



LimitLIS®

# **HL7 Specification Requirements - v4.0**

2019 | RURO, Inc. | [www.ruro.com](http://www.ruro.com)



**Title:** LimitLIS® v4.0 HL7 Specification Requirements**Revision Record**

Revision No.	Date	Responsible Person	Description of Change
1.0	02/04/2019	Oksana Titova	Final Draft for Distribution

## TABLE OF CONTENTS

ABOUT THIS DOCUMENT .....	5
Purpose of this Document.....	5
Intended Audience .....	5
Proprietary Statement .....	5
Product Improvements .....	5
Data Exchange Storage.....	6
General Message Structure .....	6
ORM – Order Message .....	7
HL7 Order (ORM_O01) Message Structure.....	7
HL7 Order (ORM_O01) Segment Specifications.....	7
MSH – Message Header Segment .....	8
PID – Patient Identification Segment .....	8
RXO – Pharmacy/Treatment Order Segment .....	9
PV1 – Patient Visit Segment .....	10
IN1 – Insurance Segment.....	10
GT1 – Guarantor Segment.....	12
ORC – Common Order Segment.....	13
OBR – Observation Request Segment.....	14
NTE – Notes and Comments Segment .....	15
DG1 – Diagnosis Segment.....	16
OBX – Observation/Results Segment.....	17
ORU – Result Message.....	18
HL7 Result (ORU_R01) Message Structure.....	18
HL7 Result (ORU_R01) Segment Specifications.....	18
MSH – Message Header Segment .....	19
PID – Patient Identification Segment .....	19
ORC – Common Order Segment.....	20
OBR – Observation Request Segment.....	21
OBX – Observation/Results Segment.....	22
NTE – Notes and Comments Segment .....	25
DFT – Detail Financial Transaction .....	26
HL7 DFT_P03 Message Structure.....	26
HL7 DFT_P03 Segment Specifications.....	26
MSH – Message Header Segment .....	27
PID – Patient Identification Segment .....	27
PD1 – Patient Additional Demographic Segment .....	28

PV1 – Patient Visit Segment .....	28
FT1 – Financial Transaction Segment .....	29
DG1 – Diagnosis Segment .....	32
GT1 – Guarantor Segment .....	32
IN1 – Insurance Segment .....	34
ADT – Admit Discharge Transfer .....	36
HL7 ADT_A04 Message Structure .....	36
HL7 ADT_A04 Segment Specifications .....	36
MSH – Message Header Segment .....	37
PID – Patient Identification Segment .....	37
PD1 – Patient Additional Demographic Segment .....	38
PV1 – Patient Visit Segment .....	38
GT1 – Guarantor Segment .....	39
IN1 – Insurance Segment .....	41
APPENDICES .....	43
Appendix 1 – ORM - Order Message Examples .....	43
Financial Class is “Insurance”. The GT1 segment contains Subscriber information. Medications are transmitted from the RXO segment. OBR and OBX contain Patient signature flag and data, POC Tests header and results. ....	43
Financial Class is “Medicare”. The GT1 segment is not used. The Subscriber information is in the IN1 segment. Medications are transmitted from the NTE segment. ....	43
Financial Class is “Insurance”. The “Guarantor”/”Insured's Relationship to Patient” is “SEL^Self” .....	44
Financial Class is “Facility” .....	45
Financial Class is “Patient/Self Pay”. ....	45
Appendix 2 – ORU - Result Message Example .....	47
Appendix 3 – DTF - Detail Financial Transaction Examples .....	49
Individual Tests Billing .....	49
Test Class Billing .....	49
HCPCS G048x Codes Billing .....	50
Appendix 4 – ADT - Admit Discharge Transfer Examples .....	51
Financial Class is “Insurance”, Guarantor Relationship is Subscriber (Other). ....	51
Financial Class is “Medicare”, Guarantor Relationship is Patient (Self) .....	51
Financial Class is “Facility” .....	51
Financial Class is “Patient/Self Pay”. ....	52
Appendix 5 – HL7 Interpretation Codes .....	53
HL7 version 2.7 .....	53
HL7 version 2.3 .....	54

## ABOUT THIS DOCUMENT

---

### Purpose of this Document

Health Level-7 or HL7 refers to a set of international standards for the electronic transfer of clinical and administrative data between software applications used by various healthcare providers.

The v4.0 HL7 Specification Requirements document is based on the HL7 Standard version 2.7. Although we fully support and recommend using HL7 version 2.7, we may process HL7 files conforming to older versions of the specifications (e.g., 2.3, 2.4).

LimitLIS® system supports four HL7 message types to transmit data: Orders (ORM\_001), Results (ORU\_R01), DFT Billing and ADT Demographic messages. The document v4.0 HL7 Specification Requirements introduces you to how HL7 is integrated into LimitLIS® version 4.0 and explains data mappings to the HL7 v.2.7 Standard.

### Intended Audience

These requirements are intended for the following personnel:

- EHR/EMR Providers
- EHR/EMR Vendor
- RCM Provider/Vendor

### Proprietary Statement

The v4.0 HL7 Specification Requirements document contains proprietary information of RURO, Inc.

It is intended solely for the information and use of parties operating LimitLIS® software. Such proprietary information may not be used, reproduced, or disclosed to any other parties for any other purpose without the expressed written permission of RURO, Inc.

### Product Improvements

Continuous improvement of the software product is a policy of RURO, Inc. All specifications and designs, as well as the content of this document, may change at any time without prior notice.

## Data Exchange Storage

---

RURO, Inc. hosts an SFTP server for HL7 data exchange with HIPAA-related compliance security and privacy provisions. The server has a directory structure and can be accessed via user account with proper permissions for laboratories and vendors. Data exchange can also be performed via an SFTP server hosted by a third party.

## General Message Structure

---

HL7 messages provide the means for electronic data exchange between disparate systems. HL7 messages are made up of segments containing related data in a single line. The type of message determines the number and type of segments used.

Each segment begins with a 3-character code. Each segment is divided into fields, separated by the field delimiter character. The standard field delimiter is the vertical bar character “|” known as “the pipe.”

Fields are counted starting from zero. The three-letter segment type designation is field zero. Field counting is slightly different for the MSH line. The MSH segment starts with the three-letter designation, followed by the field delimiter, followed by the declaration of additional delimiters, and then by the first field of data. Because the field delimiter is counted as its own field in the MSH segment, the first field of data is field three.

## ORM – Order Message

### HL7 Order (ORM\_001) Message Structure

The table below describes the sequential structure of an HL7 Order message implemented in LimitLIS® v4.0.

Segments with no brackets around it – Required, [] – Optional, {} - May repeat, [{}] - Optional and May repeat.

If the transmission of any segment type will cause a processing problem in the receiving system, please bring this fact to the attention of the LimitLIS® project manager.

The Order (ORM) message structure:

MSH		Message Header
PID		Patient Identification
[{RXO}]		Pharmacy/Treatment Order
[PV1]		Patient Visit
[IN1]		Insurance
[GT1]		Guarantor
ORC		Common Order
	{OBR}	Orderable Test
	[{NTE}]	Notes and Comments
	[{NTE}]	Medical Necessity
	[{NTE}]	Medications
	{DG1}	Diagnosis
	[{OBX}]	Observations/Results (POC Tests)

### HL7 Order (ORM\_001) Segment Specifications

ORM is used to transmit information between systems about an Order. ORM messages involve changes to the order, such as new orders and information updates.

The tables below show the fields that will be used within each of the segments and the nature of the data each field contains. Below each table is placed example(s). All fields that have been greyed out are not used by LimitLIS® v4.0. If an EHR Order does not have the required data, or the data format does not follow the specifications below, it may cause a system error, and the order message may not be received.

If the receiving application requires the use of additional specific fields that are greyed out or not specified in this specification, please discuss this matter with the LimitLIS® project manager.

Incomplete requisitions in an “On hold” state created in the Laboratory interface can be updated from the EHR Order based on a Placer Order Number (Requisition External Source ID).

A requisition can also be updated from the EHR Order based on a Placer Order Number (Requisition External Source ID) if it’s in a “Submitted” state. If the requisition is in any other state, the EHR Order processing will be denied.

Samples of the EHR Order are given in [Appendix 1](#).

## MSH – Message Header Segment

The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.

The MSH segment is required.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	MSH	yes	
1	Field Separator		yes	Default Value, other separator values can be supported
2	Encoding Characters	^~\&	yes	Default Value, other values can be supported
3	Sending Application	String	no	HL7 Provider Name
4	Sending Facility	String	yes	Facility Name or Facility EHR Account Number * <i>Must exist in the LimitLIS® system</i>
5	Receiving Application	String	no	Laboratory Name
6	Receiving Facility	String	no	Laboratory Name
7	Date/Time of Message	YYYYMMDDHHMM	no	Date/Time of Message
8	Security	Not Supported		
9	Message Type	ORM^O01	yes	Static Value
10	Message Control ID	String	no	Requisition External Source ID
11	Processing ID	Code	no	HL7 Mode: P – Production T – Training D – Debug/Testing
12	Version ID	2.7	no	HL7 Version Number
13-25		Not Supported		

MSH|^~\&|HL7 Provider Name|Facility Name or Facility EHR Account Number|  
Laboratory Name|Laboratory Name|YYYYMMDDHHMM||ORM^O01|Requisition External  
Source ID|P|2.7

## PID – Patient Identification Segment

The PID segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

The system allows creating a new patient record and updating an existing one (except for patient ID and date of birth) from the EHR Order.

The PID.2, PID.3, and PID.4 fields are not required and may be empty. In this case, a new Patient will be created if the corresponding option is enabled in the LIS Settings. However, in order to associate the EHR Order with an existing in the system Patient, one of these fields must contain the Patient External Source ID.

The PID segment is required.



Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	PID	yes	
1	Set ID - Patient ID	1	yes	Static Value
2	Patient ID	String	no	Patient External Source ID * Will be used if PID.3 field is empty
3	Patient Identifier List	String	yes	Patient External Source ID * Preferred value
4	Alternate Patient ID	String	no	Patient External Source ID * Will be used if PID.2 and PID.3 fields are empty
5	Patient Name	XPN format	yes	Last Name^First Name^Middle Name
6	Mother's Maiden Name	Not Supported		
7	Date/Time of Birth	YYYYMMDD	yes	Patient Date of Birth
8	Gender	Code	yes	F – Female M – Male U – Unknown
9-10		Not Supported		
11	Patient Address	XAD format	yes	Address 1^Address 2^City^State^Zip Code
12	County Code	Not Supported		
13	Phone Number - Home	String	yes	
14-40		Not Supported		

PID|1||Patient External Source ID||Patient Last Name^First Name^Middle Name  
|YYYYMMDD|Patient Gender|||Patient Address 1^Address 2^City^State^Zip Code||  
Patient Phone Number

## R XO – Pharmacy/Treatment Order Segment

The RXO segment identifies the treatment product or treatment ordered to be given to the patient such as medications and certain devices or supplies which might require a prescription. The RXO segment is used to transmit Medications.

Reflexed Tests will be added to a requisition according to the rules set up in the system for medications.

The RXO segment is optional and may repeat. For each Medication, there should be a separate RXO segment.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	R XO	yes	
1	Requested Give Code	String	no	Medication Description *case insensitive
2-36		Not Supported		

R XO|Medication Description

## PV1 – Patient Visit Segment

The PV1 segment is used by Registration/Patient Administration applications to communicate information on an account or visit-specific basis. The default is to send account level data.

The PV1 segment is used in the LimitLIS® v4.0 system to identify a Financial Class; however, the system recognizes the Financial Class by presence and absence of certain segments. The absence of the PV1 segment is determined as follows:

- “Insurance” if EHR Order contains the IN1 segment;
- “Facility” if EHR Order contains GT1, but not IN1;
- “Patient/Self Pay” if EHR Order contains neither IN1 nor GT1.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	PV1	yes	
1	Set ID - PV1	1	yes	Static Value
2	Patient Class	O	no	Static Value
3-7		Not Supported		
8	Referring Doctor	<a href="#">XCN</a> format	no	Requesting Physician ID^Physician Last Name^First Name^Middle Name
9-19		Not Supported		
20	Financial Class	Code	yes	Insurance Medicare Facility Patient/Self Pay * “Self” and “Private” are also allowed and parsed as “Patient/Self Pay”
21-33		Not Supported		
34	Delete Account Indicator	N	no	Static Value
35-38		Not Supported		
39	Servicing Facility	String	no	Facility Name
40-54		Not Supported		

```
PV1|1|O|||||Requesting Physician ID^Physician Last Name^First Name^Middle
Name|||||||Financial Class |||||N||||Facility Name
```

## IN1 – Insurance Segment

The IN1 segment contains insurance policy coverage information necessary to produce properly pro-rated patient and insurance bills.

