DEPARTMENT OF HEALTH AND HOSPITALS

STATE OF LOUISIANA

Louisiana Department of Health and Hospitals
Electronic Laboratory Reporting
(LA-ELR)

Health Level Seven (HL7) Version 2.5.1 Guidelines

James Street
James.Street2@la.gov

Rashad Arcement
Rashad.Arcement@la.gov

Copyright © 2014 by State of Louisiana. All Rights Reserved.

Table of Contents

1. **Introduction 7**
   1.1. Definitions 7
   1.2. Message Construction Rules 8
   1.3. Unsolicited Observation Message 8
   1.4. Segment Attributes 10
   1.5. Use of Escape Sequences in Text Fields 13
2. **Message Header (MSH) 14**
   2.1. Field Separator 15
   2.2. Encoding Characters 15
   2.3. Sending Application 16
   2.4. Sending Facility 16
   2.5. Receiving Application 17
   2.6. Receiving Facility 17
   2.7. Date/Time of Message 17
   2.8. Message Type 18
      2.8.1. Table HL70076 – Message Type 18
      2.8.2. Table HL70003 – Event Type 18
   2.9. Message Control ID 18
   2.10. Processing ID 19
      2.10.1. Table HL70103 – Processing ID 19
   2.11. Version ID 19
      2.11.1. Table HL70104 – Version ID 19
3. **Patient Identification (PID) 20**
   3.1. Patient Identifier List 21
      3.1.1. Table HL70203 – Identifier Type Code 22
   3.2. Patient Name 23
      3.2.1. Table HL70360 – Degree 23
      3.2.2. Table HL70200 – Name Type 25
   3.3. Mother's Maiden Name 25
   3.4. Date/Time of Birth 26
   3.5. Administrative Sex 26
      3.5.1. Table HL70001 – Administrative Sex 26
   3.6. Race 27
      3.6.1. CDCREC – Race Category 28

3.6.2. Table HL70396 – Coding System 28
3.7. Patient Address 28
3.7.1. Table PHVS_Country_ISO_3166-1_V1 29
3.7.2. Table HL70190 – Address Type 29
3.7.3. Table PHVS_County_FIPS_6-4_V1 29
3.8. Phone Number – Home 31
3.8.1. Table HL70201 – Telecommunication Use Code 32
3.8.2. Table HL70202 – Telecommunication Equipment Type 32
3.9. Phone Number – Business 32
3.10. Marital Status 33
3.10.1. Table HL70002 – Marital Status 34
3.11. Mother's Identifier 35
3.12. Ethnic Group 35
3.12.1. CDCREC – Ethnic Group 36
3.13. Multiple Birth Indicator 36
3.13.1. Table HL70136 – Yes/No Indicator 36
3.14. Birth Order 37
3.15. Patient Death Date and Time 37
3.16. Patient Death Indicator 37
4. Next of Kin/Associated Parties (NK1) 38
4.1. Name 38
4.2. Relationship 39
4.2.1. Table HL70063 – Relationship 40
4.3. Address 40
4.4. Phone Number 41
4.5. Organization Name – NK1 42
4.6. Contact Person's Name 42
4.7. Contact Person's Telephone Number 43
4.8. Contact Person's Address 44
5. Common Order (ORC) 45
5.1. Ordering Facility Name 45
5.1.1. Table HL70204 – Organization Name Type 46
5.2. Ordering Facility Address 46
5.3. Ordering Facility Phone Number 47
5.4. Ordering Provider Address 47
6. Observation Request (OBR) 49

6.1. Placer Order Number 50
6.1.1. Table HL70301 – Universal ID Type 50
6.2. Filler Order Number 51
6.3. Universal Service ID 51
6.4. Observation Date/Time 52
6.5. Observation End Date/Time 53
6.6. Collector Identifier 53
6.7. Relevant Clinical Information 54
6.8. Ordering Provider 54
6.9. Order Callback Phone Number 55
6.10. Results Reported/Status Change Date/Time 56
6.11. Result Status 57
6.11.1. Table HL70123 – Result Status 57
6.12. Parent Result 57
6.13. Result Copies To 58
6.14. Parent 59
6.15. Reason for Study 59
7. Observation/Result (OBX) 60
7.1. Value Type 61
7.1.1. Table HL70125 – Value Type 61
7.2. Observation Identifier 61
7.3. Observation Sub-ID 62
7.4. Observation Value 63
7.5. Units 64
7.6. References Range 66
7.7. Abnormal Flags 66
7.7.1. Table HL70078 – Abnormal Flags 67
7.8. Observation Result Status 68
7.8.1. Table HL70085 – Observation Result Status Codes Interpretation 68
7.9. Date/Time of the Observation 69
7.10. Producer's Reference 69
7.11. Observation Method 70
8. Notes and Comments (NTE) 71
8.1. Source of Comment 72
8.1.1. Table HL70105 – Source of Comment 72
8.2. Comment 72

9. **Specimen Segment (SPM) 73**
9.1. Specimen Type 73
9.1.1. Table HL70070 – Specimen Source 74
9.2. Specimen Additives 83
9.2.1. Table HL70371 – Additives or Preservatives 84
9.3. Specimen Collection Method 85
9.3.1. Table HL70498 – Specimen Collection Method 86
9.4. Specimen Source Site 87
9.4.1. Refer to PHINVADS to obtain the Body Site Value Set table. 88
9.5. Specimen Collection Volume 89
9.6. Specimen Description 89
9.7. Specimen Collection Date/Time 89
9.8. Specimen Received Date/Time 90
10. **Observation Related to Specimen - OBX 90**
11. **Code Mapping 90**
11.1. Table Cross-Reference 91
12. **Additional Tables and Values 92**
12.1.1. Table CDCM – CDC Methods/Instruments Codes 92
12.1.2. Table ICD-9-CM International Classification of Diseases, Ninth Revision ... 92
12.1.3. Table LOINC – Logical Observation Identifier Names and Codes 92
12.1.4. Table SNOMED – Systematized Nomenclature of Human and Veterinary Medicine 92
13. **Code Versions 92**
14. **DOH Program Area Specific Guidelines 93**
14.1. Lead 93
14.1.1. Additional Required Fields 93
14.1.2. Table HL70070 - Specimen Source (Lead) 93
14.1.3. Sample Lead Messages 94
14.2. HIV/AIDS 96
14.2.1. Table LOINC – Logical Observation Identifier Names and Codes (HIV/AIDS) 96
14.2.2. Table HL70070 - Specimen Source (HIV/AIDS) 96
14.2.3. Sample HIV/AIDS Messages 97

Document History

Version	Date	Author	Status	Notes
0.1	11/9/2011	William Pugh	Draft	Initial Document for the Commonwealth of Pennsylvania.
1.0	11/15/2011	William Pugh	Final	Final review before document release.
1.1	03/01/2012	C. Crawford	Revision	Updated section 1.3 to make ORC segment required. Added Copyright. Updated Logo.
1.2	6/21/2012	William Pugh	Revision	Updated data type of OBX field 8
1.3	9/24/2013	William Pugh	Revision	Updated 1.3 deviations from the HL7 Standard Version 2.5.1 Updated Section 4 to make the relationship field required. Updated Section 4.2 to make the relationship field required. Updated Section 7 to make Units Conditional, Reference Range Required, Abnormal Flags Required, and Observation Result Status Required. Updated Section 7.5 to make Units Field Conditional. Updated Section 7.6 to make Reference Range Field Required. Updated Section 7.7 to make Abnormal Flag Required. Updated Section 7.8 to make Observation Result Status Required and to allow for corrected results.
1.4	10/16/2013	Mark Dittman	Revision	Updated Section 1.4 to include "RE" (Required with Exceptions) as valid data status. Amended *Patient Death Date and time* and *Patient Death Indicator* to "RE".
1.5	10/21/2013	William Pugh	Revision	Updated Specimen Type code tables.
1.6	1/10/2014	Mark Dittman	Revision	Updated Section 6.1 to remove the sentence to require the use of "L". Updated Section 6.2 to remove sentence to require the use of "L".
1.7	1/22/2014	Emmeth Funches	Revision	Thank you William Pugh, Mark Dittman and others for your hard work on this HL7 Guidelines. Change references from PA (Pennsylvania) to LA (Louisiana).

1. Introduction

This document is the Louisiana Department of Health's (LADOH) supplement to the Health Level Seven (HL7) implementation guide adopted by the Centers for Disease Control and Prevention (CDC):

- HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 (US Realm) – February 2010.

This document is a specific implementation guide adopted by the CDC to define how reportable diseases should be communicated via electronic methods from laboratories to public health agencies through the use of HL7. As in the guide, this document follows the HL7 specification for version 2.5.1 and focuses on one type of HL7 message, the Observational Report – Unsolicited (ORU).

A prospective Trading Partner must assess the vocabulary of LA-ELR standard codes as described in the LA-ELR HL7 2.5.1 Guidelines, and they will translate local codes to standard codes prior to issuing messages to the LA-ELR system. For all fields that utilize code tables, only a code belonging to the standard code set for that field can be accepted. See the section entitled Code Mapping for more information.

This document also includes, where applicable, any restrictions or deviations from the standard LADOH and CDC HL7 guidelines that may be required for certain test types and/or LADOH program areas. These variations as well as related sample HL7 messages are organized by program area in the Program Area Specific Guidelines section. As these additional guidelines supersede those published as standard guidelines, it is recommended that this section be read in full before starting implementation.

1.1. Definitions

Message: A message is the entire unit of data transferred between systems in a single transmission. It is a series of segments in a defined sequence, with a message type and a trigger event.

Segment: A segment is a logical grouping of data fields. Segments within a defined message may be required or optional, may occur only once, or may be allowed to repeat. Each segment is named and is identified by a segment ID, a unique three-character code. The Segment Terminator at the end of each segment can be denoted in 2 ways: (1) The hex characters "0D0A" (equivalent to a Carriage Return and Line Feed – "<CRLF>"), or (2) the hex characters "0D" (equivalent to a Carriage Return – "<CR>").

Field: A field is a string of characters. Each field is identified by the segment it is in and the position within the segment (e.g., PID-5 if the fifth field of the PID segment). Optional data fields need not be valued.

Component: A component is one of a logical grouping of items that comprise the contents of a coded or composite field. Within a field having several components, not all components are required to be valued, and some components may be ignored. A component may, in turn, be logically grouped into subcomponents.

Message Syntax: The abstract message is defined in special notation that lists the three-letter segment identifiers in the order they will appear in the message. Braces "{" and "}" indicate that one or more of the enclosed group of segments may repeat. Brackets "[" and "]" indicate that the enclosed group of segments is optional.

Delimiters: The delimiters to be used for LADOH-based laboratory messages are as follows: The hex characters "0D0A" (equivalent to a Carriage Return and Line Feed – "<CRLF>"), or (2) the hex characters "0D" (equivalent to a Carriage Return – "<CR>") – Segment Terminator; "|" – Field Separator; "^" – Component Separator; "&" – Sub-Component Separator; "~" – Repetition Separator; and "\" – Escape Character (see section 1.5 Use of Escape Sequences in Text Fields). Any trailing delimiters found after the last field in a segment, while not accepted, will not cause any errors in the receiving application.

1.2. Message Construction Rules

Components, subcomponents, or repetitions that are not valued at the end of a field do not need to be represented by separators.

If a data segment that is expected is not included, it will be treated as if all data fields within the segment were not present.

If a data segment is included that was not expected, it will be ignored and will not generate an error.

If unexpected data fields are found at the end of a data segment, they will be ignored and will not generate an error.

1.3. Unsolicited Observation Message

Laboratory information is reported through the Observation Report – Unsolicited (ORU) event R01 message to public health agencies. The supported segments in ORU message structure as outlined below:

ORU Segment	ORU Segment Name	CDC Guide
MSH	Message Header	Section 5.1
[{SFT}]	Software Segment	Section 5.2
{	PATIENT_RESULT Begin	
[	PATIENT Begin	
PID	Patient Identification	Section 5.5
[PD1]	Additional Demographics	
[{NTE}]	Notes and Comments for PID	
[{NK1}]	Next of Kin/Associated Parties	Section 5.6
[	VISIT Begin	
PV1	Patient Visit	Section 5.7
[PV2]	Patient Visit – Additional Information	Section 5.8
]	VISIT End	
]	PATIENT End	
{	ORDER_OBSERVATION Begin	
[ORC]	Order Common	Section 5.9

OBR	Observations Request	Section 5.10
[{NTE}]	Notes and Comments for OBR	
[{	TIMING_QTY Begin	
TQ1	Timing/Quantity	Section 5.11
[{TQ2}]	Timing/Quantity Order Sequence	
}]	TIMING_QTY End	
[CTD]	Contact Data	
[{	OBSERVATION Begin	
OBX	Observation related to OBR	Section 5.12
[{NTE}]	Notes and Comments	Section 5.14
}]	OBSERVATION End	
[{FTI}]	Financial Transaction	
{[CTI]}	Clinical Trial Identification	
[{	SPECIMEN Begin	
SPM	Specimen Information related to OBR	Section 5.13
[{OBX}]	Observation related to Specimen	
}]	SPECIMEN End	
}	ORDER_ OBSERVATION End	
}	PATIENT_RESULT End	
[DSC]	Continuation Pointer	
}		

The following deviations from the HL7 Standard Version 2.5.1 message syntax should be noted:

ORU Segment	HL7 Standard Version 2.5.1	PA- DOH Laboratory-Based Reporting
Patient Result Group	Repeating	Single instance
Patient Group	Optional within the Patient Result Group	Required within the Patient Result Group
ORC	Single Instance - Optional within Order Observation Group	Single Instance - Required within Order Observation Group. ORC is only contained in the first Order Observation Group
Observation Group	Repeating – Optional within Order Observation	Repeating – Required within Order Observation
OBX	Repeating Optional within OBR	Repeating Required within OBR
NTE	Repeating - Optional within Patient Group, Order Observation	Repeating – Optional only within

	Group and Observation Group	Observation Group

The HL7 Standard Version 2.5.1 allows for the following segments in the standard ORU message and are defined and used in laboratory-based reporting. These segments will be ignored by LA-ELR; messages that contain these segments will not be rejected:

- PD1 – Patient Additional Demographics
- PV1 – Patient Visit
- PV2 – Patient Visit – Additional Info
- TQ1 – Timing Quantity
- TQ2 – Timing/Quantity Order Sequence
- CTD – Contact Data
- FT1 – Financial
- CT1 – Clinical Trial Identifier
- DSC – Continuation Pointer – Not supported

LA-ELR requires no deviation from the CDC adopted standards for the Software segment (SFT); therefore this document does not contain any LA-ELR specific requirements for the SFT segment.

For the purposes of determining whether to issue an HL7 message to LA-ELR, the ORU event should be considered to have occurred when an instance of a report for a reportable condition for an eligible subject becomes available. If one or more required data elements are not present, the report is considered incomplete and cannot be fully processed in its original state, but it should still be transmitted.

1.4. Segment Attributes

SEQ: The sequence of the field as it is numbered in the segment.

LEN: The length of the field within the segment. Exceeding the length listed will not be considered an error.

