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.

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**DISEASE CONTROL & FORENSIC PATHOLOGY**
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## 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 |