory tests through an EHR or other clinical order entry system	IE-B Request and Response Laboratory Catalogue of Orders Note: "Ability to select a general laboratory order" means "ability to select and place an orderable test from the catalogue."	DR-AA Catalogue of Laboratory Orders



Functional Requirements		Information Exchange	Data Requirements
C. The ability to incorporate listings of available laboratory orders provided by external sources into an EHR or clinical order entry system	i. The listings of available orders, as described above, may be available through libraries of commonly used general laboratory orders. These libraries may also include ordering instructions and order requirements that may be specific to individual orders and/or groupings of orders. Depending on the source or the recipient of the catalogues or compendiums of tests, tests may be grouped using various methods. These groupings may provide information about a particular body system, a related bodily function, and/or the type of laboratory which may be capable of receiving the order and completing the test. Examples of these grouping may include, but are not limited to: anatomic pathology, microbiology, biochemistry, and hematology. In some settings, these groupings may be referred to as laboratory order types or laboratory order profiles	IE-B Request and Response Laboratory Catalogue of Orders Note: The initial catalogue of orders must already be available in the order placer's system in order for an order to be placed Note: Available laboratory orders is interpreted to mean the tests that are orderable.	DR-AA Catalogue of Laboratory Orders
	ii. In addition, these groupings may also be based upon sets of specific individual tests and/or panels of tests which may be grouped by commonly ordered tests, order types, relevant pairings, and/or a combination. Panels may be composed of specific tests which are commonly grouped together in a set which assists in clinical practice (e.g., complete blood count (CBC))	IE-B Request and Response Laboratory Catalogue of Orders	DR-AA Catalogue of Laboratory Orders



Functional Requirements		Information Exchange	Data Requirements
D. The ability to uniquely identify: general laboratory order catalogues/compendiums, established groupings of general laboratory orders, and specific general laboratory orders. In addition, having the ability to appropriately associate these uniquely identified items with each other may be required.	i. Using the example of ordering a test for a CBC, the associated groupings may be available in the EHR, LIS, or other system. This grouping is not limited to but, may include a hematology order type, CBC panel, and red blood cell (RBC) count. The order type, panel, and specific test may all be individually and uniquely identified, as well as identified as being associated with each other	IE-B Request and Response Laboratory Catalogue of Orders	DR-AA Catalogue of Laboratory Orders
E. The ability to receive information/instructions which may assist the clinician in ordering a general laboratory test and the laboratory processing the order	i. As part of the ordering process, the clinician may receive instructions that may include information concerning indication for test, patient preparation, timing/sequence, and specimen collection. These instructions may be specific for an individual and/or may apply to a certain group of orders as discussed above in A.i. and D.i.	IE-B Request and Response Laboratory Catalogue of Orders	DR-AA Catalogue of Laboratory Orders
F. As part of the ordering process, the clinician may review information that is required and/or optional.	i. The information may be furnished to the ordering clinician by the ordering, receiving, or accrediting organization. Information and instructional requirements may be established by the organization at any of the grouping levels discussed above (A.i. and D.i.). As part of the ordering process, there may also be a need to obtain prior-authorization. This is addressed in the 2009 Prior-Authorization Extension/Gap.	IE-B Request and Response Laboratory Catalogue of Orders	DR-AA Catalogue of Laboratory Orders



Functional Requirements		Information Exchange	Data Requirements
G. The ability to provide required and optional order details by using pre-populated and/or manually populated fields within a general laboratory order	<p>i. Information requirements and instructions for laboratory orders in some cases may be referred to as “ask at order entry” and may be presented in various electronic formats including forms, templates, order entry formats, and requisitions. As described in A.i. and C.i. above, a listing of available general laboratory orders these forms/requisitions may be incorporated into EHRs</p> <p>Note: This requirement refers to information that the clinician needs at order entry.</p>	<p>IE-A Send Laboratory Order IE-B Request and Response Laboratory Catalogue of Orders</p>	<p>DR-AA Catalogue of Laboratory Orders DR-BB Laboratory Orders DR-CC Laboratory Order Details DR-DD General Laboratory Order Communication and Status</p>
	<p>ii. Depending on the system being used to place the general laboratory order, the information may be pre-populated, entered manually, and/or a combination of both, in order to complete the form/requisition. Examples of this information may include: patient demographics, test name, reason for test, order priority, relevant clinical information, ordering clinician information, general specimen information, and billing or insurance information</p>	<p>IE-A Send Laboratory Order IE-B Request and Response Laboratory Catalogue of Orders</p>	<p>DR-AA Catalogue of Laboratory Orders DR-BB Laboratory Orders DR-CC Laboratory Order Details DR-DD General Laboratory Order Communication and Status</p>
H. The ability to provide additional information regarding the general laboratory order	<p>i. The laboratory may require additional information and may need to electronically request this information</p> <p>Note: This requirement refers to information that the laboratory needs to process the test.</p>	<p>IE-D Request and Response Supporting Information</p> <p>Note: Additional information as stated here is interpreted to mean information that is needed in order to run the test properly and complete the order</p> <p>Note: In this requirement, the laboratory is requesting more information from the provider wherever they may be located including the inpatient OR outpatient setting. Typically and historically this has been addressed manually via telephone; the intent here is to provide a reliable electronic message that supports the workflow in a timely fashion. Including such requirements as those delineated is included within the notion of the compendium.</p>	<p>This information will be provided in OBX segments providing additional information necessary to complete the order such as data that helps in calculating the results from the test performed. Without this information, testing cannot be completed as requested. This would be information defined as observations necessary at order time</p>