DT: The data type of the element. The data types employed are as followed:

DT	Description	Explanation/Format
CE	Coded element	This data type transmits codes and the text associated with the code. *<identifier (ST)> ^ <text (ST)> ^ <name of coding system (ID)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ID)>*
CQ	Composite quantity with units	Used to express a quantity, and the units in which the quantity is expressed. *<quantity (NM)> ^ <units (CWE)>*

DT	Description	Explanation/Format
CWE	Coded With Exceptions	Specifies a coded element and its associated detail. The CWE data is used when 1) more than one table may be applicable or 2) the specified HL7 or externally defined table may be extended with local values or 3) when text is in place, the code may be omitted. <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> ^ <Coding System Version ID (ST)> ^ <Alternate Coding System Version ID (ST)> ^ <Original Text (ST)> ^ <Second Alternate Identifier (ST)> ^ <Second Alternate Text (ST)> ^ <Second Name of Alternate Coding System (ID)> ^ <Second Alternate Coding System Version ID (ST)> ^ <Coding System OID (ST)> ^ <Value Set OID (ST)> ^ <Value Set Version ID (DTM)> ^ <Alternate Coding System OID (ST)> ^ <Alternate Value Set OID (ST)> ^ < Alternate Value Set Version ID (DTM)> ^ <Second Alternate Coding System OID (ST)> ^ <Second Alternate Value Set OID (ST)> ^ < Second Alternate Value Set Version ID (DTM)>
CX	Extended composite ID with check digit	Used to specify an identifier with its associated administrative detail. *<ID number (ST)> ^ <check digit (ST)> ^ <check digit scheme (ID)> ^ <assigning authority (HD)> ^ <identifier type code (ID)> ^ < assigning facility (HD)> ^<Effective Date (DT)> ^<Expiration Date (DT)> ^<Assigning Jurisdiction (CWE)> ^<Assigning Agency or Department (CWE)>*
DR	Date Range	*<Range Start Date/Time (TS)> ^ <Range End Date/Time (TS)>*
DT	Date	Format: YYYY[MM[DD]]
DTM	Date/Time	Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]
EI	Entity identifier	The entity identifier permits the identification of a given entity within an application or system. *<entity identifier (ST)> ^ <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>*
EIP	Entity Identifier Pair	Specifies an identifier assigned to an entity by either the placer or the filler system. If both components are populated the identifiers must refer to the same entity. <Placer Assigned Identifier (EI)> ^ <Filler Assigned Identifier (EI)>
FN	Family Name	Used to allow full specification of the surname of a person. Where appropriate, it differentiates the person's own surname from that of the person's partner or spouse, in case where the person's name may contain elements from either name. It also permits messages to distinguish the surname prefix (such as "van" or "de") from the surname root. <Surname (ST)> ^ <Own Surname Prefix (ST)> ^ <Own Surname (ST)> ^ <Surname Prefix From Partner/Spouse (ST)> ^ <Surname From Partner/Spouse (ST)>
FT	Formatted text	This data type is derived from the string data type by allowing the addition of embedded formatting instructions.
HD	Hierarchic designator	A unique name that identifies the system which was the source of the data. The HD is designed to be used by either as a local version of a site-defined application identifier or a publicly-assigned UID. *<namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>*
ID	Coded value for HL7-defined tables	The value of such a field follows the formatting rules for an ST field except that it is drawn from an HL7-defined table. A specific HL7 table number is inherently associated with the field, rather than explicitly stated, when this data type is used.

DT	Description	Explanation/Format
IS	Coded value for user-defined tables	The value of such a field follows the formatting rules for an ST field except that it is drawn from a user-defined table. A specific HL7 table number is inherently associated with the field, rather than explicitly stated, when this data type is used.
MSG	Message Type	Contains the message type, trigger Event, and the message structure ID for the message. <Message Code (ID)> ^ <Trigger Event (ID)> ^ <Message Structure (ID)>
NM	Numeric	A number represented as a series of ASCII numeric characters consisting of an optional leading sign (+ or -), the digits and an optional decimal point. In the absence of a sign, the number is assumed to be positive. If there is no decimal point, the number is assumed to be an integer. Leading zeros, or trailing zeros after a decimal point, are not significant.
PRL	Parent Result Link	Uniquely identifies the parent result's OBX segment related to the current order, together with the information in OBR-29-parent. <parent observation identifier (CWE)> ^ <parent observation sub-identifier (ST)> ^ <parent observation value descriptor (TX)>
PT	Processing type	*Defines how to process a message as defined in HL7 processing rules.* *<processing ID (ID)> ^ <processing mode (ID)>*
SAD	Street Address	Specifies and entity's street address and associated components. <Street or mailing Address (ST)> ^ <Street Name (ST)> ^ <Dwelling Number (ST)>
SN	Structured numeric	The structured numeric data type is used to unambiguously express numeric clinical results along with qualifications. *<comparator (ST)> ^ <num1 (NM)> ^ <separator/suffix>(ST) ^ <num2 (NM)>*
ST	String data	Any printable ASCII characters except the defined delimiter characters. To include any HL7 delimiter character (except the segment terminator) within a string data field, the appropriate HL7 escape sequence must be used. String data is left justified with trailing blanks optional.
TS	Timestamp	<Time (DTM)> ^ <Degree of Precision (ID)>
TX	Text data	String data meant for user display (on a terminal or printer). Not necessarily left justified. Leading spaces may contribute to clarity of the presentation to the user.
VID	Version identifier	Used to identify the HL7 version. *<version ID (ID)> ^ <internationalization code (CWE)> ^ <international version ID (CWE)*
XAD	Extended address	Used to express address data associated with a person or institution. *<street address (SAD)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ < address type (ID)> ^ <other geographic designation (ST)> ^ <county/parish code (IS)> ^ <census tract (IS)> ^ <address representation code (ID)> ^ <address validity range (DR)> ^ <effective date (TS)> ^ <expiration date (TS)>*

DT	Description	Explanation/Format
XCN	Extended composite ID number and name for persons	Used to express person name information in conjunction with a composite ID and check digit. *<ID number (ST)> ^ <family name (FN)> ^ <given name (ST)> ^ <second and further given names or initials thereof (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (IS)> ^ <source table (IS)> ^ <assigning authority (HD)> ^ <name type code (ID)> ^ <identifier check digit (ST)> ^ <check digit scheme (ID)> ^ <identifier type code (ID)> ^ <assigning facility (HD)> ^ <name representation code (ID)> ^ <name context (CE)> ^ <name validity range (DR)> ^ <name assembly order (ID)> ^ <effective date (TS)> ^ <expiration date (TS)> ^ <professional suffix (ST)> ^ <assigning jurisdiction (CWE)> ^ <assigning agency or department (CWE)>*
XON	Extended composite name and identification number for organizations	Used to express organization name information in conjunction with a composite ID and check digit. *<organization name (ST)> ^ <organization name type code (IS)> ^ <ID number (NM)> ^ <check digit (NM)> ^ <check digit scheme (ID)> ^ <assigning authority (HD)> ^ <identifier type code (ID)> ^ <assigning facility ID (HD)> ^ <name representation code (ID)> ^ <organization identifier>*
XPN	Extended person name	Used to express person name information. *<family name (FN)> ^ <given name (ST)> ^ <second and further given names or initials thereof (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (IS)> ^ <name type code (ID) > ^ <name representation code (ID)> ^ <name context (CWE)> ^ <name validity range (DR)> ^ <name assembly order (ID)> ^ <effective date (TS)> ^ <expiration date (TS)> ^ <professional suffix>*
XTN	Extended telecommunications number	Used to express telecommunications information. *<telephone number (ST)> ^ <telecommunication use code (ID)> ^ <telecommunication equipment type (ID)> ^ <email address (ST)> ^ <country code (NM)> ^ <area/city code (NM)> ^ <local number (NM)> ^ <extension (NM)> ^ <any text (ST)> ^ <extension prefix (ST)> ^ <speed dial code (ST)> ^ <unformatted telephone number (ST)>*

R/RE/O: Whether the field is required ("R"), required with exceptions ("RE"), optional ("O"), or conditional ("C") in the segment.

RP#: Indicates whether or not the field repeats in the segment. If the number of repetitions is limited, the number of allowed repetitions is provided.

TBL#: Identifies whether the field utilizes one or more tables with standard values to code the field in the segment. The specific table(s) used are detailed in the field definitions within the document itself.

ELEMENT NAME: The descriptive name of the field in the segment.

1.5. Use of Escape Sequences in Text Fields

If a character that is reserved as a delimiter is encountered in the contents of a field, component, or subcomponent, it is necessary to represent that character using an "escape sequence". Failure to do so results in the contents of that field, component, or subcomponent being lost during parsing. In this implementation, the use of an escape sequence is possible when the data type is ST or FT.

The escape character is specified in the Escape Character component of MSH-2 Encoding Characters. In this section, the character \ will be used to represent the escape character. An escape sequence consists of the escape character followed by an escape code ID of one character, zero (0) or more data characters, and another occurrence of the escape character. No escape sequence may contain a nested escape sequence.

The escape sequences that available for use in this implementation are defined below.

Escape Sequence	Character(s)
\F\	field separator
\S\	component separator
\R\	repetition separator
\E\	escape character
\T\	subcomponent separator

2. Message Header (MSH)

This segment is used to define the intent, source, destination, and some specifics about the syntax of the message. It is a required segment in laboratory-based reports.

MSH fields 1-7 and 9-12 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the MSH segment will be ignored and thus, are not included in the definition below.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
1	1	ST	R			Field Separator
2	5	ST	R			Encoding Characters
3	60	HD	R			Sending Application
4	180	HD	R			Sending Facility
5	180	HD	R			Receiving Application
6	180	HD	R			Receiving Facility
7	26	TS	R			Date/Time of Message
9	7	MSG	R		Y	Message Type
10	20	ST	R			Message Control ID
11	3	PT	R		Y	Processing ID
12	60	VID	R		Y	Version ID

The following is an example of the Message Header (MSH) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
MSH|^~\&#|AppName|LabName^12D1234567^CLIA|LA-
ELR|LADOH|20110628||ORU^R01^ORU_R01|201106280001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO
```

2.1. Field Separator

This field is the character to be used as the field separator for the rest of the message.

Sequence:	MSH-1
Data Type:	String (ST)
Required/Optional:	Required
Repeating:	No
Table Number:	N/A

The value to be used as the field separator is "|", ASCII (124).

2.2. Encoding Characters

This field contains the characters used as the component separator, repetition separator, escape character, and subcomponent character utilized throughout the message.

Sequence:	MSH-2
Data Type:	String (ST)
Required/Optional:	Required
Repeating:	No
Table Number:	N/A

The component separator is the first of the four characters. The value to be used is "^", ASCII(94).

The repetition separator is the second of the four characters. The value to be used is "~", ASCII(126).

The escape character is the third of the four characters. The value to be used is "\", ASCII(92).

The subcomponent character is the fourth of the four characters. The value to be used is "&", ASCII(38).

The fifth of five characters value to be used is "#", ASCII(35).

The literal value is "|^~\&#|"

2.3. Sending Application

This field uniquely identifies the sending application among all other applications within the network enterprise.

Sequence:	MSH-3
Data Type:	Hierarchic Designator (HD)
Required/Optional:	Required
Repeating:	No
Components:	1. Namespace ID (IS) – Required 2. Universal ID (ST) – Ignored 3. Universal ID Type (ID) – Ignored

The namespace ID must be the name of the sending application.

2.4. Sending Facility

This originator of the HL7 message will place the text name of the sending laboratory or site, followed by the unique Clinical Laboratory Improvement Act (CLIA) identifier of the originating institution.

Sequence:	MSH-4
Data Type:	Hierarchic Designator (HD)
Required/Optional:	Required
Repeating:	No
Components:	1. Namespace ID (IS) – Required 2. Universal ID (ST) – Required 3. Universal ID Type (ID) – Required

The namespace ID must be the text name of the sending laboratory.

The universal ID must be the CLIA number of the sending laboratory.

The universal ID type must be "CLIA", indicating that the universal ID is a nationally assigned unique identifier.

2.5. Receiving Application

This field uniquely identifies the receiving application among all other applications within the network enterprise.

Sequence:	MSH-5
Data Type:	Hierarchic Designator (HD)
Required/Optional:	Required
Repeating:	No
Components:	1. Namespace ID (IS) – Required 2. Universal ID (ST) – Ignored 3. Universal ID Type (ID) – Ignored

The namespace ID must be "LA-ELR", to denote the name of the receiving application.

2.6. Receiving Facility

This field identifies the receiving application among multiple identical applications running on behalf of different organizations.

Sequence:	MSH-6
Data Type:	Hierarchic Designator (HD)
Required/Optional:	Required
Repeating:	No
Components:	1. Namespace ID (IS) – Required 2. Universal ID (ST) – Ignored 3. Universal ID Type (ID) – Ignored

The namespace ID must be "LADOH", to denote the name of the receiving facility.

2.7. Date/Time of Message

This field contains the date/time that the sending system created the message.

Sequence:	MSH-7
Data Type:	Timestamp (TS)[1]
Required/Optional:	Required
Repeating:	No
Table Number:	N/A
Components:	1. Time (DTM) – Required 2. Degree of Precision (ID) – Ignored

The time zone is assumed to be that of the sender.

[1]Use the Timestamp format YYYYMMDD.

2.8. Message Type

This field is used by the receiving system to know the data segments to recognize and the application to which to route this message.

Sequence:	MSH-9
Data Type:	Message Type (MSG)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70076 – Message Type HL70003 – Event Type
Components:	1. Message Code (ID) – Required 2. Trigger Event (ID) – Required 3. Message Structure (ID) – Ignored

The message type must be equal to "ORU", to denote an unsolicited transmission of an observation message.

The event type must be "R01", to denote an unsolicited transmission of an observation message.

2.8.1. Table HL70076 – Message Type

Value	Description
ORU	Unsolicited Observation Results

2.8.2. Table HL70003 – Event Type

Value	Description
R01	ORU – Unsolicited Observation Results

2.9. Message Control ID

This field contains a number or other identifier that uniquely identifies the message.

Sequence:	MSH-10
Data Type:	String (ST)
Required/Optional:	Required
Repeating:	No
Table Number:	N/A

The identifier should be built using a combination of a date and counter in the following format: YYYYMMDDNNNN, where YYYY is the four-digit year, MM is the two-digit month, DD is the two-digit day, and NNNN is the four-digit sequence.

2.10. Processing ID

This field is used to decide how to process the message as defined in HL7 processing rules.

Sequence:	MSH-11
Data Type:	Processing Type (PT)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70103 – Processing ID
Components:	1. Processing ID (ID) – Required 2. Processing Mode (ID) – Ignored

The processing ID must be "P", to denote the production application.

2.10.1. Table HL70103 – Processing ID

Value	Description
P	Production

2.11. Version ID

This field is matched by the receiving system to its own HL7 version to be sure the message will be interpreted correctly.

Sequence:	MSH-12
Data Type:	Version Identifier (VID)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70104 – Version ID
Components:	1. Version ID (ID) – Required 2. Internationalization Code (CWE) – Ignored 3. International Version ID (CWE) – Ignored

2.11.1. Table HL70104 – Version ID

Value	Description
2.5.1	Release 2.5 August 13, 2010

3. Patient Identification (PID)

This segment is used as the primary means of communicating patient identification information. It contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

PID fields 3, 5-8, 10-11, 13-14, 16, 21-22, 24-25, and 29-30 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the PID segment will be ignored- and thus, are not included in the definition below.

For laboratory-based reporting, only one PID may be reported per MSH.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
3	20	CX	R	Y	Y	Patient Identifier List
5	48	XPN	R		Y	Patient Name
6	48	XPN	O		Y	Mother's Maiden Name
7	26	TS	C			Date/Time of Birth
8	1	IS	R		Y	Sex
10	80	CWE	O	Y	Y	Race
11	106	XAD	O	Y	Y	Patient Address
13	40	XTN	O		Y	Phone Number – Home
14	40	XTN	O		Y	Phone Number – Business
16	80	CWE	O		Y	Marital Status
21	20	CX	O		Y	Mother's Identifier
22	80	CWE	O	Y	Y	Ethnic Group
24	1	ID	O		Y	Multiple Birth Indicator
25	2	NM	O			Birth Order
29	26	TS	RE			Patient Death Date and Time
30	1	ID	RE		Y	Patient Death Indicator

For the PID segment, fields 2, 4, 9, 12, 19, and 20 are supported for backward compatibility only. Data that was previous provided through those fields should now be provided through the following:

- PID-2 (Patient ID (External)) should now be provided through PID-3 (Patient Identifier List).
- PID-4 (Alternate Patient ID – PID) should now be provided through PID-3 (Patient Identifier List).
- PID-9 (Patient Alias) should now be provided through PID-5 (Patient Name)
- PID-12 (County Code) should now be provided through PID-11 (Patient Address).
- PID-19 (SSN Number – Patient) should now be provided through PID-3 (Patient Identifier List).
- PID-20 (Drivers License Number) should now be provided through PID 3 (Patient Identifier)
- PID-29 (Patient Death Date and Time) must be provided if data is available.
- PID-30 (Patient Death Indicator) must be provided if data is available.

The following is an example of the Patient Identification (PID) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
PID|1||1234567890^^^^PI~987654321^^^^SS^LabName&12D1234567&CLIA~12345678^^^^D
L^LabName&12D1234567&CLIA ||Donald^John^M^Jr^Mr^PHD^L~
Ronald^Don^M^Jr^Mr^PHD^A|Donald^Jane^M^III^Mrs^DDS^M|19780809|M||2028-
9^Asian^CDCREC^A^Asian^L|189 Market St^AptB^New
Orleans^LA^12345^USA^P^^42043||^PRN^PH^jdoe@isp.com^1^222^5551212^123^Callbef
ore6pm|^WPN^CP^jdoe@isp.com^1^222^5551212^123^Callbefore6pm||M^Married^HL7000
2^M^Married^L|||||5555555555^^^^PT^HospitalName&21A7654321&CLIA|2186-5^Not
Hispanic or Latino^CDCREC||Y|2||||20040315064500|Y
```

3.1. Patient Identifier List

This field contains the list of identifiers (one or more) used to identify a patient. Examples of important values that may be reported in this field include SSN, medical assistance number, etc.