If the Financial Class is an Insurance Company or Medicare, this segment is required.

The system allows creating a new Insurance Company from the EHR Order.

**NOTE:** The system searches Insurance Company by Payer ID (IN1.3) if present; otherwise, the Name (IN1.4) is used.

**NOTE 2:** Unlike other fields containing an address, the system does not prevent the Order processing if the address format in the IN1.5 (Insurance Company Address) does not match the requirements; however, the EHR Order and Insurance Company records will contain the corresponding warning message in the “Comment” filed.



Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	IN1	yes	
1	Set ID – IN1	#	yes	Sequence number
2	Health Plan ID	Not Supported		
3	Insurance Company ID	String	no	Insurance Company Payer ID
4	Insurance Company Name	String	yes	Insurance Company Name
5	Insurance Company Address	<a href="#">XAD</a> format	no	Insurance Company Address 1^Address 2^City^State^Zip Code
6	Insurance Co Contact Person	Not Supported		
7	Insurance Co Phone Number	String	no	
8	Group Number	String	no	Patient's Insurance Co Group Number
9-15		Not Supported		
16	Name of Insured	<a href="#">XPN</a> format Last Name^First Name^Middle Name	yes* if Subscriber	Subscriber Name or Empty/Patient Name if IN1.17 is SEL^Self
17	Insured's Relationship to Patient	Code	yes	SEL^Self SPO^Spouse CHD^Child OTN^Other <i>* SEL, Self, SPO, Spouse, CHD, Child, OTH, Other values are also allowed</i>
18	Insured's Date of Birth	YYYYMMDD	yes* if Subscriber	Subscriber DOB or Empty/Patient DOB if IN1.17 is SEL^Self
19	Insured's Address	<a href="#">XAD</a> format Address 1^Address 2^City^State^Zip Code	yes* if Subscriber	Subscriber Address or Empty/Patient Address if IN1.17 is SEL^Self
20-35		Not Supported		
36	Policy Number	String	yes	Patient's Insurance Co Policy Number
37-42		Not Supported		
43	Insured's Gender	Code: F – Female M – Male U – Unknown	yes* if Subscriber	Subscriber Sex or Empty/Patient Sex if IN1.17 is SEL^Self
44-55		Not Supported		

**Subscriber – if Insured's Relationship to Patient (IN1.17) is “SPO^Spouse”, “CHD^Child”, or “OTN^Other”:**

```
IN1|1||Insurance Company Payer ID|Insurance Company Name|Insurance Company
Address 1^Address 2^City^State^Zip Code||Insurance Co Phone Number|Patient's
Insurance Co Group Number|||||||Subscriber Last Name^First Name^Middle Name|
Insured's Relationship to Patient|Subscriber DOB|Subscriber Address 1^Address
2^City^State^Zip Code|||||||Patient's Insurance Co Policy Number|||
|||Subscriber Sex
```

**Patient – if Insured's Relationship to Patient (IN1.17) is “SEL^Self”:**

```
IN1|1||Insurance Company Payer ID|Insurance Company Name|Insurance Company
Address 1^Address 2^City^State^Zip Code||Insurance Co Phone Number|Patient's
Insurance Co Group Number|||||||SEL^Self|||||||Patient's
Insurance Co Policy Number|||||
```

or

```
IN1|1||Insurance Company Payer ID|Insurance Company Name|Insurance Company
Address 1^Address 2^City^State^Zip Code||Insurance Co Phone Number|Patient's
Insurance Co Group Number|||||||Patient Last Name^First Name^Middle Name|
SEL^Self|Patient DOB|Patient Address 1^Address 2^City^State^Zip Code|||
|||||||Patient's Insurance Co Policy Number|||||||Patient Sex
```

## GT1 – Guarantor Segment

The GT1 segment contains guarantor (e.g., the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications.

### NOTE:

- If the Financial Class is **Facility**, the GT1 segment is **required**.
- If the Financial Class is **Insurance or Medicare**, the GT1 segment is **optional** and contains Subscriber information. If the EHR Order does not contain GT1 segment, the Subscriber data will be taken from IN1 segment. If Insured's Relationship to Patient (IN1.17) is "SEL^Self", the GT1 segment is **not needed**.
- If the Financial Class is **Patient/Self Pay**, the GT1 segment is **not needed**.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	GT1	yes	
1	Set ID - GT1	1	yes	Static Value
2	Guarantor Number	Not Supported		
3	Guarantor Name	XPN format Last Name^First Name^Middle Name	yes	Subscriber Name or Billing Facility Name
4	Guarantor Spouse Name	Not Supported		
5	Guarantor Address	XAD format Address 1^Address 2^City^State^Zip Code	yes	Subscriber Address or Billing Facility Address
6	Guarantor Phone Number	String	no	Subscriber Phone Number or Billing Facility Phone Number * <i>Preferred value</i>
7	Guarantor Business Phone Number	String	no	Subscriber Phone Number or Billing Facility Phone Number * <i>Will be used if GT1.6 field is empty</i>
8	Guarantor Date of Birth	YYYYMMDD	yes* if Subscriber	Subscriber DOB or Empty if Facility
9	Guarantor Gender	Code: F – Female M – Male U – Unknown	yes* if Subscriber	Subscriber Sex or Empty if Facility
10	Guarantor Type	Code	no	Y – if Subscriber or N – if Facility

Field #	Field Name	Value (Format)	Required	Notes
11	Guarantor Relationship	Code	yes	<p>If the Financial Class (PV1.20) is “Insurance” or “Medicare”:  SPO^Spouse  CHD^Child  OTH^Other  * OTH, Other, SPO, Spouse, CHD, Child values are also allowed.</p> <p>If the Financial Class (PV1.20) is “Facility”:  OTH^Other  * OTH, Other values are also allowed.</p>
12-57		Not Supported		

**Subscriber – if Financial Class (PV1.20) is “Insurance” or “Medicare”, and Guarantor Relationship (GT1.11) is NOT “SEL^Self”:**

```
GT1|1||Subscriber Last Name^First Name^Middle Name||Subscriber Address1^
Address 2^City^State^Zip Code|Subscriber Phone Number|Subscriber Phone
Number|Subscriber DOB|Subscriber Sex|Y|Guarantor Relationship
```

**Facility – if Financial Class (PV1.20) is “Facility”:**

```
GT1|1||Billing Facility Name||Billing Facility Address1^Address 2^City^State^
Zip Code|Billing Facility Phone Number|Billing Facility Phone Number|||N|
OTH^Other
```

## ORC – Common Order Segment

The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested).

The ORC segment is required. Only one (first) ORC segment will be processed by LimitLIS® v4.0. The ORC segment should always have at least one OBR segment after it.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	ORC	yes	
1	Order Control	NW	yes	Static value (New order/service)
2	Placer Order Number	String	yes	Requisition External Source ID
3-11		Not Supported		
12	Ordering Provider	<a href="#">XCN</a> format	yes	<p>Requesting Physician ID^Physician Last Name^First Name^Middle Name  NOTE: Physician ID (e.g. NPI) is required and the physician must exist in the LimitLIS® system.</p>
13-34		Not Supported		

```
ORC|NW|Requisition External Source ID|||||||Requesting Physician ID^
Physician Last Name^First Name^Middle Name
```

## OBR – Observation Request Segment

The Observation Request (OBR) segment is used to transmit information specific to an order for a diagnostic study or observation, physical exam, or assessment.

In the HL7 Order message, implemented in LimitLIS® v4.0, the OBR segment is used to transmit ordered tests/test panels, Observations/Results (POC Tests) Header, and an EHR Patient Signature Flag.

- **Observations/Results (POC Tests) Header**

The system recognizes the OBR segment as the Observations/Results (POC Tests) Header by the value “**POINTOFCARE^Point of Care**” in the Universal Service Identifier (OBR.4) field. The POC OBR segment is used to transmit the POC Testing information, such as POC Testing Date and Specimen Type and is not processed as a test order.

If there is no a value in the POC OBR.7 (POC Testing Date)/OBR.15 (Specimen Source), or if the POC OBR segment is not used in the Order, the system takes those values from the first OBR segment.

- **EHR Patient Signature Flag**

The system recognizes the OBR segment as the EHR Patient Signature Flag by the value “**CONSENT^Patient consent for testing**” in the Universal Service Identifier (OBR.4) field. The EHR Patient Signature Flag “CONSENT” must set in the LimitLIS® v4.0 system for the Laboratory (Settings & Options); the “Patient consent for testing” is a static value.

The OBR segment with the Signature Flag is used to transmit the encoded patient signature data from the OBX segment and is not processed as a test order.

- **Ordered Tests/Test Panels**

If the EHR Order does not contain the OBR segment with ordered tests/test panels but contains medications and/or POC tests that associated with Reflex Rules set in the LimitLIS® v4.0 system, the reflected tests will be automatically added to a Requisition in accordance with the rules.

**NOTE:** The EHR Order must contain at least one OBR segment to transmit Collection Date and Specimen Source.

The OBR segment is required and may repeat. As part of the associated ORC hierarchy, OBR should always follow the ORC segment.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	OBR	yes	
1	Set ID - OBR	#	yes	The sequence number of the OBR segments within the ORC segment.
2	Placer Order Number	String	no	Requisition External Source ID
3	Filler Order Number	Not Supported		
4	Universal Service Identifier	<a href="#">CWE</a> format	yes	Test Panel Code^Test Panel Description or Test Code^Test Description or CONSENT^Patient consent for testing or POINTOFCARE^Point of Care

Field #	Field Name	Value (Format)	Required	Notes
5	Priority	R	no	Static Value
6	Requested Date/time	Not Supported		
7	Observation Date/Time	YYYYMMDDHHMM	yes	Collection Date/Time
8-14		Not Supported		
15	Specimen Source	String	yes	Specimen Type Code or Name * <i>Case sensitive</i>
16	Ordering Provider	<a href="#">XCN</a> format	no	Requesting Physician ID^Physician Last Name^First Name^Middle Name
17-54		Not Supported		

### Ordered Test Panel:

```
OBR|1|Requisition External Source ID||Test Panel Code^Test Panel
Description|R||YYYYMMDDHHMM|||||Specimen Type Code or Name|Requesting
Physician ID^Physician Last Name^First Name^Middle Name
```

### Ordered Test:

```
OBR|2|Requisition External Source ID||Test Code^Test
Description|R||YYYYMMDDHHMM|||||Specimen Type Code or Name|Requesting
Physician ID^Physician Last Name^First Name^Middle Name
```

### EHR Patient Signature Flag:

```
OBR|3|Requisition External Source ID||CONSENT^Patient consent for
testing|R||YYYYMMDDHHMM|||||Specimen Type Code or Name|Requesting
Physician ID^Physician Last Name^First Name^Middle Name
```

### Observations/Results (POC Tests) Header:

```
OBR|4|Requisition External Source ID||POINTOFCARE^Point of
Care|R||YYYYMMDDHHMM|||||Specimen Type Code or Name|Requesting Physician
ID^Physician Last Name^First Name^Middle Name
```

## NTE – Notes and Comments Segment

The NTE segments are commonly used for sending Notes and Comments as well as Medications and Medical Necessity.

The meaning of the NTE segment is determined by specifying the corresponding "indication of the associated group" to be included in the NTE.3 field. The following indications are allowed: Medications, Medical Necessity, Statement of Medical Necessity, and Comments. The NTE segment without the indication will be treated as a Comment.

To transfer multiple Medications, they should be listed in **one** NTE segment, separated by a comma with no space. Alternately, the RXO segment can be used to transfer Medications.

The default maximum length of the text of an NTE record is 75 characters. On request, the maximum length can be increased. Please discuss this matter with the LimitLIS® project manager.

The NTE segment is optional and may repeat. As part of the associated OBR hierarchy, NTE should follow the OBR segment.



Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	NTE	yes	
1	Set ID - NTE	#	yes	The sequence number of the NTE segments within the OBR segment.
2	Source of Comment	P	no	P - Orderer (placer) is source of comment. Static Value
3	Comment	String  An indication of the associated group + Text	no	“Medications” + Medication Description * May contain multiple medications. Must be separated by a comma with no space. * Case insensitive. or “Medical Necessity”/”Statement of Medical Necessity” + Medical Necessity text or “Comments” + Comment text
4-8		Not Supported		

### Medications:

NTE|1|P|**Medications** Medication1,Medication2,Medication3

### Medical Necessity:

NTE|2|P|**Medical Necessity** Patient has an allergy

or

NTE|2|P|**Statement of Medical Necessity** Patient has an allergy

### Comment:

NTE|3|P|**Comments** Patient requested scheduled visits

or

NTE|3|P|Patient requested scheduled visits

## DG1 – Diagnosis Segment

The DG1 segment contains patient diagnosis information. LimitLIS® v4.0 supports ICD-10 codes. For other codes, please contact the LimitLIS® project manager.