Functional Requirements		Information Exchange	Data Requirements
	<p>ii. The clinician may also want to provide additional information to the laboratory. Depending on the system being used to place the general laboratory order, the additional information may be pre-populated, entered manually, and/or a combination of both. Examples of additional information may include instructions to the laboratory regarding a specified order or specimen</p>	<p>IE-A Send Laboratory Order</p> <p>Note: Additional information in this case is sent along with the original order message, as a segment of the message. It is not a separate information exchange.</p> <p>Note: Additional information as stated here is interpreted to mean information that would be of interest about the order or the patient</p>	<p>This information can be provided as NTE segments, potentially at the PID level or the OBR. This is helpful information in providing additional information about the patient and or the Order Code such as when medicine has been given. This information is not necessary to complete the test. It may even provide instructions such as "call physician when test is complete"</p>
I. The ability to modify and/or complete the general laboratory order	<p>i. Intra-organizational policies and functionality will determine the exact steps an ordering clinician must follow to complete the placement or modification of a general laboratory order</p>	<p>IE-A Send Laboratory Order</p> <p>Note: Policies need to exist among and between organizations.</p>	<p>DR-AA Catalogue of Laboratory Orders DR-BB Laboratory Orders DR-CC Laboratory Order Details DR-DD General Laboratory Order Communication and Status</p>
	<p>ii. The ordering clinician may need to identify a specific laboratory which will process the laboratory test. This determination may be made based upon listings of available laboratory orders, insurance specifications, organizational policies or contracts, inter-organizational policies or contracts, local and/or state policies and regulations. The determination decisions may be made by the provider or others prior to reviewing and placing a laboratory order or may be a capability built into the process/system which is executed prior to or after a clinician places an order for a general laboratory test</p>	<p>IE-A Send Laboratory Order</p>	<p>DR-AA Catalogue of Laboratory Orders DR-BB Laboratory Orders DR-CC Laboratory Order Details DR-DD General Laboratory Order Communication and Status</p>



Functional Requirements		Information Exchange	Data Requirements
J. The ability to electronically communicate the general laboratory order or modified general laboratory order from the EHR or clinical order entry system to the appropriate laboratory	i. The laboratory order is communicated from the ordering clinician's system to the receiving laboratory. Depending on patient care needs, business needs, public health needs, and current regulations, the general laboratory order and accompanying information may also be communicated or forwarded to other recipients that may include but may not be limited to: other clinicians, reference laboratories, public health, personally controlled health records, and payers	IE-A Send Laboratory Order IE-B Request and Response Laboratory Catalogue of Orders	DR-AA Catalogue of Laboratory Orders DR-BB Laboratory Orders DR-CC Laboratory Order Details DR-DD General Laboratory Order Communication and Status
	ii. Depending on intra-organizational, local, and state policies and regulations, ordering clinicians may also benefit from the ability to sign or verify a general laboratory order before it is forwarded. Clinicians may also benefit from the ability to electronically notify and/or carbon copy (cc:) another clinician when ordering a general laboratory test	IE-A Send Laboratory Order Note: Digital signature functionality is normally contained within the ordering system and not normally distributed Note: The system should provide the ability for the physician to sign or verify the placing of a Laboratory order.	DR-CC Laboratory Order Details
	iii. Furthermore, during the ordering of a general laboratory test, clinicians may benefit from the ability to specify that the results of a general laboratory order be forwarded to other clinicians. Specifics regarding the resulting and communication of results associated with lab orders are included in the 2006 EHR – Laboratory Results Use Case	IE-A Send Laboratory Order Note: the 2006 EHR - Laboratory Results Use Case have been addressed by the HITSP/IS01 - Laboratory Results Interoperability Specification.	DR-CC Laboratory Order Details Note: The copy-to information is sent along with the original order



Functional Requirements		Information Exchange	Data Requirements
	iv. During the placement or communication of the general laboratory order, clinicians may also benefit from the ability to perform duplicate checking. The clinician may be notified by the ordering system, or the receiving LIS, that a particular test has already been ordered	<p>No information exchange requirement.</p> <p>Note: Duplicate checking is a necessary function of every order management system and laboratory information system, however the interoperability requirements of this functionality are extremely complex and Out of scope for the general lab orders capability. For the time being, duplicate order checking is handled during intra-EHR or LIS workflow. Inter-EHR duplicate order checking is a desirable capability but Out of scope for this document.</p> <p>Note: Cancellation of a duplicate order should always be subject to clinical verification and not cancelled automatically.</p>	No data requirement
	v. Clinicians may also receive additional notifications. These notifications may be supported by decision support capabilities. While not the focus of this Extension/Gap, the use of decision support capabilities have been described in the 2007 Medication Management Use Case and the 2008 Personalized Healthcare Use Case	<p>No information exchange requirement.</p> <p>Note: Notifications for the purposes of decision support are Out of scope of this document.</p>	No data requirement.
K. The ability to electronically send an acknowledgement to the ordering clinician, communicating the receipt of the original or modified general laboratory order by the laboratory or LIS	i. Intra-organizational policies and functionality will determine the exact steps a receiving laboratory will follow to acknowledge the receipt of a general laboratory order. This includes the laboratory and/or LIS having the ability to receive and acknowledge the general laboratory order, order modifications, and order cancellations. This acknowledgement should be communicated to the ordering clinician	<p>IE-A Send Laboratory Order</p> <p>Note: Acknowledgement in this requirement have been interpreted to mean system level acknowledgement.</p>	DR-EE Order Status



