



NEW HAMPSHIRE

Local Implementation Guide

for Electronic Laboratory Reporting using HL7 2.5.1

Version 2.1
7/31/2014

VERSION HISTORY

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1.08	Ginny Martin	6/27/2013	Major revision for pilot hospitals.
2.0	Ginny Martin	7/24/2013	Changed revision number. Corrected NHHIO in Appendix D; fixed order of name parts in PID-5; removed time zone requirement from MSH-7; corrected link for HL7 2.3.1 spec.
2.1	Ginny Martin	7/29/2014	Changed MSH-6 field to be optional; added references to the Meaningful Use registration form and DPHS Meaningful Use website and email address

ABBREVIATIONS

Acronym	Term
AHEDD	Automated Hospital Emergency Department Data
CDC	U.S. Centers for Disease Control and Prevention
DHHS	Department of Health and Human Services
DPHS	Division of Public Health Services
ELR	Electronic Laboratory Reporting
FIPS	Federal Information Processing Standard
HL7	Health Level Seven International Organization
LabCorp	Laboratory Corporation of America
LOINC	Logical Observation Identifiers Names and Codes
MU	Meaningful Use
NHEDSS	New Hampshire Electronic Disease Surveillance System
NHHIE	New Hampshire Health Information Exchange
NHHIO	New Hampshire Health Information Organization
NH PHL	New Hampshire Public Health Laboratories
ONC	Office of the National Coordinator for Health Information Technology
SNOMED	Systemized Nomenclature of Medicine

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1. Purpose

This document provides specifications for facilities to use as guidance for reporting laboratory results electronically to the New Hampshire Department of Health and Human Services (NH DHHS), Division of Public Health Services (DPHS). Electronic Laboratory Reporting (ELR) provides an efficient and standardized manner of transferring individual laboratory results to NH DPHS. This is accomplished using a messaging format from the Health Level Seven International Organization (HL7), which provides standards for the exchange, integration, sharing and retrieval of electronic health information. NH DPHS is also committed to supporting facilities in meeting the requirements for Meaningful Use involving the transmission of ELR data to NH DPHS.

2. Legal Authority

In NH, certain laboratory test results are required to be reported to DPHS by laboratories and healthcare providers. The Statutes that require this reporting allow DPHS to collect information on these reportable diseases and conditions. Below are the Statutes and Administrative Rules associated with reportable diseases:

NH Statutes:

[RSA-141-C:7](#) (Reporting of Communicable Disease)

[RSA-130-A:3](#) (Blood Lead Analysis Laboratory Reporting)

Administrative Rules:

[He-P 301.02](#) (Communicable Diseases- Reportable Diseases)

[He-P 301.03](#) (Communicable Diseases- Reporting of Communicable Diseases)

[He-P 1603.02](#) (Blood Lead Analysis- Reporting)

3. Background

Since 2010, NH DPHS has been engaged in Meaningful Use planning, but even prior to the Meaningful Use initiative, DPHS has been successful in implementing ELR from several large commercial laboratories. There are several electronic surveillance systems used at NH DPHS that can consume ELR data, including the New Hampshire Electronic Disease Surveillance System (NHEDSS), which is used to collect and manage the majority of infectious disease data, and the enhanced HIV Reporting System (eHARS). Work is underway to enable ELR in the remaining surveillance systems. NH DPHS is a participant in the New Hampshire Health Information Organization (NHHIO) and is capable of receiving facility data through their Health Information Exchange (HIE). Facilities may elect to send ELR messages to NH DPHS either directly or through the NHHIO HIE.

There are numerous benefits for facilities to provide reportable disease data to NH DPHS using ELR, including reducing staffing hours, avoiding duplicate data entry, removing the need for multiple faxes and phone calls, and improving overall efficiency. This results in timelier reporting, which improves public health investigations and response. Reporting lab results electronically can also be used to obtain financial incentives for facilities that provide Meaningful Use of electronic hospital data. See [**Appendix D.1, ELR and Meaningful Use**](#) for related resources.

4. Electronic Lab Reporting

A lab report is sent from a facility to NH DPHS using HL7 formatted messages over a secure transport mechanism. These messages contain structured test results including information pertaining to the sending facility, ordering provider and patient identifiers, the type of test and its result, and specimen collection information.

The following tables represent NH’s local implementation guidance. The guides for the HL7 messaging are available from Health Level Seven International and links to their website can be found in [Appendix D.3, HL7 Messaging](#). The tables in this document detail the required and preferred message segments in NH’s HL7 messaging implementation. Defined HL7 segments not found in this table are optional but may be included.

The column, “Table Ref” in the tables below, refers to the table number found in the HL7 Data Dictionary, containing standard values used to populate specific fields. The Data Dictionary is available to the public and the link can be found in [Appendix D.3, HL7 Messaging](#).

This local implementation guide is written with the expectation that ELR messages will be sent in accordance with the HL7 v2.5.1 format.

Supported HL7 message segments for ELR Messages:

Segment	Notes
MSH	Message Header Segment
PID	Patient Identifier Segment
ORC	Order Common Segment
OBR	Observations Report Segment
OBX	Observation results
SPM	Specimen Segment
NTE	Notes and Comments Segment

Usage code interpretations used:

Usage	Notes
R	Required
RE	Required but may be empty
C	Conditional
CE	Conditional but may be empty
O	Optional
X	Not supported

Message Header Segment (MSH Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
MSH	R			Contains information describing how to parse and process the message including information about the sender and receiver
Field separator	R		MSH-1	Shall be “ ” ASCII(124)
Encoding characters	R		MSH-2	Shall be “^~\&” ASCII(94) ASCII(126) ASCII(92) ASCII(38)
Sending application	O		MSH-3	Used for message acknowledgement
Namespace ID	O	0300	MSH-3.1	Used for message acknowledgement
Universal ID	O		MSH-3.2	Free text field containing less than 200 characters
Universal ID Type	O	0301	MSH-3.3	Any non-standard values used in this field need to be disclosed prior to first use
Sending facility	R		MSH-4	
Namespace ID	R		MSH-4.1	Sending Facility Name
Universal ID	R		MSH-4.2	Sending Facility’s CLIA Code. Laboratories are uniquely identified by an act of congress, the Clinical Laboratories Improvement Act (CLIA). Every commercial and public laboratory has a CLIA number to uniquely identify the laboratory. CLIA numbers are used when processing messages. Any messages that contain unrecognized CLIA numbers are automatically rejected.
Universal ID Type	R		MSH-4.3	Should be “CLIA”
Receiving Application	O		MSH-5	Should contain “RHAPSODY”
Namespace ID	O	0300	MSH-5.1	All values used in this field need to be disclosed prior to first use
Universal ID	O		MSH-5.2	Free text field containing less than 200 characters
Universal ID Type	O	0301	MSH-5.3	Any non-standard values used in this field need to be disclosed prior to first use
Receiving Facility	O		MSH-6	This field is not used so can be anything, for example, SONH, blank, or text that used to be required in this field, for backwards compatibility.
Date/time of message	R		MSH-7	Date/time when HL7 message was created The degree of precision must be at least to the minute must be included. Format: YYYYMMDDHHMM[SS]
Message Type	R		MSH-9	Message type – Should be the message type for Observation – Result, unsolicited transmission of an observation message, as defined below
Message Code	R	0076	MSH-9.1	Literal Value: "ORU"
Trigger Event	R	0003	MSH-9.2	Literal Value: "R01"
Message Structure	O	0354	MSH-9.3	Literal Value: "ORU_R01"
Message Control ID	R		MSH-10	Free-text string value used to uniquely identify the message
Processing ID	R		MSH-11	Used for Message Acknowledgement
Processing ID	R	0103	MSH-11.1	P - Production T – Non-Production/Test

Message Header Segment (MSH Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
Processing Mode	O	0207	MSH-11.2	A - Archive I - Initial Load R - Restore from Archive T - Current Processing, Transmitted at intervals <empty> - default value is a zero length string
Version ID	RE		MSH-12	HL7 message version (e.g. 2.3.1, 2.5.1)
Version ID	RE	0104	MSH-12.1	
Accept Acknowledgement Type	RE	0155	MSH-15	AL-always, NE-never, ER-error/reject only, SU-successful completion only
Accept Application Type	RE	0155	MSH-16	AL-Always, NE-Never, ER-Error/reject only, SU-Successful completion only

Patient Identifier Segment (PID Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
PID	R			Used to provide basic demographics regarding the subject, which may be a person or animal
Set Identifier	R		PID-1	
Patient Identifier List	RE		PID-3	
Patient Identifier	R		PID-3.1	Patient ID or medical record number: Contains the list of identifiers (one or more) used by the healthcare facility to uniquely identify a patient (e.g., medical record number, billing number, birth registry, national unique individual identifier, Medicaid number, etc.)
Patient Name	R		PID-5	Contains the name of the patient
Patient Last Name	R		PID-5.1	
Patient First Name	R		PID-5.2	
Patient Middle Name	RE		PID-5.3	
Patient DOB	RE		PID-7	Contains the patient's date and time of birth. Format: YYYYMMDDHHMM[SS]
Patient Gender	R	0001	PID-8	Contains the patient's gender: F – Female M – Male O – Other U – Unknown A – Ambiguous N – Not applicable
Patient Race Identifier	RE		PID-10	
Patient Race Code	RE	0005	PID-10.1	Refers to the patient's race: 1002-5 – American Indian or Alaska Native 2028-9 – Asian 2054-5 – Black or African American 2076-8 – Native Hawaiian or Other Pacific Islander 2106-3 – White 2131-1 – Other Race

Patient Identifier Segment (PID Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
Patient Address	RE		PID-11	Contains the address of the patient Format: <street address (ST)> & <street name (ST)> & <dwelling number (ST) (e.g. apartment 12, suite B)>
Patient Street Address	RE		PID-11.1	
Patient Residence Town	RE		PID-11.3	
Patient Residence State	RE		PID-11.4	
Patient Zip Code	RE		PID-11.5	Format: 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes
Patient Residence Country	RE	0399	PID-11.6	
Patient Residence County	RE		PID-12	
Patient Home Phone	RE		PID-13	Format: [(999)]999-9999 [X99999] [B99999] [C any text]
Patient Ethnicity	RE		PID-22	
Patient Ethnic Group Identifier	RE	0189	PID-22.1	H – Hispanic or Latino N – Not Hispanic or Latino U – Unknown

Order Common Segment (ORC Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
ORC	R			Contains basic information about the order for testing of the specimen
Ordering Facility	RE		ORC-21	
Ordering Facility Name	RE		ORC-21.1	
Ordering Facility Address	RE		ORC-22	
Ordering Facility Street Address	RE		ORC-22.1	
Ordering Facility Town	RE		ORC-22.3	
Ordering Facility State	RE		ORC-22.4	
Ordering Facility Zip Code	RE		ORC-22.5	Format: 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes
Ordering Facility Country	RE	0399	ORC-22.6	Refer to HL70399 and/or ISO 3166 for country codes
Ordering Facility Phone Number	R		ORC-23	Format: [(999)]999-9999 [X99999] [B99999] [C any text]
Ordering Provider Address	RE		ORC-24	
Ordering Provider Street Address	RE		ORC-24.1	
Ordering Provider Town	RE		ORC-24.3	
Ordering Provider State	RE		ORC-24.4	
Ordering Provider Zip Code	RE		ORC-24.5	Format: 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes
Ordering Provider Country	RE	0399	ORC-24.6	

Observation Request Segment (OBR Segment)

DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
OBR	R			Information about one test being performed on the specimen, including type of test and information that ties this segment with the order for testing
Lab Accession Number/Patient ID	R		OBR-3	Specimen ID/Patient ID
Universal Service Identifier	O		OBR-4	Test panel / Profile
Universal Identifier	O		OBR-4.1	Universal Panel Code
Universal Text	O		OBR-4.2	Universal Panel Description
Name of Universal Coding System	O	0396	OBR-4.3	Name of coding system.
Local Panel Code	O		OBR-4.4	Local Panel Code
Local Panel Description	O		OBR-4.5	Local Panel Description
ID Type	O	0396	OBR-4.6	“L” denotes local.
Observation Date Time	RE		OBR-7	Date results collected Format: YYYYMMDDHHMM[SS]
Specimen Received Date/Time	R		OBR-14	Date specimen received Format: YYYYMMDDHHMM[SS]
Specimen Source	RE		OBR-15	<i>Specimen source code – this is included for 2.3.1 compatibility but this information should be placed in the SPM segment for 2.5.1</i>
Identifier	RE		OBR-15.1.1	
Text	RE		OBR-15.1.2	
Coding System	RE	0396	OBR-15.1.3	
Ordering Provider Name	R		OBR-16	
Ordering Provider Last Name	R		OBR-16.2	
Ordering Provider First Name	R		OBR-16.3	
Ordering Provider Middle Name	RE		OBR-16.4	
Ordering Provider Suffix	RE		OBR-16.5	Examples would be “Jr”, “Sr”, “III”
Ordering Provider Prefix	RE		OBR-16.6	Example would be “Dr”
Ordering Provider Degree	RE	0360	OBR-16.7	Examples would be “MD”, “PhD”, “OD”, “PA”, “ARNP”
Results Report/Status Change (i.e. date time results were reported)	O		OBR-22	Format: YYYYMMDDHHMM[SS]
Result Status (I.e. preliminary, final)	O	0123	OBR-25	O – Order received; specimen not yet received R – Results stored; not yet verified I – No results available; specimen received, procedure incomplete F – Final results; results stored and verified. Can only be changed with a corrected result. S – No results available; procedure scheduled, but not done X – No results available; Order canceled. A – Some, but not all, results available Y – No order on record for this test. (Used only on queries) P – Preliminary: A verified early result is available, final results not yet obtained Z – No record of this patient. (Used only on queries) C – Correction to results

Observation Result Segment (OBX Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
OBX	R			Result of one observation requested
Value Type	R	0125	OBX-2	Literal Value: "CE" (Only coded results should be returned)
Observation Identifier	R		OBX-3	Local codes may be used to populate OBX-3, but they will not satisfy requirements for meaningful use attestation. The use of LOINC codes is strongly recommended
Identifier	R		OBX-3.1	LOINC or locally defined Code
Text	R		OBX-3.2	Description
Name of Coding System	R	0396	OBX-3.3	LN – LOINC L – Local
Observation Value (Results)	RE		OBX-5	Results should be returned as coded values. Additional information on the results may be included in NTE notes
Standard Results Code	RE		OBX-5.1	SNOMED code is strongly recommended. Local codes may be used, but will not satisfy requirements for meaningful use attestation.
Standard Text	RE		OBX-5.2	Description
Name of Standard Coding System	RE	0396	OBX-5.3	SNM – SNOMED Legacy code SCT – SNOMED legacy code or concept code L – Local code
Observation Units	RE		OBX-6	
Identifier	RE		OBX-6.1	
Text	RE		OBX-6.2	
Name of Coding System	RE	0396	OBX-6.3	See ISO 2955-1983
Observation Result Status (I.e. preliminary, final)	RE	0085	OBX-11	C - Record coming over is a correction and thus replaces a final result D - Deletes the OBX record F - Final results; Can only be changed with a corrected result. I - Specimen in lab; results pending 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. O - Order detail description only (no result) P - Preliminary results R - Results entered -- not verified S - Partial results X - Results cannot be obtained for this observation U - Results status change to final without retransmitting results already sent as `preliminary.' E.g., radiology changes status from preliminary to final W - Post original as wrong, e.g., transmitted for wrong patient
Observation Date/Time	O		OBX-14	Date test completed Format: YYYYMMDDHHMM[SS]

Notes and Comments Segment (NTE Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
NTE	O			May contain comments related to the result being reported in the OBX segment
Note Set ID	RE		NTE-1	
Comment	RE		NTE-3	

Specimen Segment (SPM Segment)				
DATA FIELD	USAGE	TABLE REF	HL7 SEGMENT	DESCRIPTION
SPM	O			Segment describes characteristics of a single sample
Specimen Set Identifier	R		SPM-1	
Specimen Type/Site	R		SPM-4	
Identifier	R	0487	SPM-4.1	CDC recommends that a union of HL70487 and SNOMED CT Specimen sub-tree (12303009) be used to select coded values
Text	R		SPM-4.2	Text description of specimen site/type
Name of Coding System	R	0396	SPM-4.3	CDC recommends that a union of HL70487 and SNOMED CT Specimen sub-tree (12303009) be used to identify the code set
Specimen Collection Method	RE		SPM-7	
Identifier	RE	0488	SPM-7.1	
Text	RE		SPM-7.2	
Name of Coding System	RE	0396	SPM-7.3	
Specimen Source Site	RE		SPM-8	Physical location for environmental specimens, anatomical site for biological specimens
Identifier	RE	0488	SPM-8.1	
Text	RE		SPM-8.2	
Name of Coding System	RE	0396	SPM-8.3	
Specimen Collected Date/Time	RE		SPM-17	Format: YYYYMMDDHHMM[SS]
Specimen Received Date/Time	RE		SPM-18	Format: YYYYMMDDHHMM[SS]

APPENDICES

Appendix A: ELR To NH DPHS Process

This Appendix provides an overview of the process that will be used to establish ELR submission from the participating facility to NH DPHS. The following steps should be followed.

1. The participating facility needs to return the *DPHS Meaningful Use Registration Form* to NH DPHS indicating interest in initiating the process. The form may be obtained from the NH DPHS Meaningful Use website in [Appendix D.1, ELR and Meaningful Use](#).
2. Once NH DPHS receives the participating facility's information, the next steps regarding the ELR submission process will be provided.
3. The participating facility needs to complete the following activities before submission can start:
 - a. Evaluate the volume of reportable laboratory results performed at the laboratory and any that are sent out to a reference laboratory.
 - b. Conduct a self-service test of ELR messages to evaluate whether changes are required to the respective laboratory information system to allow for the submission of electronic laboratory reports conformant with this Guide. See [Appendix D.4, HL7 Message Test Tools](#) for available tools, such as the NIST Tool, which will assist in testing for conformance to the established standards.
 - c. Implement required processes to identify and submit positive reportable diseases and conditions identified by the submitting laboratory. Local codes are acceptable but will not satisfy the requirements for meaningful use attestation. Facilities are strongly encouraged to implement Logical Observation Identifiers Names and Codes (LOINC) and Systemized Nomenclature of Medicine (SNOMED) mapping codes.
4. Set up connectivity with NH DPHS for transportation of the electronic messages. See [Appendix B: Establish Data Submission Feed](#).
5. Submit a test message to NH DPHS designated test system for structural and content review.
6. Once a test message has been accepted the participating laboratory will begin submitting additional test files to NH DPHS containing clinical laboratory results on reportable diseases and conditions specified in the NH State Statutes. The test messages must be in conformance with this guide and contain samples of various diseases and conditions.
7. Once a sufficient number of electronic laboratory results have been accepted without error, approval will be granted to promote the feed directly into the NH DPHS production system while still sending paper records for verification.
8. When NH DPHS verifies the electronic submission is consistent with paper reports, the participating facility will be advised to discontinue paper reporting and send lab reports electronically.
9. In the unlikely event that NH DPHS should experience technical issues with electronic reporting, the facility should expect to receive a request from NH DPHS to temporarily resume paper reporting. This would only continue until the technical issue has been resolved, is expected to occur rarely, and would be a measure of last resort.

Appendix B: Establish Data Submission Feed

This Appendix provides information to establish a data submission feed to NH DPHS that provides a secure transport of data messages. If the facility has already established a data feed with another NH DPHS system, such as the Automated Hospital Emergency Department Data (AHEDD) system, the same transport may be used.

There are several transport options available for communicating with NH DPHS. These include:

1. **VPN** – Virtual Private Network.
2. **PHINMS** – Public Health Information Network Messaging System is a system that provides a FIPS 140-2 certified encryption methods when securely sending and receiving encrypted data over the Internet. PHINMS employs Electronic Business Extensible Markup Language (ebXML) technology.
3. **Rhapsody-to-Rhapsody** – NH DPHS uses Rhapsody, a message broker developed by Orion Health, to receive HL7 messages. A submitting laboratory may use Orion's Rhapsody Connector transport technology.
4. **NH HIE** – The New Hampshire Health Information Exchange (HIE) as a service provided by the New Hampshire Health Information Organization (NH HIO) for exchanging information across NH's health care delivery systems. This service includes an ONC certified secure reliable transport mechanism capable of delivering ELR.

Appendix C: Sample Messages

This Appendix provides samples of the types of HL7 data messages that can be sent.

C.1 One Test Result

This sample of an HL7 message contains one test and one result for one disease. In this example there is only one OBR segment (lab order) and one OBX segment (test result) for this test.

```
MSH|^~\&|MYLAB|MY LAB NAME^24D0404999^CLIA|NH-MAINDOH|SONH
|201305140030||ORU^R01|2013051400301236392|P|2.5.1
PID|1||M109846829^^^^PI~M000512522^^^^PT^GENERAL
HOSPITAL||PATIENT_LAST_NAME^PATIENT_FIRST_NAME^E||196105300031|M||2106-3
ORC|RE|||||||||GENERAL HOSPITAL|10 ELM AVE^^ANYTOWN^NH^039992515^USA|^^^^603^5559999|10 ELM
AVE^^ANYTOWN^NH^039992515^USA
OBR|1||6810034859|^^EHRL^EHRlichia/ANAPLASMA PCR,
B^L|||201305101615|||||201305110422|^BLOOD|^ORDERING_LAST_NAME^ORDERING_FIRST_NAME^ORD
ERING_MIDDLE_NAME^JR^DR^MD|||||201305130641||F
OBX|1|CE|30039-2^ANAPLASMA PHAGOCYTOPHILUM DNA^LN^84319^ANAPLASMA
PHAGOCYTOPHILUM^L|^^G-A200^POSITIVE^L||NEGATIVE|A||F|||201305130600|22D0072372^MY
LAB^CLIA
SPM|1|||122554006^Capillary blood specimen^SCT^BLDC^Blood
CAPILLARY^HL70070^20080131^2.5.1||CAP^CAPILLARY SPECIMEN^HL70488^^^^2.5.1|181395001^VENOUS
STRUCTURE OF DIGIT^SCT^^^^20080731|||||||200808151030-0700|2013051400300
```

C.2 Multiple Test Results/Diseases

Below is a sample of an HL7 message that contains one test that yielded results indicating two diseases. In this example there is one OBR segment (lab order) and two OBX segments (test results) for this test. One OBX segment will appear for each organism detected.

```
MSH|^~\&|MYLAB|MY LAB NAME^24D0404999^CLIA|NH-MAINDOH|SONH
|201004020339||ORU^R01|2010040203394906462|P|2.5.1
PID|1||54187279^^^^PI^MY LAB NAME|
DR|PATIENT_LAST_NAME^PATIENT_FIRST_NAME^PATIENT_MIDDLE_NAME||19890426|M||2106-
3^^HL70005^^L|123&MAIN STREET&APT
12^^BERLIN^NH^039991111^USA^O^^^^I|COOS|^^^^603^5551212|||||N
ORC|||||||||MEMORIAL GENERAL HOSPITAL |9 MEDICAL CENTER
DRIVE^^CONCORD^NH^03771|^^^^603^2714496|9 MEDICAL CENTER DRIVE^^CONCORD^NH^03771
OBR|1||U234119060|6463-4^BACTERIA XXX CULT^LN^81814^ BACTERIA IDENTIFIED IN UNSPECIFIED
SPECIMEN^L|||201003291450|||||201003310655|^ORDERING_LAST_NAME^ORDERING_FIRST_NAME^ORDE
RING_MIDDLE_NAME^SR^DR^MD, PHD|||||201004011613||F
OBX|1|CE|23667-9^BACTERIA IDENTIFIED IN UNSPECIFIED SPECIMEN ^LN|| L-17542^SALMONELLA
ORANIENBURG^SNM||||F|||20100401041300|24D1040592^MY LAB NAME
NTE|1||POSITIVE|
SPM|1|||122554006^CAPILLARY BLOOD SPECIMEN^SCT^BLDC^BLOOD
CAPILLARY^HL70070^20080131^2.5.1||CAP^CAPILLARY SPECIMEN^HL70488^^^^2.5.1|181395001^VENOUS
STRUCTURE OF DIGIT^SCT^^^^20080731|||||||200808151030-0700|20130514003000
OBX|2|CE|23667-9^BACTERIA IDENTIFIED IN UNSPECIFIED SPECIMEN ^LN^129-365B^BACTERIA IDENTIFIED
IN UNSPECIFIED SPECIMEN ^L|| L-25214^STREPTOCOCCUS PNEUMONIA 14^SNM^STREP-A^STREP
PNEUMONIA^L||||F|||20100401041300|24D1040592^MY LAB NAME
SPM|2|||122554006^CAPILLARY BLOOD SPECIMEN^SCT^BLDC^BLOOD
CAPILLARY^HL70070^20080131^2.5.1||CAP^CAPILLARY SPECIMEN^HL70488^^^^2.5.1|181395001^VENOUS
STRUCTURE OF DIGIT^SCT^^^^20080731|||||||200808151030-0700|20130514003000
```

C.3 Acknowledgement Message

Based upon the agreed upon transport mechanism, NH DPHS will return an acknowledgement message to the system a laboratory employs to submit data to public health. Below is a sample of that message.

```
MSH|^~\&|RHAPSODY|SONH||300001|20130523124634-0400000||ACK|3193608|P|2.3
MSA|AA|21677350|r
```

Appendix D: References and Resources

D.1 ELR and Meaningful Use

CDC Electronic Laboratory Reporting <http://www.cdc.gov/ehrmeaningfuluse/elr.html>

CDC Meaningful Use <http://www.cdc.gov/ehrmeaningfuluse/>

PHIN – Public Health Information Network <http://www.cdc.gov/phn/index.html>

NH DPHS Meaningful Use website <http://www.dhhs.nh.gov/dphs/bphsi/meaningful-use.htm>

D.2 Local Resources

NHHIE - New Hampshire Health Information Exchange <http://www.dhhs.nh.gov/hie/>

NHHIO - New Hampshire Health Information Organization <http://www.nhhio.org/>

RECNH - Regional Extension Center of New Hampshire <http://www.recnh.org/>

D.3 HL7 Messaging

ELR 2.5.1 Clarification Document for EHR Technology Certification V1.1 Date: October 16, 2012

http://www.cdc.gov/ehrmeaningfuluse/Docs/1ELR251_Clarification_EHR_Tech_Cert_v1_1-20121016.pdf

HL7 Data Dictionary - Appendix A, Health Level Seven, Version 2.6 © 2007

http://www.hl7.org/special/committees/vocab/V26_Appendix_A.pdf

HL7 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 (US Realm), for HL7 v2.5.1 <https://www.hl7.org/store/index.cfm>

HL7 Implementation Guide: Electronic Laboratory Reporting to Public Health, for HL7 v2.3.1 http://www.cdc.gov/phn/library/archive_2003/PHIN_Lab_Pharmacy_Supply_Orders_v231.pdf

HL7 Version 2.5.1 Implementation Guide: Orders and Observations; Interoperability Laboratory Result Reporting to EHR (US Realm), Release 1 <https://www.hl7.org/store/index.cfm>

LIC – Lab Interoperability Cooperative has a Federally-funded grant to help hospitals progress to Electronic Laboratory Reporting to local public health agencies. They provide training and tools for hospitals. <http://www.labinteroperabilitycoop.org/>

PHIN Vocabulary and Access Distribution System (VADS) Search Tool

<https://phinvads.cdc.gov/vads/SearchHome.action>

D.4 HL7 Message Test Tools

NIST (National Institute of Standards and Technology)

<http://xreg2.nist.gov:8080/HL7V2MuValidation2011>, web application for HL7 testing

RCMT (Reportable Condition Mapping Table) <http://www.cdc.gov/phn/tools/PHINvads/index.html>

RELMA - Regenstrief LOINC Mapping Assistant <http://loinc.org/relma>

D.5 NH DHHS Reportable Disease List, Statues and Administrative Rules

NH Reportable Disease and Conditions List -

<http://www.dhhs.state.nh.us/dphs/cdcs/documents/reportablediseases.pdf>

NH Communicable Disease Statute, RSA-141-C <http://www.gencourt.state.nh.us/rsa/html/X/141-C/141-C-mrg.htm>

NH Lead Paint Poisoning Prevention and Control, RSA 130-A, NH Lead Paint Poisoning Prevention and Control, RSA 130-A <http://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-X-130-A.htm>

NH Communicable Diseases Administrative Rules, He-P 301

http://gencourt.state.nh.us/rules/state_agencies/he-p300.html

NH Lead Paint Poisoning Prevention and Control Administrative Rules, He-P 1600

http://www.gencourt.state.nh.us/rules/state_agencies/he-p1600.html

Appendix E: NH DPHS Contact Information

For questions about ELR at NH DPHS, please send email to
DPHSmu@dhhs.state.nh.us

Or contact:

Ginny Martin
NHEDSS Coordinator
Infectious Disease Surveillance Section
New Hampshire Division of Public Health Services
Bureau of Infectious Disease Control
29 Hazen Drive, Concord, NH 03301-6504
Phone: 603-271-3910
Email: virginia.martin@dhhs.state.nh.us