January 2014

Electronic Laboratory Reporting

HL7 ELR 2.5.1 to EpiTrax
Implementation Guide

DOCUMENT HISTORY

Version	Date	Change Description	Author
1.0	5/15/2011	Document creation for HL7 Version 2.5.1	Linda King
1.5	6/9/2011	Version 1.5 created	Linda King
1.5	7/6/2011	Removed Submission Section	Linda King
1.6	7/15/2011	Version 1.6 Created	Linda King
1.7	3/12/2012	Replaced KS-EDSS with EpiTrax	Kelly Williams
1.8	4/24/2012	Added information regarding web services Document updates	Kelly Williams Virginia Barnes
2.0	1/21/2014	Edited web services information	Linda King

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INTRODUCTION

This HL7 2.5.1 Implementation Guide describes the requirements of the HL7 message format for Electronic Laboratory Reporting (ELR) to Kansas' Electronic Disease Surveillance System, EpiTrax.

This implementation guide is based off the *HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting To Public Health (US Realm), Release 1*, with changes specific to EpiTrax implementation.

Purpose

Kansas Department of Health & Environment (KDHE) is providing this guide to communicate the necessary specifications for laboratories to transmit reportable results electronically.

OVERVIEW

As part of the next generation of electronic laboratory reporting (ELR) applications, the Kansas Department of Health and Environment (KDHE), Bureau of Epidemiology and Public Health Informatics (BEPHI) is ready to accept Health Level Seven (HL7) messages from hospitals and laboratories to its electronic disease surveillance system called EpiTrax.

Participating in ELR allows laboratories to report all reportable conditions through a single secure transmission method. This method is a standard messaging format which can reduce an organization's costs for maintenance and support of reporting methods. Depending on your organization's reporting volumes, ELR can reduce laboratory reporting hours required to fax lab reports to KDHE. In turn, Kansas residents benefit from EpiTrax reduced reporting cycle times, improved data accuracy, and improved response times for public health staff to investigate diseases.

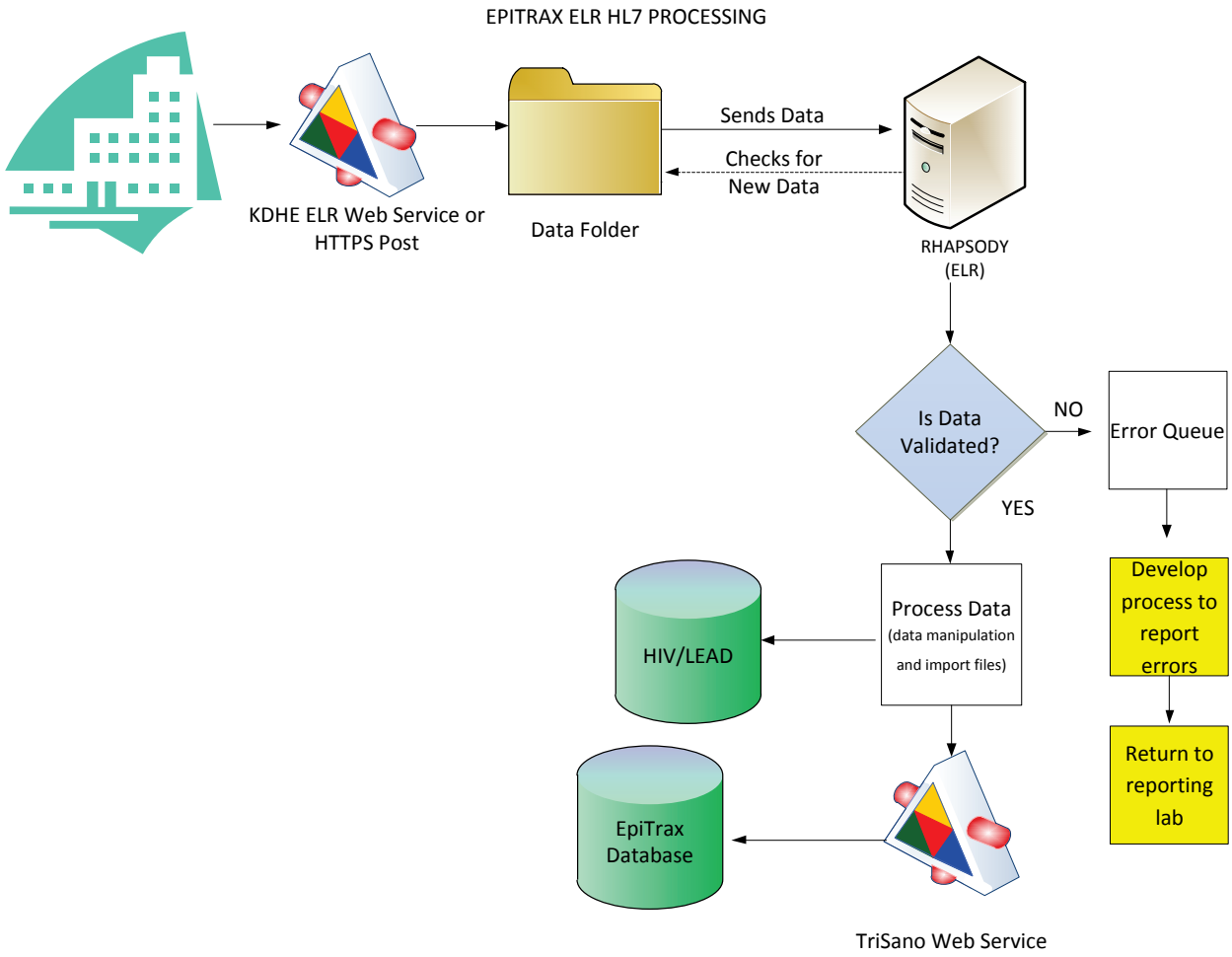
A successful implementation of an EpiTrax (ELR) interface (v 2.5.1) is dependent on the proper adoption of the HL7 Unsolicited Observation Message (ORU) message profile, conforming to the Centers for Disease Control and Prevention's (CDC) and KDHE standards. The following documentation is designed to assist laboratories in the preparation of their HL7 message and communication delivery mechanism.

Our ELR Team will provide assistance in working through the development, testing and production phases of ELR to EpiTrax implementation.

Welcome to Electronic Laboratory Reporting!

SYSTEM OVERVIEW

The following diagram demonstrates the ELR HL7 2.5.1 process. There two processes that may be used to submit data: 1) web service or 2) HTTPS Post. Each of these processes is described in detail in the following sections of this document.



SAMPLE MESSAGES

BEPHI offers users the choice of using a Web Service or HTTPS Post to communicate with EpiTrax via HL7 2.5.1 messages. In order to ensure the utmost security for the contents of the messages, the messages are sent though a HTTPS request over a secure socket layer (SSL).

Stage 1 Testing for Meaningful Use

To begin submitting data to KDHE, you must first contact the ELR Coordinator at 785-296-6543 to obtain a username and password to submit stage one data. Please refer to Appendix C for an HTML page that can be used to test a submission using the post page.

Message Types

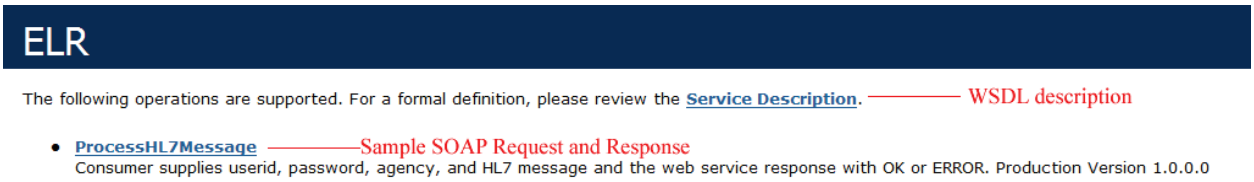
There are two messages types that can be used to submit ELR data using HL7 2.5.1: 1) SOAP and 2) HTTPS Post. To access information using HTTPS Post, refer to Appendix C.

SOAP Message

To access information using a web service, use the following url:

- https://kanphixtrain.kdhe.state.ks.us/webservices/kdheelr/ELRService.asmx

This web page provides a WSDL description and a sample SOAP Request and Response message as illustrated below:



1. To access the WSDL service description, use the following URL:

   https://kanphixtrain.kdhe.state.ks.us/webservices/kdheelr/ELRService.asmx?wsdl

2. To access a sample SOAP 1.1 and 1.2 request and response, use the following URL:

   https://kanphixtrain.kdhe.state.ks.us/webservices/kdheelr/ELRService.asmx?op=Post_x0020_Information_x0020_to_x0020_the_x0020_KDHE_x0020_Electronic_x0020_Lab_x0020_Reporting_x0020_System

SOAP can be used to connect directly to the KDHE web service. The sample SOAP request and response link provides placeholders and must be replaced with actual values. They include:

- FacilityID: An agency identifier used to authenticate with the EpiTrax web service. This is different from the sending facility used in the MSH segment of your message. This must be obtained from BEPHI ELR Coordinator.
- FaciltyPassword: A password used to authenticate with the EpiTrax web service. This must be obtained from BEPHI ELR Coordinator.
- HL7MessageData: This is your HL7 2.5.1 formatted message.

```
<elr>
  <FacilityID>string</FacilityID>
  <FacilityPassword>string</FacilityPassword>
  <HL7MessageData>base64Binary</HL7MessageData>
</elr>
```

SOAP Response Message

The following is an example of a response message or acknowledgement. The acknowledgement sent is only receipt of the initial message. The message could still fail upon receipt in Rhapsody or EpiTrax.

MSH|^~\&|HSDOH-ELR|HSDOH|HealthSentry|Olathe Medical Center^17D0448436^CLIA|201243134530||ACK^|||||NE|NE|US||||

MSA|AA||Successfully Completed||||

- AR - There was an error processing your message
- AR - Invalid Password.
- AR - Did Not have permission to Service ELR Services
- AR - Your agency does not have permissions to access ELR Services
- AR - Not Authorized for Training Environment
- AR - Not Authorized for Production Environment
- AE - Service error occurred
- AA - Successfully Completed

The URL for KDHE's test environment is:

https://kanphixtrain.kdhe.state.ks.us/webservices/kdheelr/ELRPost.aspx

Our production environment URL is:

https://kanphix.kdhe.state.ks.us/webservices/kdheelr/ELRPost.aspx

HTTPS POST Message

HTTP Post over SSL can be used to send data through the EpiTrax HL7 2.5.1 web service. The form post must contain the following field names: FacilityID, FacilityPassword, and HL7MessageData (see description contained in Appendix C). The field names must be named exactly as they are displayed in Appendix C. HTTPS Post messages will only be accepted as form data and acknowledgements will be returned.

Please refer to Appendix C for an HTML page that can be used to attempt a test submission of your data. Each facility will be required to automate this process based on their business application used to generate HL7 2.5.1 formatted messages.

BUSINESS RULES FOR PARSING MESSAGES

The HL7 interfaces defined for EpiTrax are based on version 2.5.1 of the HL7 standards protocol. The "Data Definition" section documents the specific messages that will be accepted. Systems submitting a properly formatted message can expect EpiTrax to accept the message. Significant deviations from the message definitions that prevent EpiTrax from being able to process the most important data in a message will cause a General Acknowledgement (ACK) to be returned containing an error message.

In some cases, a properly formatted message may still result in an ACK message with the appropriate warning or error being returned (e.g., the message indicates an unsupported message type).

All incoming messages and associated responses are logged by EpiTrax.

Data Definition

All messages sent to EpiTrax should be properly formatted as described in the CDC's Implementation ELR Guide for HL7 2.5.1. This document also describes the possible codes and/or values that can be included in various data fields in the document.

The following sections contain detailed information for each message, including indications when a field will always have a set value, which fields are required, which fields in the standard message definition will be ignored, etc. Where applicable, information is also included on what makes a value valid and/or invalid.

Implemented Message Types

The following is a list of message types:

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.
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.
Delimiters	The delimiters to be used for laboratory messages are as follows: "<CR>" – Segment Terminator; "|" – Field Separator; "^" – Component Separator; "&" – Sub-Component Separator; "~" – Repetition Separator; and "\" – Escape Character. Any trailing delimiters found after the last field in a segment, while not accepted, will not cause any errors in the receiving application.