Functional Requirements		Information Exchange	Data Requirements
L. The ability to view patient or specimen information that is associated with the general laboratory order	i. The laboratory receives the order along with any additional information provided by the clinician. The laboratory is able to associate an order, with the patient, specimen, and any additional general laboratory order information	No information exchange requirement Note: The viewing and linking of patient information to lab information is a process that is internal to the receiving laboratory system. The receiving system utilizes HL7 messaging to receive the order and patient information from the ordering system (initiating) as described in functional requirement G.i above.	No data requirement



Functional Requirements		Information Exchange	Data Requirements
M. The ability to electronically communicate a modification to the general laboratory order	i. As described, an ordering clinician may communicate a modification to a previously sent general laboratory order to the receiving laboratory. Similarly, there may be circumstances when the receiving laboratory may need to modify the general laboratory order. The modified general laboratory order along with any relevant information may be communicated to the ordering clinician	<p>IE-A Send Laboratory Order</p> <p>Note: When a modification is a change to WHAT is being ordered, that needs to be a cancellation and reorder, or a replacement order. Generally, the clinician is responsible for modifying orders; but the laboratory may advise the clinician that the order needs to be changed and wait for the new/modified order. However, when the modification is a change in how the test is performed, E.g.: priority, timing, etc, then the lab can also change the order and should notify the EHR/clinician system. For example, a lab may return a modification to a laboratory order due to an extended delay in testing which will be determined by the laboratory environment or policy. A delay experienced by one laboratory because samples are sent across the country will be a different delay experienced by a small local laboratory. Business rules either set locally at a filler, set universally at a filler or negotiated with a placer will need to set the policy with regards to when to send a notification. If several hundred samples are delayed by the courier, does the clinician receive notifications for each sample?</p> <p>Note: The workflow that is being requested here is for the lab to post an updated order back to the provider when it is modified in the lab information system, due to either a change being made by the lab that doesn't require provider approval, or through a change that has been approved by the provider using some other means of communication.</p> <p>Note: EHR system or lab application may want to send an acknowledgement of whether the change was accepted or rejected.</p> <p>Note: Modifications may include adding an additional test to an order after the order has already been placed</p>	<p>DR-AA Catalogue of Laboratory Orders</p> <p>DR-BB Laboratory Orders</p> <p>DR-CC Laboratory Order Details</p> <p>DR-DD General Laboratory Order Communication and Status</p>



Functional Requirements		Information Exchange	Data Requirements
	<p>ii. There may also be instances where the general laboratory order cannot be modified. In this case, the order for the general laboratory test may be cancelled by the ordering clinician and/or receiving laboratory and a new general laboratory order may be placed and communicated</p>	<p>IE-A Send Laboratory Order</p> <p>Note: If the laboratory cancels an order because it can not be fulfilled (E.g.: the specimen was unsatisfactory), the laboratory must notify the clinician that the order has been cancelled so that the clinician can re-order and amend the care. Note: A request has been sent to HL7 to allow a laboratory to send a cancel request message to the order placer.</p> <p>Note: Order placer can only request that a test be cancelled since they have no way of knowing how far the test has progressed at the order filler.</p>	<p>DR-CC Laboratory Order Details Note: Only Order ID element of DRDD is needed</p>
N. The ability to view the status of a general laboratory order	<p>i. A clinician and/or a laboratory may need to view the status of a general laboratory order. This information could include status of specimen collection, status of processing, and a history of order modifications</p>	<p>No information exchange requirement (Out of scope as this is a function of the laboratory application.)</p> <p>Note: Support for the status update Transaction is not in scope, although HL7 transactions are available to do so. This functional requirement also requires the ability to distinguish when an order status becomes a result status and the overlap needs to be clarified in the overall laboratory business model. This has not been resolved by an SDO.</p>	No data requirement
O. The ability to unambiguously associate an order to a test result	<p>i. A clinician and/or a laboratorian may need the ability to identify the specific test result associated with the general laboratory order. Specifics regarding the resulting and communication of results associated with lab orders are included in the 2006 EHR – Laboratory Results Use Case</p>	<p>IE-A Send Laboratory Order</p> <p>Note: This is addressed by communicating both the order placer and order filler numbers in with the ORC and/or OBR segments.</p>	DR-BB Laboratory Orders