Sequence:	PID-3
Data Type:	Extended Composite ID with Check Digit (CX)
Required/Optional:	Required
Repeating:	Yes
Table Number:	HL70203 – Identifier Type
Components:	1. ID Number (ST) – Required 2. Check Digit (ST) – Ignored 3. Check Digit Scheme (ID) – Ignored 4. Assigning Authority (HD) – Ignored 5. Identifier Type Code (ID) – Required 6. Assigning Facility (HD) – Optional 7. Effective Date (DT) – Ignored 8. Expiration Date (DT) – Ignored 9. Assigning Jurisdiction (CWE) – Ignored 10. Assigning Agency or Department (CWE) – Ignored

For laboratory-based reporting, the components of assigning facility should be provided as follows:

- Namespace ID: The name of the originating laboratory
- Universal ID: The unique CLIA number of the originating laboratory
- Universal ID Type: "CLIA"

Anonymous identifiers can be used in PID-3 by replacing the medical record number or other non-anonymous identifier. The type code for an anonymous identifier will be "ANON." It is important that the receiver of the data (LADOH) be able to determine that the identifier is in fact created through some anonymizing scheme. This is done by placing the creator of the scheme in the subcomponent for the Assigning Facility. **The use of numeric and**

special characters is strongly discouraged as these records are not consumable by LA-NEDSS. Refrain from their use to create an Anonymous patient.

3.1.1. Table HL70203 – Identifier Type Code

Value	Description
AN	Account Number
ANON	Anonymous Identifier
BR	Birth Registry Number
DL	Driver's License Number
DN	Doctor Number
EI	Employee Number
EN	Employer Number
FI	Facility Identifier
GI	Guarantor Internal Identifier
GN	Guarantor External Identifier
LN	License Number
LR	Local Registry ID
MA	Medicaid Number
MR	Medical Record Number
NE	National Employer Identifier
NH	National Health Plan Identifier
NI	National Unique Individual Identifier
NPI	National Provider Identifier
PHC44	Visa/Alien Reg.
PI	Patient Internal Identifier
PN	Person Number
PRN	Provider Number
PT	Patient External Identifier
RR	Railroad Retirement Number
RRI	Regional Registry ID
SL	State License
SR	State Registry ID
SS	Social Security Number
TAX	Tax ID Number
U	Unspecified
UPIN	Medicare/HCFA's Universal Physician ID Numbers
VN	Visit Number
XX	Organization Identifier

3.2. Patient Name

This field contains the current, assumed legal name, of the patient.

Sequence:	PID-5
Data Type:	Extended Person Name (XPN)
Required/Optional:	Required
Repeating:	Yes
Table Number:	HL70360 – Degree HL70200 – Name Type
Components:	1. Family Name (FN) – Required[1] 2. Given Name (ST) – Required 3. Second and Further Given Names or Initial Thereof (ST) – Optional 4. Suffix (ST) – Optional 5. Prefix (ST) – Optional 6. Degree (IS) – Optional 7. Name Type Code (ID) – Required 8. Name Representation Code (ID) – Ignored 9. Name Context (CWE) – Ignored 10. Name Validity Range (DR) – Ignored 11. Name Assembly Order (ID) – Ignored 12. Effective Date (TS) - Ignored 13. Expiration Date (TS) - Ignored 14. Professional Suffix (ST) - Ignored

[1]The Last Name Prefix subcomponent, within the Family Name component, is Optional.

This field is used for reporting both the patient's legal name and aliases.

3.2.1. Table HL70360 – Degree

Value	Description
PN	Advanced Practice Nurse
AAS	Associate of Applied Science
AA	Associate of Arts
AS	Associate of Science
BA	Bachelor of Arts
BN	Bachelor of Nursing
BS	Bachelor of Science

BSN	Bachelor of Science in Nursing
CER	Certificate
CANP	Certified Adult Nurse Practitioner
CMA	Certified Medical Assistant
CNM	Certified Nurse Midwife
CNP	Certified Nurse Practitioner
CNS	Certified Nurse Specialist
CPNP	Certified Pediatric Nurse Practitioner
CRN	Certified Registered Nurse
DIP	Diploma
MD	Doctor of Medicine
DO	Doctor of Osteopathy
PharmD	Doctor of Pharmacy
PHD	Doctor of Philosophy
EMT	Emergency Medical Technician
EMTP	Emergency Medical Technician – Paramedic
FPNP	Family Practice Nurse Practitioner
HS	High School Graduate
JD	Juris Doctor
MA	Master of Arts
MBA	Master of Business Administration
MS	Master of Science
MSN	Master of Science – Nursing
MDA	Medical Assistant
MT	Medical Technician
NG	Non-Graduate
NP	Nurse Practitioner
PA	Physician Assistant
RMA	Registered Medical Assistant
RPH	Registered Pharmacist
SEC	Secretarial Certificate
TS	Trade School Graduate

3.2.2. Table HL70200 – Name Type

Value	Description
C	Adopted Name
A	Alias Name
D	Display Name
L	Legal Name
M	Maiden Name
B	Name at Birth
P	Name of Partner/Spouse
U	Unspecified

3.3. Mother's Maiden Name

This field contains the family name under which the mother was born (i.e., before marriage). It is used to distinguish between patients with the same last name.

Sequence:	PID-6
Data Type:	Extended Person Name (XPN)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70360 – Degree HL70200 – Name Type
Components:	1. Family Name (FN) – Required[1] 2. Given Name (ST) – Optional 3. Second and Further Given Names or Initial Thereof (ST) – Optional 4. Suffix (ST) – Optional 5. Prefix (ST) – Optional 6. Degree (IS) – Optional 7. Name Type Code (ID) – Required[2] 8. Name Representation Code (ID) – Ignored 9. Name Context (CWE) – Ignored 10. Name Validity Range (DR) – Ignored 11. Name Assembly Order (ID) – Ignored 12. Effective Date (TS) – Ignored 13. Expiration Date (TS) - Ignored 14. Professional Suffix (ST) - Ignored

[1]The Last Name Prefix subcomponent, within the Family Name component, is Optional.

[2]The name type code must be valued "M – Maiden Name".

If additional information about the mother is to be provided, the NK1 segment should be used.

3.4. Date/Time of Birth

This field contains the patient's date and time of birth.

Sequence:	PID-7
Data Type:	Timestamp (TS)[1]
Required/Optional:	Conditional[2]
Repeating:	No
Table Number:	N/A
Components:	1. Time (DTM) - Required 2. Degree of Precision (ID) - Ignored

[1]Use the abbreviated Timestamp format YYYYMMDD.

[2]If the patient's date of birth is not available, the patient's age must be reported using the OBX-2, OBX-3 and OBX-5 fields. More details on reporting age are available in the Section 10 Observation Related to Specimen - OBX.

3.5. Administrative Sex

This field contains the patient's sex.

Sequence:	PID-8
Data Type:	Coded Value for User-Defined Table (IS)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70001 – Administrative Sex

If the patient's Sex is not available, use Sex code U – Unknown.

3.5.1. Table HL70001 – Administrative Sex

Value	Description
F	Female
M	Male
A	Ambiguous
N	Not Applicable
O	Other
U	Unknown

3.6. Race

This field identifies the patient's race.

Sequence:	PID-10
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Optional
Repeating:	Yes
Table Number:	CDCREC – Race Category HL70396 – Coding System
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

3.6.1. CDCREC – Race Category

Value	Description
1002-5	American Indian or Alaska Native
2028-9	Asian
2054-5	Black or African-American
2076-8	Native Hawaiian or Other Pacific Islander
2131-1	Other
2106-3	White

3.6.2. Table HL70396 – Coding System

Value	Description
CDCM	CDC Methods/Instruments Codes
HL7*nnnn*	HL7 Defined Codes (where *nnnn* is the table number)
I9C	International Classification of Diseases, Ninth Revision
ISO+	ISO Customary Units
99zzz	Local Code – (where z is an alpha numeric character)
LN	Logical Observation Identifier Names and Codes
CDCREC	Race & Ethnicity - CDC
SNM	Systematized Nomenclature of Human and Veterinary Medicine

3.7. Patient Address

This field lists the mailing address of the patient. The first sequence is considered the primary address of the patient.

Sequence:	PID-11
Data Type:	Extended Address (XAD)
Required/Optional:	Optional
Repeating:	Yes
Table Number:	PHVS_Country_ISO_3166-1_V1 HL70190 – Address Type PHVS_County_FIPS_6-4_V1
Components:	1. Street Address (SAD) – Optional 2. Other Designation (ST) – Optional 3. City (ST) – Optional 4. State or Province (ST) – Optional 5. Zip or Postal Code (ST) – Required 6. Country (ID) – Optional

	7. Address Type (ID) – Required 8. Other Geographic Designation (ST) – Optional 9. County/Parish Code (IS) – Optional 10. Census Tract (IS) – Ignored 11. Address Representation Code (ID) – Ignored 12. Address Validity Range (DR) – Ignored 13. Effective Date (TS) – Ignored 14. Expiration Date (TS) - Ignored

3.7.1. Table PHVS_Country_ISO_3166-1_V1

Value	Description
CAN	Canada
MEX	Mexico
USA	United States
UMI	United States Minor Outlying Islands

Note that this is only a partial list. See PHVS_Country_ISO_3166-1_V1 for a complete listing of these codes.

3.7.2. Table HL70190 – Address Type

Value	Description
C	Current or Temporary
B	Firm/Business
H	Home
M	Mailing
O	Office
P	Permanent
BR	Residence at Birth [use for residence at birth]

3.7.3. Table PHVS_County_FIPS_6-4_V1

Value	Description
22001	Acadia
22003	Allen
22005	Ascension
22007	Assumption
22009	Avoyelles
22011	Beauregard
22013	Bienville

22015	Bossier
22017	Caddo
22019	Calcasieu
22021	Caldwell
22023	Cameron
22025	Catahoula
22027	Claiborne
22029	Concordia
22031	De Soto
22033	East Baton Rouge
22035	East Carroll
22037	East Feliciana
22039	Evangeline
22041	Franklin
22043	Grant
22045	Iberia
22047	Iberville
22049	Jackson
22051	Jefferson
22053	Jefferson Davis
22059	La Salle
22055	Lafayette
22057	Lafourche
22061	Lincoln
22063	Livingston
22065	Madison
22067	Morehouse
22069	Natchitoches
22071	Orleans
22073	Ouachita
22075	Plaquemines
22077	Pointe Coupee
22079	Rapides
22081	Red River
22083	Richland
22085	Sabine
22087	St. Bernard
22089	St. Charles
22091	St. Helena
22093	St. James

22095	St. John the Baptist
22097	St. Landry
22099	St. Martin
22101	St. Mary
22103	St. Tammany
22105	Tangipahoa
22107	Tensas
22109	Terrebonne
22111	Union
22113	Vermilion
22115	Vernon
22117	Washington
22119	Webster
22121	West Baton Rouge
22123	West Carroll
22125	West Feliciana
22127	Winn

Note that this is only for Louisiana. See PHVS_County_FIPS_6-4 for a complete listing of these codes.

3.8. Phone Number – Home

This field contains the patient's personal phone numbers. The first sequence is considered the primary personal number of the patient.

Sequence:	PID-13
Data Type:	Extended Telecommunications Number (XTN)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70201 – Telecommunication Use Code HL70202 – Telecommunication Equipment Type
Components:	1. Phone Number (ST) – Ignored 2. Telecommunications Use Code (ID) - Optional 3. Telecommunications Equipment Type (ID) – Required 4. Email Address (ST) – Optional 5. Country Code (NM) – Optional 6. Area/City Code (NM) – Conditional[1] 7. Phone Number (NM) – Optional 8. Phone Extension (NM) – Optional 9. Any Text (ST) – Optional

	10. Extension Prefix (ST) – Ignored 11. Speed Dial Code (ST) – Ignored 12. Unformatted Telephone Number (ST) - Ignored

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one home telephone number.

[1]If the seventh component (Phone Number - NM) is not null, the Area/City Code component is required.

3.8.1. Table HL70201 – Telecommunication Use Code

Value	Description
ASN	Answering Service Number
BPN	Beeper Number
EMR	Emergency Number
NET	Network (email) Address
ORN	Other Residence Number
PRN	Primary Residence Number
VHN	Vacation Home Number
WPN	Work Number

3.8.2. Table HL70202 – Telecommunication Equipment Type

Value	Description
BP	Beeper
CP	Cellular Phone
FX	Fax
Internet	Internet Address – Use only if Telecommunications Use Code is NET
MD	Modem
PH	Telephone
X.400	X.400 Email Address – Use only if Telecommunications Use Code is NET

3.9. Phone Number – Business

This field contains the patient's business phone number. The first sequence is considered the primary business number of the patient.

Sequence:	PID-14
Data Type:	Extended Telecommunications Number (XTN)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70201 – Telecommunication Use Code

	HL70202 – Telecommunication Equipment Type
Components:	1. Phone Number (ST) – Ignored 2. Telecommunications Use Code (ID) - Optional 3. Telecommunications Equipment Type (ID) – Required 4. Email Address (ST) – Optional 5. Country Code (NM) – Optional 6. Area/City Code (NM) – Conditional[1] 7. Phone Number (NM) – Optional 8. Phone Extension (NM) – Optional 9. Any Text (ST) – Optional 10. Extension Prefix (ST) – Ignored 11. Speed Dial Code (ST) – Ignored 12. Unformatted Telephone Number (ST) - Ignored

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one business telephone number.

[1]If the seventh component (Phone Number - NM) is not null, the Area/City Code component is required.

3.10. Marital Status

This field contains the patient's marital status.

Sequence:	PID-16
Data Type:	Coded With Exceptions (CWE)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70002 – Marital Status HL70396 – Coding System
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored

	10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

3.10.1. Table HL70002 – Marital Status

Value	Description
D	Divorced
M	Married
A	Separated
S	Single
W	Widowed

3.11. Mother's Identifier

This field is used as a link field for newborns, for example. Typically a patient ID or account number may be used. This field can contain multiple identifiers for the same mother.

