



Lab result implementation guide

A new submitter's guide for sending lab results to
UnitedHealthcare

Note: UnitedHealthcare closely follows HL7[®] version 2.5.1 standards. However, there are exceptions and constraints noted within this companion guide the submitter must follow carefully. For a complete reference to HL7 standards relating to lab results, please refer to [HL7 Version 2.5.1 Implementation Guide: Laboratory Results Interface](#).

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Change log

Version	Release date	Changes
1.0	December 2009	<ul style="list-style-type: none"> Initial external release
2.0	January 2010	<ul style="list-style-type: none"> Updated to include: <ul style="list-style-type: none"> Edits identified by Jim Reitter Edits identified by Lori McDougall Edits identified by Lab Galaxy Team Population of correct values in both Data Type and Optionality columns of Segment Tables
3.0	February 2010	<ul style="list-style-type: none"> Updated to include initial Legal feedback <ul style="list-style-type: none"> Added “Draft/Confidential” watermark to document Clarified notice of changes provision language (pg. 4) Updated to include additional edits identified by Jim Reitter
4.0	April 2010	<ul style="list-style-type: none"> Updated name of the document to include most current date
5.0	June 2010	<ul style="list-style-type: none"> Updated page 47 to include data types
6.0	May 2011	<ul style="list-style-type: none"> Updated to include: <ul style="list-style-type: none"> Order of segments changed Value examples reformatted Clarified table of contents
6.1	November 2013	<ul style="list-style-type: none"> Updated to include: <ul style="list-style-type: none"> updated testing information, p. 5 changes in PID 3 and PID 7 updated OBX 3 updated FT 1-4 and FT1-19
6.2	September 2016	<ul style="list-style-type: none"> Updated to include: <ul style="list-style-type: none"> OBR 20 length correction
6.3	Oct. 29, 2020	<ul style="list-style-type: none"> Updated contact information – Changed unitedhealthcareonline.com to UHCprovider.com



Version	Release date	Changes
6.4	May 4, 2021	<ul style="list-style-type: none"> • Rebranded to UnitedHealthcare branding standards • Added CDSM standards, as well as specific constraints and restrictions to HL7 ORU file submissions
6.5	September 9, 2021	<ul style="list-style-type: none"> • Changed FT1 segment from “required” to “optional” • Added FT1-19 Diagnosis Code • Added References section
6.6	December 17, 2021	<ul style="list-style-type: none"> • Updated to state no local general or proprietary codes will accepted. Submitters should use the Relma tool if LOINC is not available.
7.0	March 17, 2023	<p>Updated the following fields:</p> <ul style="list-style-type: none"> • PID-8: Updated from Recommended to Required due to FHIR mandatory field • OBR-25: Updated from Recommended to Required due to FHIR mandatory field • PV1-2: Updated from Recommended to Required per HL7 requirements • PV-19: Updated from Recommended to Required as UnitedHealthcare maps this field as an encounter number. Without this field, PV1 segment is not retrieved. • OBX-1: Added as Recommended as per FHIR, UnitedHealthcare assigns data an ID for tracking and resolving data issues • OBR-7: Added as Required. Without this field, OBR segment is not retrieved. • OBR-25: Added as Required • FT-1: Added as Recommended as per FHIR, UnitedHealthcare assigns data an ID for tracking and resolving data issues





Heads up!

Helpful tips and information

Submitters will be notified by their UnitedHealthcare representative when revisions are released.



Definitions, abbreviations, and acronyms

Abbreviation/acronym/term	Meaning
ANSI	American National Standards Institute
BHS	Batch Header Segment
BTS	Batch Trailer Segment
ECG	Electronic Communication Gateway
EDI	Electronic Data Interchange
EIN	Employer Identification Number
ET	Eastern Time
FCT AE	Facility Connectivity Team Account Executive
FHS	File Header Segment
FT1	Financial Transaction
FTP	File Transfer Protocol
FTPS	File Transfer Protocol Secure
FTS	File Trailer Segment
HL7	Health Level Seven
HTTPS	Hypertext Transfer Portal Secure
LRI	Lab Results Interface
MSA	Message Acknowledgement Segment
MSH	Message Header
NTE	Notes and Comments
OBR	Observation Request
OBX	Observation/Result
PGP	Pretty Good Privacy
PID	Patient Identification
SSL	Secure Sockets Layer



Introduction

Scope

This guide is to be used for the development of data interfaces to transmit laboratory test results to UnitedHealthcare.