If EHR Order contains more than 6 IC10 codes, only 6 first codes will be processed based on their order (sequence number) in the ORM message. The additional codes will still be applied to the order, but not in a specific sequence.

This segment is required and may repeat.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	DG1	yes	
1	Set ID - DG1	#	yes	Sequence number
2	Diagnosis Coding Method	Not Supported		
3	Diagnosis Code	<a href="#">CWE</a> format	yes	Diagnosis Code^Diagnosis Description
4-26		Not Supported		

DG1|1||Diagnosis Code^Diagnosis Description



## OBX – Observation/Results Segment

In the HL7 Order message, implemented in LimitLIS® v4.0, the OBX segment is used to transmit Observations/Results (Point of Care Test results) and encoded signature file data.

- Encoded Patient Signature Data**

To process the encoded patient signature data from the OBX segment, the EHR Order must contain the EHR Patient Signature Flag “CONSENT” in the OBR segment, which should be also set in the LimitLIS® v4.0 system for the Laboratory (Settings & Options). The system allows the processing the JPEG and PNG of the patient signature.

- Observations/Results (POC Tests)**

Optionally, the EHR Order may contain the Observations/Results (POC Tests) Header “POINTOFCARE^Point of Care” in the OBR segment to transmit the POC Testing information, such as POC Testing Date and Specimen Type. The Point of Care Test results are transmitted from the OBX segment.

If the EHR Order contains POC tests that associated with Reflex Rules set in the LimitLIS® v4.0 system, the reflected tests will be automatically added to a Requisition in accordance with the rules.

This segment is optional and may repeat.

Field #	Field Name	Value (Format)	Required	Notes
0	Record Type	OBX	yes	
1	Set ID - OBX	#	yes	Sequence number
2	Value Type	ST	yes	ST – String data. Static Value.
3	Observation Identifier	<a href="#">CWE</a> format	yes	POC Test Code^POC Test Name or Encoded signature file data: base-64^image/jpg
4	Observation Sub-ID	Not Supported		
5	Observation Value	Code	no	P – Positive N – Negative
6-30		Not Supported		

```
OBX|1|ST|POC Test Code^POC Test Name||P
```

```
OBX|2|ST|POC Test Code^POC Test Name||N
```

```
OBX|3|ST|base-64^image/jpg||/9j/4AAQSkZJR...
```

## ORU – Result Message

### HL7 Result (ORU\_R01) Message Structure

The table below describes the sequential structure of an HL7 Result message implemented in LimitLIS® v4.0 system.

Segments with no brackets around it – will be always sent, [] – Optional, {} - May repeat, [{}] - Optional and May repeat.

If the transmission of any segment type will cause a processing problem in the receiving system, please bring this fact to the attention of the LimitLIS® project manager.

The Result (ORU) message structure:

MSH				Message Header
	PID			Patient Identification
		ORC		Common Order
			{OBR}	Orderable Test
			{OBX}	Observations/Results
			[{NTE}]	Notes and Comments
			[{NTE}]	Outcome
			{OBX}	Observations/Results
			[{NTE}]	Notes and Comments
			[{NTE}]	Outcome
			{OBR}	Orderable Test
			{OBX}	Observations/Results
			[{NTE}]	Notes and Comments
			[{NTE}]	Outcome
			{OBX}	Observations/Results
			[{NTE}]	Notes and Comments

### HL7 Result (ORU\_R01) Segment Specifications

ORU is used in response to an order and provides clinical observations. In HL7 messaging, ORU messages provide structured patient-oriented clinical data between systems.

The ORU message is generated when a Requisition is released in the LimitLIS® v4.0 system, or when test results are corrected. The LimitLIS® v4.0 system also provides the ability to generate an HL7 Result file when a requisition is canceled by the laboratory. This option can be set in the LimitLIS® v4.0 interface for a Client/Facility via “Settings & Options”. The LimitLIS® v4.0 system also allows to resend EHR Results in bulk or individually, using the corresponding tools within the system UI.

The tables below show the fields that will be sent within each of the segments and the nature of the data each field contains. All fields that have been greyed out are not supported by LimitLIS® v4.0 and are not sent. Below each table is placed example(s).

If the receiving application requires the use of additional specific fields that are greyed out or not specified in this specification, please discuss this matter with the LimitLIS® project manager.

A Sample of the ORU Result message is given in [Appendix 2](#).



## MSH – Message Header Segment

The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.

The MSH segment is always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	MSH	
1	Field Separator		Default Value, other separator values can be supported
2	Encoding Characters	^~\&	Default Value, other values can be supported
3	Sending Application	HD format	LimitLIS® System Name^Version Number
4	Sending Facility	HD format	Lab Identifier^Lab Account Number <i>*Optional. Configured in LimitLIS® (HL7 Server Configurations)</i>
5	Receiving Application	String	HL7 Provider Name
6	Receiving Facility	HD format	Facility Name^EHR Account Number <i>* Configured in LimitLIS® (Facility → EHR Account)</i>
7	Date/Time of Message	YYYYMMDDHHMMSS	EHR Record Creation Date/Time
8	Security	Not Supported	
9	Message Type	ORU^R01	Static Value
10	Message Control ID	String	Requisition ID
11	Processing ID	Code	HL7 Mode: P – Production T – Training D – Debug/Testing
12	Version ID	2.7	HL7 Version Number
13-25		Not Supported	

```
MSH|^~\&|LimitLIS System Name^Version Number|Lab Identifier^Lab Account
Number|HL7 Provider Name|Facility Name^EHR Account Number|YYYYMMDDHHMMSS||
ORU^R01|Requisition ID|P|2.7
```

## PID – Patient Identification Segment

The PID segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

The PID segment is always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	PID	
1	Set ID - Patient ID	1	Static Value
2	Patient ID	String	Patient External Source ID or Patient MRN if the Patient does not have External Source ID
3	Patient Identifier List	String	Patient External Source ID or Patient MRN if the Patient does not have External Source ID

Field #	Field Name	Value (Format)	Notes
4	Alternate Patient ID	String	Patient MRN
5	Patient Name	<a href="#">XPN</a> format	Last Name^First Name^Middle Name
6	Mother's Maiden Name	Not Supported	
7	Date/Time of Birth	YYYYMMDD	
8	Gender	Code	F – Female M – Male U - Unknown
9-10		Not Supported	
11	Patient Address	<a href="#">XAD</a> format	Address 1^Address 2^City^State^Zip Code
12	County Code	Not Supported	
13	Phone Number - Home	<a href="#">XTN</a> format	Phone Number^^^^Area/City Code^Local Number^Extension
14-17		Not Supported	
18	Patient Account Number	String	Patient MRN
19-40		Not Supported	

```
PID|1|Patient External Source ID|Patient External Source ID|Patient MRN|
Patient Last Name^First Name^Middle Name||YYYYMMDD|Patient Gender|||Patient
Address 1^Address 2^City^State^Zip Code||Patient Phone Number^^^^Area/City
Code^Local Number^Extension||||Patient MRN||||
```

## ORC – Common Order Segment

The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested).

The ORC segment is always sent.

The ORC segment will always have at least one OBR segment after it.

Field #	Field Name	Value (Format)	Notes
0	Record Type	ORC	
1	Order Control	RE	Static value (Observations/Performed Service to follow)
2	Placer Order Number	String	Requisition External Source ID or Requisition ID if the Requisition does not have External Source ID
3	Filler Order Number	String	Requisition ID
4-5		Not Supported	
6	Response Flag	D	Static Value
7-8		Not Supported	
9	Date/Time of Transaction	YYYYMMDDHHMMSS	Released Date/Time
10-11		Not Supported	
12	Ordering Provider	<a href="#">XCN</a> format	Requesting Physician ID^Physician Last Name^First Name^Middle Name^^^^^^^^NPI
13-14		Not Supported	
15	Order Effective Date/Time	YYYYMMDDHHMMSS	Received Date/Time
16-20		Not Supported	

Field #	Field Name	Value (Format)	Notes
21	Ordering Facility Name	<a href="#">XON</a> format	Facility Name^D^^^^AN^A^EHR Account Number <i>*Configured in LimitLIS® (Facility → EHR Account)</i>
22-34		Not Supported	

```

ORC|RE|Requisition External Source ID|Requisition ID|||D|||YYYYMMDDHHMMSS|||
Requesting Physician ID^Physician Last Name^First Name^Middle Name^^^^^^^^^
NPI|||YYYYMMDDHHMMSS|||Facility Name^D^^^^AN^A^EHR Account Number

```

## OBR – Observation Request Segment

The Observation Request (OBR) segment is used to transmit information specific to an order for a diagnostic study or observation, physical exam, or assessment.

The OBR segment will always be sent and may repeat. As part of the associated ORC hierarchy, OBR will always follow the ORC segment. Each OBR will have at least one OBX segment associated with it.

Field #	Field Name	Value (Format)	Notes
0	Record Type	OBR	
1	Set ID - OBR	#	The sequence number of the OBR segments within the ORC segment.
2	Placer Order Number	String	Requisition External Source ID or Requisition ID if the Requisition does not have External Source ID
3	Filler Order Number	String	Requisition ID
4	Universal Service Identifier	<a href="#">CWE</a> format	Test Code^Test Description^L or POC^POC Results (Static Value. Header for POC test results) or Base64^Embedded PDF (Static Value – flag for Base 64 Encrypted report file data)
5	Priority	R	Static Value
6	Requested Date/time	YYYYMMDDHHMMSS	Received Date/Time or Empty for Base 64 Encrypted report file data
7	Observation Date/Time	YYYYMMDDHHMMSS	Collection Date/Time
8-13		Not Supported	
14	Specimen Received Date/Time	YYYYMMDDHHMMSS	Received Date/Time
15	Specimen Source	String	Specimen Type Code or Specimen Type Name if the Specimen Type does not have a Code or Empty for Base 64 Encrypted report file data
16	Ordering Provider	<a href="#">XCN</a> format	Requesting Physician ID^Physician Last Name^First Name^Middle Name^^^^^^^^^NPI
17-21		Not Supported	

Field #	Field Name	Value (Format)	Notes
22	Date/Time Observations Reported	YYYYMMDDHHMMSS	Report Date/Time or Corrected Report Date/Time or Cancelled Report Date/Time
23-24		Not Supported	
25	Order Result Status	Code	F - Final results C - Correction to results
26-52		Not Supported	
53	Alternate Placer Order Number	String	Sample Number or Empty for POC Tests
54	Parent Order	Not Supported	

### POC Tests :

```
OBR|1|Requisition External Source ID|Requisition ID|POC^POC Results|R|
YYYYMMDDHHMMSS|YYYYMMDDHHMMSS|||||YYYYMMDDHHMMSS|Specimen Type Code or
Name|Requesting Physician ID^Physician Last Name^First Name^Middle Name^^^^
^^^^NPI|||||YYYYMMDDHHMMSS|||Order Result Status
```

### Ordered Tests:

```
OBR|2|Requisition External Source ID|Requisition ID|Test Code^Test
Description^L|R|YYYYMMDDHHMMSS|YYYYMMDDHHMMSS|||||YYYYMMDDHHMMSS|Specimen
Type Code or Name|Requesting Physician ID^Physician Last Name^First Name^
Middle Name^^^^^^^^NPI|||||YYYYMMDDHHMMSS|||Order Result Status|||||||
|||||Sample Number
```

### Base64 encrypted report file:

```
OBR|3|Requisition External Source ID|Requisition ID|Base64^Embedded PDF|R||
YYYYMMDDHHMMSS|||||YYYYMMDDHHMMSS||Requesting Physician ID^Physician Last
Name^First Name^Middle Name^^^^^^^^NPI|||||YYYYMMDDHHMMSS|||Order Result
Status
```

## OBX – Observation/Results Segment

In the ORU messages, the OBX segment is used to transmit clinical observation/results reporting information.

For the group of tests, which represents a collection of individual measurements, each measurement is conveyed in its own OBX segment.

Non-Reportable tests will not be sent.

Test results for analytes with enabled "Hide value" option will be sent without Outcome (in the NTE segment), and the Result value in the OBX.5 will be replaced with the Flag/HL7 Interpretation Code.

The OBX segment will be always sent and may repeat. As part of the associated OBR hierarchy, OBX will always follow the OBR segment.



