

*South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1
Implementation Guide*

Version 2.0

South Carolina Department of Health and Environmental Control reserves the right to change requirements and/or update the contents of this implementation guide at any time.

NOTE: *This implementation guide is intended to help health care organizations (HCOs) structure electronic messages of laboratory results to South Carolina Department of Health and Environmental Control, but should not be considered the definitive implementation guide. The HL7 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health documents should be used to structure messages.*

Resources used to develop the SC ELR Implementation guide include: Minnesota Department of Health Implementation Guide for ELR v2.0 and North Carolina Division of Public Health Guidelines for Electronic Laboratory Reporting to North Carolina Division of Public Health.

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Table of Contents

Key Terms and Acronyms Defined	2
Process Overview.....	3
Important Guidance	5
Resources	6
SC State Reporting Requirements	8
Roles and Responsibilities	11
Instructions.....	12
1. HCO acquires required documents.....	12
2. HCO completes registration.....	12
3. HCO builds ELR messages.....	12
File Header Segment (FHS).....	13
Batch Header Segment (BHS)	14
Message Header Segment (MSH).....	15
Software Segment (SFT).....	17
Patient Identifier List (PID)	17
Next of Kin (NK1).....	21
Common Order Segment (ORC)	23
Observation Request Segment (OBR)	25
Observation/Result Segment (OBX).....	28
Notes and Comments Segment (NTE).....	32
Specimen Segment (SPM)	33
Batch Trailer Segment (BTS)	34
File Trailer Segment (FTS).....	34
4. HCO validates message and emails validation reports to DHEC.....	35
5. DHEC reviews messages and confirms validation reports.....	35
6. DHEC sends PHINMS/SFTP implementation package to HCO.....	35
7. HCO transmits VALIDATED batch of test messages.....	36
8. DHEC validates message contents.....	36
9. DHEC program areas review and validate messages.....	36
10. Final production testing of consecutive batch files	37
Hospitals Seeking MU Exclusion.....	38
Appendix A: HL7 2.5.1 Meaningful Use ELR and SS Process Flow Chart	39

*South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide*

Key Terms and Acronyms Defined

Term/Acronym	Definition
CAH	Critical Access Hospital
CDC	Centers for Disease Control and Prevention
CMS	Centers for Medicare and Medicaid Services
DHEC	South Carolina Department of Health and Environmental Control
EH	Eligible Hospital
EHR	Electronic Health Record
ELR	Electronic Laboratory Reporting
EP	Eligible professional (physician offices/group practices)
HCO	Healthcare Organization
HL7	Health Level 7
IG	Implementation Guide
MQF	Message Quality Framework
MU	Meaningful Use
NIST	National Institute of Standards and Technology
O	Optional segment(s) and field(s)
OID	Object Identifiers
ONC	Office of the National Coordinator for Health Information Technology
PHIN	Public Health Information Network
PHINMS	Public Health Information Network Messaging System
PHIN-VADS	Public Health Information Network Vocabulary Access and Distribution System
R	Required segment(s) and field(s)
RCMT	Reportable Condition Mapping Table
RE	Required, but can be empty
SFTP	Secure File Transfer Protocol
SS	Syndromic Surveillance
SSH	Secure Shell

Process Overview

Purpose:

To implement electronic submission of reportable lab results/electronic lab results (ELRs) from a healthcare organization (HCO) to the South Carolina Department of Health and Environmental Control (DHEC) in alignment with:

- HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 (US Realm) **dated February 2010**
- Errata and Clarifications HL7 v2.5.1 Implementation Guide: Electronic Laboratory Reporting To Public Health (US Realm), Release 1 **dated October 2011**
- ELR 2.5.1 Clarification Document for EHR Technology Certification, V1.2 **dated March 2013**

Process Steps:

The following list provides an overview of the process. This guide provides detailed explanations for each of the steps. Refer to the flowchart in the appendix as a resource.

1. HCO acquires:
 - SC ELR Implementation Guide
 - SC ELR Registration
 - Current SC List of Reportable Conditions
 - HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 (US Realm) **dated February 2010**
 - Errata and Clarifications HL7 v2.5.1 IG: Electronic Laboratory Reporting To Public Health (US Realm), Release 1 **dated October 2011**
 - ELR 2.5.1 Clarification Document for EHR Technology Certification, V1.2 **dated March 2013**
2. HCO completes SC registration and emails it to muhelpdesk@dhec.sc.gov.
3. HCO builds ELR messages.
4. HCO validates message and emails validation reports to muhelpdesk@dhec.sc.gov.

Validation tools include:

- NIST ELR Validation Tool
- CDC's Message Quality Framework (MQF) (Reporting Receiver Profile)

HCOs will send validation reports reflecting errors as evidence of progress.

With a zero-error validation report, the HCO will send a .txt file of the message using TEST DATA.

Test a variety of messages applicable to your laboratory's capabilities (hepatitis, HIV, STD, parasitology, Lead, Micro C&S, etc.) to ensure messages meet the requirements.

5. DHEC reviews messages and confirms validation reports.

If DHEC identifies errors (structural or vocabulary), the HCO is notified by email.

6. After DHEC approves single messages, DHEC sends Secure File Transfer Protocol (SFTP) or Public Health Information Network Messaging System (PHINMS) package to HCO, and works with the HCO to configure transport mechanism until successful.

HCOs seeking Stage 1 attestation can use PHINMS or SFTP. HCOs seeking Stage 2 attestation must use PHINMS.

7. HCO transmits VALIDATED batch of test messages from certified electronic health record (EHR) system.

If attesting to stage 1, DHEC confirms receiving message and sends confirmation letter, if requested.

-- STOP HERE FOR MU STAGE 1 --
-- CONTINUE TO STEPS BELOW FOR MU STAGE 2 --

8. DHEC validates message contents.

If DHEC identifies errors (structural or vocabulary), the HCO is notified by email.

9. DHEC program area(s) review messages.

10. Final testing of consecutive batch files.

Successful data submissions for ELR for Meaningful Use include those with all of the following characteristics:

- Submitted from a certified EHR technology
- Follows the HL7 2.5.1 Implementation Guide for Electronic Laboratory Reporting to Public Health, Release 1 (US Realm)
- Includes LOINC codes for tests
- Passes DHEC Program area validation.

HCOs are required to notify DHEC of changes to tests, results, formats and reporting processes. DHEC may request limited testing and validation of the new messages. Notification should be directed to respective DHEC program areas.

Important Guidance

1. This implementation guide is intended to help HCOs structure electronic lab results for submission to DHEC, but should not be considered the definitive implementation guide.

RECOMMENDATION: Use the HL7 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health documents to build preliminary message structure and refine the message with the SC ELR Implementation Guide.

2. These documents are also used to fulfill Meaningful Use ELR submission. ELR messages must be generated from certified EHR technology.
3. This implementation guide defines DHEC’s requirements for ELRs that need to be met in order for ELRs to be used in respective surveillance and analytic programs.
4. Definitions of Usage Codes in the column labeled “Required by DHEC”

Code	Definition
R	Required segment(s) and field(s)
RE	Required, but can be empty
CE	Conditional, but may be empty
O	Optional segment(s) and field(s)
BLANK CELLS	Fields not required by DHEC.

DHEC cannot process HL7 messages unless all fields denoted as “R” contain valid data.

5. **Please consult the HL7 documentation for references to Value Sets (coding tables used), specific formatting for Microbiology Culture & Antibiotic sensitivities (C&S) results, data type definitions and formatting, and field length restrictions.**
6. It is highly recommended that the HCO validate its messages using the NIST Validation Tool and/or CDC PHIN Message Quality Framework (MQF) Message Validation Tool (links provided in “Resources” section.)
7. **Each facility needs a unique OID.** Senders must establish or obtain object identifiers (OIDs) as necessary per the recommendations contained in the latest version of “HL7 Implementation Guidance for Unique Object Identifiers (OIDs).” HL7 members may download this document from the member website. Non-HL7 members may purchase the document from the on-line HL7 store.

Resources

- SC DHEC Meaningful Use – Reportable Labs (ELR):
<http://www.DHEC.gov/Health/FHPPF/MeaningfulUse/Labs/>
- South Carolina List of Reportable Conditions:
<http://www.DHEC.gov/administration/library/CR-009025.pdf>
- Centers for Medicare & Medicaid Services (CMS) EHR Incentive Programs Overview:
http://www.cms.gov/EHRIncentivePrograms/30_Meaningful_Use.asp#TopOfPage
- CMS Attestation Requirements for Lab Results to Public Health Agency objective:
Stage 1: http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/9_Reportable_Lab_Results_to_Public_Health_Agencies.pdf
Stage 2: http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/Stage2_HospitalCore_14_Sub_LabResults.pdf
- HL7 Documents:
https://www.hl7.org/implement/standards/product_brief.cfm?product_id=98
 - HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 (US Realm) **dated February 2010**
 - Errata and Clarifications HL7 v2.5.1 IG: Electronic Laboratory Reporting To Public Health (US Realm), Release 1 **dated October 2011**
 - ELR 2.5.1 Clarification Document for EHR Technology Certification, V1.2 **dated March 2013**
- **VALUE SETS:** HL7 ELR Implementation Guide to PHINVADS Cross Walk:
<http://phinivads.cdc.gov/vads/DownloadHotTopicDetailFile.action?filename=368D12BD-1514-E211-989D-001A4BE7FA90>
- Logical Observation Identifiers Names and Codes (LOINC) Users' Guide:
<http://loinc.org/downloads/files/LOINCManual.pdf>
- CDC Meaningful Use Introduction:
<http://www.cdc.gov/EHRmeaningfuluse/introduction.html>
- CDC PHIN Message Quality Framework (MQF) Validation Tool: <https://phinmqf.cdc.gov/>
- NIST Electronic Laboratory Reporting Validation Tool: <http://hl7v2-elr-testing.nist.gov/mu-elr/>

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

- NIST's Google groups for developers (HL7v2 Reportable Lab Testing):
<https://groups.google.com/d/forum/hl7v2-reportable-lab-testing>
- LOINC and SNOMED Mapping Tool - Reportable Condition Mapping Table (RCMT):
<http://phinvads.cdc.gov/vads/ViewCodeSystemConcept.action?oid=2.16.840.1.114222.4.5.274&code=RCMT>

CDC has developed a tool called Reportable Condition Mapping Table (RCMT) that will assist the laboratories to map reportable conditions with their associated LOINC lab tests and SNOMED lab results.

- PHIN-MS Overview: <http://www.cdc.gov/phin/tools/PHINms/index.html>
Note: DHEC will provide the PHINMS installation package.
- Secure, Reliable Messaging Comparisons between Public Health Information Network Messaging System (PHINMS), Secure File Transfer Protocol (SFTP), and Secure Shell (SSH):
http://www.cdc.gov/phin/library/resources/tools/phinms/Secure,%20Reliable%20Messaging%20Comparisons%20between%20PHINMS,%20SFTP,%20and%20SSH_v1.0_04-15-08.pdf

SC State Reporting Requirements

Meaningful Use requirements do not preempt applicable state or local laws that govern reporting.¹

The Annual List of Reportable Conditions names the conditions that must be reported to DHEC as outlined in South Carolina Regulation 61-20.²

The below paragraphs from South Carolina Code §44-29-10 and §44-29-15 detail the specific organizations responsible for reporting, which defines the specific ELRs that need to be sent to DHEC to achieve MU attestation.³

DHEC requests the following:

1. ELRs for all reportable tests performed at the hospital (**required for MU**)
2. If possible, send ELRs for reportable tests performed at reference labs

Positive/reactive results for immediately and urgently reportable conditions need to be reported as defined on the List of Reportable conditions.

SECTION 44-29-10. Reporting deaths from contagious or infectious diseases and chemical or other terrorism; increased prescription rates of drugs for diseases caused by chemical terrorism or infectious agents.

(A) In all cases of known or suspected contagious or infectious diseases occurring within this State the attending physician must report these diseases to the county health department within twenty-four hours, stating the name and address of the patient and the nature of the disease. The county health department must report to the Department of Health and Environmental Control all such cases of infectious and contagious diseases as have been reported during the preceding month, these reports to be made upon blanks furnished by the Department of Health and Environmental Control. The Department of Health and Environmental Control must designate the diseases it considers contagious and infectious. The Department of Health and Environmental Control may also designate other diseases for mandatory reporting by physicians. Any physician who fails to comply with the provisions of this section is guilty of a misdemeanor and, upon conviction, must be fined not more than one hundred dollars or be imprisoned for a period not exceeding thirty days.

(B) A health care provider, coroner, medical examiner, or any person or entity that maintains a database containing health care data must report all cases of persons who harbor any illness or health condition that may be caused by chemical terrorism, bioterrorism, radiological terrorism, epidemic or pandemic disease, or novel and highly fatal

¹77 FR 53967. <http://www.gpo.gov/fdsys/pkg/FR-2012-09-04/pdf/2012-21050.pdf>.

² S.C. Regulation 61-20.

http://www.scstatehouse.gov/query.php?search=DOC&searchtext=exclusion&category=CODEOFREGS&conid=6795385&result_pos=&keyval=60&numrows=10

³ S.C. Code of Laws Unannotated §44-29-10 and §44-29-15. <http://www.scstatehouse.gov/code/t44c029.php>

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

infectious agents and might pose a substantial risk of a significant number of human fatalities or incidents of permanent or long-term disability. The Department of Health and Environmental Control must designate reportable illnesses and health conditions as set forth in subsection (A).

(C) A pharmacist must report any unusual or increased prescription rates, unusual types of prescriptions, or unusual trends in pharmacy visits that may be caused by chemical terrorism, bioterrorism, radiological terrorism, epidemic or pandemic disease, or novel and highly fatal infectious agents and might pose a substantial risk of a significant number of human fatalities or incidents of permanent or long-term disability. Prescription-related events that require a report include, but are not limited to:

(1) an unusual increase in the number of prescriptions to treat fever, respiratory, or gastrointestinal complaints;

(2) an unusual increase in the number of prescriptions for antibiotics;

(3) an unusual increase in the number of requests for information on over-the-counter pharmaceuticals to treat fever, respiratory, or gastrointestinal complaints; and

(4) any prescription that treats a disease that is relatively uncommon and has bioterrorism potential.

(D) The reports of conditions must be made in the form and manner as prescribed by DHEC in regulations concerning infectious diseases. The reports must be made to the Bureau of Disease Control in the manner required in the regulations. When available, clinical information supporting the diagnoses, including results of specific diagnostic tests, must be included.

(E) For purposes of this section, the terms chemical terrorism, bioterrorism, and radiological terrorism have the same meanings as provided in Section 44-4-130.

HISTORY: 1962 Code Section 32-552; 1952 Code Section 32-552; 1942 Code Section 5031; 1932 Code Sections 1502, 5008; Civ. C. '22 Section 2319; Cr. C. '22 Section 450; Civ. C. '12 Section 1578; Cr. C. '12 Section 440; 1900 (23) 444; 1910 (26) 728; 1972 (57) 2496; 2002 Act No. 339, Section 25, eff July 2, 2002.

SECTION 44-29-15. *Reporting requirements for laboratories testing for certain infectious or other diseases; civil penalty.*

(A) A laboratory, within or outside the State, responsible for performing a test for any of the infectious or other diseases required by the Department of Health and Environmental Control to be reported pursuant to Section 44-29-10, shall report positive or reactive tests to the department. This includes, but is not limited to, all laboratories, within or outside the State, which collect specimens in South Carolina or which receive the initial order for testing

from a practitioner, blood bank, plasmapheresis center, or other health care provider located in South Carolina. The department also may require that all results of certain, specifically identified laboratory tests be reported. All reports must be submitted within the time frame and in the form and manner designated by the department.

(B) Laboratories, within or outside the State, which perform tests as described in subsection (A) and which determine positive or reactive test results, shall, if required by the department, provide clinical specimens and isolates to the department or another laboratory designated by the department for further testing to determine incidence and other epidemiological information. These clinical specimens and isolates must be submitted within the time frame and in the form and manner designated by the department. The testing must be performed for epidemiological surveillance only; source consent is not required, and results are not required to be returned to the source patient or physician. The clinical specimens and isolates must be destroyed after tests are successfully completed, unless otherwise directed by the department.

(C) Persons and entities, which are required to report test results to the department pursuant to this section and which send clinical specimens and isolates out of state for testing, are responsible for ensuring that results are reported and clinical specimens and isolates are submitted to the department, or a laboratory designated by the department, as required under this section and related regulations.

(D) If a laboratory forwards clinical specimens and isolates out of state for testing, the originating laboratory retains the duty to comply with this section and related regulations, either by:

(1) reporting the results, providing the name and address of the testing laboratory, and submitting the clinical specimens and isolates to the department; or

(2) ensuring that the results are reported and that the clinical specimens and isolates are submitted to the department or another laboratory designated by the department.

(E) A person, laboratory, or other entity violating a provision of this section or related regulations is subject to a civil monetary penalty of not more than one thousand dollars for the first offense and not more than five thousand dollars for each subsequent offense. Each instance of noncompliance constitutes a separate violation and offense.

Roles and Responsibilities

Responsibilities of DHEC

DHEC is committed to facilitating testing, validation, and transition to production of ELR messages.

DHEC is expected to fulfill the following responsibilities:

- Provide DHEC staff contact information to the participating HCOs.
- Provide ELR implementation guidelines and specifications to participating HCOs.
- Collaborate with HCO personnel to develop and implement ELR messages
- Collaborate with the HCO personnel to assist in the installation of the national standard for messaging, evaluate the data transfer and monitor the transfer process.
- Provide guidance and support to participating HCOs in identification of tests and test data to report to DHEC through the Annual List of Reportable Conditions.

Responsibilities of Reporting HCOs

HCOs must submit a completed registration of intent form to DHEC and are expected to fulfill the following responsibilities:

- Obtain the HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 (US Realm) from the HL7 Website through membership or purchase. DHEC is NOT allowed to provide the HL7 2.5.1 Implementation Guide. The link to the HL7 website is provided in the resources section.
- Identify individuals to implement ELRs and provide contact information to DHEC for those individuals.
- Develop messages are compliant with HL7 2.5.1 and DHEC standards.
- Notify DHEC when lab instrumentation, test codes, and/or result codes change.

Instructions

1. HCO acquires required documents.

HCO reviews the MU website and acquires the ELR implementation guide and HL7 documents listed in the resources section.

The documents needed include:

- a. SC ELR Implementation Guide
- b. SC ELR MU Registration
- c. SC List of Reportable Conditions
- d. HL7 Version 2.5.1 Implementation Guide: ELR to Public Health, Release 1 (US Realm) **dated February 2010**
- e. Errata and Clarifications HL7 v2.5.1 IG: ELR To Public Health (US Realm), Release 1 **dated October 2011**
- f. ELR 2.5.1 Clarification Document for EHR Technology Certification, V1.2 **dated March 2013**

2. HCO completes registration.

The ELR MU registration can be downloaded from the DHEC MU website. The HCO must register with DHEC its intent to initiate ongoing submission of ELR messages.

HCO completes the registration and emails it to muhelpdesk@dhec.sc.gov.

Federal guidance from CMS requires this registration occur within 60 days of the start of the EHR reporting period.

3. HCO builds ELR messages.

DHEC requires the use of LOINC codes and text descriptions for tests and coded values for results, applicable to non-numeric results (such as SNOMED Codes). If the HCO does not use LOINC codes, the HCO will need to translate local test codes and text descriptions to the appropriate LOINC codes, prior to sending ELR messages to DHEC. HCOs need to use the LOINC codes and associated names in the messages. See LOINC Manual.

It is the HCO's responsibility to ensure that the messages being sent to DHEC are compliant with both of the HL7 2.5.1 as well as the DHEC standards.

RECOMMENDATION:

- Download the ELR IG to PHINVADS Vocab worksheet (<http://phinivads.cdc.gov/vads/DownloadHotTopicDetailFile.action?filename=368D12BD-1514-E211-989D-001A4BE7FA90>)
- Use the HL7 version 2.5.1 documents to build the initial message. The specific message profile to reference is "ELR Receiver profile" in the HL7 version 2.5.1 documents. (https://www.hl7.org/implement/standards/product_brief.cfm?product_id=98)
- **Use the following tables for the DHEC-specific constraints.**

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

File Header Segment (FHS)
(HL7 Guide Table 5 – 16)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
FHS-1	File Field Separator	R	The character used to separate fields is a pipe	Literal Value: (pipe delimiter)
FHS-2	File Encoding Characters	R	The five characters always appear in the same order.	Literal Value: ^~\&#
FHS-3	File Sending Application	O	File sending application.	Values should match those in MSH-3
FHS-4	File Sending Facility	O		Values should match those in MSH-4
FHS-5	File Receiving Application	O		Values should match those in MSH-5
FHS-6	File Receiving Facility	O		Values should match those in MSH-6
FHS-7	File Creation Date/ Time	O		
FHS-8	File Security			
FHS-9	File Name/ ID			
FHS-10	File Header Comment			
FHS-11	File Control/ ID			
FHS-12	Reference File Control ID			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Batch Header Segment (BHS)
(HL7 Guide Table 5 – 18)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
BHS-1	Batch field Separator	R		Literal Value:
BHS-2	Batch Encoding Characters	R		Literal Value: ^~\&#
BHS-3	Batch Sending Application	O		
BHS-4	Batch Sending Facility	O		Values should match those in MSH-4.
BHS-5	Batch Receiving Application	O		Values should match those in MSH-5.
BHS-6	Batch Receiving Facility	O	A unique identifier of the facility that is to receive the message. This field has the same definition as the corresponding field in the MSH segment.	Values should match those in MSH-6.
BHS-7	Batch Creation Date/ Time	O	Date/ time the batch was created by the sending system.	
BHS-8	Batch Security			
BHS-9	Batch Name/ ID/ Type			
BHS-10	Batch Comment			
BHS-11	Batch Control ID			
BHS-12	Reference Batch Control			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Message Header Segment (MSH)
(HL7 Guide Table 5 – 1)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
MSH-1	Field Separator	R		Literal Value: (pipe delimiter)
MSH-2	Encoding Characters	R		Literal Value: ^~\&#
MSH- 3	Sending Application	R	Sending application (values should match those in FHS-3)	
MSH- 4	Sending Facility	R		
MSH-4.1	Namespace ID	RE	Name of the sending application	Please use a distinct name to identify your facility from other facilities sending ELRs. For example: MUSC Main Lab, Tuomey Main Lab
MSH-4.2	Universal ID	R	Must be CLIA #of the sending application	Must be the reporting lab's CLIA#
MSH-4.3	Universal ID Type	R	Constrained to the value 'CLIA'	Literal Value: CLIA
MSH- 5	Receiving Application	R		
MSH-5.1	Namespace ID	RE	Name of the receiving application	Literal value: SCDOH
MSH-5.2	Universal ID	R	Must be OID of the receiving application	Literal Value: 2.16.840.1.114222.4.3.2.2.1.179 .1
MSH-5.3	Universal ID Type	R	Constrained to the value 'ISO'	Literal Value: ISO
MSH- 6	Receiving Facility	R		
MSH-6.1	Namespace ID	RE		Literal Value: SC
MSH-6.2	Universal ID	R	Must be OID of the receiving facility	Literal Value: 2.16.840.1.114222.4.1.3680
MSH-6.3	Universal ID Type	R	Constrained to the value 'ISO'	Literal Value: ISO
MSH-7	Date/ Time of message	R		

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
MSH- 8	Security			
MSH-9	Message Type	R		Literal Value: ORU^R01^ORU_R01
MSH-10	Message Control ID	R	Unique Message Id	e.g. 201311220000007 20134514080608207007
MSH-11	Processing ID	R		Must be literal value: T if testing, P if Live
MSH-12	Version ID	R	HL7 Version Number used to interpret the format and content of the message	Literal Value: 2.5.1
MSH- 13	Sequence number			
MSH- 14	Continuation Pointer			
MSH- 15	Accept Acknowledgement Type	CE		
MSH- 16	Application Acknowledgement Type	CE		
MSH- 17	Country Code			
MSH- 18	Character Set			
MSH- 19	Principal Language of Message			
MSH- 20	Alternate Character Set Handling Scheme			
MSH-21	Message Profile Identifier	R	See HL7 2.5.1 Guide, Section 3.3 Dynamic Definitions for acceptable values	

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Software Segment (SFT)
(HL7 Guide Table 5 – 2)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
SFT-1	Software Vendor Organization	R		
SFT-2	Software Certified Version or Release Number	R		
SFT-3	Software Product Name	R		
SFT-4	Software Binary ID	R		
SFT-5	Software Product Information	O		
SFT-6	Software Install Date	RE		

Patient Identifier List (PID)
(HL7 Guide Table 5 – 5)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
PID-1	Set ID- PID	R		Literal Value: 1
PID-2	Patient ID			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
PID- 3	Patient Identifier List	R	<p>Pursuant to S.C. Code 44-1-110, please include as one of the patient identifiers the last 5 digits of the patient's SSN.</p> <p>If no SSN is provided and/or available, please provide alternate identifiers such as medical record #, driver's license #, visit #, etc.</p> <p>HL7: HL7 table 0203 PHINVADS: PHVS_IdentifierType_CDC_V3. OID: 2.16.840.1.113883.12.203</p>	
PID- 4	Alternate Patient ID			
PID- 5	Patient Name	R		
PID- 6	Mother's Maiden Name	RE		
PID-7	Patient Date/ Time of Birth	RE		
PID-8	Administrative Sex	RE	<p>HL7: HL7 0001 PHINVADS: PHVS_AdministrativeSex_HL7_2x OID: <u>2.16.840.1.114222.4.11.927</u></p>	e.g. F
PID- 9	Patient Alias			
PID- 10	Patient Race	RE		
PID-11	Patient Address	RE	PID-11.6 and PID-11.9 should NOT be valued	
PID- 12	County Code		Should NOT be valued	
PID- 13	Phone Number- Home	RE	Do no leave area code blank	
PID- 14	Patient Business Phone	RE		
PID- 15	Primary Language	O		

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
PID- 16	Marital Status	O	HL7: HL7 0002 Table PHINVADS: PHVS_MaritalStatus_HL7_2x OID: <u>2.16.840.1.114222.4.11.809</u>	e.g. M
PID- 17	Religion	O		
PID- 18	Patient Account Number		Use PID-3	
PID- 19	SSN Number- Patient		Use PID-3	
PID- 20	Driver's License Number- Patient		Use PID-3	
PID- 21	Mother's Identifier	O		
PID- 22	Patient Ethnic Group	RE	HL7: HL7 0189 table PHINVADS: PHVS_EthnicGroup_HL7_2x OID: <u>2.16.840.1.114222.4.11.6066</u>	
PID- 23	Birth Place	O		
PID- 24	Multiple Birth Indicator	O		
PID- 25	Birth Order	O		
PID- 26	Citizenship	O		
PID- 27	Veterans Military Status	O		
PID- 28	Nationality			
PID-29	Patient Death Date and Time	RE		
PID-30	Patient Death Indicator	RE		
PID-31	Identity Unknown Indicator			
PID-32	Identity Reliability Code			
PID-33	Last Update Date/ Time	RE		
PID-34	Last Update Facility	CE		

South Carolina
 Reportable Lab Results/Electronic Laboratory Reporting (ELR)
 HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
PID-35	Species Code	RE	DHEC understands most samples will be on human patients. When the sample is of non-human origin, the species code identifier is required. See PHVS_Animal_CDC value set for acceptable values.	
PID-36	Breed Code			
PID-37	Strain			
PID-38	Production Class Code			
PID-39	Tribal Citizenship			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Next of Kin (NK1)
(HL7 Guide Table 5-6)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
NK1-1	Set ID	R	NK1 is created regardless if any Contact info was present.	
NK1-2	Next of Kin Name	CE	If next of kin or associated party is a person use this field, otherwise use field NK1-13	
NK1-3	Relationship	RE		
NK1-4	Address	RE		
NK1-5	Phone Number	RE		
NK1-6	Business Phone Number			
NK1-7	Contact Role			
NK1-8	Start Date			
NK1-9	End Date			
NK1-10	Next of Kin/ Associated Parties Job Title			
NK1-11	Next of Kin/ Associated Parties Job Code/ Class			
NK1-12	Next of Kin Associated Parties Employee Number			
NK1-13	Organization Name - NK1	CE		
NK1-14	Marital status			
NK1-15	Administrative Sex			
NK1-16	Date/ Time of Birth			
NK1-17	Living Dependency			
NK1-18	Ambulatory Status			
NK1-19	Citizenship			
NK1-20	Primary Language			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
NK1- 21	Living Arrangement			
NK1- 22	Publicity Code			
NK1- 23	Protection Indicator			
NK1- 24	Student Indicator			
NK1- 25	Religion			
NK1- 26	Mother's Maiden Name			
NK1- 27	Nationality			
NK1- 28	Ethnic Group			
NK1- 29	Contact Reason			
NK1- 30	Contact Person's Name	CE		
NK1- 31	Contact Person's Telephone Number	RE		
NK1- 32	Contact Person's Address	RE		
NK1- 33	Next of Kin/Associated Party's Identifiers.			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Common Order Segment (ORC)
(HL7 Guide Table 5 – 9)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
ORC- 1	Order Control	R	Determiner of the function of the order segment. In the ORU^R01, this should be the literal value: RE.	Literal Value: RE
ORC- 2	Placer Order Number	CE	Must contain the same value as OBR-2, if populated	
ORC-3	Filler Order Number	R	Must contain the same value as OBR-3	Should NOT be the accession number. Accession number should be in SPM-2
ORC- 4	Placer Group Number	RE		
ORC-5	Order Status			
ORC-6	Response Flag			
ORC-7	Quantity/ Timing			
ORC-8	Parent			
ORC-9	Date/ Time of Transaction			
ORC-10	Entered By			
ORC-11	Verified By			
ORC-12	Ordering Provider	CE	If OBR- 16 Ordering Provider is populated, this field will contain the same value.	
ORC- 13	Enterer's Location			
ORC- 14	Call Back Phone Number	CE	If OBR-17 Callback Phone Number is populated, this field will contain the same value. This should be a phone number associated with the original order placer.	
ORC- 15	Order Effective Date/ Time			
ORC- 16	Order Control Code Reason			

*South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide*

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
ORC- 17	Entering Organization			
ORC- 18	Entering Device			
ORC- 19	Action By			
ORC- 20	Advanced Beneficiary Notice Code			
ORC- 21	Ordering Facility Name	R		Please use a distinct name to identify your facility from other facilities sending ELRs. For example: MUSC Main Lab, Tuomey Main Lab
ORC- 22	Ordering Facility Address	R	ORC-22.6 and ORC-22.9 should NOT be valued	
ORC-23	Ordering Facility Phone Number	R		
ORC-24	Ordering Provider Address	RE		
ORC- 25	Order Status Modifier			
ORC- 26	Advanced Beneficiary Notice Override Reason			
ORC- 27	Filler's Expected Availability Date/ Time			
ORC- 28	Confidentiality Code			
ORC- 29	Order Type			
ORC- 30	Enterer Authorization Mode			
ORC- 31	Parent Universal Service Identifier			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Observation Request Segment (OBR)
(HL7 Guide Table 5 – 10)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
OBR- 1	Set ID- OBR	R	1 , 2 , 3 , etc for repeating OBRs.	e.g. 1
OBR- 2	Placer Order Number	RE	It should be populated.	
OBR- 3	Filler Order Number	R	Normally this number is a system identifier assigned by the filler software system.	Each OBR in a multiple resulted test MUST be unique in order to make parent/child relationships.
OBR-4	Universal Service Identifier	R	Use Laboratory Order Value Set from HITSP PHINVADS: PHVS_LabTestOrderables_CDC OID: <u>2.16.840.1.114222.4.11.1004</u>	Use Lab Order Value Set, which is based on LOINC.
OBR- 5	Priority- OBR			
OBR- 6	Requested Date/Time			
OBR- 7	Observation Date/ Time	R	This field must contain the same value as OBX-14 and SPM- 17.1 Specimen Collection Date/ Time.	
OBR- 8	Observation End Date/ Time	CE	The end point time when the specimen was collected. This field must contain the same value as the second component of SPM- 17 Specimen Collection Date/ Time.	
OBR- 9	Collection Volume			
OBR- 10	Collector Identifier			
OBR- 11	Specimen Action Code			
OBR- 12	Danger Code			
OBR- 13	Relevant Clinical Information	RE		
OBR- 14	Specimen Received Date/Time			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
OBR- 15	Specimen Source			
OBR- 16	Ordering Provider	RE	Identifier of the provider who ordered the testing being performed. ORC-12 Ordering Provider is constrained to contain the same value as this field.	
OBR- 17	Order Callback Phone Number	RE	If this field is populated, then ORC-14 will contain the same value. This phone number should be associated with the original order placer. This is the number DHEC can call with questions regarding the order. This should be a phone number associated with the original order placer. Do not leave area code blank.	
OBR- 18	Placer Field 1			
OBR- 19	Placer Field 2			
OBR- 20	Filler Field 1	O		
OBR- 21	Filler Field 2	O		
OBR-22	Results Rpt/ Status Change Date/ Time	R		
OBR- 23	Charge to Practice			
OBR- 24	Diagnostic Serv Sect ID			
OBR-25	Result Status	R	HL7: HL7 0123 PHINVADS: PHVS_ResultStatus_HL7_2x OID: <u>2.16.840.1.114222.4.11.815</u>	e.g. F

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
OBR- 26	Parent Result	CE	This field is required when linking child sensitivities to the parent culture. Used along with OBR-29 to allow the result to be linked to a specific OBX.	
OBR- 27	Quantity/Timing			
OBR- 28	Result Copies To			
OBR- 29	Parent	CE	Required if Micro Culture & Sensitivity. See HL7 2.5.1 Implementation Guide Appendix A for detailed examples.	
OBR- 30	Transportation Mode			
OBR- 31	Reason for Study	RE	Use Reason For Study Value Set. ICD9 is used currently and ICD10 will be allowed when the US starts using it.	
OBR- 32	Principal Result Interpreter	RE		
OBR- 33	Assistant Result Interpreter			
OBR- 34	Technician			
OBR- 35	Transcriptionist			
OBR- 36	Scheduled Date/ Time			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Observation/Result Segment (OBX)
(HL7 Guide Table 5 – 12)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
OBX-1	Set ID - OBX	R	The OBX contains info regarding a single observation related to a single test (OBR). This field indicates the sequence number. For the first instance, the literal value is 1. For the second instance, the literal value is 2.	Increment repeats
OBX-2	Value Type	CE	If OBX- 5 is populated, OBX- 2 is required. HL7: HL7 0125 PHINVADS: PHVS_ValueType_ELR OID: 2.16.840.1.114222.4.11.6064	If OBX-2 is NM or SN, then the following fields are required: OBX-5, OBX-6, OBX-7, and OBX-8.
OBX-3	Observation Identifier	R	Unique Identifier for the type of observation. OBX-3 in conjunction with OBX-4 Observation Sub ID should uniquely identify this OBX from all other OBXs associated with this OBR. Use Laboratory Order Value Set from HITSP PHINVADS: PHVS_LabTestOrderables_CDC OID: 2.16.840.1.114222.4.11.1004	Use LOINC codes.
OBX- 4	Observation Sub- ID	CE	Value this field if there is one or more OBXs with the same OBX- 3 Observation Identifier associated with the same OBR. FOR Micro C&S: Must have subID data included, even if message only includes 1 organism.	

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
OBX- 5	Observation Value	CE	Refer to the HL7 0125 table from HL7 2.5.1 Implementation Guide for values. Use SNOMED-CT, where applicable. See ELR IG to VADS Vocab Mapping in resources.	DHEC accepts only results in this field. If results include comments, please place the comments in NTE segment.
OBX-6	Observation Units	CE	HL7: Unified Code for Units of Measure (UCUM) PHINVADS: PHVS_UnitsOfMeasure_CDC OID: <u>2.16.840.1.114222.4.11.838</u>	If OBX-2 is NM or SN, this field is required. Units need to be provided for all results. Please do not populate the field with “1” if the results do not have required units. For example, lab tests providing a qualitative result or a ratio may not require units to be included.
OBX - 7	Reference Range	RE		
OBX- 8	Abnormal Flags	CE	Indicator of the normality of the result found in OBX-5. HL7: HL7 0078 PHINVADS: PHVS_AbnormalFlag_HL7_27 OID: <u>2.16.840.1.114222.4.11.3343</u>	See HL7 Implementation Guide for examples and comments.
OBX- 9	Probability			
OBX- 10	Nature of Abnormal Test			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
OBX- 11	Observation Result Status	R	HL7: HL7 table 0085 PHINVADS: PHVS_ObservationResultStatus_HL7_2x OID: <u>2.16.840.1.114222.4.11.811</u>	
OBX- 12	Effective Date of Reference Range			
OBX- 13	User- Defined Access Checks			
OBX-14	Date/ Time of the observation	CE	The field shall contain specimen collection time and will be the same value as OBR-7 and SPM-17.1.	
OBX- 15	Producer's ID	RE	If populated the field must identify the same performing organization as that identified in OBX-23 (Performing Organization Name).	
OBX- 16	Responsible Observer			
OBX-17	Observation Method	RE	Method of testing by the laboratory. If the LOINC code in OBX-3 is methodless, this field shall be populated. Sometimes the method may be extrapolated from the local test codes.	
OBX- 18	Equipment Instance Identifier			
OBX-19	Date/ Time of the Analysis	R	Time at which the testing was performed.	
OBX- 20	Reserved for harmonization with Version 2.6			
OBX-21	Reserved for harmonization with Version 2.6			
OBX-22	Reserved for harmonization with Version 2.6			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
OBX-23	Performing Organization Name	R	Name of the laboratory that produced the test result.	Please use a distinct name to distinguish your facility from other facilities sending ELRs. For example: MUSC Main Lab, Tuomey Main Lab OBX -23.10: Use CLIA# of Lab
OBX-24	Performing Organization Address	R	Address of the lab actually performing the test. OBX-24.6 and OBX-24.9 should NOT be valued	
OBX-25	Performing Organization Medical Director	RE		

*South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide*

Notes and Comments Segment (NTE)

(HL7 Guide Table 5 – 15)

Please review the HL7 Implementation Guide page 145.

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
NTE-1	Set ID	R	Sequential numbering of repeats	1
NTE-2	Source of Comment	RE		
NTE-3	Comment	R	Do not include any results in this field. Comment contained in the field.	
NTE-4	Comment Type	RE		

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Specimen Segment (SPM)
(HL7 Guide Table 5 – 14)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
SPM-1	Set ID- SPM	R		Literal value 1
SPM- 2	Specimen ID	R		
SPM- 3	Specimen Parent IDs			
SPM- 4	Specimen Type	R	<p>Either HL7 0487 or SNOMED CT</p> <p>HL7: HL7 0487 PHINVADS: PHVS_SpecimenType_HL7_2x OID: <u>2.16.840.1.114222.4.11.6046</u></p> <p>SNOMED CT: SNOMED CT Specimen sub-tree (12303009) PHINVADS: PHVS_Specimen_CDC OID: <u>2.16.840.1.114222.4.11.946</u></p>	Please be specific.
SPM- 5	Specimen Type Modifier	RE	Allows sending qualifiers for a SNOMED CT term from a single axis. Only used if SPM- 4 is a SNOMED code.	
SPM- 6	Specimen Additives	RE		
SPM- 7	Specimen Collection Method	RE		
SPM- 8	Specimen Source Site	RE		
SPM- 9	Specimen Source Site Modifier	RE		
SPM- 10	Specimen Collection Site	O		
SPM- 11	Specimen Role	RE		
SPM- 12	Specimen Collection Amount	RE		
SPM-13	Grouped Specimen Count			

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
SPM-14	Specimen Description			
SPM-15	Specimen Handling Code			
SPM-16	Specimen Risk Code			
SPM- 17	Specimen Collection Date/ Time	R	OBX-14 should contain the same value as component 1 (SPM- 17.1) of this field.	
SPM- 18	Specimen Received Date/ Time	R		

Batch Trailer Segment (BTS)
(HL7 Guide Table 5 – 19)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
BTS- 1	Batch Message Count	R	This is the total number of messages contained in the batch.	e.g. 1
BTS- 2	Batch Comment			
BTS- 3	Batch Totals			

File Trailer Segment (FTS)
(HL7 Guide Table 5 – 17)

Sequence Number	HL7 2.5.1 Data Element Name	Required by DHEC	Data Element Notes	Recommended Values and Examples
FTS- 1	File Batch Count	O	The number of batches contained in this file. Since this interface is constrained to one batch per file, this number should always be '1'	e.g.1
FTS- 2	File Trailer Comment	X		

4. HCO validates message and emails validation reports to DHEC.

Test a variety of messages applicable to your laboratory's capabilities (hepatitis, HIV, STD, parasitology, Lead, Micro C&S, etc.) to ensure messages meet the requirements.

Messages that are ***not pre-validated*** will not be reviewed by DHEC.

HCO performs structural and vocabulary validation on the messages **using one or both:**

- NIST ELR Validation Tool
- CDC's Message Quality Framework (MQF) (Reporting Receiver Profile).

Each validation tool has its own strengths. The NIST tool provides good feedback on message structure while the CDC's MQF tool provides good feedback on message vocabulary. Both the PHIN MQF and the NIST websites have links to User Manuals and FAQs and Support Desk for questions and other helpful links.

Another nice reference: NIST's Google groups for developers (HL7v2 ELR Testing):
<https://groups.google.com/d/forum/hl7v2-reportable-lab-testing>

With a zero-error validation report, DHEC requests the HCO to send the report with a .txt file of the message using TEST DATA.

5. DHEC reviews messages and confirms validation reports.

DHEC reviews test messages that are accompanied with zero-error validation reports and updated feedback worksheets.

DHEC will validate the messages for structure and vocabulary.

DHEC will notify HCOs regarding time frame for reviewing the test messages.

If DHEC identifies errors (structural or vocabulary), the HCO is notified by email and will provide a feedback worksheet.

The HCO will need to update and return the feedback worksheet with each new set of test messages and validation reports to indicate which issues were addressed.

6. DHEC sends PHINMS/SFTP implementation package to HCO.

After DHEC approves messages in prior steps, DHEC sends PHINMS/SFTP implementation package to HCO.

DHEC works with HCO until PHINMS or SFTP transmission capability between sender and DHEC meets requirements.

7. HCO transmits VALIDATED batch of test messages.

File transfer process:

- HCO transmits to DHEC a VALIDATED batch file containing diverse lab result messages via the transport mechanism.
- File should be generated and delivered to DHEC via a secure transfer by 6:00 a.m. each day.
- **File naming convention should be:**
ELRxxxYYYYMMDD.HL7
DHEC will provide a 3-character filename.

IF ATTESTING TO STAGE 1: After receiving test message, DHEC will provide documentation of receiving a test message and sends confirmation letter, if requested.

HCO transmits VALIDATED batch of test messages containing ORU^R01 messages from sender's electronic health record (EHR) system. In order for DHEC to complete this phase of its testing, DHEC must receive enough ELR messages to allow it to validate all data fields for all types of lab results.

The HCO is required to VALIDATE the messages before sending to DHEC. NIST and/or MQF validation reports need to be emailed to DHEC at muhelpdesk@dhec.sc.gov.

If validation reports contain PHI, validation reports must be sent through an encrypted email.

HCO notifies DHEC when file is sent.

8. DHEC validates batch of test message contents.

DHEC validates that the contents of the messages meets its requirements. As issues are identified, DHEC reports them to the HCO for resolution.

DHEC will review the submitted validation tool results in addition to re-validating the same message files. Each clean re-validation by DHEC will move the facility closer to production status. If any message fails the re-validation process the facility will be notified that they need to address their errors and resubmit their test data.

DHEC will notify the HCO when validation reports are no longer necessary.

9. DHEC program areas review and validate messages.

Once the content of the messages has been structurally validated, each DHEC program area must validate that the messages contain provides meaningful and useful data. All program areas must approve the messages in order to move into production.

10. Final production testing of consecutive batch files

Once all DHEC program areas approve ELR messages, the HCO will be allowed to submit batched messages into DHEC production system.

Each DHEC program area will provide instructions regarding future validation processes.

HCOs are required to notify DHEC of changes to tests, results, formats and reporting processes. DHEC may request limited testing and validation of the new messages. Notification should be given to respective DHEC program areas.

Hospitals Seeking MU Exclusion

Hospitals seeking an exclusion from the MU Objective: *Lab Results to Public Health Agencies* should contact DHEC staff for more information.

Receiving an exclusion does not exempt HCOs from reporting results as required by SC laws and regulations.

Please email DHEC staff at muhelpdesk@dhec.sc.gov.

South Carolina
Reportable Lab Results/Electronic Laboratory Reporting (ELR)
HL7 version 2.5.1 Implementation Guide

Appendix A: HL7 2.5.1 Meaningful Use ELR and SS Process Flow Chart

This process can be used by all healthcare organizations (ambulatory care centers, reference labs, etc.) with the understanding that some steps are MU-specific.