As the health care industry evolves toward standards-based communications for clinical data, UnitedHealthcare has recognized the need to move away from custom and proprietary methods and toward common standards that eliminate or substantially reduce the custom interface programming and program maintenance that may otherwise be required.

The UnitedHealthcare standard described in this companion guide is based on the Health Level Seven (HL7®) version 2.5.1 messaging standard for electronic data exchange in health care environments, which was designed to conform to the requirements of the American National Standards Institute (ANSI). During the development of the UnitedHealthcare lab result data exchange standard, a deliberate effort was made to support prior version implementations of HL7 for applications and systems that can generate HL7 release 2.2, 2.3, 2.3.1 and 2.4 extracts in addition to the 2.5.1 version that our standard is based upon.

This document describes the elements of HL7 messages as they relate to the UnitedHealthcare standard for data transmission of lab result data and is not intended to be an introduction to HL7 messages and standards. Readers unfamiliar with HL7 should first review the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) and/or the information describing the HL7 2.5.1 standard, available at hl7.org.



Heads up!

Helpful tips and information

An account may need to be created with a unique username and password to utilize the full functionality of the HL7 International website if the submitter is not an existing user.

Audience

This document has been written to aid in designing and implementing HL7 transactions to meet UnitedHealthcare processing standards. This guide is a constraint on the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#). Submitters must utilize the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) as the set of standards for submitting lab results and refer to this implementation guide for



exceptions that fall out of those standards specific to UnitedHealthcare. Within this document, key data elements are identified, which UnitedHealthcare requests all submitters to provide. By following these recommendations, submitters are enabled to more effectively complete electronic data interchange (EDI) transactions with UnitedHealthcare.



Heads up!

Helpful tips and information

For a full description of messages, segments (i.e., definitions, usage, cardinality), fields, delimiters, values and formats, as well as other critical fundamental information not covered within this implementation guide, please refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) as well as [HL7.org](#).



Getting started

Connectivity with UnitedHealthcare

Submitting lab result data to UnitedHealthcare is available through a comprehensive electronic communication channel that is rapid and secure.

Transmission options

During the implementation process, submitters must transmit electronic data using the following method:

- Secure File Transfer Protocol (SFTP) – Requires submitter to obtain credentials and folder setup with UnitedHealthcare

For existing accounts, submitters can request to add lab result transactions to their current profile and complete the testing and production implementation process.

Submitting a test file

The purpose of the testing phase is to provide submitters with a mechanism to produce the same reports they will receive once in production. Through this test phase, submitters can submit data content and receive reports that detail any errors or problems found as a result of their file submission.

Transactions are processed by the file transport and validation facility but are not sent for processing within the production environment. Reports will be generated specifically related to the submitter's file submission for each message within the file.

Please note that during the test phase, field and segment format validation are checked for data within required segments. After production promotion, data content and quality are validated which may require additional changes.

The steps to sending a test file are described below:

1. The submitter will submit a lab results file that is formatted according to the specifications in the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) as well as any noted exceptions within this guide
2. In response, the submitter will receive a set of reports that correspond to the data sent.
 - These reports will show any errors or problems that were found in the submitted transactions



3. The submitter should continue to test until data has been successfully submitted without any reported errors
4. Once a successful submission is achieved, the submitter will request production status for the lab result transaction

Troubleshooting

Contact UnitedHealthcare EDI Support at supportEDI@uhc.com for troubleshooting assistance.