Message Structures

Laboratories report to EpiTrax using the Unsolicited Observation Message, or ORU following the HL7 2.5.1 structure. A trigger,^R01, is appended to produce the ORU^R01 field value. The ORU is a collection of segments which are described below. Braces "{ }" denote repeatable segments; brackets "[ ]" denote optional segments. Using the basic "building blocks" of PID, OBR and OBX segments (in bold type below), a clinical report can be constructed as a three-level hierarchy with the patient information (PID) segment at the upper level, an order record (OBR) at the next level, and one or more observations records (OBX) at the bottom.

MSH	Message Header	The message header (MSH) segment contains information describing how to parse and process the message. This includes identification of message delimiters, sender, receiver, message type, timestamp, etc.
[{SFT}]	Software Segment	Each HL7 aware application that touches the message on the way to the destination application must add a SFT

		segment for its application. For instance, an integration engine is HL7 aware and would be expected to add an SFT.
{	Patient Result Begin	Only 1 (one) patient result group can be received per message.
PID	Patient Identification	The patient identification (PID) segment is used to provide basic demographics regarding the subject of the testing. The subject may be a person or animal. Required segment.
[NTE]	Notes and Comments for PID	This notes and comments (NTE) segment should contain notes or comments pertaining to the patient identified in the PID segment. It should not contain order or result related comments
[NK1]	Next of Kin/Associated Party	The next of kin (NK1) segment can be used to document the patient's next of kin, employer, guardian, etc. When reporting results of animal testing (for example testing animals for rabies), the NK1 segment can be used to identify the owner of the animal.
{	Order Observation Begin	The order group is required and can repeat. This means that multiple ordered tests may be performed on a specimen.
[ORC]	Order Common	The common order (ORC) segment identifies basic information about the order for testing of the specimen. This segment includes identifiers of the order, who placed the order, when it was placed, what action to take regarding the order, etc.
OBR	Observations Request	The observation request (OBR) segment is used to capture information about one test being performed on the specimen. Most importantly, the OBR identifies the type of testing to be performed and ties that information to the order for the testing.
[{NTE}]	Notes and Comments for OBR	
[{	Observation Begin	Multiple results may be associated with an order (OBR). There will always be a single OBX in the results group.
OBX	Observation related to OBR	The observation/result (OBX) segment contains information regarding a single observation (analyte)

		result. This includes identification of the specific type of observation, the result for the observation, when the observation was made, etc.
}]	Observation End	
[{	Specimen Begin	The specimen group is conditionally required in the ORU and is used to carry specimen information. (Contained in OBR segment prior to 2.5.1.) Providing a place for the specimen number, each specimen group documents a single sample. Only a single specimen group can be associated with the OBR.
SPM	Specimen Information related to OBR	The specimen information (SPM) 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.
}]	Specimen End	
}	Order Observation End	
}	Patient Result End	

While certain elements of the message are required for laboratory-based reporting, messages with data populating optional segments or fields will not be rejected. However, if a required segment is not present, the message will be treated as if all data fields within the segment were not present, and the message will be rejected.

The following optional ORU^R01 segments are not needed for EpiTrax reporting and as such, are not described in this document:

- PD1 – Additional Demographics
- PV1 – Patient Visit
- PV2 – Patient Visit Additional
- TQ1 – Timing / Quantity
- TQ2 – Timing / Quantity Order Sequence
- CTD – Contact Data
- FT1 – Financial Transaction
- CTI – Clinical Trial Identification
- DSC – Continuation Pointer

Message Segment Attributes

Throughout this document, the following attributes are described for each message segment:

Segment	Description
SEQ	Position, relative to 1, of the respective message element within the message segment.
LEN	Maximum length of the element.
DT	Data type of the element. (See list of **Data Types*** below)
OPT	Indicates required (R), optional (O), conditional (C), not supported (N), or back-compatible (B).
RP	"Y" indicates that the element can repeat.
TBL	Refers to HL7 table of allowable standardized values.
ITEM	HL7 unique identifier for the element.
ELEMENT NAME	Descriptive name of the element.
DESCRIPTION	Describes use, format, literal content, indicates not used, or provides example.

Data Types

Data Type	Description	Explanation
CE	Coded element	This data type transmits codes and the text associated with the code. <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>
CM	Composite	A field that is a combination of other meaningful data fields. The specific Components of CM fields are defined within the field description, not by the data type itself.

Data Type	Description	Explanation
CQ	Composite quantity with units	Used to express a quantity, and the units in which the quantity is expressed. <quantity (NM)> ^ <units (CE)>
CX	Extended composite ID with check digit	Used to express an alphanumeric identifier, a check digit and scheme, and the source of the identifier, check digit, and scheme. <ID (ST)> ^ <check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ < assigning authority (HD)> ^ <identifier type code (IS)> ^ < assigning facility (HD)
DLN	Driver's license number	<license number (ST)> ^ <issuing state, province, country (IS)> ^ <expiration date (DT)
DT	Date	YYYY[MM[DD]]
DTM	Date/Time	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)>
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 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

Data Type	Description	Explanation
		(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.
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.
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.
PT	Processing type	<processing ID (ID)> ^ <processing mode (ID)>
SI	Sequence ID	A non-negative integer in the form of an NM field.
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> ^ <num2 (NM)>
ST	String data	Any printable ASCII characters except the defined delimiter characters. To include any HL7 delimiter character (except the segment

Data Type	Description	Explanation
		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	YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]]][+/-ZZZZ]
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 (CE)> ^ <international version ID (CE)
XAD	Extended address	Used to express address data associated with a person or institution. <street address (ST)> ^ <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)>
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 (ST)> & <last_name_prefix (ST) ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g.,

Data Type	Description	Explanation
		JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <source table (IS)> ^ <assigning authority (HD)> ^ <name type code (ID)> ^ <identifier check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <identifier type code (IS)> ^ <assigning facility (HD)> ^ <name representation code (ID)>
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)> ^ <code identifying the check digit scheme employed (ID)> ^ <assigning authority (HD)> ^ <identifier type code (IS)> ^ <assigning facility ID (HD)> ^ <name representation code (ID)>
XPN	Extended person name	Used to express person name information. <family name (ST)> & <last_name_prefix (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (IST)> ^ <name type code (ID) > ^ <name representation code (ID)>

Data Type	Description	Explanation
XTN	Extended telecommunications number	Used to express telecommunications information. [NNN] [(999)]999-9999 [X99999] [B99999] [C any text] ^ <telecommunication use code (ID)> ^ <telecommunication equipment type (ID)> ^ <email address (ST)> ^ <country code (NM)> ^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>

SEGMENTS

ORU Message Segments

MSH – Message Header Segment

Example:

MSH|^~\&|LABCORP-CORP|LABCORP^34D0655059^CLIA|KSDOH|KS|200907010433|KS001|ORU^R01|20090701045925341246|P|2.5.1

The MSH segment defines the intent, source, destination, and some specifics of the message syntax for results messages from KDHE to agencies and application acknowledgement messages from agencies to KDHE.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	1	ST	R			00001	Field Separator	|
2	4	ST	R			00002	Encoding Characters	Literal Value: ^~\&
3	180	HD	RE		0361	00003	Sending Application	Field that may be used to identify the sending application. i.e. | HEALTHSENTRY |
4	180	HD	R		0362	00004	Sending Facility	Name of originating facility; their CLIA unique identifier; the type of unique identifier. |<namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>| i.e. | LabCorp Kansas City^26D0444173^CLIA |
5	180	HD	RE			00005	Receiving Application	Literal Value: KSDOH
6	180	HD	RE			00006	Receiving Facility	Literal Value: KS
7	26	DTM	R			00007	Date/Time Of Message	Date/Time message was created by the sending system. Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]
8	40	ST				00008	Security	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
9	7	CM	R			00009	Message Type	Literal Value: ORU^R01^ORU_R01
10	20	ST	R			00010	Message Control ID	String that uniquely identifies the message instance from the sending application. Examples include GUID, timestamp plus sequence number, OID plus sequence number or sequence number. The important point is that care must be taken to insure the message control ID is unique. The combination of sending application (MSH-3) and MSH-10 (message control id) needs to be globally unique.
11	3	PT	R			00011	Processing ID	P = production, T = test
12	60	VID	R			00012	Version ID	HL7 version number used to interpret format and content of the message. Literal Value: 2.5.1
13	15	NM	O			00013	Sequence Number	Not supported
14	180	ST	O			00014	Continuation Pointer	Not supported
15	2	ID	O		0155	00015	Accept Acknowledgment Type	Not supported
16	2	ID	O		0155	00016	Application Acknowledgment Type	Not supported
17	2	ID	O			00017	Country Code	Not supported
18	16	ID	O	Y	0211	00692	Character Set	Not supported
19	60	CE	O			00693	Principal Language Of Message	Not supported
20	20	ID	O		0356	01317	Alternate Character Set Handling Scheme	Not supported

SFT – Software Segment

Example:

SFT|1|Level Seven Healthcare Software, Inc.^L^^^^&2.16.840.1.113883.19.4.6^ISO^XX^^^1234|1.2|A Lab System|56734||20080817

The software segment provides information about the sending application or other applications that manipulate the message before the receiving application processes the message.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	567	XON	R			00001	Software Vendor Organization	Organization identification information for the software vendor that created this transaction.
2	15	ST	R			00002	Software Certified Version or Release Number	Latest software version number of the sending system that has been compliance tested and accepted.
3	20	ST	R			00003	Software Product Name	The name of the software product that submitted the transaction.
4	20	ST	R			00004	Software Binary ID	Issued by a vendor for each unique software version instance to distinguish between like versions of the same software e.g., a checksum.
5	1024	TX	O			00005	Software Product Information	Software identification information that can be supplied by a software vendor with their transaction.
6	26	DTM	RE			00006	Software Install Date	Date the submitting software was installed at the sending site.

PID – Patient Identification Segment

Example:

PID|1||12225414210^^^^^LabCorp Kansas City&26D0444173&CLIA||Shaw^Darren^L| |19700903|M ||U|433 NorthHoover^^Wichita^KS^67212^^H||^^^^^316^8062397||||||||U

The PID segment containing patient identification information, particularly permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	4	SI	O			00104	Set ID - PID	Literal Value: 1 Only 1 PID should be included per MSG
2	20	CX	B			00105	Patient ID	Not supported
3	200	CX	R	Y		00106	Patient Identifier List	Field used to convey all types of patient/person identifiers. This includes social security numbers, driver's license numbers, medical records numbers, etc. <ID (ST)> ^ <check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <assigning authority (HD)> ^ <identifier type code (IS)> ^ <assigning facility (HD)> e.g. A number assigned to the patient would be: |123456789^^^^^XXXLab&4D123456&CLIA| Patient's medical record number would be: |477999124198^^^^MR^XXXXMedicalCenter&17D0448436&CLIA| Supports up to 4 patient identifiers.
4	20	CX	O	Y		00107	Alternate Patient ID - PID	Not supported
5	48	XPN	R	Y		00108	Patient Name	Last, First, Middle Init or Name, Suffix (e.g. JR or III), Prefix (e.g. DR), Degree (e.g. MD) |<family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (ST)> ^ <prefix (ST)> ^ <degree (ST)>|
6	48	XPN	O	Y		00109	Mother's Maiden Name	Not supported
7	26	DTM	C			00110	Date/Time of Birth	|YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]^ <degree of precision>| where Y=Year, L=month, D=day, H=Hour, M=minute, S=second, and Z=the time zone relative to Greenwich standard time

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
8	1	IS	C		0001	00111	Sex	F=Female, M=Male, H=Hermaphrodite, T=Transsexual, U=Unknown/Not stated
9	48	XPN	O	Y		00112	Patient Alias	Not supported
10	80	CE	RE	Y	0005	00113	Race	W=White, B=Black, A=Asian or Pacific Islander, I=American Indian or Alaskan Native, M=Multiracial, O=Other, U=Unknown
11	106	XAD	O	Y		00114	Patient Address	|<street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^^<address type>^^ <county/parish code(IS)>| e.g. |1000 E Oak Street^^Overland Park^KS^66213^^^^Johnson| See Appendix A – Counties/Parish Table Address Type VALUE / DESCRIPTION C – Current or Temporary B – Firm/Business H – Home M – Mailing O – Office P – Permanent BR – Residence at Birth
12	4	IS	B		0289	00115	County Code	Not supported
13	40	XTN	O	Y		00116	Phone Number - Home	|^^^^^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>| e.g. |^^^^^316^8471984|
14	40	XTN	O	Y		00117	Phone Number - Business	|^^^^^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>| e.g. |^^^^^316^8471984|
15	60	CE	O		0296	00118	Primary Language	Not supported
16	80	CE	O		0002	00119	Marital Status	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
17	80	CE	O		0006	00120	Religion	Not supported
18	20	CX	O			00121	Patient Account Number	Not used for EpiTrax but available if needed.
19	16	ST	B			00122	SSN Number - Patient	Not supported
20	25	DLN	O			00123	Driver's License Number - Patient	Not supported
21	20	CX	O	Y		00124	Mother's Identifier	Not supported
22	80	CE	RE	Y	0189	00125	Ethnic Group	H=Hispanic, N=Non-Hispanic, U=Unknown
23	60	ST	O			00126	Birth Place	Not supported
24	1	ID	O		0136	00127	Multiple Birth Indicator	Not supported
25	2	NM	O			00128	Birth Order	Not supported
26	80	CE	O	Y	0171	00129	Citizenship	Not supported
27	60	CE	O		0172	00130	Veterans Military Status	Not supported
28	80	CE	O		0212	00739	Nationality	Not supported
29	26	DTM	O			00740	Patient Death Date and Time	Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]
30	1	ID	O		0136	00741	Patient Death Indicator	If PID-29 is valued, then this field should be populated with “Y”, otherwise the field can be NULL or N (No) can be used.
31		ID	O				Identity Unknown Indicator	Not supported
32		IS	O				Identity Reliability Code	Not supported
33		DTM	RE				Last Update Date/Time	Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]