Table 6-2 Data Requirements

Data Requirement Number (DR)	Description	
DR-AA	<p>Catalogue of Laboratory Orders: A catalogue of laboratory orders is provided, including (but not limited to):</p> <div> <div> <p>General laboratory orders may be categorized or grouped to support efficiency. Groupings may occur in various ways and may include the use of:</p> <ul style="list-style-type: none"> • order catalogs, category of lab orders (e.g. grouping) • compendiums of orders, • order types • anatomic pathology • microbiology • bio-chemistry • hematology • Compendium (catalogs of multiple labs) • Order profiles (multiple panels/batteries) • Order panels (battery) • Laboratory vs. Provider groupings (Out of scope) vs. Insurance (Out of scope) </div> <div> <p>Order detail requirements may be determined for any of these order types and may include: order type classification, sub-classification, and/or specific order level.</p> <p>Determining standardized order details for complex anatomic pathology orders may be challenging. However, pap smear or general dermatopathology orders may be placed and communicated using standardized order details</p> <p>In addition to containing the above groupings, the Catalogue of Laboratory Orders may also include standard order instructions. These instructions may have standard formatting and sequence and may include:</p> <ul style="list-style-type: none"> • Ordering Indications • Patient Preparation • Specimen Collection • Timing/Sequencing Information • Routing Instructions </div> </div>	
DR-BB	<p>Laboratory Orders</p> <div> <div> <p>Determining and standardizing all laboratory order names may not be practical. However, focusing on commonly used general laboratory orders such as those addressed by LOINC, CPT, SNOMED, the National Library of Medicine (NLM), or other SDOs may be valuable. Specific information that further describes the order should also be considered</p> </div> <div> <p>This information may include:</p> <ul style="list-style-type: none"> • Order Name • Order Description • Order Code • Source of Order Code • Panel Test Inclusion • Order Grouping <p>Additional Information Time of dosage of medications being taken may be pertinent to a lab result report and should be included in an order if available</p> </div> </div>	
DR-CC	<p>Laboratory Order Details</p> <div> <div> <p>Order detail requirements may be determined at the order grouping and/or specific order level. Standard order details may be required or optional depending on the order, the ordering entity, the needs of the receiving entity, or local, state, and federal regulations.</p> <p>Order details may include:</p> <ul style="list-style-type: none"> • Patient - Identification Information Demographics - (see DR01) • Issue: Acute ADT vs. Ambulatory care setting vs. public health ADT vs. LTC association differ • Clinical History (see DR03) • Patient – Clinically Relevant Information (see DR02) • Chief Complaint/Reason for Visit (may be determined by setting- may not be needed for ambulatory) • Reason for Test: <ul style="list-style-type: none"> • Diagnosis • Signs or Symptoms associated with ICD-CM Codes • Active Medications (may fall under additional info meta data) </div> <div> <p>Order Information</p> <ul style="list-style-type: none"> • Reason for Test (ICD-CM) • Order ID Number • Order type (Universal Service Identifier) • Priority of Order • Timing (frequency) of Order • Specimen type • Source of Specimen • Specimen Collection Method • Date/Time Specimen was Collected • Ordering Clinician (Ordering Provider) • Instructions per Ordering Clinician • Ordering Institution name, address, phone Number • Callback Number • Results FAX Number </div> </div>	



Data Requirement Number (DR)	Description	
DR-DD	General Laboratory Order Communication and Status	
	Specific information that assists in the communication and tracking of a general laboratory order may be considered. This information may include: <ul style="list-style-type: none"> • System Generated Order Identification Information • Order Grouping Identification Information • Order Status 	Order Update, Modification, Cancellation, Order Holds, Resume (e.g., once a day, stopped for a time in acute care setting), Replacement (e.g. change order) vary in ambulatory setting Associated Specimen & Result Note: Ambulatory repeat orders are treated as separate orders. In hospital setting, repeat orders fall under the original order ID. Parent-Child orders have multiple tests over a period of time
DREE	Order Status	
	Various status codes representing appropriate states in the workflow process	Note: These are Placer , Status, etc. codes representing workflow and are data elements within the underlying C163 construct.
DR-FF	Additional Order Notification: Receive additional notifications of lab orders, including (but not limited to):	
	Additional ask at order time information is used to do further calculations of results after testing has been done. They are usually OBX records, such as: Urine Volume and Collection time: The Creatinine Clearance test requires additional urine volume and collection time information in order to calculate full clearance results	LMP: The last menstrual period is required to calculate fetal age for fetal screening tests

Out of scope

- View laboratory order (internal to an EHR)
- Select/Identify laboratory order (internal to an EHR)

In Scope

- Provide the laboratory order (based on catalogue)
- Submit laboratory order
- Receive laboratory order

6.2 LABORATORY ORDER WORKFLOW

Figure 6-1 below is not intended to be prescriptive. It is included here in order to aid the analysis of all the transactions needed in a generic workflow.