Contact information

Most questions can be answered by referencing the materials posted at [EDI Connectivity | UHCprovider.com](#). For specific issues or questions, please reference the table below:

Topic	Contact
Clinical	UnitedHealthcare network representative
Hospital contracts	UnitedHealthcare network account manager
Connectivity	UnitedHealthcare EDI Support Email: supportEDI@uhc.com
Login or password issues, account setup, transaction questions during testing	Customer Support Phone: 800-445-8174 Email: UnitedHelpDesk@ediconnect.com Hours: 8 a.m.–5 p.m. ET., Monday–Friday
Data quality review	UnitedHealthcare lab director for each of these topics
Reporting delay in file submission	
File management	



Section 5.0 documentation

Each year, the National Committee of Quality Assurance (NCQA) audits incoming clinical data submitted to UnitedHealthcare. This helps ensure that the data chain of custody meets NCQA audit guidelines, which includes approval of data sources. To remain in NCQA compliance, submitters must inform UnitedHealthcare of any changes in how clinical data is submitted year over year from provider groups. This information allows UnitedHealthcare to regularly evaluate the impact such changes may have on NCQA data integrity.



Transaction-specific information

File specifications

Submitters should follow the standards as outlined in the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) in designing and programming the information UnitedHealthcare needs in order to submit lab result data.

In addition, information is included to describe the UnitedHealthcare usage for composite and simple data elements, as well as other information. All segments, data elements and codes supported in the HL7 guidelines are acceptable. However, all data may not be used in the processing of this transaction by UnitedHealthcare.

Batch file structure

UnitedHealthcare supports the HL7 batch protocol standards as found in the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#).



Heads up!

Helpful tips and information

Please note that although these batch file segments are optional, UnitedHealthcare recommends submitters include these segments.



Lab result HL7 batch file segments

The structure of the physical batch file consists of a single header and trailer segment with the file header segment (FHS) as the first line in the physical file and the file trailer segment (FTS) as the last line in the physical file. Within the FHS/FTS, there can be 1 to many sets of batch header segments (BHS) and batch trailer segment (BTS).

Within the batch header/trailer, the message header segment (MSH) groups the individual lab result values.



Heads up!

Helpful tips and information

Please note that only the file segment definitions that differ from the HL7 standard are included. Those constraints essential to UnitedHealthcare are identified below.

FHS – File header segment

The FHS is used to head a file (group of batches) and should be the first line in the physical batch file.

Please note the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 Standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.

- **FHS-4 File Sending Facility [R]** – This field has the same definition as the corresponding field in the MSH




UnitedHealthcare standards

Constraints on HL7 standards

- This field further describes the *FHS-3 – Sending Application* and is a UnitedHealthcare-assigned identifier for the lab service provider submitting the data. The value of this field should be set to the identifier that allows UnitedHealthcare to uniquely recognize the submitter and that has been agreed upon between the submitter and UnitedHealthcare. This identifier is usually the submitter's Employer Identification Number (EIN).





Heads up!
Helpful tips and information

Please note UnitedHealthcare requests submitters to send their Employer Identification Number (EIN), which is a specific type of tax identification number (TIN). No other types of TINs will be accepted.


- HL7 format for HD data type:
 - Namespace ID (IS)> ^ <Universal ID (ST)> ^ <Universal ID Type (ID)>

Field: FHS-4 File Sending Facility (HD)

Component/sub-component	Optionality
Namespace ID (IS)	R
Universal ID (ST)	O
Universal ID Type (ID)	O

Value example
123456789^LabName(as registered in Connectivity Director)^L

- **FHS-9 File Name/ID [R]** – This field can be used by the application processing file



UnitedHealthcare standards
Constraints on HL7 standards

The UnitedHealthcare standard requires that this value be set to either:

- The physical file name of the external file transmitted within the constraint that this element is limited to a maximum of 20 characters as defined by the HL7 standard

OR

- A unique value to identify this file submission that could be the same value as sent in the FHS-11 File Control ID

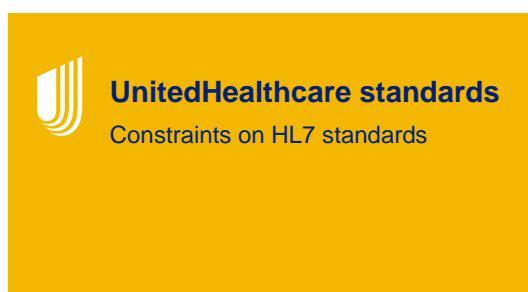


BHS – Batch header segment

The BHS defines the start of a batch. One to many groups of BHS/BTS batches may be included in a single physical file, but generally, most lab result files will contain a single batch.