NK1 – Next of Kin/Associated Parties Segment

Example:

NK1|Smith^John|^PAR|433 North Hoover^^Wichita^KS^67212|^^^^^316^8062397

The NK1 segment is used to identify other parties related to the patient.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	4	SI	R			00190	Set ID - NK1	
2	48	XPN	O	Y		00191	Next of Kin Name	|Last, First, Middle Init or Name, Suffix (e.g. JR or III), Prefix (e.g. DR), Degree (e.g. MD) <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (ST)> ^ <prefix (ST)> ^ <degree (ST)>|
3	60	CE	O		0063	00192	Relationship	Description of the relationship between the next of kin/related party and the patient. It is of particular importance when documenting the parent or guardian of a child patient or the owner of an animal patient. |<identifier> ^ <text> ^ <name of coding system> ^ <alternate identifier> ^ <alternate text> ^ <name of alternate coding system> ^ <coding system version ID> ^ <original text> ^ <second alternate identifier> ^ <second alternate text> ^ <second name of alternate coding system> ^ <second alternate coding system version ID> ^ <coding system OID>| See Appendixes: Table 0063 - Relationship
4	106	XAD	O	Y		00193	Address	|<street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^^^^ <county/parish code(IS)>| e.g. |1000 E Oak Street^^Overland Park^KS^66213^^^^Johnson| See Appendix A – Counties/Parish Table
5	40	XTN	O	Y		00194	Phone Number	|^^^^^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>| e.g. |^^^^^316^8471984|
6	40	XTN	X	Y		00195	Business Phone Number	Not supported
7	60	CE	X		0131	00196	Contact Role	Not supported
8	8	DT	X			00197	Start Date	Not supported
9	8	DT	X			00198	End Date	Not supported
10	60	ST	X			00199	Next of Kin/Associated Parties Job Title	Not supported
11	20	JCC	X		0327 0328	00200	Next of Kin/Associated Parties Job Code/Class	Not supported
12	20	CX	X			00201	Next of Kin/Associated Parties Employee Number	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
13	90	XON	O	Y		00202	Organization Name	If next of kin or associated party is an organization use this field, otherwise, use field NK1-2.
14	80	CE	X		0002	00119	Marital Status	Not supported
15	1	IS	X		0001	00111	Sex	Not supported
16	26	TS	X			00110	Date/Time of Birth	Not supported
17	2	IS	X	Y	0223	00755	Living Dependency	Not supported
18	2	IS	X	Y	0009	00145	Ambulatory Status	Not supported
19	80	CE	X	Y	0171	00129	Citizenship	Not supported
20	60	CE	X		0296	00118	Primary Language	Not supported
21	2	IS	X		0220	00742	Living Arrangement	Not supported
22	80	CE	X		0215	00743	Publicity Code	Not supported
23	1	ID	X		0136	00744	Protection Indicator	Not supported
24	2	IS	X		0231	00745	Student Indicator	Not supported
25	80	CE	X		0006	00120	Religion	Not supported
26	48	XPN	X	Y		00109	Mother's Maiden Name	Not supported
27	80	CE	X		0212	00739	Nationality	Not supported
28	80	CE	X	Y	0189	00125	Ethnic Group	Not supported
29	80	CE	X	Y	0222	00747	Contact Reason	Not supported
30	48	XPN	O	Y		00748	Contact Person's Name	Required if NK1-13 is populated |Last, First, Middle Init or Name, Suffix (e.g. JR or III), Prefix (e.g. DR), Degree (e.g. MD) <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (ST)> ^ <prefix (ST)> ^ <degree (ST)>|
31	40	XTN	O	Y		00749	Contact Person's Telephone Number	|^^^^^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>| e.g. |^^^^^316^8471984|
32	106	XAD	O	Y		00750	Contact Person's Address	|<street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^^^^ <county/parish code(IS)>|

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
								e.g. |1000 E Oak Street^^Overland Park^KS^66213^^^^Johnson| See Appendix A – Counties/Parish Table
33	32	CX	X	Y		00751	Next of Kin/Associated Party's Identifiers	Not supported
34	2	IS	X		0311	00752	Job Status	Not supported
35	80	CE	X	Y	0005	00113	Race	Not supported
36	2	IS	X		0295	00753	Handicap	Not supported
37	16	ST	X			00754	Contact Person Social Security Number	Not supported

ORC – Common Order Segment

Example:

ORC||||||||||||^Young^Douglas^E^^Dr||^^^^^316^4445454||||||Olathe Medical Center|20333 W 151ST^^Olathe^KS^66061|^^ ^^^913^7914362|1200 75th Street^Suite 200^Wichita^KS^66684

The ORC segment contains information common to all orders that follow.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	2	ID	R		0119	00215	Order Control	Not supported
2	22	EI	C			00216	Placer Order Number	Not supported
3	22	EI	C			00217	Filler Order Number	Not supported
4	22	EI	O			00218	Placer Group Number	Not supported
5	2	ID	O		0038	00219	Order Status	Not supported
6	1	ID	O		0121	00220	Response Flag	Not supported
7	200	TQ	O			00221	Quantity/Timing	Not supported
8	200	CM	O			00222	Parent	Not supported
9	26	TS	O			00223	Date/Time of Transaction	Not supported
10	120	XCN	O	Y+-		00224	Entered By	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
11	120	XCN	O	Y		00225	Verified By	Not supported
12	120	XCN	O	Y		00226	Ordering Provider	ORC-12 and OBR-16 provide the same information for the Ordering Provider. |<ID number (ST)> ^ <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g. JR or III) (ST)> ^ <prefix (e.g. DR) (ST)> ^ <degree (e.g. MD) (ST)> |
13	80	PL	O			00227	Enterer's Location	Not supported
14	40	XTN	O	Y/2		00228	Call Back Phone Number	|^^^^^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>| e.g. |^^^^^316^8471984|
15	26	TS	O			00229	Order Effective Date/Time	Not supported
16	200	CE	O			00230	Order Control Code Reason	Not supported
17	60	CE	O			00231	Entering Organization	Not supported
18	60	CE	O			00232	Entering Device	Not supported
19	120	XCN	O	Y		00233	Action By	Not supported
20	40	CE	O		0339	01310	Advanced Beneficiary Notice Code	Not supported
21	60	XON	O	Y		01311	Ordering Facility Name	The facility's CLIA identifier should be placed in the third component <ID number (NM)> if there is one available, and "CLIA" should appear in <assigning authority (HD)> indicating that the ID number used here to identify the laboratory has been assigned by CLIA. If the Ordering Facility is not a laboratory, the name of the Ordering Facility will suffice. For example: |MediLabCo - Northwest Pathology Ltd., Central Campus^^45D0470381^^^CLIA| or |Northwest Correctional Facility|
22	106	XAD	O	Y		01312	Ordering Facility Address	|<street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^^^^ <county/parish code(IS)>| e.g. |1000 E Oak Street^^Overland Park^KS^66213^^^^Johnson| See Appendix A – Counties/Parish Table

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
23	48	XTN	O	Y		01313	Ordering Facility Phone Number	|^^^^^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>| e.g. |^^^^^316^8471984|
24	106	XAD	O	Y		01314	Ordering Provider Address	|<street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^^^^ <county/parish code(IS)>| e.g. |1000 E Oak Street^^Overland Park^KS^66213^^^^Johnson| See Appendix A – Counties/Parish Table

OBR – Observation Request Segment

Examples:

OBR|1||07330471590|600-7^Bacteria identified^LN^008300^Blood Culture, Routine^L ||| 20110104073200||||||||^Jones^James ^^MD|^^^^^888^8277220||||20110104080500|||F

OBR|2||07330471590|600-7^Bacteria identified^LN^997181^Result 1^L||| 201103141200||||||| |^Jones^James ^^MD |^^^^^888^8277220|||||||F|600-7&Bacteria identified&LN&997181 &RSLT#1&L^1^L-25116&Streptococcus pneumoniae&SNM&STREPN&Streptococcus pneumoniae&L |||^07330471590

The OBR segment contains information related to the order, the test or procedure, and the specimen.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	4	SI	R			00237	Set ID - OBR	For the first repeat of the OBR segment, the sequence number shall be one (1), for the second repeat, the sequence number shall be two (2), etc.
2	22	EI	O			00216	Placer Order Number	This identifier is assigned by the placer of the order being fulfilled by this result message. This identifier distinguishes the placer's order from all other orders created by the placer where an order is interpreted to be the testing identified in a single OBR segment. Normally, it is a type of system identifier assigned by the placer software application. |<unique placer order ID (ST)> ^ | The Placer Order Number and the Filler Order Number are essentially foreign keys exchanged between applications for uniquely identifying orders and the associated results

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
								across applications.
3	22	EI	R			00217	Filler Order Number	This is the unique identifier that the laboratory uses to track specimens. The combination of laboratory ID and filler order number uniquely identifies a lab within a case. |<unique filler ID (ST)> ^| This field should not contain the accession number or specimen identifier for a specimen unless these identifiers meet the criteria for a filler order number. The specimen or accession identifier should be placed in SPM-2.
4	200	CE	RE			00238	Universal Service ID	Not routinely used as the text code/name identifier. OBX-3 should be used to provide an unambiguous, specific test name and OBX-5 should provide the result to the test. |<identifier (ID)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ID)> ^ <alternate test (ST)> ^ <name of alternate coding system (ST)>| Example: |5863-6^Influenza A&B Antigen ^LN| “5863-6” is the LOINC code, “Influenza A&B Antigen” is the name of the test as it appears in the LOINC code system, and “LN” indicates the LOINC coding system. (SNM or SCT stands for SNOMED.) Example of alternate code: |^^^550420^ RNA, Real Time PCR (Graph)^L | “550420” is the alternate identifier; “RNA, Real Time PCR (Graph)” is the name of the alternate test; and “L” stands for Local (the name of the alternate coding system).
5	2	ID	X			00239	Priority	Not supported
6	26	TS	X			00240	Requested Date/Time	Not supported
7	26	DTM	O			00241	Observation Date/Time #	For specimen-based observations, the date/time the specimen was collected. A minimum of year, month and day must be provided when the actual date/time is known. For unknown collection date/time use "0000". If the SPM is sent, this field must contain the same value as the first component of SPM-17 Specimen Collection Date/Time. HL7 requires this field in an OBR in a result message. For OBXs related to this OBR and related to the testing of a specimen, OBX-14 (Date/Time of the Observation) shall contain the same value as this field. Format:

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
								YYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ] except when reporting an unknown date of '0000" |
8	26	TS	O			00242	Observation End Date/Time #	Not supported See SPM-17 Specimen Collection Date/Time.
9	20	CQ	O			00243	Collection Volume	Not supported See SPM-12 Specimen Collection Amount.
10	60	XCN	O	Y		00244	Collector Identifier	Not supported
11	1	ID	O		0065	00245	Specimen Action Code	Not supported
12	60	CE	O			00246	Danger Code	Not supported
13	300	ST	O			00247	Relevant Clinical Info.	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 requests for interpreted diagnostic studies. Examples include reporting the amount of inspired carbon dioxide for blood gases, the point in the menstrual cycle for cervical pap tests, and other conditions that influence test interpretations. Relevant epidemiologically important information (e.g., day-care attendee or nursing home patient) can be placed here.
14	26	TS	C			00248	Specimen Received Date/Time	Not supported See SPM-18 Specimen Received Date/Time.
15	300	CM	C		0070	00249	Specimen Source	Not supported See SPM-4 Specimen Type.
16	120	XCN	O	Y		00226	Ordering Provider	Use ORC-12 if ORC segment is sent, otherwise use this field. |<ID number (ST)> ^ <family name (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g. JR or III) (ST)> ^ <prefix (e.g. DR) (ST)> ^ <degree (e.g. MD) (ST)>|
17	40	XTN	O	Y/2		00250	Order Callback Phone Number	Use ORC-23 if ORC segment is sent, otherwise use this field. |^^^^^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>| e.g. |^^^^^316^8471984|
18	60	ST	O			00251	Placer Field 1	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
19	60	ST	O			00252	Placer Field 2	Not supported
20	60	ST	O			00253	Filler Field 1	Not supported
21	60	ST	O			00254	Filler Field 2	Not supported
22	26	DTM	C			00255	Results Rpt/Status Chg - Date/Time	Date/Time results reported or status changed. This field is used to indicate the date and time the results are composed into a report and released, or a status, as defined in Order Status, is entered or changed. Required field. Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]
23	40	CM	O			00256	Charge to Practice	Not supported
24	10	ID	O		0074	00257	Diagnostic Serv Sect ID	Not supported
25	1	ID	C		0123	00258	Result Status	F = Final Results; C = Correction to Results; P = Preliminary supported See Appendixes: Table 0123 – Result Status for complete list
26	400	CM	O for susp			00259	Parent Result	Field that, together with OBR-29 Parent, allows this result to be linked to a specific OBX segment associated with another OBR segment. |<parent observation identifier (CE)> ^ <parent observation sub-identifier (ST)> ^ <parent observation value descriptor (TX)>| Example: This child OBR result displays the same information in OBX-3, OBX-4 and OBX-5 result of the parent OBR: |600-7&Bacteria identified&LN&997181&RSLT#1&L^1^L-25116&Streptococcus pneumoniae&SNM&STREPN&Streptococcus pneumoniae&L| This field is required when linking child sensitivities to the parent culture.
27	200	TQ	O	Y		00221	Quantity/Timing	Not supported
28	150	XCN	O	Y/5		00260	Result Copies To	Not supported
29	200	CM	O			00261	Parent	Used to link this OBR with a parent OBR. Commonly used with microbiology messages to link a susceptibility result with the parent culture that identified the organism. For this linkage to work properly, the Placer Order Number and the Filler Order Number must uniquely identify the specific parent OBR. This means that the same Filler Number

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
								cannot be used to identify multiple OBRs. |^ <filler assigned identifier (EI)>|
30	20	ID	O		0124	00262	Transportation Mode	Not supported
31	300	CE	O	Y		00263	Reason for Study	The reason for study is indicated as ICD 9 or ICD 10 codes and can contain multiple values using the ~ function. |<ICD 9 code> ^ <description of condition> ^ <code source>| ICD 9 is used currently but future will allow both ICD 9 & ICD 10.
32	200	CM	O			00264	Principal Result Interpreter	Physician or clinician who interpreted the observation and is responsible for the report content. Optional. |<name (CN)> ^ <start date/time (TS)> ^ <end date/time (TS)> ^ <point of care (IS)> ^ <room (IS)> ^ <bed (IS)> ^ <facility (HD)> ^ <location status (IS)> ^ <patient location type (IS)> ^ <building (IS)> ^ <floor (IS)>| Subcomponents of name are: <ID number (ST)> & <family name (ST)> & <given name (ST)> & <middle initial or name (ST)> & <suffix (e.g. Jr., III) (ST)> & <prefix (e.g., Dr.)> & <degree (e.g., MD) (ST)> & <source table (IS)> & <assigning authority (HD)> Subcomponents of facility are: <namespace ID (ST)> & <universal ID (ST)> & <universal ID type (ID)
33	200	CM	O	Y		00265	Assistant Result Interpreter	Not supported
34	200	CM	O	Y		00266	Technician	Not supported
35	200	CM	O	Y		00267	Transcriptionist	Not supported
36	26	TS	O			00268	Scheduled Date/Time	Not supported
37	4	NM	O			01028	Number of Sample Containers	Not supported See SPM-26 Number of Specimen Containers
38	60	CE	O	Y		01029	Transport Logistics of Collected Sample	Not supported
39	200	CE	O	Y		01030	Collector's Comment	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
40	60	CE	O			01031	Transport Arrangement Responsibility	Not supported
41	30	ID	O		0224	01032	Transport Arranged	Not supported
42	1	ID	O		0225	01033	Escort Required	Not supported
43	200	CE	O	Y		01034	Planned Patient Transport Comment	Not supported
44	80	CE	O		0088	00393	Procedure Code	Not supported
45	80	CE	O	Y	0340	01316	Procedure Code Modifier	Not supported

SPM – Specimen Segment

Example:

SPM|1|1234567891234&LABCORP&123456789&CLIA||WB^Whole Blood^HL70487^^^^2.5.1||||LEJ^Left External Jugular^HL70163^^^^2.5.1|||||||||201101151030

The SPM segment describes the characteristics of a specimen. It differs from the intent of the OBR in that the OBR addresses order-specific information.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	4	SI	R			01754	Set ID - SPM	For the first repeat of the SPM segment, the sequence number shall be one (1), for the second repeat, the sequence number shall be two (2), etc.
2	80	EI	R			01755	Specimen ID	Unique identifier for the specimen as referenced by the Placer application, the Filler application, or both. |^ <specimen identifier&assigning authority name&assigning authority ID&assigning authority ID type>| ^ <9999999999999&LAB NAME&123456789&CLIA> A particular specimen may be associated with multiple orders (and multiple placer/filler order numbers). The specimen id may be the same as an accession number, depending on how the particular lab assigns accession numbers.
3	80	EI	O	Y		01756	Specimen Parent IDs	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
4	250	CWE	R		0487	01900	Specimen Type	This field describes the precise nature of the entity that will be the source material for the observation. |<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)>| Example: |9999999^Blood^SNM^BLD^Blood^HL70487 ^ 20080131^2.5.1^Blood| See Appendix A - Table 0487 – Specimen Type (or Source)
5	250	CWE	O	Y	0541	01757	Specimen Type Modifier	Not supported
6	250	CWE	O	Y	0371	01758	Specimen Additives	Not supported
7	250	CWE	O		0488	01759	Specimen Collection Method	Not supported
8	250	CWE	RE			01901	Specimen Source Site	Source from which the specimen was obtained. For environmental samples, this may describe the location of the source of the specimen. For biological samples, it may represent the anatomical site from which the specimen was collected. |<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)>| See Appendix A – Table 0163 – Specimen Site
9	250	CWE	O	Y	0542	01760	Specimen Source Site Modifier	Not supported
10	250	CWE	O		0543	01761	Specimen Collection Site	Not supported
11	250	CWE	O	Y	0369	01762	Specimen Role	Not supported
12	20	CQ	O			01902	Specimen Collection Amount	Not supported
13	6	NM	C			01763	Grouped Specimen Amount	Not supported
14	250	ST	O	Y		01764	Specimen Description	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
15	250	CWE	O	Y	0376	01908	Specimen Handling Code	Not supported
16	250	CWE	O	Y	0489	01903	Specimen Risk Code	Not supported
17	26	DR	R			01765	Specimen Collection Date/Time	Time range over which the sample was collected, as opposed to the time the sample collection device was recovered. 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. A minimum of year, month and day must be provided when the actual date/time is known. For unknown collection date/time use "0000". Format: |YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]][+/-ZZZZ]^YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]][+/-ZZZZ]|
18	26	TS	O			00248	Specimen Received Date/Time	Time the specimen was received at the diagnostic service. The actual time that is recorded is based on how specimen receipt is managed, and may correspond to the time the sample is logged in. Format: |YYYYMMDD[HH[MM[SS[.S[S[S[S]]]]]][+/-ZZZZ]|
19	26	TS	O			01904	Specimen Expiration Date/Time	Not supported
20	1	ID	O		0136	01766	Specimen Availability	Not supported
21	250	CWE	O	Y	0490	01767	Specimen Reject Reason	Not supported
22	250	CWE	O		0491	01768	Specimen Quality	Not supported
23	250	CWE	O		0492	01769	Specimen Appropriateness	Not supported
24	250	CWE	O	Y	0493	01770	Specimen Condition	Not supported
25	20	CQ	O			01771	Specimen Current Quantity	Not supported
26	4	NM	O			01772	Number of Specimen Containers	Not supported
27	250	CWE	O	Y		01773	Container Type	Not supported
28	250	CWE	O	Y/5	0544	01774	Container Condition	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
29	250	CWE	O		0494	01775	Specimen Child Role	Not supported

OBX – Observation/Result Segment

Examples:

OBX|1|CE|600-7^Bacteria identified^LN^997181^Result 1^^L|1|L-25116^Streptococcus pneumonia^SNM^STREPN^Streptococcus pneumonia^L|||||F|||20110316083639|26D0444173^LabCorp Kansas City^CLIA

OBX|1|CE|31138-1^Cefotaxime.meningitis^LN^998059^Cefotaxime (meningitis)^L|1|G-D450^SENSITIVE^SNM^S^SENSITIVE^L|||S|||F|||20110316083639|26D0444173^LabCorp Kansas City^CLIA||^MIC

OBX|2|CE|108-1^Cefotaxime^LN^998060^Cefotaxime (non-meningitis)^L|1|G-D450^SENSITIVE^SNM^S^SENSITIVE^L|||S|||F|||20110316083639|26D0444173^LabCorp Kansas City^CLIA||^MIC

The OBX segment is used to transmit a single observation or result, or portion of an observation or result, produced as outcomes of the test or procedure performed.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	4	SI	O			00569	Set ID - OBX	For the first repeat of the OBX segment, the sequence number shall be one (1), for the second repeat, the sequence number shall be two (2), etc.
2	3	ID	C		0125	00570	Value Type	Example: SN, CE, TX, ST See Data Types, Page 11

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
3	80	CE	R			00571	Observation Identifier	Unique identifier for the observation - for lab results, OBX-3 is the specific test performed. Required field. |<identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> | Example: | 5863-6^Influenza A&B Antigen^LN^1808^Influenza A&B Antigen^L | OBX-3 has to have a code for the observation and CDC recommends using LOINC be used as the coding system to identify cases of illness which are reportable to public health. OBX-3 should be focal point of the report. When a LOINC or SNOMED code is used to identify the test, the data should appear in the <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> fields. Local tests are reported in the <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)> fields. KDHE uses a combination of OBX-3 and OBX-5 to identify the specific organism.
4	20	ST	C			00572	Observation Sub-ID	To distinguish between multiple OBX segments with the same observation ID organized until one OBR. E.g., blood culture may have 3 different organisms to report from the one request. Value should be 1, 2, 3 etc.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
5	64K		C	Y		00573	Observation Value	Result of test performed. |<identifier code> ^ <result text> ^ <SNOMED code>| If OBX-2 = CE, then OBX-5 is a SNOMED code. Results of a culture, OBX-2 would be CE and OBX-5 would appear as |L-22202^Neisseria meningitidis ^ SNM| E.g., A positive result would appear as |G-A200^Positive^SNM| |<comparator> ^ <num1 (NM)> ^ <separator or suffix> ^ <num2 (NM)> | If OBX 2 = SN, then OBX-5 will be a numeric string. Examples of SN representation: |>^100| — Greater than 100 |^100^-^200| — Equal to range of 100 through 200 |^1^:^228| — Ratio of 1 to 128 (e.g., the results of a serological test) |^2^+| — Categorical response (e.g., an interpretation of occult blood positivity) Either OBX-5 or OBX-8 (Abnormal flags) must be present in the message except if OBX-11 is 'X", result cannot be obtained.
6	60	CE	O			00574	Units	If the data type in OBX 2 is "NM" or "SN" and the OBX-11 observation result status is not 'X' then this field is required. <mm> or <ug/mL> is a typical unit value |<identifier> ^ <text> ^ <name of coding system> ^ <alternate identifier> ^ <alternate text> ^ <name of alternate coding system> ^ <coding system version ID> ^ <original text>|
7	60	ST	O			00575	References Range	Interpretation range that applies to the value reported in OBX-5. It should provide enough information to understand the abnormal flags reported in OBX-8. It is not appropriate to send the reference range for a result in an associated NTE segment. It would be appropriate to send information amplifying the reference range

Numeric String	Translation
|>^100|	Greater than 100
|^100^-^200|	Equal to range of 100 through 200
|^1^:^228|	Ratio of 1 to 128 (e.g., the results of a serological test)
|^2^+|	Categorical response (e.g., an interpretation of occult blood positivity)