Field #	Field Name	Value (Format)	Notes
0	Record Type	OBR	
1	Set ID - OBR	#	The sequence number of the OBR segments within the OBR segment.
2	Value Type	Code	ST – String data (for POC results, for results with interpretation value, and for qualitative analytes) NM - Numeric TX – Text Data (when the value length is > 32 characters) ED - Encapsulated data (for Base64 encrypted report file)
3	Observation Identifier	<a href="#">CWE</a> format	POC Test Code^POC Test Name^L or Analyte Name^Analyte Name^L^^ or PDF (Static Value for Base64 encrypted report file)
4	Observation Sub-ID	#	Empty if POC Test result or The sequence number of the OBR segments within the OBR segment if regular Tests or Base64 (Static Value for Base64 encrypted report file)
5	Observation Value	String	Test Result Value or Interpretation value or HL7 Interpretation Code for analytes with enabled "Hide value" option ( <a href="#">see Appendix 5</a> ) or Base64 encrypted report file
6	Units of Measure Identifier	String	Test Result Unit or Empty if a qualitative analyte
7	Reference Ranges	String	Empty if POC Test result or qualitative analyte or Reference Range (Low Value - High Value)
8	Interpretation Code	Code	HL7 Interpretation Code (Flag) ( <a href="#">see Appendix 5</a> )
9-10		Not Supported	
11	Observation Result Status	Code	F - Final results C - Correction to results
12-13		Not Supported	
14	Date/Time of the Observation	YYYYMMDDHHMMSS	Report Date/Time or Corrected Report Date/Time or Canceled Report Date/Time
15	Producer ID	<a href="#">CWE</a> format	POC^Point of Care (Static Value) or CLIA Number^Lab Name * <i>Optional. Configured in LimitLIS® (Laboratory → Report Settings)</i>
16	Responsible Observer	<a href="#">XCN</a> format	Empty if POC Test result or Test Performer License Number^Test Performer Last Name^Test Performer First Name * <i>User in LimitLIS® who finalized test results</i>

Field #	Field Name	Value (Format)	Notes
17-22		Not Supported	
23	Performing Organization Name	<a href="#">XON</a> format	Empty if POC Test result or Lab Name * <i>Optional. Configured in LimitLIS® (Laboratory → Report Settings)</i>
24	Performing Organization Address	<a href="#">XAD</a> format	Empty if POC Test result or Lab Address 1^Address 2^City^State^Zip Code * <i>Optional. Configured in LimitLIS® (Laboratory → Report Settings)</i>
25	Performing Organization Medical Director	<a href="#">XCN</a> format	Empty if POC Test result or Lab Director Physicians Code^Lab Director Last Name^Lab Director First Name^^^Lab Director Degree * <i>Configured in LimitLIS® (Contacts → Laboratory Director)</i>
26-30		Not Supported	

### POC Tests :

OBX|1|ST|POC Test Code^POC Test Name^L||POC Test Result Value|Test Result Unit||HL7 Interpretation Code|||Observation Result Status|||YYYYMMDDHHMMSS|POC^Point of Care

### Quantitative Analytes:

OBX|1|NM|Analyte Name^Analyte Name^L^^|1|Test Result Value|Test Result Unit|Low Value - High Value|HL7 Interpretation Code|||Observation Result Status|||YYYYMMDDHHMMSS|CLIA Number^Lab Name|Test Performer License Number^Test Performer Last Name^Test Performer First Name|||||Lab Name|Lab Address 1^Address 2^City^State^Zip Code|Lab Director Physicians Code^Lab Director Last Name^Lab Director First Name^^^Lab Director Degree

### Qualitative Analytes:

OBX|1|ST|Analyte Name^Analyte Name^L^^|1|Test Result Value|||HL7 Interpretation Code|||Observation Result Status|||YYYYMMDDHHMMSS|CLIA Number^Lab Name|Test Performer License Number^Test Performer Last Name^Test Performer First Name|||||Lab Name|Lab Address 1^Address 2^City^State^Zip Code|Lab Director Physicians Code^Lab Director Last Name^Lab Director First Name^^^Lab Director Degree

### Analytes with Enabled "Hide value" Option:

OBX|1|NM|Analyte Name^Analyte Name^L^^|1|HL7 Interpretation Code|Test Result Unit|Low Value - High Value|HL7 Interpretation Code|||Observation Result Status|||YYYYMMDDHHMMSS|CLIA Number^Lab Name|Test Performer License Number^Test Performer Last Name^Test Performer First Name|||||Lab Name|Lab Address 1^Address 2^City^State^Zip Code|Lab Director Physicians Code^Lab Director Last Name^Lab Director First Name^^^Lab Director Degree

### Base64 encrypted report file:

OBX|1|ED|PDF|Base64|^PDFReport^PDF^Base64^JVBERi0xLjQ...





## NTE – Notes and Comments Segment

The NTE segments are commonly used for sending Notes and Comments as well as posting Outcomes.

The description in the message containing an indication of the associated group defines the meaning of the NTE segments. NTE without the indication will mean a Comment. NTE with "Outcome" indication will contain a certain value, if applicable. The Outcome is not sent for an analyte with enabled "Hide value" option.

The default maximum length of the text in the NTE segment is 75 characters. On request, the maximum length can be set according to the receiving system. Please discuss this matter with the LimitLIS® project manager.

The NTE segment is optional and may repeat. As part of the associated OBX hierarchy, NTE will follow the OBX segment.

Field #	Field Name	Value (Format)	Notes
0	Record Type	NTE	
1	Set ID - NTE	#	The sequence number of the NTE segments within the OBX segment.
2	Source of Comment	Code	L - Ancillary (filler) department is a source of comment or O - Other system is a source of comment
3	Comment	String	Comment text or Outcome: value
4	Comment Type	Code	RE - Remark
5-8		Not Supported	

### Comment:

```
NTE|1|O|Comment text|
```

### Posting Outcomes:

```
NTE|2|L|Outcome: CONSISTENT|RE
NTE|3|L|Outcome: INCONSISTENT|RE
```

## DFT – Detail Financial Transaction

### HL7 DFT\_P03 Message Structure

The table below describes the sequential structure of an HL7 DFT message implemented in LimitLIS® v4.0 system.

Segments with no brackets around it – will be always sent, [] – Optional, {} - May repeat, [{}] - Optional and May repeat.

If the transmission of any segment type will cause a processing problem in the receiving system, please bring this fact to the attention of the LimitLIS® project manager.

The Detail Financial Transaction (DFT) message structure:

MSH	Message Header
PID	Patient Identification
PD1	Patient Additional Demographic
PV1	Patient Visit
{FT1}	Financial Transaction
{DG1}	Diagnosis
GT1	Guarantor
[{IN1}]	Insurance

### HL7 DFT\_P03 Segment Specifications

The DFT message describes a financial transaction that is sent to a billing system and is used for patient accounting purposes.

The DFT message is generated when a Requisition is released in the LimitLIS® v4.0 system. The system also allows to regenerate and resend DFT files in bulk or individually, using the corresponding tools in the system UI.

The tables below show the fields that will be sent within each of the segments and the nature of the data each field contains. All fields that have been greyed out will not be sent. Below each table is placed example(s).

If the receiving application requires the use of additional specific fields that are greyed out or not specified in this document, please discuss this matter with the LimitLIS® project manager.

There are three types of billing in LimitLIS® v4.0, depending on configuration, which are described in detail in the [FT1 – Financial Transaction Segment](#) section of this document.

Samples of the DFT Billing message are given in [Appendix 3](#).

## MSH – Message Header Segment

The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.

The MSH segment is always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	MSH	
1	Field Separator		Default Value, other separator values can be supported
2	Encoding Characters	^~\&	Default Value, other values can be supported
3	Sending Application	HD format	LimitLIS® System Name^Version Number
4	Sending Facility	HD format	Lab Identifier^Lab Account Number * Optional. Configured in LimitLIS® (HL7 Server Configurations)
5	Receiving Application	String	HL7 Provider Name
6	Receiving Facility	HD format	Facility Name^Facility Billing Identifier * Configured in LimitLIS® (Facility → Settings & Options)
7	Date/Time of Message	YYYYMMDDHHMMSS	Billing Record Creation Date/Time
8	Security	Not Supported	
9	Message Type	DFT^P03	Static Value
10	Message Control ID	String	Requisition ID
11	Processing ID	Code	HL7 Mode: P – Production T – Training D – Debug/Testing
12	Version ID	2.7	HL7 Version Number
13-25		Not Supported	

```
MSH|^~\&|LimitLIS System Name^Version Number|Lab Identifier^Lab Account
Number|HL7 Provider Name|Facility Name^Facility Billing Identifier|
YYYYMMDDHHMMSS||DFT^P03|Requisition ID|P|2.7
```

## PID – Patient Identification Segment

The PID segment is used by all applications as the primary means of communicating patient identification information. This segment contains patient identifying and demographic information that, for the most part, is not likely to change frequently.

This segment will be always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	PID	
1	Set ID - Patient ID	1	Static Value
2	Patient ID	String	Patient External Source ID or Patient MRN if the Patient does not have External Source ID

Field #	Field Name	Value (Format)	Notes
3	Patient Identifier List	String	Patient External Source ID or Patient MRN if the Patient does not have External Source ID
4	Alternate Patient ID	String	Patient MRN
5	Patient Name	XPN format	Last Name^First Name^Middle Name
6	Mother's Maiden Name	Not Supported	
7	Date/Time of Birth	YYYYMMDD	
8	Gender	Code	F – Female M – Male U - Unknown
9-10		Not Supported	
11	Patient Address	XAD format	Address 1^Address 2^City^State^Zip Code
12	County Code	Not Supported	
13	Phone Number - Home	XTN format	Phone Number^^^^Area/City Code^Local Number^Extension
14-17		Not Supported	
18	Patient Account Number	String	Patient MRN
19-40		Not Supported	

```
PID|1|Patient External Source ID|Patient External Source ID|Patient MRN|
Patient Last Name^First Name^Middle Name||YYYYMMDD|Patient Gender|||Patient
Address 1^Address 2^City^State^Zip Code||Patient Phone Number^^^^Area/City
Code^Local Number^Extension||||Patient MRN||||
```

## PD1 – Patient Additional Demographic Segment

The Patient Additional Demographic (PD1) segment contains demographic information that is likely to change about the patient. In the LimitLIS® v4.0 system, this segment is used to transmit the Patient's Primary Physician information.

This segment will be always sent but may be empty.

Field #	Field Name	Value (Format)	Notes
0	Record Type	PD1	
1-3		Not Supported	
4	Patient Primary Care Provider Name & ID No.	String	Primary Physician information
5-22		Not Supported	

```
PD1||||Primary Physician information
```

## PV1 – Patient Visit Segment

The PV1 segment is used by Registration/Patient Administration applications to communicate information on an account or visit-specific basis. The default is to send account level data.

This segment will be always sent.



Field #	Field Name	Value (Format)	Notes
0	Record Type	PV1	
1	Set ID - PV1	1	Static Value
2	Patient Class	O	Static Value
3-7		Not Supported	
8	Referring Doctor	<a href="#">XCN</a> format	Requesting Physician ID^Physician Last Name^First Name^Middle Name^^^^^^^NPI
9-19		Not Supported	
20	Financial Class	Code	Insurance Medicare Facility Patient/Self Pay
21-33		Not Supported	
34	Delete Account Indicator	N	Static Value
35-51		Not Supported	
52	Other Healthcare Provider	<a href="#">XCN</a> format	^Facility Account Manager Last Name^First Name^Middle Name * <i>Optional. Laboratory Contact selected in LimitLIS® (Facility → Settings &amp; Options → Account Manager)</i>
53-54		Not Supported	

```
PV1|1|O|||||Requesting Physician ID^Physician Last Name^First Name^Middle
Name^^^^^^^NPI|||||||Financial Class|||||||N|||||||
^Facility Account Manager Last Name^First Name^Middle Name
```

## FT1 – Financial Transaction Segment

The FT1 segment contains the data necessary to post charges, payments, adjustments, etc., to patient accounting records.

This segment should be always sent and may repeat. The absence of the FT1 segment in the HL7 DFT message indicates an improper Test(s) configuration in the LimitLIS® system. Namely, an Individual Test does not have a CPT Code, and it's unrelated to any test class, marked as "Non-Reportable", or the option "Test Class Billing" is disabled in System Settings. In case of occurrence, bring this fact to the attention of the LimitLIS® project manager.

There are three types of billing in LimitLIS® v4.0 depending on configuration:

### 1. **Test Class billing** (the option "Test Class Billing" is enabled in System Settings → General Settings → Features tab).