Sequence:	PID-21
Data Type:	Extended Composite ID with Check Digit (CX)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70203 – Identifier Type
Components:	1. ID (ST) – Required 2. Check Digit (ST) – Ignored 3. Check Digit Scheme (ID) – Ignored 4. Assigning Authority (HD) – Ignored 5. Identifier Type Code (ID) – Required 6. Assigning Facility (HD) – Optional 7. Effective Date (DT) – Ignored 8. Expiration Date (DT) – Ignored 9. Assigning Jurisdiction (CWE) – Ignored 10. Assigning Agency or Department (CWE) - Ignored

3.12. Ethnic Group

This field further defines the patient's ancestry.

Sequence:	PID-22
Data Type:	Coded With Exceptions (CWE)
Required/Optional:	Optional
Repeating:	Yes
Table Number:	CDCREC - Ethnic Group HL70396 – Coding System
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored

	9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

3.12.1. CDCREC – Ethnic Group

Value	Description
2135-2	Hispanic or Latino
2186-5	Not Hispanic or Latino

3.13. Multiple Birth Indicator

This field indicates whether the patient was part of a multiple birth.

Sequence:	PID-24
Data Type:	Coded Values for HL7 Tables (ID)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70136 – Yes/No Indicator

3.13.1. Table HL70136 – Yes/No Indicator

Value	Description
N	No
Y	Yes

3.14. Birth Order

When a patient was part of a multiple birth, a value (number) indicating the patient's birth order is entered in this field.

Sequence:	PID-25
Data Type:	Number (NM)
Required/Optional:	Optional
Repeating:	No
Table Number:	N/A

3.15. Patient Death Date and Time

This field contains the date and time at which the patient death occurred.

Sequence:	PID-29
Data Type:	Timestamp (TS)
Required/Optional:	Required with Exceptions
Repeating:	No
Table Number:	N/A
Components:	1. Time (DTM) – Required 2. Degree of Precision (ID) - Ignored

This field should only be valued if PID-30 is valued "yes."

The time zone is assumed to be that of the sender.

3.16. Patient Death Indicator

This field indicates whether or not the patient is deceased.

Sequence:	PID-30
Data Type:	Coded Values for HL7 Tables (ID)
Required/Optional:	Required with Exceptions
Repeating:	No
Table Number:	HL70136 – Yes/No Indicator

4. Next of Kin/Associated Parties (NK1)

This segment contains information about the patient's next of kin and other associated or related parties. Repeating NK1 segments will be accepted. NK1 fields 2-5, 13, and 30-32 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the NK1 segment will be ignored and thus, are not included in the definition below.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
2	48	XPN	O		Y	Name
3	60	CWE	R		Y	Relationship
4	106	XAD	O		Y	Address
5	40	XTN	O		Y	Phone Number
13	48	XON	O			Organization name – NK1
30	48	XPN	O		Y	Contact Person's Name
31	40	XTN	O		Y	Contact Person's Telephone Number
32	106	XAD	O		Y	Contact Person's Address

The following is an example of the Next of Kin/Associated Parties (NK1) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
NK1 Sample for a Guardian:

NK1|1|Donald^Suzie^A^^Mrs^^L|GRD^Guardian^HL70063^M^Mother^L|189 Market
St^AptB^New
Orleans^LA^12345^USA^P^^42043|^PRN^PH^jadoe@isp.com^1^222^5551212^123^Callbef
ore6pm|

NK1 Sample for an Employer:

NK1|2||EMR^Employer^HL70063^E^Employer^L|||||||||ABC
Plumbing||||||||||||||||Donald^Suzie^A^^Mrs^^L|^PRN^PH^jadoe@isp.com^1^222^5
551212^123^Callbefore6pm|189 Market St^AptB^New Orleans^LA^12345^USA^P^^42043
```

4.1. Name

This field gives the name of the next of kin or associated party.

Sequence:	NK1-2
Data Type:	Extended Person Name (XPN)
Required/Optional:	Optional
Repeating:	No[1]
Table Number:	HL70360 – Degree HL70200 – Name Type
Components:	1. Family Name (FN) – Required[2] 2. Given Name (ST) – Required 3. Second and Further Given Names or Initial Thereof (ST) –

	Optional 4. Suffix (ST) – Optional 5. Prefix (ST) – Optional 6. Degree (IS) – Optional 7. Name Type Code (ID) – Required[3] 8. Name Representation Code (ID) – Ignored 9. Name Context (CWE) – Ignored 10. Namve Validity Range (DR) – Ignored 11. Name Assembly Order (ID) – Ignored 12. Effective Date (TS) – Ignored 13. Expiration Date (TS) - Ignored 14. Professional Suffix (ST) - Ignored

[1]While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects name for the next of kin/associated party.

[2]The Last Name Prefix subcomponent, within the Family Name component, is Optional.

[3]The name type code in this field should always be "L – Legal".

4.2. Relationship

This field defines the personal relationship of the next of kin.

Sequence:	NK1-3
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70063 – Relationship HL70396 – Coding System
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored

	11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

If no relationship is available, the generic relationship "NOK" should be used.

4.2.1. Table HL70063 – Relationship

Value	Description
EMR	Employer
GRD	Guardian

4.3. Address

This field lists the mailing addresses of the next of kin/associated party identified above. The first sequence is considered the primary mailing address.

Sequence:	NK1-4
Data Type:	Extended Address (XAD)
Required/Optional:	Optional
Repeating:	No
Table Number:	PHVS_Country_ISO_3166-1_V1 HL70190 – Address Type PHVS_County_FIPS_6-4_V1
Components:	1. Street Address (SAD) – Optional 2. Other Designation (ST) – Optional 3. City (ST) – Optional 4. State or Province (ST) – Optional 5. Zip or Postal Code (ST) – Required

	6. Country (ID) – Optional 7. Address Type (ID) – Required 8. Other Geographic Designation (ST) – Optional 9. County/Parish Code (IS) – Optional 10. Census Tract (IS) – Ignored 11. Address Representation Code (ID) – Ignored 12. Address Validity Range (DR) – Ignored 13. Effective Date (TS) – Ignored 14. Expiration Date (TS) - Ignored

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one next of kin/associated party address.

4.4. Phone Number

This field contains the next of kin/associated party's personal phone numbers. The first sequence is considered the primary number.

Sequence:	NK1-5
Data Type:	Extended Telecommunications Number (XTN)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70201 – Telecommunication Use Code HL70202 – Telecommunication Equipment Type
Components:	1. Telephone Number (ST) – Ignored 2. Telecommunications Use Code (ID) – Optional 3. Telecommunications Equipment Type (ID) – Required 4. Email Address (ST) – Optional 5. Country Code (NM) – Optional 6. Area/City Code (NM) – Conditional[1] 7. Phone Number (NM) – Optional 8. Phone Extension (NM) – Optional 9. Any Text (ST) – Optional 10. Extension Prefix (ST) – Ignored 11. Speed Dial Code (ST) – Ignored 12. Unformatted Telephone Number (ST) - Ignored

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one next of kin/associated party phone number.

[1]If the seventh component (Phone Number - NM) is not null, the Area/City Code component is required.

4.5. Organization Name – NK1

This field contains the next of kin/associated party's name if the next of kin is an organization.

Sequence:	NK1-13
Data Type:	Extended Composite Name and Identification Number for Organizations (XON)
Required/Optional:	Optional
Repeating:	No
Components:	1. Organization Name (ST) – Required 2. Organization Name Type Code (IS) - Ignored 3. ID Number (NM) – Ignored 4. Check Digit (NM) - Ignored 5. Check Digit Scheme (ID) - Ignored 6. Assigning Authority (HD) - Ignored 7. Identifier Type Code (ID) - Ignored 8. Assigning Facility ID (HD) - Ignored 9. Name Representation Code (ID) – Ignored 10. Organization Identifier (ST) – Ignored

4.6. Contact Person's Name

This field gives the name of the contact person if the next of kin is an organization.

Sequence:	NK1-30
Data Type:	Extended Person Name (XPN)
Required/Optional:	Optional
Repeating:	No[1]
Table Number:	HL70360 – Degree HL70200 – Name Type
Components:	1. Family Name (FN) – Required[2] 2. Given Name (ST) – Required 3. Second and Further Given Names or Initial Thereof (ST) – Optional 4. Suffix (ST) – Optional 5. Prefix (ST) – Optional

	6. Degree (IS) – Optional 7. Name Type Code (ID) – Required[3] 8. Name Representation Code (ID) – Ignored 9. Name Context (CWE) – Ignored 10. Name Validity Range (DR) – Ignored 11. Name Assembly Order (ID) – Ignored 12. Effective Date (TS) - Ignored 13. Expiration Date (TS) - Ignored 14. Professional Suffix (ST) - Ignored

[1]While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects contact person's name for the next of kin/associated party.

[2]The Last Name Prefix subcomponent, within the Family Name component, is Optional.

[3]The name type code in this field should always be "L – Legal".

4.7. Contact Person's Telephone Number

This field contains the phone number of the contact person if the next of kin is an organization.

Sequence:	NK1-31
Data Type:	Extended Telecommunications Number (XTN)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70201 – Telecommunication Use Code HL70202 – Telecommunication Equipment Type
Components:	1. Telephone Number (ST) – Ignored 2. Telecommunications Use Code (ID) – Optional 3. Telecommunications Equipment Type (ID) – Required 4. Email Address (ST) – Optional 5. Country Code (NM) – Optional 6. Area/City Code (NM) – Conditional[1] 7. Phone Number (NM) – Optional 8. Phone Extension (NM) – Optional 9. Any Text (ST) – Optional 10. Extension Prefix (ST) – Ignored 11. Speed Dial Code (ST) – Ignored 12. Unformatted Telephone Number (ST) - Ignored

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one Contact Person's Telephone Number.

[1]If the seventh component (Phone Number - NM) is not null, the Area/City Code component is required.

4.8. Contact Person's Address

This field lists the mailing addresses of the contact name if the next of kin is an organization.

Sequence:	NK1-32
Data Type:	Extended Address (XAD)
Required/Optional:	Optional
Repeating:	No
Table Number:	PHVS_Country_ISO_3166-1_V1 HL70190 – Address Type PHVS_County_FIPS_6-4_V1
Components:	1. Street Address (SAD) – Optional 2. Other Designation (ST) – Optional 3. City (ST) – Optional 4. State or Province (ST) – Optional 5. Zip or Postal Code (ST) – Required 6. Country (ID) – Optional 7. Address Type (ID) – Required 8. Other Geographic Designation (ST) – Optional 9. County/Parish Code (IS) – Optional 10. Census Tract (IS) – Ignored 11. Address Representation Code (ID) – Ignored 12. Address Validity Range (DR) – Ignored 13. Effective Date (TS) – Ignored 14. Expiration Date (TS) - Ignored

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one next of kin/associated party address.

5. Common Order (ORC)

This segment contains information used to transmit fields that are common to all orders (all types of services that are requested. While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting expects only one ORC segment will be provided per message.

ORC fields 21-24 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the ORC segment will be ignored and thus, are not included in the definition below.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
21	60	XON	R		Y	Ordering Facility Name
22	106	XAD	R		Y	Ordering Facility Address
23	48	XTN	R		Y	Ordering Facility Phone Number
24	106	XAD	O		Y	Ordering Provider Address

The following is an example of the Common Order (ORC) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
ORC||||||||||||||||||||||HospitalName^L^^^^^NPI^^^2015874695|1489 Chestnut
St^Floor7^New
Orleans^LA^12345^USA^B^^42043|^WPN^PH^jdoe@isp.com^1^222^5553333^999^FrontDes
k|1234 N 7th St^Rm701^New Orleans^LA^12345^USA^B^^42043
```

5.1. Ordering Facility Name

This field contains the name of the facility that ordered the tests. It is expected to contain the name of the hospital or other medical facility from which the order originated.

Sequence:	ORC-21
Data Type:	Extended Composite Name and ID for Organizations (XON)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70204 – Organizational Name Type HL70203 – Identifier Type
Components:	1. Organization Name (ST) – Required 2. Organization Name Type Code (IS) – Optional 3. ID Number (NM) – Ignored 4. Check Digit (NM) – Ignored 5. Check Digit Scheme (ID) – Ignored 6. Assigning Authority (HD) – Optional 7. Identifier Type Code (ID) – Optional[1] 8. Assigning Facility ID (HD) – Ignored

	9. Name Representation Code (ID) – Ignored 10. Organization Identifier – Optional

[1]The Identifier Type Code in this field should always be either "NPI - National Provider Identifier" or "TAX – Tax ID Number". It is strongly recommended that NPI or ITIN be provided for the Ordering Facility so that they can be uniquely identified in the system.

5.1.1. Table HL70204 – Organization Name Type

Value	Description
A	Alias Name
D	Display Name
L	Legal Name
SL	Stock Exchange Listing Name

5.2. Ordering Facility Address

This field contains the address of the facility placing the order. It is expected to contain the address of the hospital or other medical facility from which the order originated.

Sequence:	ORC-22
Data Type:	Extended Address (XAD)
Required/Optional:	Required
Repeating:	No
Table Number:	PHVS_Country_ISO_3166-1_V1 HL70190 – Address Type PHVS_County_FIPS_6-4_V1
Components:	1. Street Address (SAD) – Optional 2. Other Designation (ST) – Optional 3. City (ST) – Optional 4. State or Province (ST) – Optional 5. Zip or Postal Code (ST) – Required 6. Country (ID) – Optional 7. Address Type (ID) – Required 8. Other Geographic Designation (ST) – Optional 9. County/Parish Code (IS) – Optional 10. Census Tract (IS) – Ignored 11. Address Representation Code (ID) – Ignored 12. Address Validity Range (DR) – Ignored 13. Effective Date (TS) – Ignored

	14. Expiration Date (TS) - Ignored

5.3. Ordering Facility Phone Number

This field contains the telephone number of the facility placing the order. It is expected to contain the phone number of the hospital or other medical facility from which the order originated.

Sequence:	ORC-23
Data Type:	Extended Telecommunications Number (XTN)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70201 – Telecommunication Use Code HL70202 – Telecommunication Equipment Type
Components:	1. Phone Number (ST) – Ignored 2. Telecommunications Use Code (ID) - Optional 3. Telecommunications Equipment Type (ID) – Required 4. Email Address (ST) – Optional 5. Country Code (NM) – Optional 6. Area/City Code (NM) – Conditional[1] 7. Phone Number (NM) – Optional 8. Phone Extension (NM) – Optional 9. Any Text (ST) – Optional 10. Extension Prefix (ST) – Ignored 11. Speed Dial Code (ST) – Ignored 12. Unformatted Telephone Number (ST) - Ignored

[1]If the seventh component (Phone Number - NM) is not null, the Area/City Code component is required.

5.4. Ordering Provider Address

This field contains the address of the care provider requesting the order. It is expected to contain the address of a medical practitioner (i.e., physician) associated with the order.

Sequence:	ORC-24
Data Type:	Extended Address (XAD)
Required/Optional:	Optional
Repeating:	No
Table Number:	PHVS_Country_ISO_3166-1_V1 HL70190 – Address Type

	PHVS_County_FIPS_6-4_V1
Components:	1. Street Address (SAD) – Optional 2. Other Designation (ST) – Optional 3. City (ST) – Optional 4. State or Province (ST) – Optional 5. Zip or Postal Code (ST) – Required 6. Country (ID) – Optional 7. Address Type (ID) – Required 8. Other Geographic Designation (ST) – Optional 9. County/Parish Code (IS) – Optional 10. Census Tract (IS) – Ignored 11. Address Representation Code (ID) – Ignored 12. Address Validity Range (DR) – Ignored 13. Effective Date (TS) – Ignored 14. Expiration Date (TS) - Ignored

6. Observation Request (OBR)

This segment is used to transmit information specific to an order for a diagnostic study or observation, physical exam, or assessment. For laboratory-based reporting, the OBR defines the attributes of the original request for laboratory testing. Essentially, the OBR describes a battery or panel of tests that is being requested or reported.

OBR fields 2-4, 7-8, 10, 13, 16-17, 22, 25-26, 28-29, and 31 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the OBR segment will be ignored and thus, are not included in the definition below.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
2	22	EI	O		Y	Placer Order Number
3	22	EI	R		Y	Filler Order Number
4	200	CWE	R		Y	Universal Service ID
7	26	TS	R			Observation Date/Time
8	26	TS	O			Observation End Date/Time
10	60	XCN	O		Y	Collector Identifier
13	300	ST	O			Relevant Clinical Info
16	80	XCN	O		Y	Ordering Provider
17	40	XTN	O		Y	Order Callback Phone Number
22	26	TS	R			Results/Status Change Date/Time
25	1	ID	R		Y	Result Status
26	400	PRL	O		Y	Parent Result
28	150	XCN	O	Y/5	Y	Result Copies To
29	200	EIP	O		Y	Parent
31	300	CWE	O	Y	Y	Reason for Study

The following is an example of the Observation Request (OBR) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
OBR|1|P0001001^PlacerApp|F0002001^FillerApp|625-4^MICROORGANISM
IDENTIFIED^LN^55555^ORGANISM^L|||20040901150000|20040901150500||1A234^Arthur^
Arthur^A^Jr^Mr^PHD^TableX^^L^^^DN^HospitalName&21A7654321&CLIA|||Additionalcl
inicalinformation|||1234567890^Arthur^Arthur^A^Jr^Mr^PHD^TableX^^L^^^NPI^Hosp
italName&21A7654321&CLIA|^WPN^PH^^1^222^5559999^88|||||20040902120000|||F|||1
A234^Arthur^Arthur^A^Jr^Mr^PHD^TableX^^L^^^DN^HospitalName&21A7654321&CLIA|||
003.9^Salmonella infection, unspecified^I9C
```

6.1. Placer Order Number

This field identifies an order number uniquely among all orders from a particular ordering application.

Sequence:	OBR-2
Data Type:	Entity Identifier (EI)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70301 – Universal ID Type
Components (2.3.1):	1. Entity Identifier (ST) – Required 2. Namespace ID (IS) – Optional 3. Universal ID (ST) – Optional 4. Universal ID Type (ID) – Optional

If the Universal ID Type is reported, it must be a value from Table HL70301. If the value is not from this table, the value must be "L", indicating that the universal ID is a locally assigned unique identifier.

6.1.1. Table HL70301 – Universal ID Type

Value	Description
ISO	An International Standards Organization Object Identifier
DNS	An Internet dotted name. Either in ASCII or as integers
x400	An X.400 MHS format identifier
x500	An X.500 directory name
HL7	Reserved for future HL7 registration schemes
GUID	Same as UUID.
HCD	The CEN Healthcare Coding Scheme Designator. (Identifiers used in DICOM follow this assignment scheme.)
UUID	The DCE Universal Unique Identifier
L,M,N	These are reserved for locally defined coding schemes.
URI	Uniform Resource Identifier
Random	Usually a base64 encoded string of random bits.

6.2. Filler Order Number

This field identifies the order number associated with the filing application.

Sequence:	OBR-3
Data Type:	Entity Identifier (EI)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70301 – Universal ID Type
Components:	1. Entity Identifier (ST) – Required 2. Namespace ID (IS) – Optional 3. Universal ID (ST) – Optional 4. Universal ID Type (ID) – Optional

For laboratory based reporting, this field will be used to report the laboratory specimen accession number. This is the unique identifier that the laboratory uses to track specimens.

6.3. Universal Service ID

This field represents the battery or collection of tests that make up a routine laboratory panel.

Sequence:	OBR-4
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Required
Repeating:	No
Table Number:	LOINC – Logical Observation Identifier Names and Codes HL70396 – Coding System
Components:	1. Identifier (ST) – Required (LOINC) 2. Text (ST) – Required (LOINC) 3. Code System (ID) – Required (LOINC) 4. Alternate Identifier (ST) – Optional (Local) 5. Alternate Text (ST) – Optional (Local) 6. Alternate Code System (ID) – Optional (Local) 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored

	13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

The "informative field" for laboratory-based reporting is OBX-3. OBX-3 should be used to provide an unambiguous, specific test name and OBX-5 should provide the result to the test.

6.4. Observation Date/Time

This field is the clinically relevant date/time of the observation. In the case of observations taken directly from a subject, it is the actual date and time the observation was obtained. In the case of a specimen-associated study, this field shall represent the date and time the specimen was collected or obtained.

Sequence:	OBR-7
Data Type:	Timestamp (TS)
Required/Optional:	Required
Repeating:	No
Table Number:	N/A
Components:	1. Time (DTM) - Required 2. Degree of Precision (ID)

The time zone is assumed to be that of the sender.

6.5. Observation End Date/Time

This field is the end date and time of a study or timed specimen collection. If an observation takes place over a substantial period of time, it will indicate when the observation period ended.

Sequence:	OBR-8
Data Type:	Timestamp (TS)
Required/Optional:	Optional
Repeating:	No
Table Number:	N/A
Components:	1. Time (DTM) – Required 2. Degree of Precision (ID) - Ignored

6.6. Collector Identifier

When a specimen is required for the study, this field identifies the person, department, or facility that collected the specimen.

Sequence:	OBR-10
Data Type:	Extended Composite ID Number and Name (XCN)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70360 – Degree HL70200 – Name Type HL70203 – Identifier Type
Components:	1. ID Number (ST) – Optional 2. Family Name (FN) – Optional[2] 3. Given Name (ST) – Optional 4. Second and Further Given Names or Initial Thereof (ST) – Optional 5. Suffix (ST) – Optional 6. Prefix (ST) – Optional 7. Degree (IS) – Optional 8. Source Table (IS) – Ignored 9. Assigning Authority (HD) – Ignored 10. Name Type Code (ID) – Optional 11. Identifier Check Digit (ST) – Ignored 12. Check Digit Scheme (ID) – Ignored 13. Identifier Type Code (ID) – Optional

	14. Assigning Facility (HD) – Optional 15. Name Representation Code (ID) – Ignored 16. Name Context (CE) – Ignored 17. Name Validity Range (DR) – Ignored 18. Name Assembly Order (ID) – Ignored 19. Effective Date (TS) – Ignored 20. Expiration Date (TS) – Ignored 21. Professional Suffix (ST) – Ignored 22. Assigning Jurisdiction (CWE) – Ignored 23. Assigning Agency or Department (CWE) - Ignored

Either the name or ID code or both may be provided.

[2]The Last Name Prefix subcomponent, within the Family Name component, is Optional.

6.7. Relevant Clinical Information

This field contains any additional clinical information about the patient or specimen. This field is used to report the suspected diagnosis and clinical findings on request for interpreted diagnostic studies.

Sequence:	OBR-13
Data Type:	String (ST)
Required/Optional:	Optional
Repeating:	No
Table Number:	N/A

6.8. Ordering Provider

This field identifies the provider who ordered the test. It is expected to contain the name of a medical practitioner (i.e., physician) associated with the order. Either the ID Code or the Name or both may be present.

Sequence:	OBR-16
Data Type:	Extended Composite ID Number and Name (XCN)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70360 – Degree HL70200 – Name Type HL70203 – Identifier Type
Components:	1. ID Number (ST) – Optional 2. Family Name (FN) – Required[2]

	3. Given Name (ST) – Optional 4. Second and Further Given Names or Initial Thereof (ST) – Optional 5. Suffix (ST) – Optional 6. Prefix (ST) – Optional 7. Degree (IS) – Optional 8. Source Table (IS) – Ignored 9. Assigning Authority (HD) – Ignored 10. Name Type Code (ID) – Optional 11. Identifier Check Digit (ST) – Ignored 12. Check Digit Scheme (ID) – Ignored 13. Identifier Type Code (ID) – Optional[1] 14. Assigning Facility (HD) – Optional 15. Name Representation Code (ID) – Ignored 16. Name Context (CE) – Ignored 17. Name Validity Range (DR) – Ignored 18. Name Assembly Order (ID) – Ignored 19. Effective Date (TS) – Ignored 20. Expiration Date (TS) – Ignored 21. Professional Suffix (ST) – Ignored 22. Assigning Jurisdiction (CWE) – Ignored 23. Assigning Agency or Department (CWE) - Ignored

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one ordering provider.

[1]The Identifier Type Code in this field should always be either "NPI - National Provider Identifier" or "ITIN - Individual Tax Identification Number". It is strongly recommended that NPI or ITIN be provided for the Ordering Provider so that they can be uniquely identified in the system.

[2]The Last Name Prefix subcomponent, within the Family Name component, is Optional.

6.9. Order Callback Phone Number

This field is the telephone number for reporting a status or a result using the standard format with an extension and/or beeper number, when applicable. It is expected to contain the phone number at which a medical practitioner (i.e., physician) associated with the order can be reached.

Sequence:	OBR-17
Data Type:	Extended Telecommunications Number (XTN)
Required/Optional:	Optional

Repeating:	No
Table Number:	HL70201 – Telecommunication Use Code HL70202 – Telecommunication Equipment Type
Components:	1. Phone Number (ST) – Ignored 2. Telecommunications Use Code (ID) - Optional 3. Telecommunications Equipment Type (ID) – Required 4. Email Address (ST) – Optional 5. Country Code (NM) – Optional 6. Area/City Code (NM) – Conditional[1] 7. Phone Number (NM) – Optional 8. Phone Extension (NM) – Optional 9. Any Text (ST) – Optional 10. Extension Prefix (ST) – Ignored 11. Speed Dial Code (ST) – Ignored 12. Unformatted Telephone Number (ST) - Ignored

While the HL7 Standard Version 2.5.1 permits up to two repetitions, laboratory-based reporting only expects one order callback telephone number.

[1]If the seventh component (Phone Number - NM) is not null, the Area/City Code component is required.

6.10. Results Reported/Status Change Date/Time

This field specifies the date and time results were reported or the status changed. This field is used to indicate the date and time that the results are composed into a report and released, or that a status is entered or changed.

Sequence:	OBR-22
Data Type:	Timestamp (TS)
Required/Optional:	Optional
Repeating:	No
Table Number:	N/A
Components:	1. Time (DTM) – Required 2. Degree of Precision (ID)

The time zone is assumed to be that of the sender.

For Electronic Laboratory Reporting, the actual report time is pulled from OBX-14 Date/time of the Observation.

6.11. Result Status

This field is the status of results for this order.

Sequence:	OBR-25
Data Type:	Coded Values for HL7 Tables (ID)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70123 – Result Status

For LA-ELR, only final results should be transmitted. Therefore, this field should always contain the value "F".

6.11.1. Table HL70123 – Result Status

Value	Description
F	Final results; results stored and verified. Can only be changed with a corrected result.

6.12. Parent Result

This field provides linkages to messages describing previously performed tests. This important information, together with the information in OBR-29 Parent, uniquely identifies the OBX segment from the previously performed test that is related to this order.

Sequence:	OBR-26
Data Type:	Composite (PRL)
Required/Optional:	Optional
Repeating:	No
Table Number:	LOINC – Logical Observation Identifier Names and Codes HL70396 – Coding System SNOMED - Systematized Nomenclature of Human and Veterinary Medicine
Components:	1. Observation Identifier of Parent Result (CWE) – Optional 2. Sub ID of Parent Result (ST) – Optional 3. Observation Result from Parent (TX) – Optional

For laboratories that develop an HL7 message for laboratory-based reporting only and do not use HL7 within their institution, the parent result field should be used to report the name of the organism on which sensitivities were performed.

HL7 2.5.1 states that OBR-26 should only be present when the parent result is identified by OBR-29 Parent Number. However, the parent result may not always be present when a laboratory uses HL7 for transmission of public health information only. For this reason, OBR-26 should be populated with information in the absence of a parent number. This is a deviation from the HL7 2.5.1 specifications, but is necessary to interpret data required for laboratory-based reporting.

6.13. Result Copies To

This field contains the people who are to receive copies of the results.

Sequence:	OBR-28
Data Type:	Extended Composite ID Number and Name (XCN)
Required/Optional:	Optional
Repeating:	Yes (5)
Table Number:	HL70360 – Degree HL70200 – Name Type HL70203 – Identifier Type
Components:	1. ID Number (ST) – Optional 2. Family Name (FN) – Optional 3. Given Name (ST) – Optional 4. Second and Further Given Names or Initial Thereof (ST) – Optional 5. Suffix (ST) – Optional 6. Prefix (ST) – Optional 7. Degree (IS) – Optional 8. Source Table (IS) – Ignored 9. Assigning Authority (HD) – Ignored 10. Name Type Code (ID) – Optional 11. Identifier Check Digit (ST) – Ignored 12. Check Digit Scheme (ID) – Ignored 13. Identifier Type Code (ID) – Optional 14. Assigning Facility (HD) – Optional 15. Name Representation Code (ID) – Ignored 24. Name Context (CE) – Ignored 25. Name Validity Range (DR) – Ignored 26. Name Assembly Order (ID) – Ignored 27. Effective Date (TS) – Ignored 28. Expiration Date (TS) – Ignored 29. Professional Suffix (ST) – Ignored 30. Assigning Jurisdiction (CWE) – Ignored 16. Assigning Agency or Department (CWE) - Ignored

6.14. Parent

This field relates a child to its parent when a parent/child relationship exists. The field is optional, however it is recommended that the field be sent if available for laboratory-based reporting.

Sequence:	OBR-29
Data Type:	Entity Identifier Pair (EIP)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70301 – Universal ID Type
Components:	1. Placer Assigned Identifier (EI) – Optional 2. Filler's Assigned Identifier (EI) – Optional

Reporting of antimicrobial susceptibility data requires that the parent result be populated with the name of the organism for which testing was performed.

6.15. Reason for Study

This field contains the reason for study. It can repeat to accommodate multiple diagnoses.

Sequence:	OBR-31
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Optional
Repeating:	Yes
Table Number:	ICD-9-CM – International Classification of Diseases, Ninth Revision HL70396 – Coding System
Components:	1. Identifier (ST) – Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored

	13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

7. Observation/Result (OBX)

This segment is used to transmit a single observation or observation fragment. It represents the smallest indivisible unit of a report. Its principle mission is to carry information about observations in report messages.

Laboratory-based reporting to public health agencies focuses on OBX-3 and OBX-5 as the most informative elements of the message. Thus, every effort should be made to make OBX-3 and OBX-5 as informative and unambiguous as possible.

OBX fields 2-8, 11, 14-15, and 17 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the OBX segment will be ignored and thus, are not included in the definition below.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
2	3	ID	R		Y	Value Type
3	80	CWE	R		Y	Observation Identifier
4	20	ST	C			Observation Sub-ID
5	65536	**	R	Y	Y	Observation Value
6	60	CWE	C		Y	Units
7	60	ST	R			Reference Ranges
8	5	CWE	R		Y	Abnormal Flags
11	1	ID	O		Y	Observation Result Status
14	26	TS	R			Date/Time of the Observation
15	60	CWE	O		Y	Producer's Reference
17	60	CWE	O	Y	Y	Observation Method

The following is an example of the Observation/Result (OBX) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
OBX||SN|600-7^Microorganism Identified, Blood Culture^LN^77777^ORGANISM,
Blood^L|1|^10|ug/mL^Microgram/milliliter^ISO+|3.5-
4.5|^^^^^^^^AA|||F|||20040901150000|12D1234567^LabName^CLIA||6703^VANCOMYCIN^
CDCM||||||LabName|Not present in v2.3.1 message
```

7.1. Value Type

This field contains the data type that defines the format of the observation value in OBX-5.

Sequence:	OBX-2
Data Type:	Coded Values for HL7 Tables (ID)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70125 – Value Type

For laboratory-based reporting, the CWE and SN data types should be used whenever possible so that results can be interpreted easily.

7.1.1. Table HL70125 – Value Type

Value	Description
CWE	Coded with Exceptions
SN	Structured Numeric

7.2. Observation Identifier

This field contains a unique identifier for the observation, or the thing being reported.

Sequence:	OBX-3
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Required
Repeating:	No
Table Number:	LOINC – Logical Observation Identifier Names and Codes HL70396 – Coding System
Components:	1. Identifier (ST) – Conditional (LOINC) 2. Text (ST) – Conditional (LOINC) 3. Code System (ID) – Conditional (LOINC) 4. Alternate Identifier (ST) – Conditional (Local) 5. Alternate Text (ST) – Conditional (Local) 6. Alternate Code System (ID) – Conditional (Local)

	7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

It is strongly recommended that OBX-3 be populated with a specific LOINC code as possible to prevent any misinterpretation of results.

A LOINC Code must be provided.

The first three components (Identifier, Text, Code System) should be provided and the value for Code System should be "LN".

7.3. Observation Sub-ID

This field is used to distinguish between multiple OBX segments with the same observation ID organized under one OBR.

Sequence:	OBX-4
Data Type:	String (ST)
Required/Optional:	Conditional[1]
Repeating:	No
Table Number:	N/A

[1]OBX-4 Sub-ID is conditionally required when multiple OBX segments are reported within a single OBR segment. If two instances of OBX relate to the same observation result, their OBX-4 values must be the same. If they relate to independent observation results, their OBX-4 values must be different.

For example, if there are three OBX segments, the first two relating to one result, and the third relating to another result, then the Observation Sub-ID for the first two should be "1", and for the third, should be "2".

7.4. Observation Value

This field contains the results of the test.

Sequence:	OBX-5
Data Type:	Varies based upon OBX-2
Required/Optional:	Required
Repeating:	Yes[1]
Table Number:	SNOMED - Systematized Nomenclature of Human and Veterinary Medicine HL70396 – Coding System
Components (CE):	1. Identifier (ST) – Conditional 2. Text (ST) - Conditional 3. Code System (ID) - Conditional 4. Alternate Identifier (ST) - Conditional 5. Alternate Text (ST) - Conditional 6. Alternate Code System (ID) – Conditional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

Components (SN):	1. Comparator (ST) – Optional 2. Number (NM) – Required 3. Separator/Suffix (ST) – Optional 4. Number (NM) – Optional

[1]OBX-5 field can only be repeated twice.

LA-ELR supports only CWE and SN data types in OBX-5 and OBX-2 should have a value of either CE or SN based on the value in OBX-5.

If CWE appears in OBX-2, it is assumed that the result in OBX-5 is coded using a SNOMED. A Local Code can also be sent.

A SNOMED Code is sent using the first three components (Identifier, Text, Code System) and the value for Code System must be "SNM"

If a Local Code is sent, in addition to a SNOMED, Components four through six (Alternate Components) should be provided and the value for Alternate Code System should be "L".

For numeric results, the SN data type should be used in OBX-2 and thus, SNOMED is not required.

NM, ST and TX data types are not supported for OBX-5 and should not be used.

It is strongly recommended that comments not be reported in OBX-5 and be placed in an NTE segment directly following the OBX segment.

7.5. Units

This field contains the units for the observation value in OBX-5

Sequence:	OBX-6
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Conditional
Repeating:	No
Table Number:	UCUM – Unified Code for Units of Measure HL70396 – Coding System
Components:	1. Identifier (ST) – Conditional 2. Text (ST) - Conditional 3. Code System (ID) - Conditional 4. Alternate Identifier (ST) - Conditional 5. Alternate Text (ST) - Conditional 6. Alternate Code System (ID) – Conditional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored

	9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

It is expected that either a UCUM Code or a Local Code be provided. The UCUM Code is used by the system, if both are provided.

If a UCUM Code is used, first three components (Identifier, Text, Code System) should be provided and the value for Code System should be "UCUM"

If a Local Code is used, last three components (Alternate Components) should be provided and the value for Alternate Code System should be "L".

Units should be reported in all scenarios in which it is relevant to the interpretation of a numeric observation value.

7.5.1 Refer to PHINVADS to obtain the UCUM - Unified Code for Units of Measures table.

7.6. References Range

This field contains the associated range of the observation. When the observation quantifies the amount of a toxic substance, then the upper limit of the range identifies the toxic limit. If the observation quantifies a drug, the lower limits identify the lower therapeutic bounds and the upper limits represent the upper therapeutic bounds above which toxic side effects are common.

Sequence:	OBX-7
Data Type:	String (ST)
Required/Optional:	Required
Repeating:	No
Table Number:	N/A

Reference Range should be reported in all scenarios in which it is relevant to the interpretation of a numeric observation value, including titer results.

Reference Ranges should be reported in one of three basic formats:

- Lower and upper limits are defined |0.0-9.9|
- Comparator & Lower limit (no upper limit) |>10| or |>=10|
- Comparator & Upper limit (no lower limit) |<1:250| or |<=1:250|

For non-quantitative results the normal value must be reported

Reference Ranges for non-numeric/quantitative results should be provided. Examples are:

- "Negative" for tests resulting as "Positive"
- "Not Detected" for tests resulting as "Detected
- "Normal" for tests resulting as "Abnormal"

7.7. Abnormal Flags

This field contains the microbiology sensitivity interpretations.

Sequence:	OBX-8
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70078 – Abnormal Flags
Components:	1. Identifier (ST) – Conditional 2. Text (ST) - Conditional 3. Code System (ID) - Conditional 4. Alternate Identifier (ST) - Conditional 5. Alternate Text (ST) - Conditional 6. Alternate Code System (ID) – Conditional

	7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

Abnormal flags for antimicrobial sensitivity reporting should conform to the recommendations of the National Committee of Clinical Laboratory Standards. For most reported findings, the allowable values are "S", "I", or "R", and should be provided in addition to the numeric values in OBX-5.

For electronic laboratory reporting, when findings other than susceptibility results are sent, the abnormal flag should be valued (e.g., "H", "N", or "A") to distinguish between tests that are interpreted as normal and those that are interpreted as abnormal.

While the HL7 Standard Version 2.5.1 permits repetitions, laboratory-based reporting only expects one abnormal flag.

7.7.1. Table HL70078 – Abnormal Flags

Value	Description
<	Below absolute low-off instrument scale
NULL	No range defined, or normal ranges don't apply
>	Above absolute high-off instrument scale
A	Abnormal (applies to non-numeric results)
AA	Very abnormal (applies to non-numeric results; analogous to panic limits for numeric units)
B	Better – use when direction not relevant
D	Significant change down
H	Above high normal
HH	Above upper panic limits

I	Intermediate. Indicates for microbiology susceptibilities only.
L	Below low normal
LL	Below lower panic limits
MS	Moderately susceptible. Indicates for microbiology susceptibilities only.
N	Normal (applies to non-numeric results)
R	Resistant. Indicates for microbiology susceptibilities only.
S	Susceptible. Indicates for microbiology susceptibilities only.
U	Significant change up
VS	Very susceptible. Indicates for microbiology susceptibilities only.
W	Worse – use when direction not relevant

7.8. Observation Result Status

This field contains the observation result status.

Sequence:	OBX-11
Data Type:	Coded Values for HL7 Tables (ID)
Required/Optional:	Required
Repeating:	No
Table Number:	HL70085 – Observation Result Status Codes Interpretation

This field reflects the current completion status of the results for data contained in the OBX-5 Observation Value field.

For LA-ELR only final or corrected results should be transmitted. Therefore, this field should always contain the value "F" or "C".

7.8.1. Table HL70085 – Observation Result Status Codes Interpretation

Value	Description
F	Final results; can only be changed with a corrected result
C	Record coming over is a correction and thus replaces a final result

7.9. Date/Time of the Observation

This field records the date and time of the observation. It is the physiologically relevant date/time or the closest approximation to the date/time of the observation.

Sequence:	OBX-14
Data Type:	Timestamp (TS)
Required/Optional:	Required
Repeating:	No
Table Number:	N/A
Components:	1. Time (DTM) – Required 2. Degree of Precision (ID) - Ignored

In the case of tests performed on specimens, the relevant date-time is the specimen's collection date-time. In the case of observations taken directly on the patient (e.g., X-ray images, history and physical), the observation date-time is the date-time that the observation was performed.

The time zone is assumed to be that of the sender.

7.10. Producer's Reference

This field contains a unique identifier of the responsible producing service.

Sequence:	OBX-15
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70301 – Universal ID Type
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored

	14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

It should be reported explicitly when the test results are produced at outside laboratories, for example. When this field is null, the receiving system assumes that the observations were produced by the sending organization.

When the test results are produced at outside laboratories, the CLIA identifier for the laboratory that performed the test should appear here and will be different from the CLIA identifier listed as the assigning facility in PID-3.

7.11. Observation Method

This field is used to transmit the method or procedure by which an observation was obtained when the sending system wishes to distinguish among one measurement obtained by different methods and the distinction is not implicit in the test ID.

Sequence:	OBX-17
Data Type:	Coded with Exceptions (CWE)
Required/Optional:	Optional
Repeating:	Yes
Table Number:	CDCM – CDC Methods/Instruments Codes HL70396 – Coding System
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored

	11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

When one of the alternate components is provided, all are required.

The Centers for Disease Control and Prevention (CDC) Method Code (CDCM) can be used in OBX-17 to further describe tests identified in OBX-3.

8. Notes and Comments (NTE)

This segment is a common format for sending notes and comment.

This optional, repeating segment may be inserted after any OBX segments in the ORU message. The NTE segment applies to the information in the segment that immediately precedes it.

NTE fields 2-3 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the NTE segment will be ignored and thus, are not included in the definition below.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
2	8	ID	O		Y	Source of Comment
3	65536	FT	R	Y		Comment

The following is an example of the Notes and Comments (NTE) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
NTE||L|firstcomment~secondcomment~thirdcomment
```

8.1. Source of Comment

This field is used when the source of comment must be identified.

Sequence:	NTE-2
Data Type:	Coded Values for HL7 Values (ID)
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70105 – Source of Comment

8.1.1. Table HL70105 – Source of Comment

Value	Description
L	Ancillary (filler) department is the source of comment
P	Orderer (placer) is the source of comment
O	Other system is the source of comment

8.2. Comment

This field contains the comment contained in the segment.

Sequence:	NTE-3
Data Type:	Formatted Text (FT)
Required/Optional:	Required
Repeating:	Yes
Table Number:	N/A

9. Specimen Segment (SPM)

This segment describes the characteristics of a single sample. The SPM segment carries information regarding the type of specimen, where and how it was collected, who collected it and some basic characteristics of the specimen.

SPM fields 4, 12 and 18 will be used for LADOH electronic laboratory reporting purposes. The remaining fields in the SPM segment will be ignored and thus, are not included in the definition below.

SEQ	LEN	DT	R/O	RP#	TBL#	ELEMENT NAME
4		CWE	R		Y	Specimen Type
6		CWE	O		Y	Specimen Additives
7		CWE	O		Y	Specimen Collection Method
8		CWE	O		Y	Specimen Source Site
12		CQ	O		Y	Specimen Collection Amount
14		ST	O			Specimen Description
17		DR	R			Specimen Collection Date/Time
18		TS	R			Specimen Received Date/Time

The following is an example of the Specimen (SPM) segment in HL7 format, including all fields either required or optional in the LADOH supplemental standard:

```
SPM|1|P0001001&PlacerApp^F0002001&FillerApp||BLDV^Blood
venous^HL70070||^^^^^^^^AdditivesText||LUA^Left Upper
Arm^HL70163||||100^ML&Milliliters&ISO+|||||20040901150000^20040901150500|2004
0901083000
```

9.1. Specimen Type

This field is used to provide a description of the precise nature of the entity that is the source material for the observation.

Sequence:	SPM-4
Data Type:	Coded with Exceptions - CWE
Required/Optional:	Required
Repeating:	No
Table Number:	SNOMED - Specimen HL70487 – Specimen Type
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional

	5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

It is strongly recommended that actual specimen types be provided in SPM-4 and not surrogate descriptions.

See HL70487 – Specimen Type for the complete table of Specimen Type Codes.

9.1.1. Table HL70487 – Specimen Type

Value	Description
AMN	Amniotic fluid
ABS	Abscess
ACNE	Tissue, Acne
ACNFLD	Fluid, Acne
AIRS	Air Sample
ALL	Allograft
AMP	Amputation
ANGI	Catheter Tip, Angio
ARTC	Catheter Tip, Arterial
ASERU	Serum, Acute
ASP	Aspirate

ATTE	Environmental, Autoclave Ampule
AUTOC	Environment, Attest
AUTP	Autopsy
BBL	Blood bag
BCYST	Cyst, Baker's
BITE	Bite
BLEB	Bleb
BLIST	Blister
BOIL	Boil
BON	Bone
BOWL	Bowel contents
BPU	Blood product unit
BRN	Burn
BRSH	Brush
BRTH	Breath (use EXHLD)
BRUS	Brushing
BUB	Bubo
BULLA	Bulla/Bullae
BX	Biopsy
CALC	Calculus (=Stone)
CARBU	Carbuncle
CAT	Catheter
CBITE	Bite, Cat
CLIPP	Clippings
CNJT	Conjunctiva
COL	Colostrum
CONE	Biospy, Cone
CSCR	Scratch, Cat
CSERU	Serum, Convalescent
CSITE	Catheter Insertion Site
CSMY	Fluid, Cystostomy Tube
CST	Fluid, Cyst
CSVR	Blood, Cell Saver
CTP	Catheter tip
CVPS	Site, CVP
CVPT	Catheter Tip, CVP
CYN	Nodule, Cystic

CYST	Cyst
DBITE	Bite, Dog
DCS	Sputum, Deep Cough
DEC	Ulcer, Decubitus
DEION	Environmental, Water (Deionized)
DIA	Dialysate
DISCHG	Discharge
DIV	Diverticulum
DRN	Drain
DRNG	Drainage, Tube
DRNGP	Drainage, Penrose
EARW	Ear wax (cerumen)
EBRUSH	Brush, Esophageal
EEYE	Environmental, Eye Wash
EFF	Environmental, Effluent
EFFUS	Effusion
EFOD	Environmental, Food
EISO	Environmental, Isolette
ELT	Electrode
ENVIR	Environmental, Unidentified Substance
EOTH	Environmental, Other Substance
ESOI	Environmental, Soil
ESOS	Environmental, Solution (Sterile)
ETA	Aspirate, Endotrach
ETTP	Catheter Tip, Endotracheal
ETTUB	Tube, Endotracheal
EWHI	Environmental, Whirlpool
EXG	Gas, exhaled (=breath)
EXS	Shunt, External
EXUDTE	Exudate
FAW	Environmental, Water (Well)
FBLOOD	Blood, Fetal
FGA	Fluid, Abdomen
FIST	Fistula
FLD	Fluid, Other
FLT	Filter
FLU	Fluid, Body unsp

FLUID	Fluid
FOLEY	Catheter Tip, Foley
FRS	Fluid, Respiratory
FSCLP	Scalp, Fetal
FUR	Furuncle
GAS	Gas
GASA	Aspirate, Gastric
GASAN	Antrum, Gastric
GASBR	Brushing, Gastric
GASD	Drainage, Gastric
GAST	Fluid/contents, Gastric
GENV	Genital vaginal
GRAFT	Graft
GRANU	Granuloma
GROSH	Catheter, Groshong
GSOL	Solution, Gastrostomy
GSPEC	Biopsy, Gastric
GT	Tube, Gastric
GTUBE	Drainage Tube, Drainage (Gastrostomy)
HBITE	Bite, Human
HBLUD	Blood, Autopsy
HEMAQ	Catheter Tip, Hemaquit
HEMO	Catheter Tip, Hemovac
HERNI	Tissue, Herniated
HEV	Drain, Hemovac
HIC	Catheter, Hickman
HYDC	Fluid, Hydrocele
IBITE	Bite, Insect
ICYST	Cyst, Inclusion
IDC	Catheter Tip, Indwelling
IHG	Gas, Inhaled
ILEO	Drainage, Ileostomy
ILLEG	Source of Specimen Is Illegible
IMP	Implant
INCI	Site, Incision/Surgical
INFIL	Infiltrate
INS	Insect

INTRD	Catheter Tip, Introducer
IT	Intubation tube
IUD	Intrauterine Device
IVCAT	Catheter Tip, IV
IVFLD	Fluid, IV
IVTIP	Tubing Tip, IV
JEJU	Drainage, Jejunal
JNTFLD	Fluid, Joint
JP	Drainage, Jackson Pratt
KELOI	Lavage
KIDFLD	Fluid, Kidney
LAVG	Lavage, Bronhial
LAVGG	Lavage, Gastric
LAVGP	Lavage, Peritoneal
LAVPG	Lavage, Pre-Bronch
LENS1	Contact Lens
LENS2	Contact Lens Case
LESN	Lesion
LIQ	Liquid, Unspecified
LIQO	Liquid, Other
LSAC	Fluid, Lumbar Sac
MAHUR	Catheter Tip, Makurkour
MASS	Mass
MBLD	Blood, Menstrual
MUCOS	Mucosa
MUCUS	Mucus
NASDR	Drainage, Nasal
NEDL	Needle
NEPH	Site, Nephrostomy
NGASP	Aspirate, Nasogastric
NGAST	Drainage, Nasogastric
NGS	Site, Naso/Gastric
NODUL	Nodule(s)
NSECR	Secretion, Nasal
ORH	Other
ORL	Lesion, Oral
OTH	Source, Other

PACEM	Pacemaker
PCFL	Fluid, Pericardial
PDSIT	Site, Peritoneal Dialysis
PDTS	Site, Peritoneal Dialysis Tunnel
PELVA	Abscess, Pelvic
PENIL	Lesion, Penile
PERIA	Abscess, Perianal
PILOC	Cyst, Pilonidal
PINS	Site, Pin
PIS	Site, Pacemaker Insetion
PLAN	Plant Material
PLAS	Plasma
PLB	Plasma bag
PLEVS	Serum, Peak Level
PND	Drainage, Penile
POL	Polyps
POPGS	Graft Site, Popliteal
POPLG	Graft, Popliteal
POPLV	Site, Popliteal Vein
PORTA	Catheter, Porta
PPP	Plasma, Platelet poor
PROST	Prosthetic Device
PRP	Plasma, Platelet rich
PSC	Pseudocyst
PUNCT	Wound, Puncture
PUS	Pus
PUSFR	Pustule
PUST	Pus
QC3	Quality Control
RANDU	Urine, Random
RBITE	Bite, Reptile
RECT	Drainage, Rectal
RECTA	Abscess, Rectal
RENALC	Cyst, Renal
RENC	Fluid, Renal Cyst
RES	Respiratory
SAL	Saliva

SCAR	Tissue, Keloid (Scar)
SCLV	Catheter Tip, Subclavian
SCROA	Abscess, Scrotal
SECRE	Secretion(s)
SER	Serum
SHU	Site, Shunt
SHUNF	Fluid, Shunt
SHUNT	Shunt
SITE	Site
SKBP	Biopsy, Skin
SKN	Skin
SMM	Mass, Sub-Mandibular
SNV	Fluid, synovial (Joint fluid)
SPRM	Spermatozoa
SPRP	Catheter Tip, Suprapubic
SPRPB	Cathether Tip, Suprapubic
SPS	Environmental, Spore Strip
SPT	Sputum
SPTC	Sputum - coughed
SPTT	Sputum - tracheal aspirate
SPUT1	Sputum, Simulated
SPUTIN	Sputum, Inducted
SPUTSP	Sputum, Spontaneous
STER	Environmental, Sterrad
STL	Stool = Fecal
STONE	Stone, Kidney
SUBMA	Abscess, Submandibular
SUBMX	Abscess, Submaxillary
SUMP	Drainage, Sump
SUP	Suprapubic Tap
SUTUR	Suture
SWGZ	Catheter Tip, Swan Gantz
TASP	Aspirate, Tracheal
TISS	Tissue
TISU	Tissue ulcer
TLC	Cathether Tip, Triple Lumen
TRAC	Site, Tracheostomy

TRANS	Transudate
TSERU	Serum, Trough
TSTES	Abscess, Testicular
TTRA	Aspirate, Transtracheal
TUBES	Tubes
TUMOR	Tumor
TZANC	Smear, Tzanck
UDENT	Source, Unidentified
UR	Urine
URC	Urine clean catch
URINB	Urine, Bladder Washings
URINC	Urine, Catheterized
URINM	Urine, Midstream
URINN	Urine, Nephrostomy
URINP	Urine, Pedibag
URT	Urine catheter
USCOP	Urine, Cystoscopy
USPEC	Source, Unspecified
VASTIP	Catheter Tip, Vas
VENT	Catheter Tip, Ventricular
VITF	Vitreous Fluid
VOM	Vomitus
WASH	Wash
WASI	Washing, e.g. bronchial washing
WAT	Water
WB	Blood, Whole
WEN	Wen
WICK	Wick
WND	Wound
WNDA	Wound abscess
WNDD	Wound drainage
WNDE	Wound exudate
WORM	Worm
WRT	Wart
WWA	Environmental, Water
WWO	Environmental, Water (Ocean)
WWT	Environmental, Water (Tap)

9.2. Specimen Additives

This field is used to provide a description of any additives or preservatives to the specimen.

Sequence:	SPM-6
Data Type:	Coded with Exceptions - CWE
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70371 – Additives or Preservatives
Components:	1. Identifier (ST) - Optional 2. Text (ST) - Optional 3. Code System (ID) - Optional 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Optional 8. Alternate Coding System Version ID (ST) – Optional 9. Original Text (ST) – Optional 10. Second Alternate Identifier (ST) – Optional 11. Second Alternate Text (ST) – Optional 12. Second Name of Alternate Coding System (ID) – Optional 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

9.2.1. Table HL70371 – Additives or Preservatives

Value	Description
F10	10% Formalin
C32	3.2% Citrate
C38	3.8% Citrate
HCL6	6N HCL
ACDA	ACD Solution A
ACDB	ACD Solution B
ACET	Acetic Acid
AMIES	Amies transport medium
HEPA	Ammonium heparin
BACTM	Bacterial Transport medium
BOR	Borate Boric Acid
BOUIN	Bouin's solution
BF10	Buffered 10% formalin
WEST	Buffered Citrate (Westergren Sedimentation Rate)
BSKM	Buffered skim milk
CARS	Carson's Modified 10% formalin
CARY	Cary Blair Medium
CHLTM	Chlamydia transport medium
CTAD	CTAD (this should be spelled out if not universally understood)
ENT	Enteric bacteria transport medium
ENT+	Enteric plus
JKM	Jones Kendrick Medium
KARN	Karnovsky's fixative
LIA	Lithium iodoacetate
HEPL	Lithium/Li Heparin
M4	M4
M4RT	M4-RT
M5	M5
MICHTM	Michel's transport medium
MMDTM	MMD transport medium
HNO3	Nitric Acid
NONE	None
PAGE	Pages's Saline
PHENOL	Phenol

KOX	Potassium Oxalate
EDTK	Potassium/K EDTA
EDTK15	Potassium/K EDTA 15%
EDTK75	Potassium/K EDTA 7.5%
PVA	PVA (polyvinylalcohol)
RLM	Reagan Lowe Medium
SST	Serum Separator Tube (Polymer Gel)
SILICA	Siliceous earth, 12 mg
NAF	Sodium Fluoride
FL100	Sodium Fluoride, 100mg
FL10	Sodium Fluoride, 10mg
NAPS	Sodium polyanethol sulfonate 0.35% in 0.85% sodium chloride
HEPN	Sodium/Na Heparin
EDTN	Sodium/Na EDTA
SPS	SPS(this should be spelled out if not universally understood)
STUTM	Stuart transport medium
THROM	Thrombin
FDP	Thrombin NIH; soybean trypsin inhibitor (Fibrin Degradation Products)
THYMOL	Thymol
THYO	Thyoglycollate broth
TOLU	Toluene
URETM	Ureaplasma transport medium
VIRTM	Viral Transport medium

9.3. Specimen Collection Method

This field is used to provide the method used to collect the specimen.

Sequence:	SPM-7
Data Type:	Coded with Exceptions - CWE
Required/Optional:	Optional
Repeating:	No
Table Number:	HL70498 – Specimen Collection Method
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional

	5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

9.3.1. Table HL70498 – Specimen Collection Method

Value	Description
FNA	Aspiration, Fine Needle
PNA	Aterial puncture
BIO	Biopsy
BCAE	Blood Culture, Aerobic Bottle
BCAN	Blood Culture, Anaerobic Bottle
BCPD	Blood Culture, Pediatric Bottle
CAP	Capillary Specimen
CATH	Catheterized
EPLA	Environmental, Plate
ESWA	Environmental, Swab
LNA	Line, Arterial
CVP	Line, CVP
LNV	Line, Venous
MARTL	Martin-Lewis Agar

ML11	Mod. Martin-Lewis Agar
PACE	Pace, Gen-Probe
PIN	Pinworm Prep
KOFFP	Plate, Cough
MLP	Plate, Martin-Lewis
NYP	Plate, New York City
TMP	Plate, Thayer-Martin
ANP	Plates, Anaerobic
BAP	Plates, Blood Agar
PRIME	Pump Prime
PUMP	Pump Specimen
QC5	Quality Control For Micro
SCLP	Scalp, Fetal Vein
SCRAPS	Scrapings
SHA	Shaving
SWA	Swab
SWD	Swab, Dacron tipped
WOOD	Swab, Wooden Shaft
TMOT	Transport Media,
TMAN	Transport Media, Anaerobic
TMCH	Transport Media, Chalamydia
TMM4	Transport Media, M4
TMMY	Transport Media, Mycoplasma
TMPV	Transport Media, PVA
TMSC	Transport Media, Stool Culture
TMUP	Transport Media, Ureaplasma
TMVI	Transport Media, Viral
VENIP	Venipuncture

9.4. Specimen Source Site

This field is used to provide the source from which the specimen was obtained.

Sequence:	SPM-8
Data Type:	Coded with Exceptions - CWE
Required/Optional:	Optional
Repeating:	No

Table Number:	Body Site Value Set
Components:	1. Identifier (ST) - Required 2. Text (ST) - Required 3. Code System (ID) - Required 4. Alternate Identifier (ST) - Optional 5. Alternate Text (ST) - Optional 6. Alternate Code System (ID) – Optional 7. Coding System Version ID (ST) – Ignored 8. Alternate Coding System Version ID (ST) – Ignored 9. Original Text (ST) – Ignored 10. Second Alternate Identifier (ST) – Ignored 11. Second Alternate Text (ST) – Ignored 12. Second Name of Alternate Coding System (ID) – Ignored 13. Second Alternate Coding System Version ID (ST) – Ignored 14. Coding System OID (ST) – Ignored 15. Value Set OID (ST) – Ignored 16. Value Set Version ID (DTM) – Ignored 17. Alternate Coding System OID (ST) – Ignored 18. Alternate Value Set OID (ST) – Ignored 19. Alternate Value Set Version ID (DTM) – Ignored 20. Second Alternate Coding System OID (ST) – Ignored 21. Second Alternate Value Set OID (ST) – Ignored 22. Second Alternate Value Set Version ID (DTM) – Ignored

9.4.1. Refer to PHINVADS to obtain the Body Site Value Set table.

9.5. Specimen Collection Volume

This field specifies the volume of a specimen for laboratory tests.

Sequence:	SPM-12
Data Type:	Composite Quantity (CQ)
Required/Optional:	Optional
Repeating:	No
Table Number:	UCUM – Unified Code for Units of Measure
Components:	1. Quantity (NM) – Required 2. Units (CWE) – Required

9.6. Specimen Description

This field provides free text describing the method of collection when that information is a part of the order. When the method of collection is logically an observation result, it should be included as a result segment.

Sequence:	SPM-14
Data Type:	String (ST)
Required/Optional:	Optional
Repeating:	No
Table Number:	N/A

9.7. Specimen Collection Date/Time

This field specifies the time range over which the sample was collected as opposed to the time the sample collection devise was recovered.

Sequence:	SPM-17
Data Type:	Date Range (DR)
Required/Optional:	Optional
Repeating:	No
Table Number:	N/A
Components:	1. Range Start Date/Time (TS) – Required 2. Range End Date/Time (TS) – Optional

The first component of the date range must match OBR-7 – Observation Date/Time. The second component must match OBR-8 – Observation End Date/Time. For OBXs reporting observations based on this specimen, OBX-14 should contain the same value as component 1 of this field.

9.8. Specimen Received Date/Time

For observations requiring a specimen, this field contains the actual login time at the diagnostic service.

Sequence:	SPM-18
Data Type:	Timestamp (TS)
Required/Optional:	Required
Repeating:	No
Table Number:	N/A

This field must contain a value when the order is accompanied by a specimen or when the observation required a specimen and the message is a report.

The time zone is assumed to be that of the sender.

10. Observation Related to Specimen - OBX

The Observation related to Specimen is generally used to report additional characteristics related to the specimen. It is not used to report the results of the requested testing identified in OBR-4 (Universal Service ID). The observations associated with the specimen are typically information that the ordering provider sends with the order. The Observation Related to Specimen – OBX should be structured the same as the Observation/Result – OBX segment.

If the patient's date of birth is not available, the patient's age must be reported in this segment using an OBX-2 value of |SN|, a LOINC code for age |21612-7^Age - Reported^LN| in OBX-3, and the actual age |^25| in Structured Numeric format in OBX-5.

The following is an example of the Observation Related to Specimen (OBX) segments in HL7 format that includes Patient's age.

```
OBX|1|SN|21612-7^Age^LN||^26||||||F
```

11. Code Mapping

Trading partners are required to use standard LOINC and/or SNOMED codes, as appropriate, to submit electronic laboratory report results via LA-ELR. Additional standard code tables, displayed in section 11.1, are also required for the appropriate reporting of patient, specimen, and result data.

LA-ELR supports the use of a set of standard mapping code tables, see section 10.1. Local entities are required to submit data as defined in the corresponding standard table.

11.1. Table Cross-Reference

Table ID	Table Name	Defined in Section
HL70001	Sex	3.5.1
HL70002	Marital Status	3.10.1
HL70003	Event Type	2.8.2
HL70063	Relationship	4.2.1
HL70070	Specimen Source Code	8.1.1
HL70076	Message Type	2.8.1
HL70078	Abnormal Flags	7.7.1
HL70085	Observation Result Status Codes Interpretation	7.8.1
HL70103	Processing ID	2.10.1
HL70104	Version ID	2.11.1
HL70105	Source of Comment	9.1.1
HL70123	Result Status	6.11.1
HL70125	Value Type	7.1.1
HL70136	Yes/No Indicator	3.13.1
HL70190	Address Type	3.7.2
HL70200	Name Type	3.2.2
HL70201	Telecommunications Use Code	3.8.1
HL70202	Telecommunication Equipment Type	3.8.2
HL70203	Identifier Type	3.1.1
HL70204	Organizational Name Type	5.1.1
HL70301	Universal ID Type	2.4.1
HL70360	Degree	3.2.1
HL70371	HL70371 – Additives or Preservatives	9.2.1
HL70396	Coding System	3.6.2
HL70498	HL70498 – Specimen Collection Method	9.3.1
SCT	Body Site Value Set	9.4.1
ISO3166_1	Country	3.7.1
FIPS6_4	County	3.7.3
CDCREC	Ethnicity group	3.12.1
CDCREC	Race Category	3.6.1
CDCM	CDC Methods/Instruments Codes	12.1.2
ICD-9-CM	International Classification of Diseases, 9th Revision, Clinical Modification	12.1.3

UCUM	Unified Code for Units of Measure	7.5.1
LOINC	Logical Observation Identifiers Names and Codes	12.1.4
SNOMED	Systematized Nomenclature of Human and Veterinary Medicine	12.1.5

12. Additional Tables and Values

This section provides a listing of codes and values for additional tables and values used within the LADOH laboratory-based reporting processes. The tables listed below have been previously introduced in the context of one or more data fields within an HL7 ORU message, however due to their length they are presented below.

12.1.1. Table CDCM – CDC Methods/Instruments Codes

The values for this coding system are not included in this document.

12.1.2. Table ICD-9-CM International Classification of Diseases, Ninth Revision

The values for this coding system are not included in this document.

12.1.3. Table LOINC – Logical Observation Identifier Names and Codes

The values for this coding system are not included in this document.

12.1.4. Table SNOMED – Systematized Nomenclature of Human and Veterinary Medicine

The values for this coding system are not included in this document.

13. Code Versions

All code tables used in the LA-ELR standard vocabulary, and the version or versions supported in LA-ELR, are listed below.

Table ID	Table Name	Supported Version(s)
CDCM	CDC Methods/Instruments Codes	(February 2, 2000)
ICD-9-CM	International Classification of Diseases, 9th Revision, Clinical Modification	9th Revision
UCUM	Unified Code for Units of Measure	Version 1 10/22/2008
LOINC	Logical Observation Identifiers Names and Codes	2.16
SNOMED	Systematized Nomenclature of Human and Veterinary Medicine	Intl ’98 (I98) Clinical Terms (CT)
HL7*nnnn*	(all HL7 tables)	HL7 2.5.1

14. DOH Program Area Specific Guidelines

Due to specific program area or test type requirements, it may be necessary to implement restrictions to or deviations from the standard HL7 guidelines outlined within this document. Such variations, as well as related sample HL7 messages, are published in this section and are ordered by program area. The standard LA DOH HL7 guidelines should be followed for any message specifics that are not clarified within this section. It is recommended that this section be read prior to implementation.

If additional assistant is required before implementation please contact:

Rashad Arcement, MSPH
Laboratory Surveillance Supervisor
Rashad.Arcement@la.gov

Joseph Foxhood
Informations System Developer
Joseph.Foxhood@la.gov

14.1. Lead

14.1.1. Additional Required Fields

While Specimen Source is stated as Optional, it is considered as a **required** field for Lead reports.

In the case of Adult Lead reports, it is strongly recommended that Employer information be provided in the NK1 segment.

Likewise for Childhood Lead reports, the NK1 segment should contain the name of the child's guardian as "GRD" whenever possible. This is vital information for investigators.

14.1.2. Table HL70070 - Specimen Source (Lead)

The following table is a condensed set of values for the Specimen Source field of the OBR message segment recommended specifically for use in Lead messages.

Value	Description
BLDC	Blood capillary
BLDV	Blood venous

14.1.3. Sample Lead Messages

The following lead sample messages illustrate each basic test type and result scenario for lead messages.

Significant Adult Lead

```
MSH|^~\&#|TestApp^99999999^CLIA|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20111021||ORU^R01^ORU_R01|201110210001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^Jane^M^Sr^^^L||19700101|||2106-
3^White^CDCREC|^Apt.
Z555^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^5559999||||||||21
86-5^Not Hispanic or Latino^CDCREC

NK1|||EMR^Employer^HL70063|||||||||Employer
Name^EFName^^^^^L|||||||||||||||||EmployercontactName^EFName^^^^^L|^^PH^^^22
2^5551212|189 Market St^AptB^New Orleans^LA^12345^USA^P^^42043

ORC||||||||||||||||||||Lead Hospitals
Incorporated^^^^^^NPI^^^1234567891|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^
8000008|^^Doctorboro^LA^17112^USA^B

OBR|||A22341|5671-3^Quantitative Blood
Lead^LN|||20111019000101||||||||1234567892^LeadDoctor^PFName^^^^^^^^^^ITIN|^
^PH^^^717^1717171|||||20111019000101|||F

OBX||SN|5671-3^Quantitative Blood
Lead^LN|1|^46|ug/dL^microgram/deciliter^UCUM|0-40|||||||20111019000101

SPM|1|^A22341||||||||||||||20111019000101|20111019000101
```

Non-Significant Adult Lead

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^John^M^Sr^^^L||19700101|||2054-5^Black or
African-American^CDCREC|^Apt.
Z123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^5559999||||||||21
35-2^Hispanic or Latino^CDCREC

NK1|||EMR^Employer^HL70063^E^Employer^L|||||||||ABC
Plumbing||||||||||||||||| Employer^EFName^^^^^L||^^PH^^^717^9119111|189
Market St^^Employersburg^LA^17110^USA^M

ORC||||||||||||||||||||Lead Hospitals
Incorporated^^^^^^NPI^^^1234567891|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^
8000008|^^Doctorboro^LA^17112^USA^B

OBR|||22222|5671-3^Quantitative Blood
Lead^LN|||20111019000101||||||||1234567892^LeadDoctor^PFName^^^^^^^^^^ITIN|^
^PH^^^717^1717171|||||20111019000101|||F

OBX||SN|5671-3^Quantitative Blood
Lead^LN|1|^2|ug/dL^microgram/deciliter^UCUM|0-40|||||||20111019000101
```

```
SPM|1|^22222||BLDV^Blood
venous^HL70070||||||||||||20111019000101|20111019000101
```

Significant Child Lead

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^John^M^Jr^^^L||19950101|||2054-5^Black or
African-American^CDCREC|^Apt.
Z123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||21
35-2^Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|189 Market
St^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911
```

```
ORC||||||||||||||||||||Lead Hospitals
Incorporated^^^^^^NPI^^^1234567891|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^
8000008|^^Doctorboro^LA^17112^USA^B

OBR|||333333|5671-3^Quantitative Blood
Lead^LN|||20111019000101||||||||1234567892^LeadDoctor^PFName^^^^^^^^^^ITIN|^
^PH^^^717^1717171|||||20111019000101|||F

OBX||SN|5671-3^Quantitative Blood
Lead^LN|1|^32|ug/dL^microgram/deciliter^UCUM|0-30|||||||20111019000101

SPM|1|^333333||BLDV^Blood
venous^HL70070||||||||||||20111019000101|20111019000101
```

Non-Significant Child Lead

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^Jane^M^Jr^^^L||19950101|||2103-
3^White^CDCREC|129 Main St^Apt.
12^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||2186
-5^Not Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|129 Main
St^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911

ORC||||||||||||||||||||Lead Hospitals
Incorporated^^^^^^NPI^^^1234567891|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^
8000008|^^Doctorboro^LA^17112^USA^B

OBR|||44444|5671-3^Quantitative Blood
Lead^LN|||20111019000101||||||||1234567892^LeadDoctor^PFName^^^^^^^^^^ITIN|^
^PH^^^717^1717171|||||20111019000101|||F

OBX||SN|5671-3^Quantitative Blood
Lead^LN|1|^5|ug/dL^microgram/deciliter^UCUM|0-30|||||||20111019000101
```

```
SPM|1|^44444||BLDV^Blood
venous^HL70070||||||||||||20111019000101|20111019000101
```

14.2. HIV/AIDS

14.2.1. Table LOINC – Logical Observation Identifier Names and Codes (HIV/AIDS)

The following table specifies the recommended LOINC code values to be used in the Identifier component of the Universal Service ID field of the Observation Request (OBR) segment and the Observation Identifier field of the Observation/Result (OBX) message segment.

Value	Description
20606-0	CD4 Results: CD4 Percent
20605-2	CD4 Results: Absolute CD4 Count (cells/uL or cells/mm3)
33866-5	HIV-1 EIA
14092-1	HIV-1 IFA
30245-5	HIV-1 Proviral DNA (QUAL)
9821-0	HIV-1 P24 Antigen
5018-7	HIV-1 RNA PCR (QUAL)
29539-4	HIV-1 RNA bDNA
29541-0	HIV-1 RNA NASBA
21009-6	HIV-1 Western Blot
31201-7	HIV-1/HIV-2 Combination EIA
30361-0	HIV-2 EIA
31073-0	HIV-2 Western Blot Test
6431-1	HIV-1 Culture
XLN0001	Rapid
XLN0002	Other HIV antibody test
XLN0003	HIV-1 RNA PT-PCR
XLN0004	HIV-2 Culture

14.2.2. Table HL70070 - Specimen Source (HIV/AIDS)

The following table is a condensed set of values for the Specimen Source field of the OBR message segment recommended specifically for use in HIV/AIDS messages.

Value	Description
BLDC	Blood capillary
BLDV	Blood venous
CSF	Cerebral spinal fluid
SAL	Saliva

SER	Serum

14.2.3. Sample HIV/AIDS Messages

The following HIV/AIDS sample messages illustrate each basic test type and result scenario for HIV/AIDS messages.

CD4 Count, cells/uL

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^Jane^M^Sr^^^L||19700101|||2103-
3^White^CDCREC|13 Main St^Apt.
66^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^4449999||||||||2186
-5^Not Hispanic or Latino^CDCREC

NK1|||EMR^Employer^HL70063|||||||||Employer
Name||||||||||||||||ContactLast^Joe^M^^^^L|^^PH^^^717^9119911|15 Walnut
St^^Employersburg^LA^17110^USA^M

ORC|||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^L
A^17112^USA^B

OBR|||222244|20605-
2^cd4count^LN|||20110922000101|||||||||^HIVDoctor^PFName|^^PH^^^717^1717171||
|||20110922000101|||F

OBX||SN|20605-
2^cd4count^LN|1|^150|cells/uL^cells/uL^UCUM||A||||||20110922000101

NTE|||Lab test note 1

SPM|1|^222244||BLDC^Blood
capillary^HL70070||||||||||||20110922000101|20110922000101
```

CD4 Count, cells/mm3

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^John^M^Sr^^^L||19700101|||2054-5^Black or
African-American^CDCREC|16 Main St^Apt.
44^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^4449999||||||||2135
-2^Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|14 Peach
St^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911

ORC|||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^L
A^17112^USA^B

OBR|||333333|20605-2^cd4count^LN|||20110922000101||||||||
|^HIVDoctor^PFName|^^PH^^^717^1717171|||||20110922000101|||F

OBX||SN|20605-
2^cd4count^LN|1|^180|cells/mm3^cells/mm3^UCUM||A||||||20110922000101

SPM|1|^333333||BLDC^Blood
capillary^HL70070||||||||||||20110922000101|20110922000101
```

CD4 Percent

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^Jane^M^Sr^^^L||19700101|||2103-
3^White^CDCREC|12 Main St^Apt.
Z123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||21
86-5^Not Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|14 Chestnut
St^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911

ORC||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^L
A^17112^USA^B

OBR|||111111|20606-0^cd4percent^LN|||20110922000101||||||||
|^HIVDoctor^PFName|^^PH^^^717^1717171|||||20110922000101|||F

OBX||SN|20606-
0^cd4percent^LN|1|^13|percent^percent^UCUM||A||||||20110922000101

SPM|1|^111111||BLDV^Blood
Venous^HL70070||||||||||||20110922000101|20110922000101
```

HIV Culture

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^John^M^Sr^^^L||19700101|||2103-
3^White^CDCREC|143 Dogwood St^Apt.
Z123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||21
35-2^Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|143 Cherrywood
St^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911

ORC||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^L
A^17112^USA^B

OBR|||77777|6431-1^HIV Culture^LN|||20110923000101||||||||
|^HIVDoctor^PFName|^^PH^^^717^1717171|||||20110923000101|||F

OBX||CE|6431-1^HIV Culture^LN|1|10828004^Positive^SNM||||||||20110923000101

SPM|1|^77777||BLDC^Blood
capillary^HL70070||||||||||||20110923000101|20110923000101
```

HIV-1 Proviral DNA

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^John^M^Sr^^^L||19700101|||2054-5^Black or
African-American^CDCREC|420 Willow Oak St^Apt.
Z123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||21
86-5^Not Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|6214 Cherry Blossom
Lane^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911

ORC||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^L
A^17112^USA^B

OBR|||88888|30245-5^HIV-
1ProviralDNA^LN|||20110923000101||||||||^HIVDoctor^PFName|^^PH^^^717^1717171
|||||20110923000101|||F

OBX||CE|30245-5^HIV-
1ProviralDNA^LN|1|10828004^Positive^SNM||||||||20110923000101

NTE|||Lab test note 2

SPM|1|^88888||BLDC^Blood
capillary^HL70070||||||||||||20110923000101|20110923000101
```

HIV-1 RNA bDNA

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^Jane^M^Sr^^^L||19700101|||2103-
3^White^CDCREC|189 Willow Ct^Apt.
Z123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||21
86-5^Not Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|22 2nd
Ave^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911

ORC||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^L
A^17112^USA^B

OBR|||999999|20606-0^HIV-1 RNA DNA^LN|||20110924000101||||||||
|^HIVDoctor^PFName|^^PH^^^717^1717171|||||20110924000101|||F

OBX||SN|29539-4^HIV-1 RNA bDNA^LN|1|^1100|copies/mL^copies/mL^UCUM|100-
500|||||||20110924000101

SPM|1|^999999||BLDC^Blood
capillar^HL70070||||||||||||20110924000101|20110924000101
```

HIV-1 RNA NASBA

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^Jane^M^Sr^^^L||19700101|||2103-
3^White^CDCREC|1423 Hemlock Way^Apt.
123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||218
6-5^Not Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^Guardian^HL70063|^^Guardiansburg^LA^17110^USA^
M|^^PH^^^717^9119911

ORC||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^L
A^17112^USA^B

OBR|||55555|29539-4^HIV-1 RNA NASBA^LN|||20110924000101||||||||
|^HIVDoctor^PFName|^^PH^^^717^1717171|||||20110924000101|||F

OBX||CE|29539-4^HIV-1 RNA
NASBA^LN|1|10828004^Positive^SNM||||||||20110924000101

SPM|1|^55555||BLDC^Blood
capillar^HL70070||||||||||||20110924000101|20110924000101
```

HIV-1 EIA

```
MSH|^~\&#|TestApp|Test Laboratories^9999999999^CLIA|LA-
ELR|LADOH|20110925||ORU^R01^ORU_R01|201109250001|P|2.5.1|||||USA||||PHLabRepo
rt-NoAck^ELR_Receiver^2.16.840.1.113883.9.11^ISO

SFT|Orion Health, Inc.^L|4.0|Rhapsody|4.1.0.618741||2011

PID|1||999999999^^^^SS||Public^Jane^M^Sr^^^L||19700101|||2103-
3^White^CDCREC|8723 Spruce St^Apt.
123^Sometown^LA^17109^USA^M||^^PH^^^999^5551111|^^PH^^^717^1239999||||||||218
6-5^Not Hispanic or Latino^CDCREC

NK1||Guardian^GFName^^^^^L|GRD^^HL70063|1846 Pine
St^^Guardiansburg^LA^17110^USA^M|^^PH^^^717^9119911

ORC||||||||||||||||||||Hospitals
Incorporated|^^Hospitalville^LA^17111^USA^B|^^PH^^^800^8000008|^^Doctorboro^P
A^17112^USA^B

OBR|||123123|33866-5^HIV-1
EIA^LN|||20110924000101||||||||^HIVDoctor^PFName|^^PH^^^717^1717171|||||2011
0924000101|||F

OBX||CE|33866-5^HIV-1 EIA^LN|1|10828004^Positive^SNM||||||||20110924000101

SPM|1|^123123||BLDC^Blood
capillar^HL70070||||||||||||20110924000101|20110924000101
```