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
								provided in this field in an NTE associated with this OBX. No current standardized scheme. Recommended Formats: Description: lower limit to (-) upper limit — Code Example: '3.5-4.5' Description: >lower limit — Code Example: '>10' (if no upper limit) Description: <upper limit — Code Example: '<15' (if no lower limit) For alphabetical values, the normal value may be reported in OBX-7 as well. For instance, the normal result for an assay may be 'pink'.
8	5	ID	O	Y/5	0078	00576	Abnormal Flags	This field contains a table lookup indicating the normalcy status of the result. See Appendixes: Table 0078 – Abnormal Flags
9	5	NM	O			00577	Probability	Not supported
10	2	ID	O	Y	0080	00578	Nature of Abnormal Test	Not supported
11	1	ID	R		0085	00579	Observation Result Status	F = Final Results; C = Correction to Results supported See Appendixes: Table 0085 for complete list
12	26	TS	O			00580	Date Last Obs Normal Values	Not supported
13	20	ST	O			00581	User Defined Access Checks	Not supported
14	26	DTM	O			00582	Date/Time of the Observation	Used if the test (observation date) was different from the date reported in OBR (in the case of a battery of tests on one specimen). Format: |YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]| except when reporting an unknown date of '0000"

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
15	60	CE	O			00583	Producer's ID	Unique identifier of the responsible producing service. Generally the same info as reported in PID-3.6. 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 in PID-3. |<identifier (ID)> ^ <text (ST)> ^ <name of coding system (ST)> |
16	80	XCN	O	Y		00584	Responsible Observer	Not supported
17	300	CE	O	Y		00936	Observation Method	Method of testing by the laboratory. If the LOINC code in OBX-3 is method less, this field shall be populated. Sometimes the method may be extrapolated from the local test codes.
18	22	EI	O				Equipment Instance Identifier	Not supported
19	26	TS	O				Date/Time of the Analysis	Date/Time at which the testing was performed. Format: |YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]| except when reporting an unknown date of '0000"
20							Reserved for 2.6	
21							Reserved for 2.6	
22							Reserved for 2.6	
23	567	XON	O				Performing Organization Name	This field specifies the laboratory that produced the test result described in this OBX segment. This information supports CLIA regulations in the US. |<identifier (ID)> ^ <text (ST)> ^ <name of coding system (ST)> |

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
24	631	XAD	O				Performing Organization Address	Address of the laboratory that actually performed the test when used as a reference laboratory. |<street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^^^^ <county/parish code (IS)> e.g. 1000 E Oak Street^^Overland Park^KS^66213^^^^ Johnson| See Appendix A – Counties/Parish Table
25	3002	XCN	O				Performing Organization Medical Director	Name of the Medical Director of the reference laboratory. Required when OBX-24 indicates the performing lab is in a jurisdiction that requires this information. <ID number (ST)> & <family name (ST)> & <given name (ST)> & <middle initial or name (ST)> & <suffix (e.g. Jr., III) (ST)> & <prefix (e.g., Dr.)> & <degree (e.g., MD) (ST)>

NTE – Notes and Comments Segment

Example:

NTE|1|L|The reportable range for this assay is 20 to 10,000,000|GI

NTE|2|L| copies HIV-1 RNA/mL.|

The NTE segment, wherever it appears within an HL7 message, has a common format for sending notes and comments. It may contain test results or other information to complement preceding message segments.

The comment would have the following format:

NTE-4 + "-" + **NTE**-3 (repeated) + ";" + **NTE**-2 displays as: General Instructions – The reportable range for this assay is 20 to 10,000,000 copies HIV-1 RNA/mL.; Ancillary (Filler) Department

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	4	SI	O			00096	Set ID - NTE	Used where multiple NTE segments are included in a message. The numbering scheme is related to the OBX segment

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
								directly before it in that the Set ID begins again with '1' for each OBX that has one or more NTEs following it. The set ID is used to keep the text in proper order for storage and retrieval.
2	8	ID	O		0105	00097	Source of Comment	This field is used when source of comments must be identified. It is an optional field. VALUE: DESCRIPTION L: Ancillary (Filler) Department is source of comment O: Other System is source of comment P: Orderer (Placer) is source of comment
3	64K	FT	O	Y		00098	Comment	Comment text
4	60	CE	O		0364	01318	Comment Type	This field contains a value to identify the type of comment text being sent in the specific comment records. Values: 1R = Primary Reason 2R = Secondary Reason AI = Ancillary Instructions DR = Duplicate/Interaction Reason GI = General Instructions GR = General Reason PI = Patient Instructions RE = Remark

SUBMITTING THE ORU MESSAGE

Submission Overview

Details regarding submission of the ORU message will be sent as addendum.

FHS – File Header Segment

Example:

FHS|^~\&|LABCORP-CORP|LABCORP^34D0655059^CLIA|KSDOH|KS|201105110151

The FHS segment marks the beginning of a file containing one or more batches of messages.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1		ST	R				File Field Separate	|
2		ST	R				File Encoding Characters	Literal Value: ^~\&
3		HD	O				File Sending Application	Field that may be used to identify the sending application. i.e. | HEALTHSENTRY |
4		HD	R				File Sending Facility	Name of originating facility; their CLIA unique identifier; the type of unique identifier. |<namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>| i.e. | LabCorp Kansas City^26D0444173^CLIA |
5		HD	O				File Receiving Application	Literal Value: KSDOH
6		HD	R				File Receiving Facility	Literal Value: KS
7		DTM	R				File Creation Date/Time	Date/Time message was created by the sending system. Format: |YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]|
8		ST	X				File Security	Not supported
9		ST	X				File Name/ID/Type	Not supported
10		ST	X				File Comment	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
11		ST	X				File Control ID	Not supported
12		ST	X				Reference File Control ID	Not supported

BHS – Batch Header Segment

Example:

BHS|^~\&|LABCORP-CORP|LABCORP^34D0655059^C|KSDOH|KS|201105110151||BHSeg

The BHS segment marks the beginning of a batch of messages.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	1	ST	R			00081	Batch Field Separator	|
2	3	ST	R			00082	Batch Encoding Characters	^~\&
3	15	ST	O			00083	Batch Sending Application	Field that may be used to identify the sending application. i.e. | HEALTHSENTRY |
4	20	ST	R			00084	Batch Sending Facility	Name of facility sending batch; their CLIA unique identifier; the type of unique identifier. |<namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>| i.e. | LabCorp Kansas City^26D0444173^CLIA |
5	15	ST	X			00085	Batch Receiving Application	Literal Value: KSDOH
6	20	ST	O			00086	Batch Receiving Facility	Literal Value: KS
7	26	TS	R			00087	Batch Creation Date/Time	Date/Time batch was created by the sending system. Format: |YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]|
8	40	ST	O			00088	Batch Security	Not supported
9	20	ST	O			00089	Batch Name/ID/Type	Not supported
10	80	ST	O			00090	Batch Comment	Not supported

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
11	20	ST	R			00091	Batch Control ID	Not supported
12	20	ST	O			00092	Reference Batch Control ID	Not supported

BTS – Batch Trailer Segment

Example:

BTS|11|

The BTS segment defines the end of a batch of messages.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	10	ST	O			00093	Batch Message Count	Number of messages (MSH segments) contained in batch
2	80	ST	O			00090	Batch Comment	Not used
3	100	NM	O	Y		00095	Batch Totals	Not used

FTS – File Trailer Segment

Example:

FTS|1|

The FTS segment defines the end of a file of batches.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	10	ST	O			00093	File Batch Count	Number of batches (BHS segments) contained in file
2	80	ST	O			00090	File Comment	Not used

RECEIPT ACKNOWLEDGEMENT OF THE ORU MESSAGE

Whether ORU messages are transmitted individually or by batch, for each transmission, KDHE will respond with an ACK message, which includes a MSH, MSA and ERR segment (if applicable). If the ACK message Acknowledgement Code (MSA-1) is AA, KDHE has accepted the associated message or batch of messages and no other attempt to retransfer will be conducted. Any other Acknowledgement Code indicates a failure that cannot be rectified by an attempt to retransmit and the ACK message will contain the ERR segment. The sending application may shut down or move the failed message or batch to an error queue and proceed with the subsequent message or batch.

MSH – Message Segment

Example:

MSH|^~\&|KSDOH|KS0000|HEALTHSENTRY|LABCORP KANSAS CITY|20040319125701||ACK^|230533657|P|2.5.1

The MSH provides information regarding the original ORU^R01 transmission.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	1	ST	R			00001	Field Separator	|
2	4	ST	R			00002	Encoding Characters	Literal Value: ^~\&
3	180	HD	RE		0361	00003	Sending Application	Literal Value: KSDOH
4	180	HD	R		0362	00004	Sending Facility	Literal Value: KS0000
5	180	HD	RE			00005	Receiving Application	Field will contain the same information which was sent in the corresponding MSH ORU^R01 message, field MSH-3. Field that may be used to identify the sending application. i.e. | HEALTHSENTRY |
6	180	HD	RE			00006	Receiving Facility	Field will contain the same information which was sent in the corresponding MSH ORU^R01 message, field MSH-4. Name of originating facility; their CLIA unique identifier; the type of unique identifier. |<namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>| i.e. | LabCorp Kansas City^26D0444173^CLIA |

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
7	26	TS	R			00007	Date/Time Of Message	Date/Time message was created by the sending system. Format: |YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][+/-ZZZZ]|
8	40	ST				00008	Security	Not supported
9	7	CM	R			00009	Message Type	Literal Value: |ACK^R01^ACK|
10	20	ST	R			00010	Message Control ID	Field contains the unique value of MSH-10 of the corresponding MSH ORU^R01 message.
11	3	PT	R			00011	Processing ID	P = production, T = test
12	60	VID	R			00012	Version ID	HL7 version number used to interpret format and content of the message. Literal Value: 2.5.1

MSA – Message Acknowledgment Segment

Example:

MSA|AA|230533657

The MSA segment contains information sent to positively or negatively acknowledge receipt of a message or batch of messages.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1	2	ID	R		0008	00018	Acknowledgment Code	AA = application accept AE = application error AR = application reject
2	20	ST	R			00010	Message Control ID	Identifier that enables the sending system to associate this response with the message for which it is intended. This value will be the MSH-10 message control ID from the message being acknowledged.
3	80	ST	O			00020	Text Message	
4	15	NM	O			00021	Expected Sequence Number	
5	1	ID	B		0102	00022	Delayed Acknowledgment Type	

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
6	100	CE	O			00023	Error Condition	

ERR – Error Segment

Example:

ERR| |OBR^1|100^Segment sequence error^HL70357|E|||Missing required OBR segment|Email help desk for further information on this error. Error messages could contain the following:

The ERR segment is used to add error comments to acknowledgement messages.