- Tests associated with a particular drug class will be grouped and billed as a class and not individually. Accordingly, the FT1 segment will be generated for each class, and the CPT code of the class will be sent in FT1.25.
- CPT codes on individual tests will be ignored, as well as the absence of the CPT code on a test. For example:
  - If on a test the CPT code is not specified, but the test is associated with a class, it is billed as the Test Class, and CPT code of the class will be sent to FT1;

- If the test is associated with the class, but the CPT code specified on the test is different than the CPT code specified on the class, it is still billed as the Test Class, and the CPT code of the class will be sent to FT1.
- If a test has the CPT code, but it is not associated with a class, or the test is marked as “Non-Reportable”, it will be billed as an Individual Test. In this case, there will be separate FT1 segments per each CPT code specified on the test. The FT1 segment is generated only if the Individual Test has at least one CPT code on it.

## 2. **HCPCS G048x Codes billing** (in addition to the enabled option "Test Class Billing", the "HCPCS Code G048X Billing" option is enabled on an Insurance Company).

- Tests associated with drug classes will be grouped by a number of unique drug class values and billed as a G-Code depending on the number.
  - G0480 – 1 - 7 drug class(es);
  - G0481 – 8 - 14 drug classes;
  - G0482 – 15 - 21 drug classes;
  - G0483 – 22 or more drug classes.
- In this case, the FT1 segment will be generated for the corresponding group and display the HCPCS G048x code in FT1.25.
- CPT codes on individual tests will be ignored, as well as the absence of the CPT code on a test.
- If a test has a CPT code, but it is not associated with a class, or the test is marked as “Non-Reportable”, it will be billed as an Individual Test. In this case, there will be separate FT1 segments per each CPT code specified on a test. The FT1 segment is generated only if the Individual Test has at least one CPT code on it.

## 3. **Individual Tests billing.**

- If a test is marked as “Non-Reportable” or unrelated to a test class, it will be billed as an Individual Test.
- If the option "Test Class Billing" is disabled in System Settings, all tests will be billed individually.
- There will be separate FT1 segments per each CPT code specified on the test.
- Individual Tests without CPT code will not be sent to billing.

Field #	Field Name	Value (Format)	Notes
0	Record Type	FT1	
1	Set ID – FT1	#	Sequence number
2-3		Not Supported	
4	Transaction Date	YYYYMMDDHHMMSS	Collection Date/Time
5	Transaction Posting Date	Not Supported	
6	Transaction Type	CG	Static Value (Charge)
7	Transaction Code	String	Test Code or Empty if Test Class Billing is set or Empty if HCPCS Code G048X Billing is set
8	Transaction Description	String	Test Description or Test Class Name or Empty if HCPCS Code G048X Billing is set

**Test Class Billing:**

### **HCPCS G048x Code Billing:**

### Individual Test Billing:



## Non-Reportable Test Billing:

```
FT1|1|||YYYYMMDDHHMMSS||CG|Test Code|Description|Test Description|Test Result
Value|||Test Performer License Number^Test Performer Last Name^First
Name|Requesting Physician ID^Physician Last Name^First Name^Middle Name^^^^
^^^^^NPI||Sample Number||CPT Code|||Lab Name^D^^^^^PPIN^^^ CLIA Number|
Facility Name^D^^^^^FI^^^Facility Billing Identifier|||
```

## DG1 – Diagnosis Segment

The DG1 segment contains patient diagnosis information. LimitLIS® v4.0 supports ICD-10 codes. For other codes, please contact the LimitLIS® project manager.

Up to 6 ICD10 codes are sent to billing based on their sequence of relevance/importance.

Regardless of length, the ICD10 codes are sent with one period after the third character. Example: S39.91XA

This segment will be always sent and may repeat.

Field #	Field Name	Value (Format)	Notes
0	Record Type	DG1	
1	Set ID - DG1	#	Sequence number
2	Diagnosis Coding Method	I10	Static Value
3	Diagnosis Code	<a href="#">CWE</a> format	Diagnosis Code^Diagnosis Description^I10
4-26		Not Supported	

```
DG1|1|I10|Diagnosis Code^Diagnosis Description^I10
```

## GT1 – Guarantor Segment

The GT1 segment contains guarantor (e.g., the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications.

This segment will be always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	GT1	
1	Set ID - GT1	1	Static Value
2	Guarantor Number	String	Patient MRN if Financial Class (PV1.20) is “Patient/Self Pay”, or if Guarantor Relationship (GT1.11) is “SEL^Self”. Otherwise empty.
3	Guarantor Name	<a href="#">XPN</a> format	Patient Last Name^First Name^Middle Name or Subscriber Last Name^First Name^Middle Name or Billing Facility Name
4	Guarantor Spouse Name	Not Supported	



Field #	Field Name	Value (Format)	Notes
5	Guarantor Address	<a href="#">XAD</a> format Address 1^Address 2^City^State^Zip Code	Patient Address or Subscriber Address or Billing Facility Address
6	Guarantor Phone Number	<a href="#">XTN</a> format Phone Number^^^^ Area/City Code^Local Number^Extension	Patient Phone Number or Subscriber Phone Number or Billing Facility Phone Number
7	Guarantor Business Phone Number	<a href="#">XTN</a> format Phone Number^^^^ Area/City Code^Local Number^Extension	Patient Phone Number or Subscriber Phone Number or Billing Facility Phone Number
8	Guarantor Date of Birth	YYYYMMDD	Patient DOB or Subscriber DOB or Empty if Facility
9	Guarantor Gender	Code: F – Female M – Male U – Unknown	Patient Sex or Subscriber Sex or Empty if Facility
10	Guarantor Type	Code	Y – if Patient or Subscriber or N – if Facility
11	Guarantor Relationship	Code	If the Financial Class (PV1.20) is “Insurance” or “Medicare”: SEL^Self SPO^Spouse CHD^Child OAD^Other adult  If the Financial Class (PV1.20) is “Patient/Self Pay”: SEL^Self  If the Financial Class (PV1.20) is “Facility”: OTH^Other
12-57		Not Supported	

**Patient – if Financial Class (PV1.20) is “Patient/Self Pay”, or if Guarantor Relationship (GT1.11) is “SEL^Self”:**

```
GT1|1|Patient MRN|Patient Last Name^First Name^Middle Name||Patient Address 1
^Address 2^City^State^Zip Code|Patient Phone Number^^^^^Area/City Code^Local
Number^Extension|Patient Phone Number^^^^^Area/City Code^Local Number^
Extension|Patient DOB|Patient Gender|Y|SEL^Self
```

**Subscriber – if Financial Class (PV1.20) is “Insurance” or “Medicare”, and Guarantor Relationship (GT1.11) is NOT “SEL^Self”:**

```
GT1|1||Subscriber Last Name^First Name^Middle Name||Subscriber Address 1^
Address 2^City^State^Zip Code|Subscriber Phone Number^^^^^Area/City Code^
Local Number^Extension|Subscriber Phone Number^^^^^Area/City Code^Local
Number^Extension|Subscriber DOB|Subscriber Gender|Y|Guarantor Relationship
```

**Facility – if Financial Class (PV1.20) is “Facility”:**

```
GT1|1||Billing Facility Name||Billing Facility Address 1^Address 2^City^
State^Zip Code|Billing Facility Phone Number^^^^^Area/City Code^Local Number^
Extension|Billing Facility Phone Number^^^^^Area/City Code^Local Number^
Extension|||N|OTH^Other
```

## IN1 – Insurance Segment

The IN1 segment contains insurance policy coverage information necessary to produce properly pro-rated patient and insurance bills.

This segment will be sent only if Financial Class (PV1.20) is “Insurance” or “Medicare”.

The IN1 segment may repeat. The first IN1 segment will contain the primary insurance company information.

Field #	Field Name	Value (Format)	Notes
0	Record Type	IN1	
1	Set ID – IN1	#	Sequence number
2	Health Plan ID	Not Supported	
3	Insurance Company ID	String	Insurance Company Payer ID
4	Insurance Company Name	String	Insurance Company Name
5	Insurance Company Address	<a href="#">XAD</a> format	Insurance Company Address 1^Address 2^City^State^Zip Code
6	Insurance Co Contact Person	Not Supported	
7	Insurance Co Phone Number	<a href="#">XTN</a> format	Insurance Company Phone Number^^^^^Area/City Code^Local Number^Extension
8	Group Number	String	Patient’s Insurance Co Group Number
9-15		Not Supported	
16	Name of Insured	<a href="#">XPN</a> format Last Name^First Name^Middle Name	Subscriber Name or Patient Name
17	Insured's Relationship to Patient	Code	SEL^Self SPO^Spouse CHD^Child OAD^Other adult
18	Insured's Date of Birth	YYYYMMDD	Subscriber DOB or Patient DOB
19	Insured's Address	<a href="#">XAD</a> format Address 1^Address 2^City^State^Zip	Subscriber Address or Patient Address

Field #	Field Name	Value (Format)	Notes
20	Assignment of Benefits	Y	Static Value
21-35		Not Supported	
36	Policy Number	String	Patient's Insurance Co Policy Number
37-42		Not Supported	
43	Insured's Gender	Code: F – Female M – Male U – Unknown	Subscriber Sex or Patient Sex
44-55		Not Supported	

**Subscriber – if Insured's Relationship to Patient (IN1.17) is “SPO^Spouse”, “CHD^Child”, or “OAD^Other adult”:**

```
IN1|1||Insurance Company Payer ID|Insurance Company Name|Insurance Co Address
1^Address 2^City^State^Zip Code||Insurance Co Phone Number^^^^^Area/City Code
^Local Number^Extension|Patient's Insurance Co Group Number||||||Subscriber
Last Name^First Name^Middle Name|Insured's Relationship to Patient|YYYYMMDD|
Subscriber Address 1^Address 2^City^State^Zip Code|Y|||||||||||||Patient's
Insurance Co Policy Number||||Subscriber Gender|||||
```

**Patient – if Insured's Relationship to Patient (IN1.17) is “SEL^Self”:**

```
IN1|1||Insurance Company Payer ID|Insurance Company Name|Insurance Co Address
1^Address 2^City^State^Zip Code||Insurance Co Phone Number^^^^^Area/City Code
^Local Number^Extension|Patient's Insurance Co Group Number||||||Patient
Last Name^First Name^Middle Name|SEL^Self|YYYYMMDD|Patient Address 1^Address
2^City^State^Zip Code|Y|||||||||||||Patient's Insurance Co Policy Number||
||Patient Gender|||||
```

## ADT – Admit Discharge Transfer

There are 51 different types of ADT messages that are used for various trigger events. The following is the HL7 Data Mapping for the ADT\_A04 "Patient registration" outbound Interface that is used in the LimitLIS® v4.0 system by default. If the receiving application requires the use of other trigger events, please discuss this matter with the LimitLIS® project manager as they may not be supported without additional development.

### HL7 ADT\_A04 Message Structure

The table below describes the sequential structure of an HL7 ADT\_A04 message implemented in LimitLIS® v4.0.

Segments with no brackets around it – will be always sent, [] – Optional, {} - May repeat, [{}] - Optional and May repeat.

If the transmission of any segment type will cause a processing problem in the receiving system, please bring this fact to the attention of the LimitLIS® project manager.

The Admit Discharge Transfer (ADT) message structure:

MSH	Message Header
PID	Patient Identification
PD1	Patient Additional Demographic
PV1	Patient Visit
GT1	Guarantor
[{IN1}]	Insurance

### HL7 ADT\_A04 Segment Specifications

The ADT message carries patient demographic information synchronized across healthcare systems.

An ADT message is generated when a requisition is released in the LimitLIS® v4.0 system for a newly enrolled patient so that the Client system can match the financial transaction to a patient within the system. The system also allows resending Demographic files from the Patient record, using the corresponding tool in the system UI.

The tables below show the fields that will be sent within each of the segments and the nature of the data each field contains. All fields that have been greyed out will not be sent. Below each table is placed example(s).

If the receiving application requires the use of additional specific fields that are greyed out or not specified in this specification, please discuss this matter with the LimitLIS® project manager.

Samples of the ADT Demographic message are given in [Appendix 4](#).

## MSH – Message Header Segment

The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.