Figure 6-1 Notional Laboratory Order Workflow

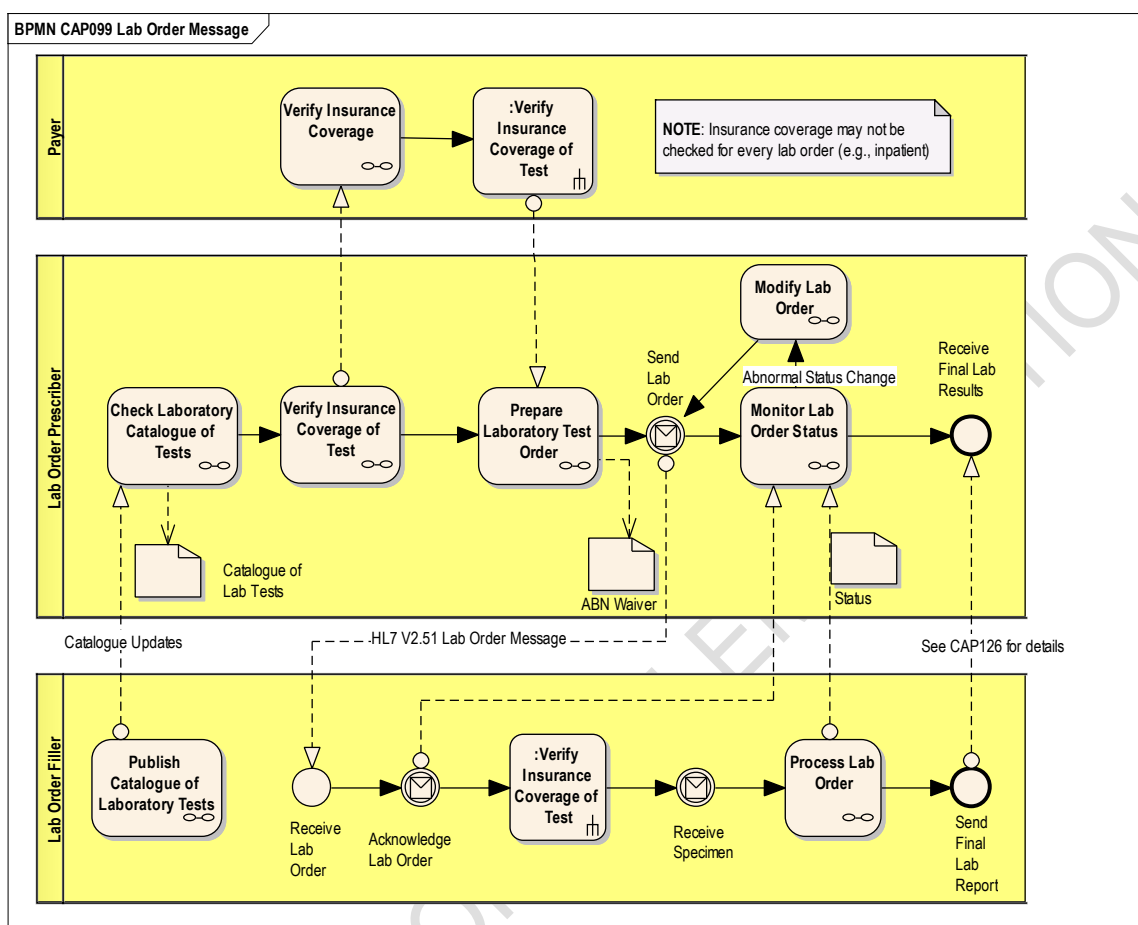


Table 6-3 Notional Laboratory Order Steps

Step Number	Step	Interface	Notes
1	Check Laboratory Catalogue of Tests	Lab Order Placer	At the start of the workflow, the Order Placer gets the Laboratory Catalogue of tests that is published..... and gets updates Uses the published Catalogue of Lab tests
2	Publish Catalogue of Laboratory Tests	Lab Order Filler	Catalogue of Lab tests must be published prior to the start of this workflow in order for Lab Order Placer to begin ordering a test. Catalogue updates must be sent to Lab Order Prescriber catalogues in order to keep them up to date.
3	Verify Insurance Coverage of Test	Lab Order Placer	
4	Verify Insurance Coverage	Payer	This step is optional. In some settings (eg: ER) care is provided first, in other settings if the patient has been admitted their coverage has already been verified
5	Verify Test Coverage	Payer	
6	Prepare Laboratory Test Order	Lab Order Placer	
7	Send Lab Order	Lab Order Placer	Using HL7 v2.5.1 Lab Order Message
8	Receive Lab Order	Lab Order Filler	
9	Send Lab Order acknowledgement	Lab Order Filler	Using HL7 V.2.5.1 ORL



Step Number	Step	Interface	Notes
9	Verify Insurance Coverage of Test	Lab Order Filler	
10	Receive Specimen	Lab Order Filler	
11	Process Lab Order	Lab Order Filler	
12	Monitor Lab Order Status	Lab Order Placer	Abnormal status message could result in reordering of Lab Test
13	Modify Lab Order	Lab Order Placer	Can modify and resend the Lab Order message
14	Send Final Lab Report	Lab Order Filler	See Capability 126 for details on how to send the final Lab Report message
15	Receive Final Lab Results	Lab Order Placer	

6.3 LABORATORY ORDER OPERATIONAL REQUIREMENTS

Table 6-4 Laboratory Order Operational Requirements

Description	Originator	Required for this Capability
New order/service	PLACER	R
Order/service accepted & OK	FILLER	R
Unable to accept order/service	FILLER	R
Previous Results with new order/service	PLACER	O
Cancel order/service request	PLACER and FILLER ³	R
Order/service canceled (unsolicited)	FILLER ⁴	R
Canceled as requested	FILLER	R
Unable to cancel	FILLER	R
Discontinue order/service request	PLACER and FILLER	C[601]
Order/service discontinued (unsolicited)	FILLER	C[601]
Discontinued as requested	FILLER	C[601]
Unable to discontinue	FILLER	C[601]
Parent order/service	FILLER	R
Modify order/service ⁵	FILLER	R

Table 6-5 Control Code Implementation Conditions

Condition Code	Condition Description
CAP99[601]	Required for inpatient, optional for outpatient