SEQ	LEN	DT	OPT	RP	TBL	ITEM	ELEMENT NAME	DESCRIPTION
1		ELD	X				Error Code and Location	Not supported
2		ERL	O				Error Location	Identifies the field where the error occurred
3		CWE	R		0357		HL7 Error Code	Identifies the HL7 (communications) error code See Appendix: Table 0357 – Message Error Condition Codes
4		ED	R		0516		Severity	Identifies the severity of an application error. E = Error; I = Information: W = Warning
5		CWE	O				Application Error Code	Not supported
6		ST	O				Application Error Parameter	Not supported
7		TX	RE				Diagnostic Information	Text information regarding the error which may be useful in diagnosing the problem.
8		TX	RE				User Message	Additional text information. User-defined.
9		IS	X				Inform Person Indicator	Not supported
10		CWE	X				Override Type	Not supported
11		CWE	X				Override Reason Code	Not supported
12		XTN	RE				Help Desk Contact Point	Not supported

APPENDIX A – DATA TABLES

Counties/Parish Table
(Use in all XAD data types, including ***PID-11***, ***NK1-4***, ***ORC-22***, ***ORC-24***, ***OBX-24***)

County	County	County	County	County
Allen	Doniphan	Jackson	Morris	Saline
Anderson	Douglas	Jefferson	Morton	Scott
Atchison	Edwards	Jewell	Nemaha	Sedgwick
Barber	Elk	Johnson	Neosho	Seward
Barton	Ellis	Kearny	Ness	Shawnee
Bourbon	Ellsworth	Kingman	Norton	Sheridan
Brown	Finney	Kiowa	Osage	Sherman
Butler	Ford	Labette	Osborne	Smith
Chase	Franklin	Lane	Ottawa	Stafford
Chautauqua	Geary	Leavenworth	Pawnee	Stanton
Cherokee	Gove	Lincoln	Phillips	Stevens
Cheyenne	Graham	Linn	Pottawatomie	Sumner
Clark	Grant	Logan	Pratt	Thomas
Clay	Gray	Lyon	Rawlins	Trego
Cloud	Greeley	McPherson	Reno	Wabaunsee
Coffey	Greenwood	Marion	Republic	Wallace
Comanche	Hamilton	Marshall	Rice	Washington
Cowley	Harper	Meade	Riley	Wichita
Crawford	Harvey	Miami	Rooks	Wilson
Decatur	Haskell	Mitchell	Rush	Woodson
Dickinson	Hodgeman	Montgomery	Russell	Wyandotte

Table 0063 – Relationship (use in NK1-3)

VALUE	DESCRIPTION	VALUE	DESCRIPTION
SEL	Self	EXF	Extended family
SPO	Spouse	SIB	Sibling
DOM	Life partner	BRO	Brother
CHD	Child	SIS	Sister
GCH	Grandchild	FND	Friend
NCH	Natural child	OAD	Other adult
SCH	Stepchild	EME	Employee
FCH	Foster child	EMR	Employer
DEP	Handicapped dependent	ASC	Associate
WRD	Ward of court	EMC	Emergency contact
PAR	Parent	OWN	Owner
MTH	Mother	TRA	Trainer
FTH	Father	MGR	Manager
CGV	Caregiver	NON	None
GRD	Guardian	UNK	Unknown
GRP	Grandparent	OTH	Other

Table 0078 – Abnormal Flags (use in OBX-8)

VALUE	DESCRIPTION
L	Below low normal
H	Above high normal
LL	Below lower panic limits
HH	Above high panic limits

VALUE	DESCRIPTION
<	Below absolute low-off instrument scale
>	Above absolute high-off instrument scale
N	Normal (applied to non-numeric results)
A	Abnormal (applies to non-numeric results)
AA	Very abnormal (applies to non-numeric units, analogous to panic limits for numeric units
Null	No range defined, or normal ranges don't apply
U	Significant change up
D	Significant change down
B	Better – use when direction not relevant
W	Worse – use when direction not relevant
S	Susceptible. Indicates for microbiology susceptibilities only.
R	Resistant. Indicates for microbiology susceptibilities only.
I	Intermediate. Indicates for microbiology susceptibilities only.
MS	Moderately susceptible. Indicates for microbiology susceptibilities only.
VS	Very susceptible. Indicates for microbiology susceptibilities only.

Table 0085 – Observation Result Status Codes Interpretation (use in OBX-11)

VALUE	DESCRIPTION	USAGE
C	Record coming over is a correction and thus replaces a final result	Supported
D	Deletes the OBX record	Not Supported
F	Final results; Can only be changed with a corrected result	Supported
I	Specimen in lab; results pending	Not Supported
N	Not asked; used to affirmatively document that the observation identified in the OBX was not sought when the universal service ID in OBR-4 implies that it would be sought	Not Supported
O	Order detail description only (no result)	Not Supported

VALUE	DESCRIPTION	USAGE
P	Preliminary results	Supported
R	Results entered – not verified	Supported
S	Partial results	Supported
X	Results cannot be obtained for this observation	Not Supported
U	Results status change to final without retransmitting results already sent as 'preliminary.' E.g., radiology changes status from preliminary to final	Not Supported
W	Post original as wrong, e.g., transmitted for wrong patient	Not Supported

Table 0123 – Result Status (use in OBR-25)

VALUE	DESCRIPTION	USAGE
O	Order received; specimen not yet received	Not Supported
I	No results available; specimen received, procedure incomplete	Not Supported
S	No results available; procedure scheduled, but not done	Not Supported
A	Some, but not all, results available	Supported
P	Preliminary: A verified early result is available, final results not yet obtained	Supported
C	Correction to results	Supported
R	Results stored; not yet verified	Supported
F	Final results; order is complete and verified. Can only be changed with a corrected result.	Supported
X	No results available; order canceled. (Used only on queries.)	Not Supported
Y	No order on record for this test. (Used only on queries.)	Not Supported
Z	No record of this patient. (Used only on queries.)	Not Supported

Table 0155 – Acknowledgement Type (use in MSH-15 and MSH-16)

VALUE	DESCRIPTION
AL	Always
NE	Never
ER	Error/reject conditions only
SU	Successful completion only

Table 0163 – Body Sites (use in SPM-8)

VALUE	DESCRIPTION	VALUE	DESCRIPTION
BE	Bilateral Ears	OD	Right Eye
BN	Bilateral Nares	OS	Left Eye
BU	Buttock	OU	Bilateral Eyes
CT	Chest Tube	PA	Perianal
LA	Left Arm	PERIN	Perineal
LAC	Left Anterior Chest	RA	Right Arm
LACF	Left Antecubital Fossa	RAC	Right Anterior Chest
LD	Left Deltoid	RACF	Right Antecubital Fossa
LE	Left Ear	RD	Right Deltoid
LEJ	Left External Jugular	RE	Right Ear
LF	Left Foot	REJ	Right External Jugular
LG	Left Gluteus Medius	RF	Right Foot
LH	Left Hand	RG	Right Gluteus Medius
LIJ	Left Internal Jugular	RH	Right Hand
LLAQ	Left Lower Abd Quadrant	RIJ	Right Internal Jugular
LLFA	Left Lower Forearm	RLAQ	Right Lower Abd Quandrant
LMFA	Left Mid Forearm	RLFA	Right Lower Forearm

VALUE	DESCRIPTION	VALUE	DESCRIPTION
LN	Left Naris	RMFA	Right Mid Forearm
LPC	Left Posterior Chest	RN	Right Naris
LSC	Left Subclavian	RPC	Right Posterior Chest
LT	Left Thigh	RSC	Right Subclavian
LUA	Left Upper Arm	RT	Right Thigh
LUAQ	Left Upper Abd Quandrant	RUA	Right Upper Arm
LUFA	Left Upper Forearm	RUAQ	Right Upper Abd Quandrant
LVG	Left Ventragluteal	RUFA	Right Upper Forearm
LVL	Left Vastus Lateralis	RVG	Right Ventragluteal
NB	Nebulized	RVL	Right Vastus Lateralis

Table 0357 – Message Error Condition Codes (use in ERR-3)

VALUE	DESCRIPTION	VALUE	DESCRIPTION
0	Message accepted	202	Unsupported processing id
100	Segment sequence error	203	Unsupported version id
101	Required field missing	204	Unknown key identifier
102	Data type error	205	Duplicate key identifier
103	Table value not found	206	Application record locked
200	Unsupported message type	207	Application internal error
201	Unsupported event code		

Table 0360 - Degree (use in all XPN data types, including PID-5, OBR-16)

VALUE	DESCRIPTION	VALUE	DESCRIPTION
AA	Associate of Arts	JD	Juris Doctor

VALUE	DESCRIPTION	VALUE	DESCRIPTION
AAS	Associate of Applied Science	MA	Master of Arts
ABA	Associate of Business Administration	MBA	Master of Business Administration
AE	Associate of Engineering	MCE	Master of Civil Engineering
AS	Associate of Science	MD	Doctor of Medicine
BA	Bachelor of Arts	MDA	Medical Assistant
BBA	Bachelor of Business Administration	MDI	Master of Divinity
BE	Bachelor or Engineering	ME	Master of Engineering
BFA	Bachelor of Fine Arts	MED	Master of Education
BN	Bachelor of Nursing	MEE	Master of Electrical Engineering
BS	Bachelor of Science	MFA	Master of Fine Arts
BSL	Bachelor of Science - Law	MME	Master of Mechanical Engineering
BSN	Bachelor of Science in Nursing	MS	Master of Science
BT	Bachelor of Theology	MSL	Master of Science - Law
CANP	Certified Adult Nurse Practitioner	MSN	Master of Science - Nursing
CER	Certificate	MT	Master of Theology
CMA	Certified Medical Assistant	NG	Non-Graduate
CNM	Certified Nurse Midwife	NP	Nurse Practitioner
CNP	Certified Nurse Practitioner	PA	Physician Assistant
CNS	Certified Nurse Specialist	PharmD	Doctor of Pharmacy
CPNP	Certified Pediatric Nurse Practitioner	PHD	Doctor of Philosophy
CRN	Certified Registered Nurse	PHN	Public Health Nurse
DBA	Doctor of Business Administration	PHE	Doctor of Engineering
DED	Doctor of Education	PHS	Doctor of Science
DIP	Diploma	PN	Advanced Practice Nurse
DO	Doctor of Osteopathy	RMA	Registered Medical Assistant
EMT	Emergency Medical Technician	RPH	Registered Pharmacist
EMTP	Emergency Medical Technician -	SEC	Secretarial Certificate

VALUE	DESCRIPTION	VALUE	DESCRIPTION
	Paramedic		
FPNP	Family Practice Nurse Practitioner	TS	Trade School Graduate
HS	High School Graduate		

Table 0487 – Specimen Types (use in SPM-4)

VALUE	DESCRIPTION	VALUE	DESCRIPTION	VALUE	DESCRIPTION
ABS	Abscess	GAS	Gas	PRT	Peritoneal fluid/ascites
ACNE	Tissue, Acne	GASA	Aspirate, Gastric	PSC	Pseudocyst
ACNFLD	Fluid, Acne	GASAN	Antrum, Gastric	PUNCT	Wound, Puncture
AIRS	Air Sample	GASBR	Brushing, Gastric	PUS	Pus
ALL	Allograft	GASD	Drainage, Gastric	PUSFR	Pustule
AMN	Amniotic fluid	GAST	Fluid/contents, Gastric	PUST	Pus
AMP	Amputation	GEN	Genital	QC3	Quality Control
ANGI	Catheter Tip, Angio	GENC	Genital cervix	RANDU	Urine, Random
ARTC	Catheter Tip, Arterial	GENL	Genital lochia	RBC	Erythrocytes
ASERU	Serum, Acute	VENV	Genital vaginal	RBITE	Bite, Reptile
ASP	Aspirate	GRAFT	Graft	RECT	Drainage, Rectal
ATTE	Environmental, Autoclave Ampule	GRANU	Granuloma	RECTA	Abscess, Rectal
AUTOC	Environmental, Attest	GROSH	Catheter, Groshong	RENALC	Cyst, Renal
AUTP	Autopsy	GSOL	Solution, Gastrostomy	RENC	Fluid, Renal Cyst
BBL	Blood bag	GSPEC	Biopsy, Gastric	RES	Respiratory
BCYST	Cyst, Baker's	GT	Tube, Gastric	RT	Route of medicine
BDT	Whole body	GTUBE	Drainage Tube, Draining	SAL	Saliva

VALUE	DESCRIPTION	VALUE	DESCRIPTION	VALUE	DESCRIPTION
			(Gastrostomy)		
BIFL	Bile fluid	HAR	Hair	SCAR	Tissue, Keloid (Scar)
BITE	Bite	HBITE	Bite, Human	SCLV	Catheter Tip, Subclavian
BLD	Whole blood	HBLUD	Blood, Autopsy	SCROA	Abscess, Scrotal
BLDA	Blood arterial	HEMAQ	Catheter Tip, Hemaquit	SECRE	Secretion(s)
BLDC	Blood capillary	HEMO	Catheter Tip, Hemovac	SER	Serum
BLDCO	Cord blood	HERNI	Tissue, Herniated	SHU	Site, Shunt
BLDV	Blood venous	HEV	Drain, Hemovac	SHUNF	Fluid, Shunt
BLEB	Bleb	HIC	Catheter, Hickman	SHUNT	Shunt
BLIST	Blister	HYDC	Fluid, Hydrocele	SITE	Site
BOIL	Boil	IBITE	Bite, Insect	SKBP	Biopsy, Skin
BON	Bone	ICYST	Cyst, Inclusion	SKM	Skeletal muscle
BOWL	Bowel contents	IDC	Catheter Tip, Indwelling	SKN	Skin
BPH	Basophils	IHG	Gas, Inhaled	SMM	Mass, Sub-Mandibular
BPU	Blood product unit	ILEO	Drainage, Ileostomy	SMN	Seminal fluid
BRN	Burn	ILLEG	Source of Specimen Is Illegible	SNV	Synovial fluid (Joint fluid)
BRO	Bronchial	IMP	Implant	SPRM	Spermatozoa
BRSH	Brush	INCI	Site, Incision/Surgical	SPRP	Catheter Tip, Suprapubic
BRTH	Breath (use EXHLD)	INFIL	Infiltrate	SPRPB	Catheter Tip, Suprapubic
BRUS	Brushing	INS	Insect	SPS	Environmental, Spore Strip
BUB	Bubo	INTRD	Catheter Tip,	SPT	Sputum