Please note the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 Standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.

- **BHS-4 Batch Sending Facility [R]** – This field has the same definition as the corresponding field in the FHS and MSH



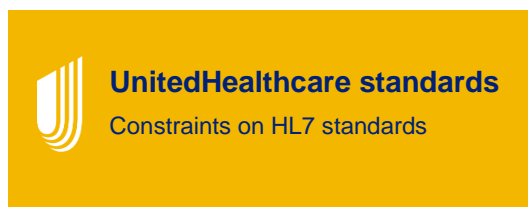
This field further describes the **BHS-3 Batch Sending Application** and is the UnitedHealthcare-assigned identifier for the lab service provider submitting the data. The value in this field should be set to the identifier that allows UnitedHealthcare to uniquely recognize the submitter and that has been agreed upon between the submitter and UnitedHealthcare (i.e., usually the submitter's EIN).

MSH – Message header segment

The MSH segment is used to define the intent, source, destination and some specifics of the syntax of a message.

Please note the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 Standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.

- **MSH-4 Sending Facility [R]**



This field is the UnitedHealthcare-assigned identifier for the lab service provider submitting the data. The value in this field should be set to the identifier that uniquely identifies this submitter to UnitedHealthcare and that has been agreed upon between the submitter and UnitedHealthcare. This is usually the submitter's EIN.

- The Universal ID Type, if specified, should be set to “L” for “Locally defined coding scheme.” Refer to **HL7 Table 0301 – Name Type** for valid values.



- HL7 format for HD data type:
 - <Namespace ID (IS)> ^ <Universal ID (ST)> ^ <Universal ID Type (ID)>

Field: MSH-4 Sending Facility (HD)

Component/sub-component	OPT
Namespace ID (IS)	R
Universal ID (ST)	O
Universal ID Type (ID)	O

Value example
123456789^LabName^L

- **MSH-9 Message Type [R]** – This field contains the message type, trigger event and the message structure ID for the message
 - Refer to **HL7 Table 0076 – Message type** for valid values for the message code



UnitedHealthcare standards

Constraints on HL7 standards

- The UnitedHealthcare interface definition requires ORU to be sent for the <Message Code (ID)>

- Refer to **HL7 Table 0003 – Event type** for valid values for the trigger event



UnitedHealthcare standards

Constraints on HL7 standards

- The UnitedHealthcare interface definition requires R01 to be sent for the <Trigger Event (ID)>

- Refer to **HL7 Table 0354 – Message structure** for valid values for the message structure



UnitedHealthcare standards

Constraints on HL7 standards

- The UnitedHealthcare interface definition requires ORU_R01 to be sent for the <Message Structure (ID)>



- HL7 format for MSG data type:
 - <Message Code (ID)> ^ <Trigger Event (ID)> ^ <Message Structure (ID)>
 Field: MSH-9 Message Type (MS)
- **MSH-11 Processing ID [R]** – This field is used to decide whether to process the message as defined in HL7 Application (level 7) Processing rules

UnitedHealthcare standards

Constraints on HL7 standards

- The UnitedHealthcare required value is P (Production = "P")

- **MSH-12 Version ID [R]** – This field is matched by the receiving system to its own version to be sure the message will be interpreted correctly

UnitedHealthcare standards

Constraints on HL7 standards

- The UnitedHealthcare standard is version 2.8.2 or lower, but minimum recommended version is 2.5.1

- HL7 format for VID data type:
 - <Version ID (ID)> ^ <Internationalization Code (CE)> ^ <International Version ID (CE)>

Field: MSH-12 Version ID (VID)

Component/sub-component	Optionality
Version ID (ID)	R
Internationalization Code (CE)	O
Internationalization Version ID (CE)	O

Value example
2.5




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.