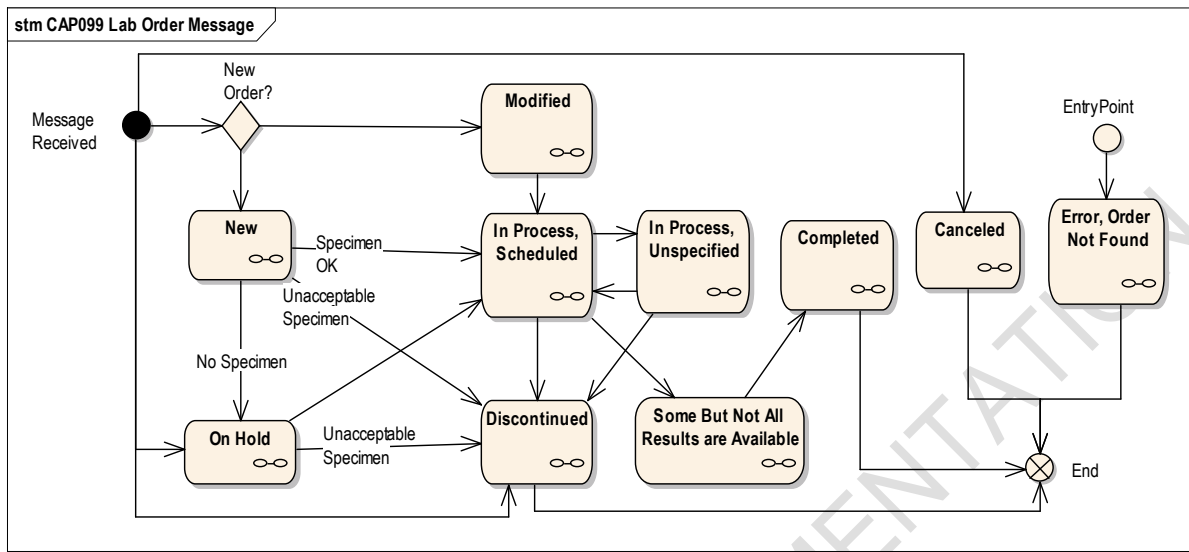
³ Cancel Request and Discontinue Request by the FILLER are not currently supported by the HL7 standard. A request will need to be made to HL7 to modify the standard. Cancel Request by the FILLER is needed in the Long Term Care setting.

⁴ The PLACER must be notified when the FILLER Cancels a Lab Order without a Cancel Request from the PLACER. Reasons for cancelled tests are available to providers.

⁵ Can be implemented using cancel and reorder.



Figure 6-2 Notional Lab Order States (Managed Internally by Lab) ⁶

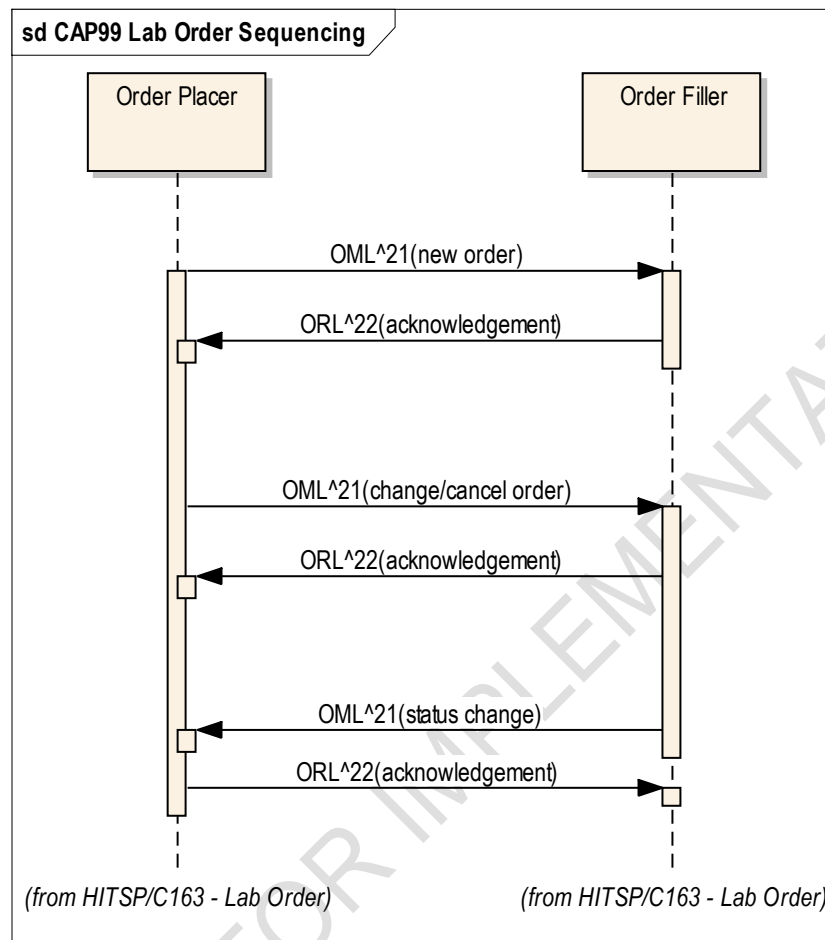


The diagram above is a state diagram describing the various states of a laboratory order while it is in the process of being fulfilled at the laboratory information system.

⁶ An order can go on hold for various reasons outside of the message/order control codes without sending a control code message. The filler may send a status message. For example, if the specimen has not arrived yet then the state of the lab order is "on hold".



Figure 6-3 Laboratory Orders Sequence Diagram



The diagram above describes the workflow for sending a laboratory order message and acknowledging the lab order message. When a new order, cancel order or status change message is sent using an OML^21 message, an ORL^22 is used to send the acknowledgement.

6.4 MESSAGE STRUCTURE GUIDANCE

This section provides guidance on the message structure for messages compliant with the constraints described in Table 4-10 Transaction Constraints .

Note: This capability does not specifically address, but if necessary should support through further extension, pre-adoption of additional HL7 segments or Special HL7 Protocols (as defined in Health Level Seven (HL7) Version 2.5.1 April, 2007 Chapter 2 section 2.10). Such extensions would need to be agreed upon beforehand by participating parties.