VALUE	DESCRIPTION	VALUE	DESCRIPTION	VALUE	DESCRIPTION
			Introducer		
BULLA	Bulla/Bullae	ISLT	Isolate	SPTC	Sputum – coughed
BX	Biopsy	IT	Intubation tube	SPTT	Sputum – tracheal aspirate
CALC	Calculus (=Stone)	IUD	Intrauterine Device	SPUTI	Sputum, Simulated
CARBU	Carbuncle	IVCAT	Catheter Tip, IV	SPUTIN	Sputum, Inducted
CAT	Catheter	IVFLD	Fluid, IV	SPUTSP	Sputum, Spontaneous
CBITE	Bite, Cat	IVTIP	Tubing Tip, IV	STER	Environmental, Sterrad
CDM	Cardiac muscle	JEJU	Drainage, Jejunal	STL	Stool = Fecal
CLIPP	Clippings	JNTFLD	Fluid, joint	STON	Stone (use CALC)
CNJT	Conjunctiva	JP	Draining, Jackson Pratt	STONE	Stone, Kidney
CNL	Cannula	KELOI	Lavage	SUBMA	Abscess, Submandibular
COL	Colostrum	KIDFLD	Fluid, Kidney	SUBMX	Abscess, Submaxillary
CONE	Biopsy, Cone	LAM	Lamella	SUMP	Drainage, Sump
CSCR	Scratch, Cat	LAVG	Lavage, Bronhial	SUP	Suprapubic, Tap
CSERU	Serum, Convalenscent	LAVGG	Lavage, Gastric	SUTUR	Suture
CSF	Cerebral spinal fluid	LAVGP	Lavage, Peritoneal	SWGZ	Catheter Tip, Swan Gantz
CSITE	Catheter Insertion Site	LAVPG	Lavage, Pre-Bronch	SWT	Sweat
CSMY	Fluid, Cystostomy Tube	LENS1	Contact Lens	TASP	Aspirate, Tracheal
CST	Fluid, Cyst	LENS2	Contact Lens Case	TEAR	Tears
CSVR	Blood, Cell Saver	LESN	Lesion	THRB	Thrombocyte (platelet)
CTP	Catheter tip	LIQ	Liquid NOS	THRT	Throat
CUR	Curettage	LIQO	Liquid, Other	TISG	Tissue gall bladder

VALUE	DESCRIPTION	VALUE	DESCRIPTION	VALUE	DESCRIPTION
CVM	Cervical mucus	LN	Line	TISPL	Tissue placenta
CVPS	Site, CVP	LNA	Line arterial	TISS	Tissue
CVPT	Catheter Tip, CVP	LNV	Line venous	TISU	Tissue ulcer
CVX	Cervix	LSAC	Fluid, Lumbar Sac	TLC	Catheter Tip, Triple Lumen
CYN	Nodule, Cystic	LYM	Lymphocytes	TLGI	Tissue large intestine
CYST	Cyst	MAC	Macrophages	TLNG	Tissue lung
DBITE	Bite, Dog	MAHUR	Catheter Tip, Makurkour	TRAC	Site, Tracheostomy
DCS	Sputum, Deep Cough	MAR	Marrow	TRANS	Transudate
DEC	Ulcer, Decubitus	MASS	Mass	TSERU	Serum, Trough
DEION	Environmental, Water (Deionized)	MBLD	Blood, Menstrual	TSMI	Tissue, small intestine
DIA	Dialysate	MEC	Meconium	TSTES	Abscess, Testicular
DIAF	Dialysis fluid	MILK	Breast milk	TTRA	Aspirate, Transtracheal
DISCHG	Discharge	MLK	Milk	TUB	Tube NOS
DIV	Diverticulum	MUCOS	Mucosa	TUBES	Tubes
DOSE	Dose med or substance	MUCUS	Mucus	TUMOR	Tumor
DRN	Drain	NAIL	Nail	TZANC	Smear, Tzanck
DRNG	Drainage, Tube	NASDR	Drainage, Nasal	UDENT	Source, Unidentified
DRNGP	Drainage, Penrose	NEDL	Needle	ULC	Ulcer
DUFL	Duodenal fluid	NEPH	Site, Nephrostomy	UMB	Umbilical blood
EAR	Ear	NGASP	Aspirate, Nasogastric	UMED	Unknown medicine
EARW	Ear was (cerumen)	NGAST	Drainage, Nasogastric	UR	Urine
EBRUSH	Brush, Esophageal	NGS	Site, Naso/Gastric	URC	Urine clean catch
EEYE	Environmental, Eye	NODUL	Nodule(s)	URINB	Urine, Bladder

VALUE	DESCRIPTION	VALUE	DESCRIPTION	VALUE	DESCRIPTION
	Wash				Washings
EFF	Environmental, Effluent	NOS	Nose (nasal passage)	URINC	Urine, Catheterized
EFFUS	Effusion	NSECR	Secretion, Nasal	URINM	Urine, Midstream
EFOD	Environmental, Food	ORH	Other	URINN	Urine, Nephrostomy
EISO	Environmental, Isolette	ORL	Lesion, Oral	URINP	Urine, Pedibag
ELT	Electrode	OTH	Source, Other	URNS	Urine sediment
ENDC	Endocardium	PACEM	Pacemaker	URT	Urine catheter
ENDM	Endometrium	PAFL	Pancreatic fluid	URTH	Urethra
ENVIR	Environmental, Unidentified Substance	PAT	Patient	USCOP	Urine, Cystoscopy
EOS	Eosinophils	PCFL	Fluid, Pericardial	USPEC	Source, Unspecified
EOTH	Environmental, Other Substance	PDSIT	Site, Peritoneal Dialysis	USUB	Unknown substance
ESOI	Environmental, Soil	PDTS	Site, Peritoneal Dialysis Tunnel	VASTIP	Catheter Tip, Vas
ESOS	Environmental, Solution (Sterile)	PELVA	Abscess, Pelvic	VENT	Catheter Tip, Ventricular
ETA	Aspirate, Endotrach	PENIL	Lesion, Penile	VITF	Vitreous Fluid
ETTP	Catheter Tip, Endotracheal	PERIA	Abscess, Perianal	VOM	Vomitus
ETTUB	Tube, Endotracheal	PILOC	Cyst, Pilonidal	WASH	Wash
EWHI	Environmental, Whirlpool	PINS	Site, Pin	WASI	Washing, e.g. bronchial washing
EXG	Exhaled gas (=breath)	PIS	Site, Pacemaker Insetion	WAT	Water
EXS	Shunt, External	PLAN	Plant Material	WB	Blood, Whole
EXUDTE	Exudate	PLAS	Plasma	WBC	Leukocytes

VALUE	DESCRIPTION	VALUE	DESCRIPTION	VALUE	DESCRIPTION
EYE	Eye	PLB	Plasma bag	WEN	Wen
FAW	Environmental, Water (Well)	PLC	Placenta	WICK	Wick
FBLOOD	Blood, Fetal	PLEVS	Serum, Peak Level	WND	Wound
FGA	Fluid, Abdomen	PLR	Pleural fluid (thoracentesis fld)	WNDA	Wound abscess
FIB	Fibroblasts	PMN	Polymorphonuclear neutrophils	WNDD	Wound drainage
FIST	Fistula	PND	Drainage, Penile	WNDE	Wound exudates
FLD	Fluid, Other	POL	Polyps	WORM	Worm
FLT	Filter	POPGS	Graft Site, Popliteal	WRT	Wart
FLU	Body fluid, unsp	POPLG	Graft, Popliteal	WWA	Environmental, Water
FLUID	Fluid	POPLV	Site, Popliteal Vein	WWO	Environmental, Water (Ocean)
FOLEY	Catheter Tip, Foley	PORTA	Catheter, Porta	WWT	Environmental, Water (Tap)
FRS	Fluid, Respiratory	PPP	Platelet poor plasma	XXX	To be specified in another part of the message
FSCLP	Scalp, Fetal	PROST	Prosthetic Device		
FUR	Furuncle	PRP	Platelet rich plasma		

Table 0488 – Specimen Collection Method (use in SPM-7)

VALUE	DESCRIPTION	VALUE	DESCRIPTION
FNA	Aspiration, Fine Needle	ANP	Plates, Anaerobic
PNA	Aterial puncture	BAP	Plates, Blood Agar
BIO	Biopsy	PRIME	Pump Prime
BCAE	Blood Culture, Aerobic Bottle	PUMP	Pump Specimen

VALUE	DESCRIPTION	VALUE	DESCRIPTION
BCAN	Blood Culture, Anaerobic Bottle	QC5	Quality Control For Micro
BCPD	Blood Culture, Pediatric Bottle	SCLP	Scalp, Fetal Vein
CAP	Capillary Specimen	SCRAPS	Scrapings
CATH	Catheterized	SHA	Shaving
EPLA	Environmental, Plate	SWA	Swab
ESWA	Environmental, Swab	SWD	Swab, Dacron tipped
LNA	Line, Arterial	WOOD	Swab, Wooden Shaft
CVP	Line, CVP	TMOT	Transport Media,
LNV	Line, Venous	TMAN	Transport Media, Anaerobic
MARTL	Martin-Lewis Agar	TMCH	Transport Media, Chalamydia
ML11	Mod. Martin-Lewis Agar	TMM4	Transport Media, M4
PACE	Pace, Gen-Probe	TMMY	Transport Media, Mycoplasma
PIN	Pinworm Prep	TMPV	Transport Media, PVA
KOFFP	Plate, Cough	TMSC	Transport Media, Stool Culture
MLP	Plate, Martin-Lewis	TMUP	Transport Media, Ureaplasma
NYP	Plate, New York City	TMVI	Transport Media, Viral
TMP	Plate, Thayer-Martin	VENIP	Venipuncture

APPENDIX B – SAMPLE MESSAGES

Antibody Result

MSH|^~\&|Healthsentry|Public Health Lab^01D1234567^CLIA||KSDOH|201101011830||
ORU^R01^ORU_R01|201101010001|P|2.5.1

SFT|Software Development Corporation|10.5|SCC|56734||20110317

PID|1||M0000010^^^Public Health Clinic&01D1234567&CLIA||Doe^John^Q|| 19740814|M||W|1234
Anystreet Ave^Apt 101^Topeka^KS^66612^^P^^Shawnee||
^^^^^555^5551234|^^^^^555^5551234^x1234|||||||N

ORC||||||||||L43545^Craggie^Jessica^L^^Dr||^^^^^818^5553434||||||Public Health Clinic|555 East
Doctors Lane^^Topeka^KS^66610^^^^Shawnee|^^^1^818^5551212|552 West Elk^Suite
123^Topeka^KS^66610^^^^Shawnee

OBR|1|54654654^Public Health Clinic^01D1234567^CLIA|300005074^Public Health
Lab^05D0909090^CLIA|5198-7^HCV Ab Ser EIA-aCnc^LN^HCVAB^Hep C VirusAb^L
|||200808151030||||||||L43545^Craggie^Jessica^L^^Dr|^^^^^555^5553434 |||||2008081830|||F

OBX|1|SN|5198-7^HCV Ab Ser EIA-aCnc^LN^HCVAB^Hep C Virus Ab^L|1|>^11.0| s/co^Signal-to-Cutoff
ratio^UCUM^^^^1.6|0.0-0.9|H|||F|||200808151030||||| 200808181800||||Public Health
Lab^L^^^^CLIA^XX^^^05D0909090|3434 Industrial
Loop^^Topeka^KS^66610^USA|L43545^Craggie^Jessica^L^^Dr

SPM|1|^9700122&Public Health Lab&05D0909090&CLIA||WB^Whole Blood^HL70487^BLD^
Blood^L||||49852007^Structure of median cubital vein (body structure^SCT^VEIN^
Vein^L||||2.0^mL&milliliter&UCUM&&&&1.6|||||201101151030

Culture Result

MSH|^~\&|Healthsentry|Public Health Lab^01D1234567^CLIA||KSDOH|201101011830||
ORU^R01^ORU_R01|201101010001|P|2.5.1

SFT|Software Development Corporation|10.5|SCC|56734||20110317

PID|1||M0000010^^^Public Health Clinic&01D1234567&CLIA||Doe^John^Q|| 19740814|M||W|1234
Anystreet Ave^Apt 101^Topeka^KS^66612^^P^^Shawnee||
^^^^^555^5551234|^^^^^555^5551234^x1234|||||||N