The MSH segment is always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	MSH	
1	Field Separator		Default Value, other separator values can be supported
2	Encoding Characters	^~\&	Default Value, other values can be supported
3	Sending Application	HD format	LimitLIS® System Name^Version Number
4	Sending Facility	HD format	Lab Identifier^Lab Account Number * <i>Optional. Configured in LimitLIS® (HL7 Server Configurations)</i>
5	Receiving Application	String	HL7 Provider Name
6	Receiving Facility	HD format	Facility Name^Facility Billing Identifier * <i>Configured in LimitLIS® (Facility → Settings &amp; Options)</i>
7	Date/Time of Message	YYYYMMDDHHMMSS	Patient Demographic Record Creation Date/Time
8	Security	Not Supported	
9	Message Type	ADT^A04	Static Value
10	Message Control ID	String	Patient MRN
11	Processing ID	Code	HL7 Mode: P – Production T – Training D – Debug/Testing
12	Version ID	2.7	HL7 Version Number
13-25		Not Supported	

```
MSH|^~\&|LimitLIS System Name^Version Number|Lab Identifier^Lab Account
Number|HL7 Provider Name|Facility Name^Facility Billing Identifier|
YYYYMMDDHHMMSS||ADT^A04|Patient MRN|P|2.7
```

## PID – Patient Identification Segment

The PID segment is used by all applications as the primary means of communicating patient identification information. This segment contains patient identifying and demographic information that, for the most part, is not likely to change frequently.

This segment will always be sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	PID	
1	Set ID - Patient ID	1	Static Value
2	Patient ID	String	Patient External Source ID or Patient MRN if the Patient does not have External Source ID

Field #	Field Name	Value (Format)	Notes
3	Patient Identifier List	String	Patient External Source ID or Patient MRN if the Patient does not have External Source ID
4	Alternate Patient ID	String	Patient MRN
5	Patient Name	XPN format	Last Name^First Name^Middle Name
6	Mother's Maiden Name	Not Supported	
7	Date/Time of Birth	YYYYMMDD	
8	Gender	Code	F – Female M – Male U - Unknown
9-10		Not Supported	
11	Patient Address	XAD format	Address 1^Address 2^City^State^Zip Code
12	County Code	Not Supported	
13	Phone Number - Home	XTN format	Phone Number^^^^Area/City Code^Local Number^Extension
14-17		Not Supported	
18	Patient Account Number	String	Patient MRN
19-40		Not Supported	

```
PID|1|Patient External Source ID|Patient External Source ID|Patient MRN|
Patient Last Name^First Name^Middle Name||YYYYMMDD|Patient Gender|||Patient
Address 1^Address 2^City^State^Zip Code||Patient Phone Number^^^^Area/City
Code^Local Number^Extension||||Patient MRN||||
```

## PD1 – Patient Additional Demographic Segment

The Patient Additional Demographic segment contains demographic information that is likely to change about the patient. In the LimitLIS® v4.0 system, this segment is used to transmit the Patient's Primary Physician information.

This segment will be always sent but may be empty.

Field #	Field Name	Value (Format)	Notes
0	Record Type	PD1	
1-3		Not Supported	
4	Patient Primary Care Provider Name & ID No.	String	Primary Physician information
5-22		Not Supported	

```
PD1||||Primary Physician information
```

## PV1 – Patient Visit Segment

The PV1 segment is used by Registration/Patient Administration applications to communicate information on an account or visit-specific basis. The default is to send account level data.

This segment will be always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	PV1	
1	Set ID - PV1	1	Static Value
2	Patient Class	O	Static Value
3-7		Not Supported	
8	Referring Doctor	<a href="#">XCN</a> format	Requesting Physician ID^Physician Last Name^First Name^Middle Name^^^^^^^NPI
9-19		Not Supported	
20	Financial Class	Code	Insurance Medicare Facility Patient/Self Pay
21-33		Not Supported	
34	Delete Account Indicator	N	Static Value
35-51		Not Supported	
52	Other Healthcare Provider	<a href="#">XCN</a> format	^Facility Account Manager Last Name^First Name^Middle Name * <i>Optional. Laboratory Contact selected in LimitLIS® (Facility → Settings &amp; Options → Account Manager)</i>

```
PV1|1|O||||| Requesting Physician ID^Physician Last Name^First Name^Middle
Name^^^^^^^NPI|||||||Financial Class|||||||N|||||||
^Facility Account Manager Last Name^First Name^Middle Name
```

## GT1 – Guarantor Segment

The GT1 segment contains guarantor (e.g., the person or the organization with financial responsibility for payment of a patient account) data for patient and insurance billing applications.

This segment will be always sent.

Field #	Field Name	Value (Format)	Notes
0	Record Type	GT1	
1	Set ID - GT1	1	Static Value
2	Guarantor Number	String	Patient MRN if Financial Class (PV1.20) is “Patient/Self Pay”, or if Guarantor Relationship (GT1.11) is “SEL^Self”.  Otherwise empty.
3	Guarantor Name	<a href="#">XPN</a> format	Patient Last Name^First Name^Middle Name or Subscriber Last Name^First Name^Middle Name or Billing Facility Name
4	Guarantor Spouse Name	Not Supported	
5	Guarantor Address	<a href="#">XAD</a> format Address 1^Address 2^ City^State^Zip Code	Patient Address or Subscriber Address or Billing Facility Address

Field #	Field Name	Value (Format)	Notes
6	Guarantor Phone Number	<a href="#">XTN</a> format Phone Number^^^^ Area/City Code^Local Number^Extension	Patient Phone Number or Subscriber Phone Number or Billing Facility Phone Number
7	Guarantor Business Phone Number	<a href="#">XTN</a> format Phone Number^^^^ Area/City Code^Local Number^Extension	Patient Phone Number or Subscriber Phone Number or Billing Facility Phone Number
8	Guarantor Date of Birth	YYYYMMDD	Patient DOB or Subscriber DOB or Empty if Facility
9	Guarantor Gender	Code: F – Female M – Male U – Unknown	Patient Sex or Subscriber Sex or Empty if Facility
10	Guarantor Type	Code	Y – if Patient or Subscriber or N – if Facility
11	Guarantor Relationship	Code	If the Financial Class (PV1.20) is “Insurance” or “Medicare”: SEL^Self SPO^Spouse CHD^Child OAD^Other adult  If the Financial Class (PV1.20) is “Patient/Self Pay”: SEL^Self  If the Financial Class (PV1.20) is “Facility”: OTH^Other
12-57		Not Supported	

**Patient – if Financial Class (PV1.20) is “Patient/Self Pay”, or if Guarantor Relationship (GT1.11) is “SEL^Self”:**

```
GT1|1|Patient MRN|Patient Last Name^First Name^Middle Name||Patient Address 1
^Address 2^City^State^Zip Code|Patient Phone Number^^^^^Area/City Code^Local
Number^Extension|Patient Phone Number^^^^^Area/City Code^Local Number^
Extension|Patient DOB|Patient Gender|Y|SEL^Self
```

**Subscriber – if Financial Class (PV1.20) is “Insurance” or “Medicare”, and Guarantor Relationship (GT1.11) is NOT “SEL^Self”:**

```
GT1|1||Subscriber Last Name^First Name^Middle Name||Subscriber Address 1^
Address 2^City^State^Zip Code|Subscriber Phone Number^^^^^Area/City Code^
Local Number^Extension|Subscriber Phone Number^^^^^Area/City Code^Local
Number^Extension|Subscriber DOB|Subscriber Gender|Y|Guarantor Relationship
```



### Facility – if Financial Class (PV1.20) is “Facility”:

```

GT1|1||Billing Facility Name||Billing Facility Address 1^Address 2^City^State
^Zip Code|Billing Facility Phone Number^^^^^Area/City Code^Local Number^
Extension|Billing Facility Phone Number^^^^^Area/City Code^Local Number^
Extension|||N|OTH^Other

```

## IN1 – Insurance Segment

The IN1 segment contains insurance policy coverage information necessary to produce properly pro-rated and patient and insurance bills.

This segment will be sent only if Financial Class (PV1.20) is “Insurance” or “Medicare”.

The IN1 segment may repeat. The first IN1 segment will contain the primary insurance company information.

Field #	Field Name	Value (Format)	Notes
0	Record Type	IN1	
1	Set ID – IN1	#	Sequence number
2	Health Plan ID	Not Supported	
3	Insurance Company ID	String	Insurance Company Payer ID
4	Insurance Company Name	String	Insurance Company Name
5	Insurance Company Address	<a href="#">XAD</a> format	Insurance Company Address 1^Address 2^City^State^Zip Code
6	Insurance Co Contact Person	Not Supported	
7	Insurance Co Phone Number	<a href="#">XTN</a> format	Insurance Company Phone Number^^^^^Area/City Code^Local Number^Extension
8	Group Number	String	Patient’s Insurance Co Group Number
9-15		Not Supported	
16	Name of Insured	<a href="#">XPN</a> format Last Name^First Name^Middle Name	Subscriber Name or Patient Name
17	Insured's Relationship to Patient	Code	SEL^Self SPO^Spouse CHD^Child OAD^Other adult
18	Insured's Date of Birth	YYYYMMDD	Subscriber DOB or Patient DOB
19	Insured's Address	<a href="#">XAD</a> format Address 1^Address 2^City^State^Zip Code	Subscriber Address or Patient Address
20	Assignment of Benefits	Y	Static Value
21-35		Not Supported	
36	Policy Number	String	Patient’s Insurance Co Policy Number
37-42		Not Supported	
43	Insured's Gender	Code: F – Female M – Male U – Unknown	Subscriber Sex or Patient Sex
44-55		Not Supported	

**Subscriber – if Insured's Relationship to Patient (IN1.17) is “SPO^Spouse”, “CHD^Child”, or “OAD^Other adult”:**

```
IN1|1||Insurance Co Payer ID|Insurance Co Name|Insurance Co Address 1^Address
2^City^State^Zip Code||Insurance Co Phone Number^^^^^Area/City Code^Local
Number^Extension|Patient's Insurance Co Group Number|||||||Subscriber Last
Name^First Name^Middle Name|Insured's Relationship to Patient|YYYYMMDD|
Subscriber Address 1^Address 2^City^State^Zip Code|Y|||||||||||||||Patient's
Insurance Co Policy Number||||Subscriber Gender
```

**Patient – if Insured's Relationship to Patient (IN1.17) is “SEL^Self”:**

```
IN1|1||Insurance Co Payer ID|Insurance Co Name|Insurance Co Address 1^Address
2^City^State^Zip Code||Insurance Co Phone Number^^^^^Area/City Code^Local
Number^Extension|Patient's Insurance Co Group Number|||||||Patient Last Name
^First Name^Middle Name|SEL^Self|YYYYMMDD|Patient Address 1^Address 2^City^
State^Zip Code|Y|||||||||||||||Patient's Insurance Co Policy Number||||
Patient Gender
```

## APPENDICES

### Appendix 1 – ORM - Order Message Examples

**Financial Class is “Insurance”. The GT1 segment contains Subscriber information. Medications are transmitted from the RXO segment. OBR and OBX contain Patient signature flag and data, POC Tests header and results.**

```
MSH|^~\&|Generick|OK Facility|RURO Diagnostics|RURO
Diagnostics|201902011500||ORM^O01||P|2.7|||||
PID|1||999999990||Bourne^Jason^Middle||19711008|M|||1414 V Street NW apt
552^^Cambridge^SH^20502||3012225555|||||
RXO|oxycodone 10 mg tabletSig: 1 TABLET NIGHTLY Dispense: 30
RXO|betamethasone dipropionate 10 mg tabletSig: 1 TABLET NIGHTLY Dispense:30
RXO|Methylprednisolone 10 mg tabletSig: 1 TABLET NIGHTLY Dispense: 30
PV1|1|O|||||1234567832^Doctorovich^Paul^Middle||||||Insurance|||||||
||||N||||OK Facility|||||||
IN1|1||OK3232|3232 OKS Allied Benefits Systems Inc.|1010 Cordell
Ave^^Bethesda^MD^20815||201554444|Gr4545||||||Bourne^Amy^Middle|SPO^Spouse
|19730908|1415 V Street NW apt
552^^Cambridge^SH^20502|||||||P54659|||||F|||||
GT1|1||Bourne^Amy^Middle||1415 V Street NW apt
552^^Cambridge^SH^20502|3012229999|3012229999|19730908|F|Y|SPO^Spouse
ORC|NW|ReqExtLIS40140||||||1234567832^Doctorovich^Paul^Middle
OBR|1||POINTOFCARE^Point of
Care|R||201901310100||||||UR|1234567832^Doctorovich^Paul^Middle
OBX|1|ST|UOPIPOC^Opiates|N
OBX|2|ST|UMTDNPOC^Methadone||P
OBR|2||8^Opiates-
Opioids|R||201901310100||||||UR|1234567832^Doctorovich^Paul^Middle
OBR|3||UVALS^Validity|R||201901310100||||||UR|1234567832^Doctorovich^Paul^
Middle
OBR|4||CONSENT^Patient consent for
testing|R||201901300100||||||1234567832^Doctorovich^Paul^Middle
NTE|1|P|Medical Necessity Patient Jason Bourne is diagnosed with Typhoid
arthritis|
NTE|2|P|Comments The Patient has antibiotic allergy reactions|
DG1|1||A0104^Typhoid arthritis
DG1|2||A0103^Typhoid pneumonia
OBX|1|ST|base-64^image/jpg||/9j/4AAQSkZ...
```

**Financial Class is “Medicare”. The GT1 segment is not used. The Subscriber information is in the IN1 segment. Medications are transmitted from the NTE segment.**

```
MSH|^~\&|Generick|OK Facility|RURO Diagnostics|RURO
Diagnostics|201902011500||ORM^O01||P|2.7|||||
PID|1||999999990||Bourne^Jason^Middle||19711008|M|||1414 V Street NW apt
552^^Cambridge^SH^20502||3012225555|||||
PV1|1|O|||||1234567832^Doctorovich^Paul^Middle||||||Medicare|||||||
||||N||||OK Facility|||||||
```



**IN1**|1||OK3232|3232 OKS Allied Benefits Systems Inc.|1010 Cordell Ave^^Bethesda^MD^20815||2015554444|Gr4545|||||Bourne^Amy^Middle|OTN^Other|19730908|1415 V Street NW apt 552^^Cambridge^SH^20502|||||P54659|||||F|||||  
**ORC**|NW|ReqExtLIS40141|||||1234567832^Doctorovich^Paul^Middle  
**OBR**|1||POINTOFCARE^Point of Care|R||201901310100|||||UR|1234567832^Doctorovich^Paul^Middle  
**OBX**|1|ST|UOPIPOC^Opiates||N  
**OBX**|2|ST|UMTDNPOC^Methadone||P  
**OBR**|2||8^Opiates-Opioids|R||201901310100|||||UR|1234567832^Doctorovich^Paul^Middle  
**OBR**|3||UVALS^Validity|R||201901310100|||||UR|1234567832^Doctorovich^Paul^Middle  
**OBR**|4||CONSENT^Patient consent for testing|R||201901300100|||||1234567832^Doctorovich^Paul^Middle  
**NTE**|1|P|Medications oxycodone  
**NTE**|2|P|Medical Necessity Patient Jason Bourne is diagnosed with Typhoid arthritis|  
**NTE**|3|P|Comments The Patient has antibiotic allergy reactions|  
**DG1**|1||A0104^Typhoid arthritis  
**DG1**|2||A0103^Typhoid pneumonia  
**OBX**|1|ST|base-64^image/jpg||/9j/4AAQ...

### Financial Class is "Insurance". The "Guarantor"/"Insured's Relationship to Patient" is "SEL^Self".

**MSH**|^~\&|Generick|OK Facility|RURO Diagnostics|RURO Diagnostics|201902011500||ORM^O01||P|2.7|||||  
**PID**|1||999999990||Bourne^Jason^Middle||19711008|M|||1414 V Street NW apt 552^^Cambridge^SH^20502||3012225555|||||  
**PV1**|1|O|||||1234567832^Doctorovich^Paul^Middle|||||Insurance|||||  
 ||||N||||OK Facility|||||  
**IN1**|1||OK3232|3232 OKS Allied Benefits Systems Inc.|1010 Cordell Ave^^Bethesda^MD^20815||2015554444|Gr4545|||||SEL^Self|||||  
 P54659|||||  
**ORC**|NW|ReqExtLIS40142|||||1234567832^Doctorovich^Paul^Middle  
**OBR**|1||POINTOFCARE^Point of Care|R||201901310100|||||UR|1234567832^Doctorovich^Paul^Middle  
**OBX**|1|ST|UOPIPOC^Opiates||N  
**OBX**|2|ST|UMTDNPOC^Methadone||P  
**OBR**|2||8^Opiates-Opioids|R||201901310100|||||UR|1234567832^Doctorovich^Paul^Middle  
**OBR**|3||UVALS^Validity|R||201901310100|||||UR|1234567832^Doctorovich^Paul^Middle  
**OBR**|4||CONSENT^Patient consent for testing|R||201901300100|||||1234567832^Doctorovich^Paul^Middle  
**NTE**|1|P|Medications oxycodone  
**NTE**|2|P|Medical Necessity Patient Jason Bourne is diagnosed with Typhoid arthritis|  
**NTE**|3|P|Comments The Patient has antibiotic allergy reactions|  
**DG1**|1||A0104^Typhoid arthritis  
**DG1**|2||A0103^Typhoid pneumonia  
**OBX**|1|ST|base-64^image/jpg||/9j/4AAQS...



## Financial Class is “Facility”.

```

MSH|^~\&|Generick|OK Facility|RURO Diagnostics|RURO
Diagnostics|201902011500||ORM^O01||P|2.7|||||
PID|1||999999990||Bourne^Jason^Middle||19711008|M|||1414 V Street NW apt
552^^Cambridge^SH^20502||3012225555|||||
RXO|oxycodone 10 mg tabletSig: 1 TABLET NIGHTLY Dispense: 30
RXO|betamethasone dipropionate 10 mg tabletSig: 1 TABLET NIGHTLY Dispense:
30
RXO|Methylprednisolone 10 mg tabletSig: 1 TABLET NIGHTLY Dispense: 30
PV1|1|O|||||1234567832^Doctorovich^Paul^Middle|||||||||Facility|||||||||
||||N||||OK Facility|||||||||
GT1|1||Florence Family Clinic||4444 Street^^Washington^DC^20111|601-896-
4481|601-896-4481||||N|OTH^Other
ORC|NW|ReqExtLIS40143|||||||||1234567832^Doctorovich^Paul^Middle
OBR|1||POINTOFCARE^Point of
Care|R||201901310100|||||||||UR|1234567832^Doctorovich^Paul^Middle
OBX|1|ST|UOPIPOC^Opiates||N
OBX|2|ST|UMTDNPOC^Methadone||P
OBR|2||8^Opiates-
Opioids|R||201901310100|||||||||UR|1234567832^Doctorovich^Paul^Middle
OBR|3||UVALS^Validity|R||201901310100|||||||||UR|1234567832^Doctorovich^Paul^
Middle
OBR|4||CONSENT^Patient consent for
testing|R||201901300100|||||||||1234567832^Doctorovich^Paul^Middle
NTE|1|P|Medical Necessity Patient Jason Bourne is diagnosed with Typhoid
arthritis|
NTE|2|P|Comments The Patient has antibiotic allergy reactions|
DG1|1||A0104^Typhoid arthritis
DG1|2||A0103^Typhoid pneumonia
OBX|1|ST|base-64^image/jpg||/9j/4AAQS...

```

## Financial Class is “Patient/Self Pay”.

```

MSH|^~\&|Generick|OK Facility|RURO Diagnostics|RURO
Diagnostics|201902011500||ORM^O01||P|2.7|||||
PID|1||999999990||Bourne^Jason^Middle||19711008|M|||1414 V Street NW apt
552^^Cambridge^SH^20502||3012225555|||||
PV1|1|O|||||1234567832^Doctorovich^Paul^Middle|||||||||Patient/Self
Pay|||||||||N||||OK Facility|||||||||
ORC|NW|ReqExtLIS40144|||||||||1234567832^Doctorovich^Paul^Middle
OBR|1||POINTOFCARE^Point of
Care|R||201901310100|||||||||UR|1234567832^Doctorovich^Paul^Middle
OBX|1|ST|UOPIPOC^Opiates||N
OBX|2|ST|UMTDNPOC^Methadone||P
OBR|2||8^Opiates-
Opioids|R||201901310100|||||||||UR|1234567832^Doctorovich^Paul^Middle
OBR|3||UVALS^Validity|R||201901310100|||||||||UR|1234567832^Doctorovich^Paul^
Middle
OBR|4||CONSENT^Patient consent for
testing|R||201901300100|||||||||1234567832^Doctorovich^Paul^Middle
NTE|1|P|Medications oxycodone

```

**NTE**|2|P|Medical Necessity Patient Jason Bourne is diagnosed with Typhoid arthritis|

**NTE**|3|P|Comments The Patient has antibiotic allergy reactions|

**DG1**|1||A0104^Typhoid arthritis

**DG1**|2||A0103^Typhoid pneumonia

**OBX**|1|ST|base-64^image/jpg||/9j/4AAQS...

## Appendix 2 – ORU - Result Message Example

```
MSH|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK
Facility^3232|20190201161343||ORU^R01|R00000760|P|2.7
PID|1|999999990|999999990|333333339|Bourne^Jason^Middle||19711008|M|||1414 V
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^301^222-
5555^||||333333339||||
ORC|RE|ReqExtLIS40140|R00000760||D|||20190201161335|||1234567832^Doctorovich
^Paul^^^^^^^^^NPI|||20190201150159|||||OK Facility^D^^^^^AN^A^3232
OBR|1|ReqExtLIS40140|R00000760|POC^POC
Results|R|20190201150159|20190131010000|||||20190201150159|UR|1234567832^Do
ctorovich^Paul^^^^^^^^^NPI|||||20190201161341||F|
OBX|1|ST|UOPIPOC^Opiates^L||Negative|ng/mL||N|||F|||20190201161341|POC^Point
of Care
OBX|2|ST|UMDMAPOC^MDMA^L||Not Tested|ng/mL||N|||F|||20190201161341|POC^Point
of Care
OBX|3|ST|UMTDNPOC^Methadone^L||Positive|ng/mL||A|||F|||20190201161341|POC^Poi
nt of Care
OBR|2|ReqExtLIS40140|R00000760|UOXIDV^Oxidant
Validity^L|R|20190201150159|20190131010000|||||20190201150159|UR|1234567832
^Doctorovich^Paul^^^^^^^^^NPI|||||20190201161341||F|||||||||||||||||
||||190201000317
OBX|1|ST|Oxidant Validity^Oxidant
Validity^L^^^|1|Positive|ug/mL||||F|||20190201161341|1234567^RURO
Diagnostics|111^Titova^Oksana|||||RURO Diagnostics|321 Ballenger Center
Dr^^Frederick^MD^21703|PhC32^Director^Lab^^^^PhD
NTE|1|O|comment: qualitative Analyte|
OBR|3|ReqExtLIS40140|R00000760|UCREATV^Creatinine
Validity^L|R|20190201150159|20190131010000|||||20190201150159|UR|1234567832
^Doctorovich^Paul^^^^^^^^^NPI|||||20190201161341||F|||||||||||||||||
||||190201000317
OBX|1|NM|Creatinine Validity^Creatinine Validity^L^^^|1|N|mg/dL|20 -
300|N|||F|||20190201161341|1234567^RURO
Diagnostics|111^Titova^Oksana|||||RURO Diagnostics|321 Ballenger Center
Dr^^Frederick^MD^21703|PhC32^Director^Lab^^^^PhD
NTE|1|O|comment: Analyte with enabled "Hide value" option|
OBR|4|ReqExtLIS40140|R00000760|8^Opiates-
Opioids^L|R|20190201150159|20190131010000|||||20190201150159|UR|1234567832^
Doctorovich^Paul^^^^^^^^^NPI|||||20190201161341||F|||||||||||||||||
||||190201000317
OBX|1|NM|Noroxycodone^Noroxycodone^L^^^|1|39.5|ng/dL|37.5|POS|||F|||201902011
61341|1234567^RURO Diagnostics|111^Titova^Oksana|||||RURO Diagnostics|321
Ballenger Center Dr^^Frederick^MD^21703|PhC32^Director^Lab^^^^PhD
NTE|1|O|comment: result with Propagation|
NTE|2|L|Outcome: CONSISTENT|RE
OBX|2|ST|Oxycodone^Oxycodone^L^^^|2|<37.5|ng/dL|37.5|NEG|||F|||20190201161341
|1234567^RURO Diagnostics|111^Titova^Oksana|||||RURO Diagnostics|321
Ballenger Center Dr^^Frederick^MD^21703|PhC32^Director^Lab^^^^PhD
NTE|1|O|comment: result with interpretation value and Propagation|
NTE|2|L|Outcome: INCONSISTENT|RE
OBX|3|ST|Oxymorphone^Oxymorphone^L^^^|3|>2500|ng/dL|75.5|POS|||F|||2019020116
```

```

1341|1234567^RURO Diagnostics|111^Titova^Oksana|||||RURO Diagnostics|321
Ballenger Center Dr^^Frederick^MD^21703|PhC32^Director^Lab^^^^PhD
NTE|1|O|comment: result with interpretation value and Propagation|
NTE|2|L|Outcome: CONSISTENT|RE
OBR|5|ReqExtLIS40140|R00000760|UPHV^pH
Validity^L|R|20190201150159|20190131010000|||||20190201150159|UR|1234567832
^Doctorovich^Paul^^^^^^^NPI|||||20190201161341|||F|||||||||||||||||
|||||190201000317
OBX|1|NM|pH Validity^pH Validity^L^^|1|5|pH|4 -
7.8|N|||F|||20190201161341|1234567^RURO
Diagnostics|111^Titova^Oksana|||||RURO Diagnostics|321 Ballenger Center
Dr^^Frederick^MD^21703|PhC32^Director^Lab^^^^PhD
OBR|6|ReqExtLIS40140|R00000760|Base64^Embedded
PDF|R||20190131010000|||||20190201150159||1234567832^Doctorovich^Paul^^^^^
^^^^NPI|||||20190201161341|||F|
OBX|1|ED|PDF|Base64|^PDFReport^PDF^Base64^JVBERi0x...

```



## Appendix 3 – DTF - Detail Financial Transaction Examples

### Individual Tests Billing

- The DFT message contains an Individual test and Non-Reportable test.
- Financial Class is “Patient/Self Pay”.

```
MSH|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK
Facility^Bil3232|201902021624||DFT^P03|R00000760|P|2.7
PID|1|999999990|999999990|3333333339|Bourne^Jason^Middle||19711008|M|||1414 V
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^^301^222-
5555^|||||3333333339|||||
PD1||||Primary Physician NPI number 1212121211
PV1|1|O|||||1234567832^Doctorovich^Paul^^^^^^^^^NPI|||||||||Patient/Self
Pay|||||||||N|||||||||^Facility Account Manager Last Name^First
Name^Middle Name
FT1|1|||20190201150159||CG|8|Opiates-Opioids|Opiates-
Opioids|1|||||||||1234567832^Doctorovich^Paul^^^^^^^^^NPI||190201000317||80
364|||||RURO Diagnostics^D^^^^^PPIN^^^1234567|OK
Facility^D^^^^^FI^^^Bil3232|||||
FT1|2|||20190201150159||CG|1111|NonRepTest|NonRepTest|78|||||||||111^Test
Performer Last Name^First
Name|1234567832^Doctorovich^Paul^^^^^^^^^NPI||190201000317||1213|||||RURO
Diagnostics^D^^^^^PPIN^^^1234567|OK Facility^D^^^^^FI^^^Bil3232|||||
DG1|1|I10|A00.0^Cholera due to Vibrio cholerae 01, biovar cholerae^I10
DG1|2|I10|A01.02^Typhoid fever with heart involvement^I10
GT1|1|3333333339|Bourne^Jason^Middle||1414 V Street NW apt
552^^Cambridge^SH^20502|3012225555^^^^^301^222-5555^|3012225555^^^^^301^222-
5555^|19711008|M|Y|SEL^Self
```

### Test Class Billing

- Financial Class is “Facility”.

```
MSH|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK
Facility^Bil3232|201902021624||DFT^P03|R00000760|P|2.7
PID|1|999999990|999999990|3333333339|Bourne^Jason^Middle||19711008|M|||1414 V
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^^301^222-
5555^|||||3333333339|||||
PD1||||Primary Physician NPI number 1212121211
PV1|1|O|||||1234567832^Doctorovich^Paul^^^^^^^^^NPI|||||||||Facility|||||
|||||||||N|||||||||^Facility Account Manager Last Name^First
Name^Middle Name
FT1|1|||20190201150159||CG||Barbiturates|Barbiturates|1|||||||||1234567832^
Doctorovich^Paul^^^^^^^^^NPI||190201000317||80345|||||RURO
Diagnostics^D^^^^^PPIN^^^1234567|OK Facility^D^^^^^FI^^^Bil3232|||||
FT1|2|||20190201150159||CG||Opiods and Opiate Analogs|Opiods and Opiate
Analogs|1|||||||||1234567832^Doctorovich^Paul^^^^^^^^^NPI||190201000317||80
364|||||RURO Diagnostics^D^^^^^PPIN^^^1234567|OK
Facility^D^^^^^FI^^^Bil3232|||||
DG1|1|I10|A00.0^Cholera due to Vibrio cholerae 01, biovar cholerae^I10
```



**DG1**|2|I10|A01.02^Typhoid fever with heart involvement^I10  
**GT1**|1||Florence Family Clinic||4444 Street, Washington, DC, 20111|601-896-4481^^^^601^896-4481^|601-896-4481^^^^601^896-4481^|||N|OTH^Other

## HCPCS G048x Codes Billing

- Financial Class is "Insurance", Guarantor Relationship is Subscriber (Other).

**MSH**|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK  
Facility^Bil3232|201902021624||DFT^P03|R00000760|P|2.7  
**PID**|1|999999990|999999990|3333333339|Bourne^Jason^Middle||19711008|M|||1414 V  
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^301^222-  
5555^|||||3333333339|||||  
**PD1**||||Primary Physician NPI number 1212121211  
**PV1**|1|O|||||1234567832^Doctorovich^Paul^^^^^^^NPI|||||||||Insurance||||  
|||||||||N|||||||||||||^Facility Account Manager Last Name^First  
Name^Middle Name  
**FT1**|1|||20190201150159||CG|||||1|||||||||1234567832^Doctorovich^Paul^^^^^^^  
^NPI||190201000317||G0481^^HCPCS|||||RURO  
Diagnostics^D^^^^PPIN^^1234567|OK Facility^D^^^^FI^^Bil3232|||||  
**DG1**|1|I10|A00.0^Cholera due to Vibrio cholerae 01, biovar cholerae^I10  
**DG1**|2|I10|A01.02^Typhoid fever with heart involvement^I10  
**GT1**|1||Bourne^Amy^Middle||1415 V Street NW apt  
552^^Cambridge^SH^20502|3012229999^^^^301^222-9999^|3012229999^^^^301^222-  
9999^|19730908|F|Y|OAD^Other adult  
**IN1**|1||OK3232|3232 OKS Allied Benefits Systems Inc.|1010 Cordell  
Ave^^Bethesda^MD^20815||2015554444^^^^201^555-  
4444^|Gr4545|||||Bourne^Amy^Middle|OAD^Other adult|19730908|1415 V Street  
NW apt 552^^Cambridge^SH^20502|Y|||||||||54659|||||F|||||

## Appendix 4 – ADT - Admit Discharge Transfer Examples

### Financial Class is “Insurance”, Guarantor Relationship is Subscriber (Other).

```
MSH|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK
Facility^Bil3232|20190204113047||ADT^A04|3333333339|P|2.7
PID|1|999999990|999999990|3333333339|Bourne^Jason^Middle||19711008|M|||1414 V
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^^301^222-
5555^|||||3333333339|||||
PD1||||32132131 Primary Physician
PV1|1|O|||||1234567832^Doctorovich^Paul^^^^^^^^^NPI|||||Insurance|||
|||||N|||||^^^^^Facility Account Manager Last Name^First
Name^Middle Name
GT1|1||Bourne^Amy^Middle||1415 V Street NW apt
552^^Cambridge^SH^20502|3012229999^^^^^301^222-9999^|3012229999^^^^^301^222-
9999^|19730908|F|Y|OAD^Other adult
IN1|1||OK3232|3232 OKS Allied Benefits Systems Inc.|1010 Cordell
Ave^^Bethesda^MD^20815||2015554444^^^^^201^555-
4444^|Gr4545|||||Bourne^Amy^Middle|OAD^Other adult|19730908|1415 V Street
NW apt 552^^Cambridge^SH^20502|Y|||||P54659|||||F|||||
```

### Financial Class is “Medicare”, Guarantor Relationship is Patient (Self).

```
MSH|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK
Facility^Bil3232|20190204124409||ADT^A04|3333333339|P|2.7
PID|1|999999990|999999990|3333333339|Bourne^Jason^Middle||19711008|M|||1414 V
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^^301^222-
5555^|||||3333333339|||||
PD1||||32132131 Primary Physician
PV1|1|O|||||1234567832^Doctorovich^Paul^^^^^^^^^NPI|||||Medicare|||
|||||N|||||^^^^^Facility Account Manager Last Name^First
Name^Middle Name
GT1|1|3333333339|Bourne^Jason^Middle||1414 V Street NW apt
552^^Cambridge^SH^20502|3012225555^^^^^301^222-5555^|3012225555^^^^^301^222-
5555^|19711008|M|Y|SEL^Self
IN1|1||OK3232|3232 OKS Allied Benefits Systems Inc.|1010 Cordell
Ave^^Bethesda^MD^20815||2015554444^^^^^201^555-
4444^|Gr4545|||||Bourne^Jason^Middle|SEL^Self|19711008|1414 V Street NW
apt 552^^Cambridge^SH^20502|Y|||||P54659|||||M|||||
```

### Financial Class is “Facility”.

```
MSH|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK
Facility^Bil3232|20190204125129||ADT^A04|3333333339|P|2.7
PID|1|999999990|999999990|3333333339|Bourne^Jason^Middle||19711008|M|||1414 V
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^^301^222-
5555^|||||3333333339|||||
PD1||||32132131 Primary Physician
PV1|1|O|||||1234567832^Doctorovich^Paul^^^^^^^^^NPI|||||Facility|||
|||||N|||||^^^^^Facility Account Manager Last Name^First
Name^Middle Name
```

**GT1**|1||Florence Family Clinic||4444 Street^^Washington^DC^20111|601-896-4481^^^^601^896-4481^|601-896-4481^^^^601^896-4481^|||N|OTH^Other

### Financial Class is "Patient/Self Pay".

**MSH**|^~\&|LimitLIS.cloud^3|RURO Diagnostics^32323232|Generic|OK  
Facility^Bil3232|20190204125423||ADT^A04|3333333339|P|2.7  
**PID**|1|999999990|999999990|3333333339|Bourne^Jason^Middle||19711008|M|||1414 V  
Street NW apt 552^^Cambridge^SH^20502||3012225555^^^^301^222-  
5555^||||3333333339||||  
**PD1**||||32132131 Primary Physician  
**PV1**|1|O|||||1234567832^Doctorovich^Paul^^^^^^^NPI|||||||||Patient/Self  
Pay|||||||||N|||||||||^Facility Account Manager Last Name^First  
Name^Middle Name  
**GT1**|1|3333333339|Bourne^Jason^Middle||1414 V Street NW apt  
552^^Cambridge^SH^20502|3012225555^^^^301^222-5555^|3012225555^^^^301^222-  
5555^|19711008|M|Y|SEL^Self

## Appendix 5 – HL7 Interpretation Codes

### HL7 version 2.7

The Table below represents a list of standard HL7 Interpretation Codes of the result flags for HL7 version 2.7.

Value	Description
L	Low
H	High
LU	Very low
HU	Very high
LL	Critically low
HH	Critically high
<	Off-scale low
>	Off-scale high
N	Normal
A	Abnormal
AA	Critically abnormal
null	No range defined, or normal ranges don't apply
U	Significant change up
D	Significant change down
B	Better
W	Worse
S	Susceptible
R	Resistant
I	Intermediate
MS	Moderately susceptible. Indicates for microbiology susceptibilities only.
NS	Non-susceptible
SDD	Susceptible-dose dependent
IE	Insufficient evidence
SYN-R	Synergy - resistant
SYN-S	Synergy - susceptible
VS	Very susceptible. Indicates for microbiology susceptibilities only.
POS	Positive
NEG	Negative
IND	Indeterminate
DET	Detected
ND	Not Detected
AC	Anti-complementary substances present
TOX	Cytotoxic substance present
QCF	Quality Control Failure
RR	Reactive
WR	Weakly reactive
NR	Non-reactive
OBX	Interpretation qualifiers in separate OBX segments
HM	Hold for Medical Review

## HL7 version 2.3

The Table below lists HL7 Interpretation Codes for HL7 version **2.3**.

Value	Description
L	Below low normal
H	Above high normal
LL	Below lower panic limits
HH	Above upper panic limits
<	Below absolute low-off instrument scale
>	Above absolute high-off instrument scale
N	Normal (applies to non-numeric results)
A	Abnormal (applies to non-numeric results)
AA	Very abnormal (applies to non-numeric units, analogous to panic limits for numeric units)
U	Significant change up
D	Significant change down
B	Better--use when direction not relevant
W	Worse--use when direction not relevant
S	Susceptible. Indicates for microbiology susceptibilities only.
R	Resistant. Indicates for microbiology susceptibilities only.
I	Intermediate. Indicates for microbiology susceptibilities only.
MS	Moderately susceptible. Indicates for microbiology susceptibilities only.
VS	Very susceptible. Indicates for microbiology susceptibilities only.

--- END OF DOCUMENT ---