6.4.1 MESSAGE STRUCTURE TABLES - USAGE AND GROUPS

In the tables included in this section, segment groups (denoted as beginning with “--- GROUP_NAME begin”) in a message structure are assigned a usage, just like the segments in a message. The usage of a segment within a group applies only when the group is present in a message instance. For instance, a message group is defined as follows:

```
{
  --- OBSERVATION Begin          O (Optional)
  OBX      Observation Segment    R (Required)
  [{NTE}]   Note Segment          O (Optional)
}
```

In a message instance containing the Observation group, the OBX must be present since it is required. If there is no data for an OBX, then the entire group would not be present in the message. Simply having an NTE present in a message instance in the Observation Begin group is not allowed, since an OBX must always be present if the group is present.

In a message instance in which there is no Observation group, then the OBX would not be present in the message.

In the traditional encoding for HL7 messages, groups are not directly represented in the HL7 message, but conforming with the group structure in creating messages is critical for the receiver to correctly parse the message when it is received. As a comparison, the XML encoding for HL7 messages (not defined in this construct), segment groups are represented as XML Elements in the message instance.

6.4.2 MESSAGE STRUCTURE OF THE LAB ORDER MESSAGE (OML) EVENT O21 (LAB ORDER MESSAGE)

Table 6-6 Order Message (OML) Event O21 (Lab Order Message) Message Structure

Segment ID	Usage ⁷	Laboratory Order Message	Notes
MSH	R	Message Header	
[{ SFT }]	O	Software	
[{ NTE }]	O	Notes and Comments (for Header)	
	R	--- PATIENT begin	
PID	R	Patient Identification	
[PD1]	O	Additional Demographics	
[{ NTE }]	O	Notes and Comments (for Patient ID)	
[{ NK1 }]	O	Next of Kin/Associated Parties	
[	O	--- PATIENT_VISIT begin	
PV1	R	Patient Visit	Only required if the PATIENT VISIT Group is to be included
[PV2]	O	Patient Visit- Additional Info	
]		--- PATIENT_VISIT end	
[{	C	--- INSURANCE begin	The insurance group shall be present if the Order Filler requires insurance information for eligibility verification (C-163)

⁷ Usage indicates whether the message segment or segment group is required, optional, or conditional. “R” for Required, “R2” for Required if Known or “O” for Optional, or “C” for Conditional



<u>Segment ID</u>	<u>Usage⁷</u>	<u>Laboratory Order Message</u>	<u>Notes</u>
IN1	R	Insurance	[TRN-4]) Only required if the INSURANCE Group is to be included
[IN2]	O	Insurance Additional Info	
[IN3]	O	Insurance Add'l Info - Cert.	
}}		--- INSURANCE end	
[GT1]	O	Guarantor	
[{ AL1 }]	O	Allergy Information	
		--- PATIENT end	
{	R	--- ORDER begin	
ORC	R	Common Order	
[{	O	--- TIMING begin	
TQ1	R	Timing/Quantity	Only required if the TIMING Group is to be included
[{ TQ2 }]	O	Timing/Quantity Order Sequence	
}}		--- TIMING end	
[	C	--- OBSERVATION_REQUEST begin	Required for new order message.
OBR	R	Observation Request	Only required if the OBSERVATION REQUEST Group is to be included
[TCD]	O	Test Code Details	
[{ NTE }]	O	Notes and Comments (for Detail)	
[CTD]	O	Contact Data	
[{ DG1 }]	O	Diagnosis	
[{	O	--- OBSERVATION begin	
OBX	R	Observation/Result	Only required if the OBSERVATION Group is to be included
[TCD]	O	Test Code Detail	
[{ NTE }]	O	Notes and Comments (for Results)	
}}		--- OBSERVATION end	
[{	O	--- SPECIMEN begin	
SPM	R	Specimen	Only required if the SPECIMEN Group is to be included
[{ OBX }]	O	Observation/Result related to specimen	
[{	O	--- CONTAINER begin	
SAC	R	Specimen Container	Only required if the CONTAINER Group is to be included
[{ OBX }]	O	Observation/Result related to container	
}}		--- CONTAINER end	
}}		--- SPECIMEN end	
[{	O	--- PRIOR_RESULT begin	
[	O	--- PATIENT_PRIOR begin	
PID	R	Patient Identification - previous result	Only required if the PATIENT PRIOR Group is to be included
[PD1]	O	Additional Demographics -	



<u>Segment ID</u>	<u>Usage</u> ⁷	<u>Laboratory Order Message</u>	<u>Notes</u>
]		previous result	
[		--- PATIENT_PRIOR end	
PV1	O	--- PATIENT_VISIT_PRIOR begin	
	R	Patient Visit - previous result	Only required if the PATIENT VISIT PRIOR Group is to be included
[PV2]	O	Patient Visit Add. Info - previous result	
]		--- PATIENT_VISIT_PRIOR end	
[{ AL1 }]	O	Allergy Information	
{	O	--- ORDER_PRIOR begin	
[ORC]	O	Common Order - previous result	
OBR	R	Order Detail - previous result	Only required if the ORDER PRIOR Group is to be included
[{ NTE }]	O	Notes and Comments - previous result	
[{	O	--- TIMING_PRIOR begin	
TQ1	R	Timing/Quantity	Only required if the TIMING PRIOR Group is to be included
[{ TQ2 }]	O	Timing/Quantity Order Sequence	
}}		--- TIMING_PRIOR end	
{	O	--- OBSERVATION_PRIOR begin	
OBX	R	Observation/Result - previous result	Only required if the OBSERVATION PRIOR Group is to be included
[{ NTE }]	O	Notes and Comments - previous result	
}		--- OBSERVATION_PRIOR end	
}		--- ORDER_PRIOR end	
}}		--- PRIOR_RESULT end	
]		--- OBSERVATION_REQUEST end	
[{ FT1 }]	O	Financial Transaction	
[{ CTI }]	O	Clinical Trial Identification	
[BLG]	O	Billing Segment	
}		--- ORDER end	

6.4.3 MESSAGE STRUCTURE OF THE LAB ORDER MESSAGE (ORL) EVENT O22 (GENERAL LABORATORY ORDER RESPONSE MESSAGE)

Table 6-7 Lab Order Message (ORL) Event O22 (General Laboratory Order Response Message) Message Structure

<u>Segment ID</u>	<u>Usage</u> ⁸	<u>Laboratory Order Message</u>	<u>Notes</u>
MSH	R	Message Header	
MSA	R	Message Acknowledgement	
[{ ERR }]	O	Error	
[{ SFT }]	O	Software	
[{ NTE }]	O	Notes and Comments (for Header)	
		--- RESPONSE begin	

⁸ Usage indicates whether the message segment or segment group is required, optional, or conditional. "R" for Required, "R2" for Required if Known or "O" for Optional, or "C" for Conditional



<u>Segment ID</u>	<u>Usage</u> ⁸	<u>Laboratory Order Message</u>	<u>Notes</u>
	R	--- PATIENT begin	
PID	R	Patient Identification	
{	R	--- ORDER begin	
ORC	R	Common Order	
[{	O	--- TIMING begin	
TQ1	R	Timing/Quantity	Only required if the TIMING Group is to be included
[{ TQ2 }]	O	Timing/Quantity Order Sequence	
}]		--- TIMING end	
[	O	--- OBSERVATION_REQUEST begin	
OBR	R	Observation Request	Only required if the OBSERVATION REQUEST Group is to be included
[{	O	--- SPECIMEN begin	
SPM	R	Specimen	Only required if the SPECIMEN Group is to be included
[{ SAC }]	O	Specimen Container Details	
}]		--- SPECIMEN end	
]		--- OBSERVATION_REQUEST end	
}]		--- ORDER end	
		--- PATIENT end	
		--- RESPONSE end	



7.0 DOCUMENT UPDATES

The following sections provide the details of updates made to this document.

7.1 SEPTEMBER 30, 2009

No changes. This is the first published version of the document.

7.2 NOVEMBER 9, 2009

Document updated from first public comment period. Significant changes include:

- Reduction of External Interfaces listed in Section 2.0 from detailed order control code interfaces to high-level send and receive laboratory order interfaces, as the details are referenced in the new HITSP/C163 Laboratory Orders
- Removal of 4 Section 2.0 External Interfaces which do not have a supporting HITSP construct, and adding of those interfaces to Table 5-5 Information Exchange Requirements and Associated Standards Gaps:
 - The ability to query and respond for catalogue updates is currently a gap in HITSP constructs
 - The ability to query and respond for supporting information outside of the initial lab order message is currently a gap in HITSP constructs
- Removal of two System roles in Table 2-3:
 - Order Placer as a Responding system
 - Order Filler as an Initiating system
- Updated Constraints and Assumptions
- Reduction of interfaces listed in Section 4.3 Specified Interfaces by System Role based on reduced Section 2.0 interfaces
- Reduction of Information exchanges, updated figures, and updated gap descriptions based on reduced Section 2.0 interfaces
- Removal of Tables 119 and 38 from HL7 V.2.5.1 as they are now referenced in the new HITSP/C163 Laboratory Orders construct
- Addition of detailed descriptions of system roles
- Addition of regulations, selected standards and informative reference standards to Section 5.0 and removal of list of candidate Tier 2 selection standards from Section 6.0

7.3 JANUARY 18, 2010

7.3.1 UPDATES FROM PUBLIC COMMENT

The changes in this cycle address the following comments received during the November 2009 public comment and inspection testing period:

- Incorporated all of the 89 Public Comment TC dispositions into the document
 - Updated all figures based on public comments
 - Added Figure 6-3 Laboratory Orders Sequence Diagram to further clarify workflow
 - Updated description of repeating orders
 - Update analysis of Use Case requirements in Table 6-1, adding many notes to clarify Provider PTC interpretation of Use Case requirements
 - Added gaps and updated gap descriptions in Table 5-5

The associated comment numbers for these updates are as follows:



8158, 8164, 8165, 8166, 8167, 8313, 8314, 8319, 8320, 8321, 8322, 8324, 8325, 8326, 8327, 8328, 8332, 8341, 8343, 8344, 8345, 8346, 8347, 8384, 8385, 8366, 8388, 8390, 8391, 8394, 8395, 8396, 8399, 8401, 8486, 8837, 8839, 8852, 8905, 8911, 8912, 8914, 8918, 8919, 8926, 8940, 8947, 8951, 8953, 8958, 8962, 8964, 8976, 8978

The full text of the comments along with the Technical Committee's disposition can be reviewed on the [HITSP Public Web Site](#).

7.3.2 GLOBAL CHANGES

Document was updated to the HITSP Capability Template Version 2.3.

The following changes have been made based upon IRT review:

- Addition of tables Table 4-9 and Table 4-10 Transaction Constraints
- Addition of Appendix Section 6.4 which outlines the laboratory message structure

7.4 JANUARY 25, 2010

Upon approval by the HITSP Panel on January 25, 2010, this document is now Released for Implementation.