Please note the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.


- **PID-1 Set ID – PID [R]** – This field contains the number that identifies this transaction. The HL7 standard identifies that for the first occurrence of the segment within the parent MSH segment, the sequence number shall be 1, for the second occurrence, the sequence number shall be 2, etc.



UnitedHealthcare standards
Constraints on HL7 standards

- For the UnitedHealthcare standard, since only a single PID segment is requested for a MSH segment, this value should always be set to **1**.


- **PID-2 Patient ID [RE]**



UnitedHealthcare standards
Constraints on HL7 standards

- PID-2 is a deprecated field and is not used by UnitedHealthcare. Submitters must use PID-3 for this information.

- **PID-3 Patient Identifier List [R]** – This field contains the list of identifiers (1 or more) used by the health care facility to uniquely identify a patient (e.g., medical record number, billing number, birth registry, national unique individual identifier, etc.)



UnitedHealthcare standards
Constraints on HL7 standards

The UnitedHealthcare assigned Patient Identifier (Member ID from insurance card) must be included in this field and set with an identifier type code of MB (member number) or SN (subscriber number). The UnitedHealthcare-assigned Patient Identifier must be the first value sent in this repeating value field before any other sets of identifiers.

- If lab provider specific identifiers are sent, they should be coded using the identifier type code of MB (member number) or SN (subscriber number) depending on the ID number being submitted. The type of identifier for each identifier sent should be indicated in the <identifier type code ID> component.



Refer to **HL7 Table 0203 – Identifier type** for the complete list. The patient identifier itself should be placed in the <ID (ST)> component.

- HL7 format for CX data type:
 - <ID Number (ST)> ^ <Check Digit (ST)> ^ <Check Digit Scheme (ID)> ^
 - <Assigning Authority (HD)> ^ <Identifier Type Code (ID)> ^ <Assigning Facility (HD)> ^ <Effective Date (DT)> ^ <Expiration Date (DT)> ^ <Assigning Jurisdiction (CWE)> ^ <Assigning Agency or Department (CWE)>

Field: PID3 Patient Identifier List (CX)

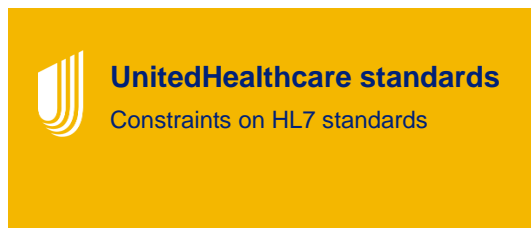
Component/sub-component	Optionality
ID Number (ST)	R
Check Digit (ST)	O
Check Digit Scheme (ID)	O
Assigning Authority (HD)	O
Identifier Type Code (ID)	RE
Assigning Facility (HD)	O
Effective Date (DT)	O
Expiration Date (DT)	O
Assigning Jurisdiction (CWE)	O
Assigning Agency or Department (CWE)	O

Value example

1148649301^^^^SN



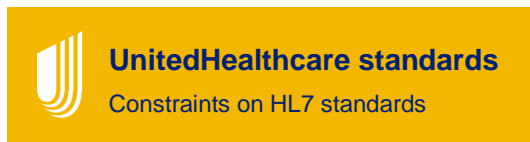
- **PID-8 Administrative Sex [R]** – This field contains the patient’s sex. Refer to the callout box below for the UnitedHealthcare expected values for this field.



Expected values for the UnitedHealthcare interface are:

F	Female
M	Male
U	Unknown

- **PID-11 Patient Address [RE]** – This field contains the mailing address of the patient. Address type codes are defined by **HL7 Table 0190 – Address Type**. Multiple addresses for the same person may be sent in the following sequence:
 - The primary mailing address must be sent first in the sequence (for backward compatibility); if the mailing address is not sent, then a repeat delimiter must be sent in the first sequence



- The minimum expected data submitted to UnitedHealthcare is to include the patient’s mailing address (Address Type “M”)

Value example

```
123 Main Street^Apt. 3B^St.
Louis^MO^63146-8524^^M
```

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 reporting of clinical observations, the OBR segment serves as the report header. It describes an entire set of observations.

Please note the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 Standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.

- **OBR-1 Set ID – OBR [R]** – This field contains the number that identifies the order sequence of this segment within the parent PID. This value should begin at 1 and increment by 1 for each subsequent OBR segment within the PID segment. The



sequence number should begin at 1 again for OBR segments within the next PID segment.



UnitedHealthcare standards
Constraints on HL7 standards

- The UnitedHealthcare standard requires that the Set ID numeric value is directly associated with the same numerical FT1 segment Set ID value
- UnitedHealthcare recommends submitters provide a FT1 segment

- A valid HL7 ORU_R01 message order requires that the OBR is sent after the matching FT1 segment within a parent PID

- Example:

PID

OBR|1|

OBX|1|

FT1|1| → FT1-1 associated with OBR-1 OBR|2|

OBX|1|

FT1|2| → FT1-2 associated with OBR-2

- **OBR-4 Universal Service Identifier [R]** – This field contains the identifier code for the requested observation/test/battery. This can be based on local and/or “universal” codes



UnitedHealthcare standards
Constraints on HL7 standards

- UnitedHealthcare recommends using the “universal” procedure identifier

- This value should be populated with the identifier for the procedure code (CPT-4) associated with the lab result observation request in the OBR segment related to the FT1 segment. The coding system should be “C4” CPT-4. Typically, this value will be the same as FT1-7 and FT1-25. But in some cases, the value may be different based on individual lab provider coding methods. See the discussion for FT1-7 for clarification. For lab proprietary coding system as an alternative identifier, use “L” (Local general code).



Value example

```
80061^Lipid Panel^C4 OR
80061^Lipid Panel^C4^423.1^Lipid Panel^L
```

• **OBR-16 Ordering Provider [RE]**



UnitedHealthcare standards
Constraints on HL7 standards

- The UnitedHealthcare definition of this field is that the first repetition must be the ordering provider and the second repetition must be the treating provider, if known

- Ordering provider is always the first occurrence in this field. The <ID Number (ST)> must be clarified by the <Assigning Authority (HD)> using **Table 0363 Assigning Authority**. The expected value for the provider identifier is NPI.

Value example

```
7583493848^Randolph^James^A^Jr^^^^NPI [Example of NPI ordering provider]
```

- **OBR-25 Result Status [R]** – This field is the status of results for this order. Based on the HL7 definition, this field is required whenever the OBR is contained in a report message. If the status pertains to the order detail segment, use OBR-25-result status and OBR-22-results report/status change — date/time. Refer to **HL7 2.5 Chapter 4, Section 4.5.3.25, HL7 Table 0123 – Result status for valid entries**.



UnitedHealthcare standards
Constraints on HL7 standards

- Expected values for the UnitedHealthcare lab results interface standard are “F” – Final

OBX – Observation result segment

The OBX segment is used to transmit a single lab-result value. It represents the smallest indivisible unit of a laboratory report.

Please note the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.





UnitedHealthcare standards

Constraints on HL7 standards

- Within the UnitedHealthcare lab result HL7 standard, FT1 is defined as a recommended segment since it contains billing information that will be used within internal processing to match the lab result billing procedure codes to the same billing procedure code on the claim record. As part of the standard definition of an ORU_R01 message, groups of related OBR and FT1 segments must be submitted within each PID segment. Submitters are recommended to refer *Section 7.1 – ORU^R01^ORU_R01* within the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#).
- The UnitedHealthcare standard further restricts the HL7 standard to require only a single FT1 segment for each OBR segment. A matching OBR and FT1 segment with the same Set ID value must be included before the next OBR/FT1 or MSH segment and the OBR segment must be included before the matching FT1 segment.

- