NORTH Dakota | Health & Human Services
Be Legendary.

North Dakota Health and Human Services (NDHHS) Electronic Laboratory Reporting (ELR)

Condensed Specification and Interoperability Steps

HL7 2.3.1 or 2.5.1

Document Purpose:

This guide is intended for:

1. Eligible professionals, eligible hospitals, and critical access hospitals to use toward meeting the requirements for the Medicare Promoting Interoperability Program (PIP).

2. Providers that wish to begin reporting their reportable condition data to NDHHS using the HL7 format.

Updated December 2025

DISEASE CONTROL & FORENSIC PATHOLOGY
600 East Boulevard Ave. Dept. 325 | Bismarck, ND 58505-0250 | 711 (TTY) | hhs.nd.gov

DISEASE CONTROL 701-328-2378
STATE FORENSIC EXAMINER 701-328-6138
IMMUNIZATIONS 701-328-3386

Table of Contents

Interoperability Steps for Electronic Laboratory Reporting

1. Message Transport – North Dakota Department of Health and Human Services (NDHHS), Disease Control and Forensic Pathology Section is currently accepting ELR message transport through two different methods:

    - North Dakota Health Information Network (NDHIN) – This is the preferred method of transport. The NDHIN offers a wide variety of connection options.

    - Direct Secure File Transfer Protocol (SFTP) Site – This is available if connecting to the NDHIN is not an option.

2. Analyze and validate your EHR/LIMS to ensure it is capturing all the required data that is to be sent.

    - See the Required Fields table on pages 4-6.

3. Message Format – Validate that the message format conforms to the HL7 standard.

    - The detailed 2.5.1 ELR specification can be found at www.hl7.org. If you are required to meet PIP, HL7 2.5.1 is required. However, NDHHS currently accepts 2.5.1, 2.3.1, 2.3, 2.3.z.

    - ELR messages must pass the National Institutes of Standards and Technology (NIST) HL7 validation tool. The Message Evaluation and Testing Service (METS) validation tool is also available.

4. Content Validation – Content validation will occur with your facility and the NDHHS messaging staff. This includes:

    - Identify key resources

    - Review roles and responsibilities

    - Discuss required field mapping

    - Review testing process

    - Verify defined fields

5. Testing – Utilize production data for testing. Correct any issues identified by NDHHS staff.

6. Go-Live – Switch ELR message feed to send to NDHHS's production environment. Provide a point-of-contact to coordinate reporting changes.

Quality Assurance Criteria

There are several fields that need additional attention during gap analysis to ensure the fields are available and completed correctly. In addition, the complete list of required fields is also provided in the table below.

1. Specimen Source

Specimen source is required for all reportable conditions. In HL7 version 2.5.1, the specimen source is in the SPM segment; in version 2.3.1, it is contained in OBR segment field 15. Specimen source should be coded, ideally using SNOMED coding. If it's unable to be coded, NDHHS will need a listing of the text fields sent so they can be mapped on the receiving side.

2. Observation Result (OBX) Segment

This segment contains the result of the ordered test. OBX-3 needs to be coded using LOINC coding. For laboratory-based reporting, SNOMED coding is strongly recommended for OBX-5 whenever the CE data type is indicated in OBX-2. If results are unable to be coded, NDHHS will need a listing of the text fields sent so they can be mapped on the receiving side.

3. Patient Address

PID-11 is the patient address and is required for reporting as public health utilizing this information for any patient follow-up that might be necessary.

Required Fields

Required fields for an acceptable ELR message are located below. For a full listing of fields, please see the HL7 2.5.1 Implementation Guide.

HL7 Element Name	**HL7 Segment**	**Required**
MSH – MESSAGE SEGMENT HEADER		
Field Separator	MSH-1	Required
Encoding Characters	MSH-2	Required
Sending Application	MSH-3	Required
Namespace ID	MSH-3.1	Required
Universal ID	MSH-3.2	Required
Universal ID Type	MSH-3.3	Required
Sending Facility *(i.e. |lab name^CLIA code|CLIA)*	MSH-4	Required
Receiving Application	MSH-5	Required
Receiving Facility	MSH-6	Required
Date Time of Message	MSH-7	Required
Message Type	MSH-9	Required
Message Control ID	MSH-10	Required

Processing ID	MSH-11	Required
Version ID	MSH-12	Required
PID – PATIENT IDENTIFICATION SEGMENT		
Set ID	PID-1	Required
Patient Name	PID-5	Required
Date Time of Birth	PID-7	Required
Administrative Sex	PID-8	Required
Race	PID-10	Required
Patient Address	PID-11	Required
Home Phone Number	PID-13	Required
ORC – ORDER COMMON SEGMENT		
Ordering Facility Name	ORC-21	Required
Ordering Facility Address	ORC-22	Required
Ordering Provider Address	ORC-24	Required
OBR – OBSERVATION REQUEST SEGMENT		
Filler Order Number	OBR-3	Required
Universal Service Identifier	OBR-4	Required
Observation Date Time	OBR-7	Required
Specimen Source	OBR-15	Required
Ordering Provider	OBR-16	Required
Result Status	OBR-25	Required
OBX – OBSERVATION RESULT SEGMENT		
Set ID	OBX-1	Required
Value Type	OBX-2	Required
Observation Identifier	OBX-3	Required
Observation Sub ID	OBX-4	Required
Observation Value	OBX-5	Required
Observation Result Status	OBX-11	Required
Date Time of the Observation	OBX-14	Required
Producers Reference	OBX-15	Required
SPM – SPECIMEN SEGMENT (2.5.1)		
Set ID	SPM-1	Required (2.5.1)
Specimen ID	SPM-2	Required (2.5.1)
Specimen Type	SPM-4	Required (2.5.1)
Specimen Collection Method	SPM-7	Required (2.5.1)

Specimen Source Site	SPM-8	Required (2.5.1)
Specimen Description	SPM-14	Required (2.5.1)
Specimen Collection Date/Time	SPM-17	Required (2.5.1)
Specimen Received Date/Time	SPM-18	Required (2.5.1)
NTE – NOTES AND COMMENTS SEGMENT		
Set ID	NTE-1	Required if Available
Source of Comment	NTE-2	Required if Available
Comment	NTE-3	Required if Available
Comment Type	NTE-4	Required if Available