ORC||||||||||L43545^Craggie^Jessica^L^^Dr||^^^^^818^5553434||||||Public Health Clinic|555 East
Doctors Lane^^Topeka^KS^66610^^^^Shawnee|^^^1^818^5551212|552 West Elk^Suite
123^Topeka^KS^66610^^^^Shawnee

OBR|1|54654654^Public Health Clinic^01D1234567^CLIA|300005074^Public Health
Lab^05D0909090^CLIA|625-4^Bacteria identified^LN^STLCLT^STOOL CULTURE^L^2.26
|||200808151030||||||||L43545^Craggie^Jessica^L^^Dr|^^^^^555^5553434 |||||2008081830|||F

OBX|1|CWE|625-4^Bacteria identified:Prid:Pt:Stool:Nom:Culture^LN^STLCLT^Stool Culture^L^2.26|1|66543000^Campylobacter jejuni^SCT^CPBJ^Campylobacter jejuni^L^January 2007|||||F|||200906041458||||200906051700||||Public Health Lab^L^^^^CLIA&2.16.840.1.113883.19.4.6&ISO^XX^^^05D0909090|3434 Industrial Loop^^Topeka^KS^66610^USA^B|9876543^Slide^Stan^S^^^^^NPPES&2.16.840.1.113883.19.4.6&ISO^L^^^NPI

SPM|1|^9700122&Public Health Lab&2.16.840.1.113883.19.3.1.6&ISO||STL^Stool (Fecal)^HL70487^STL^Stool^L^20080731||CARY^Cary Blair Medium^HL70488^CBM^Cary Blair Medium^L^2.5.1|||||10^g&gram&UCUM&&&&1.6|||||201101151030

Culture Identifying Multiple Organisms with Susceptibilities

MSH|^~\&|Healthsentry|Public Health Lab^01D1234567^CLIA||KSDOH|201101011830|| ORU^R01^ORU_R01|201101010001|P|2.5.1

SFT|Atlas Development Corporation^L^^^^Health Level Seven&2.16.840.1.113883&ISO^XX^^^2.16.840.1.113883.3.33|10.5|Software Name|56734||20110317

PID|1||M0000010^^^Public Health Clinic&01D1234567&CLIA||Doe^John^Q|| 19740814|M||W|1234 Anystreet Ave^Apt 101^Topeka^KS^66612^^^^Shawnee|| ^^^^^555^5551234|^^^^^555^5551234^x1234|||||||N

ORC||| ||||||||L43545^Craggie^Jessica^L^^Dr||^^^^^818^5553434||||||Public Health Clinic|555 East Doctors Lane^^Topeka ^KS^66610^^^^Shawnee|^^^^^555^5551212|555 East Doctors Lane^^Topeka ^KS^66610^^^^Shawnee

OBR|1|54654654^Public Health Clinic^2.16.840.1.113883.19.3.2.3^ISO| 300005074^Public Health Lab^2.16.840.1.113883.19.3.1.6^ISO|625-4^Bacteria identified^LN^STLCLT^STOOL CULTURE^L^|||200808151030|||||||| L43545^Craggie^Jessica^L^^Dr |^^^^^555^5553434||||2008081830|||F

OBX|1|CWE|625-4^Bacteria identified:Prid:Pt:Stool:Nom:Culture^LN^STLCLT^Stool Culture^L|1|66543000^Campylobacter jejuni^SNM^CPBJ^Campylobacter jejuni^L ||||||F|||200906041458||||200906051700||||Public Health Lab^L^^^^CLIA|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

OBX|2|SN|564-5^COLONY COUNT:NUM:PT:XXX:QN:VC^LN^COLCNT^Colony Count^L|1|^10000^-^90000|1^^UCUM^^^^1.6|||||F|||200906041458||||200906051700||||Public Health Lab^L^^^^CLIA|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

OBX|3|CWE|625-4^Bacteria identified:Prid:Pt:Stool:Nom:Culture^LN^STLCLT^Stool Culture^L|2|302620005^Salmonella group B phase 1 a-e^SNM^SalB1^Salmonella Group B^L^||||||F|||200906041458||||200906051700||||Public HealthLab^L^^^^CLIA|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

OBX|4|SN|564-5^COLONY COUNT:NUM:PT:XXX:QN:VC^LN^COLCNT^Colony Count^L|2|>^100000 |1^^UCUM^^^^1.6|||||F|||200906041458|||||200906051700|||| Public HealthLab^L ^^^^CLIA|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

SPM|1|^9700122&Public Health Lab&2.16.840.1.113883.19.3.1.6&ISO||STL^Stool (Fecal)^HL70487^STL^Stool^L^20080731||CARY^Cary Blair Medium^HL70488^CBM^Cary Blair Medium^L^2.5.1||||||10^g&gram&UCUM&&&&1.6||||||201101151030

OBR|2|54654654^Public Health Clinic^2.16.840.1.113883.19.3.2.3^ISO|300005074^Public Health Lab^2.16.840.1.113883.19.3.1.6^ISO|50545-3^Bacterial susceptibility panel:-:Pt:Isolate:OrdQn:MIC^LN^MIC^Bacterial Susceptibility Panel^L^2.26|||200808151030||||||||L43545^Craggie^Jessica^L^^Dr^^^CMS&2.16.840.1.113883.19.4.6&ISO^L^^^NPI^^^^^^^^MD|^^^^^818^5553434|||||2008081830|||F|625-4&Bacteria identified:Prid:Pt:Stool:Nom:Culture&LN&STLCLT&Stool Culture&L^1^Campylobacter jejuni

OBX|1|SN|6979-9^AMPICILLIN:SUSC:PT:ISLT:ORDQN:GRADIENT STRIP^LN^AMP^Ampicillin^L^2.26|1|<^0.06|ug/mL^^UCUM^^^^1.6||S|||F|||200906041458|||||200906051700||||Public Health Lab^L^^^^CLIA&2.16.840.1.113883.19.4.6&ISO^XX^^^05D0909090|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

OBX|2|SN|7016-9^GENTAMICIN:SUSC:PT:ISLT:ORDQN:GRADIENT STRIP^LN^GENT^Gentamicin^L^2.26|1|^0.05|ug/mL^^UCUM^^^^1.6||S|||F|||200906041458|||||200906051700||||Public Health Lab^L^^^^CLIA&2.16.840.1.113883.19.4.6&ISO^XX^^^05D0909090|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

OBX|3|SN|7002-9^CIPROFLOXACIN:SUSC:PT:ISLT:ORDQN:GRADIENT STRIP^LN^CPFX^Ciprofloxacin^L^|1|^0.05|ug/mL^^UCUM^^^^1.6||S|||F|||200906041458|||||200906051700||||Public Health Lab^L^^^^CLIA&2.16.840.1.113883.19.4.6&ISO^XX^^^05D0909090|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

OBR|2|54654654^Public Health Clinic^2.16.840.1.113883.19.3.2.3^ISO|300005074^Public Health Lab^2.16.840.1.113883.19.3.1.6^ISO|50545-3^Bacterial susceptibility panel:-:Pt:Isolate:OrdQn:MIC^LN^MIC^Bacterial Susceptibility Panel^L^2.26|||200808151030||||||||L43545^Craggie^Jessica^L^^Dr^^^CMS&2.16.840.1.113883.19.4.6&ISO^L^^^NPI^^^^^^^^MD|^^^^^1^818^5553434|||||2008081830|||F|625-4&Bacteria identified:Prid:Pt:Stool:Nom:Culture&LN&STLCLT&Stool Culture&L^2^Salmonella group B phase 1 a-e

OBX|1|SN|6979-9^AMPICILLIN:SUSC:PT:ISLT:ORDQN:GRADIENT STRIP^LN^AMP^Ampicillin^L^2.26|1|<^0.06|ug/mL^^UCUM^^^^1.6||S|||F|||200906041458|||||200906051700||||Public Health Lab^L^^^^CLIA&2.16.840.1.113883.19.4.6&ISO^XX^^^05D0909090|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

OBX|2|SN|7016-9^GENTAMICIN:SUSC:PT:ISLT:ORDQN:GRADIENT STRIP^LN^GENT^Gentamicin^L^2.26|1|^0.05|ug/mL^^UCUM^^^^1.6||S|||F|||200906041458|||||200906051700||||Public Health Lab^L^^^^CLIA&2.16.840.1.113883.19.4.6&ISO^XX^^^05D0909090|3434 First Street^^Topeka^KS^66210|^Slide^Stan^S

OBX|3|SN|7002-9^CIPROFLOXACIN:SUSC:PT:ISLT:ORDQN:GRADIENT STRIP^LN^CPFX^Ciprofloxacin^L^2.26|1|^0.05|ug/mL^^UCUM^^^^1.6||S|||F|||200906041458||||200906051700|||Public Health Lab^L^^^^CLIA&2.16.840.1.113883.19.4.6&ISO^XX^^^05D0909090|3434 First Street^^ Topeka^KS^66210|^Slide^Stan^S

APPENDIX C – HTTPS POST

Stage One Testing

To begin submitting data to KDHE, you must first contact the BEPHI ELR Coordinator at 785-296-6543 to obtain a username and password to submit stage one data. Once obtained, refer to the Instructions for Creating a HTTPS Post Message on page 67.

HTTPS Post Message

HTTP Post over SSL can be used to send data through the EpiTrax HL7 2.5.1 web service. The form post must contain the following field names: FacilityID, FacilityPassword, and HL7MessageData (see description below). The field names must be named exactly as they are displayed. Post messages will only be accepted as form data and no acknowledgements will be returned unless the FacilityID and FacilityPassword are incorrect.

Each facility will be required to automate this process based on their business application used to generate HL7 2.5.1 formatted message.

Field Name	Data Type	Notes
FacilityID	String	• KDHE will assign each provider a unique user ID. • This must be obtained from the BEPHI ELR Coordinator. • **This is different from the sending facility used in the MSH segment of your message.** • If an invalid user ID is given, the authentication web service will not pass the Message field to KDHE and will return an ACK message with an Acknowledgement Code of “AR” indicating the message has been rejected.
FacilityPassword	String	• KDHE will assign each provider a unique password for their user ID. • This must be obtained from the BEPHI ELR Coordinator. • If an invalid password is given, the authentication web service will not pass the Message field to KDHE and will return an ACK message with an Acknowledgement Code of “AR” indicating the

Field Name	Data Type	Notes
		message has been rejected.
HL7MessageData	String	• This is your HL7 2.5.1 formatted message.

Instructions for Creating an HTTPS Post Message

The code displayed below will be used to generate an HTML page to test the submission of an HL7 2.5.1 message using a post page. Follow the instructions outlined below:

1. Copy and paste the code displayed in blue below into Notepad.
2. Save the document as: "hl7test.htm."
3. Open the "hl7test.htm" document and fill in the fields with your facility information. You must enter the username and password issued from BEPHI to submit data. HL7 data cannot be submitted without a valid username and password. Below is an illustration of the screen that will appear after opening the "hl7test.htm" document.

4. Enter test HL7 data to be submitted to KDHE.
5. Click on the "submit" button to submit HL7 data to KDHE.

HTTPS Post Code

BEGIN TO COPY ON NEXT LINE

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd"><html
xmlns="http://www.w3.org/1999/xhtml" >
<head>
  <title>Untitled Page</title>
```

```
</head>
<body>

<form id="form1" action="https://kanphixtrain.kdhe.state.ks.us/webservices/kdheelr/ELRPost.aspx"
method="post">
<table style="width: 100%">

<tr>
 <td style="width: 92px; text-align: left">Password</td>
<td >
            <input name="FacilityPassword" type="text" value="YourPassword" /></td>
          <td>
          </td>
        </tr>
        <tr>
          <td style="width: 92px" >
            Username</td>
          <td>
          <input name="FacilityID" type="text" value="YourFacilityID" />
            </td>
          <td>
          </td>
        </tr>

        <tr>
          <td style="width: 92px; height: 210px">
            Messagedata</td>
          <td style="height: 210px">
            <textarea name="HL7MessageData" style="width: 1175px; height: 190px">Your HL7 Data
            </textarea>
            </td>
          <td style="height: 210px">
          </td>
        </tr>
   <tr>
     <td colspan="2" style="height: 31px">
       <input id="Submit1" type="submit" value="submit" language="javascript" /></td>
     <td style="height: 31px">
     </td>
   </tr>
     </table>
</form>
</body>
</html>
```

END COPYING ON PREVIOUS LINE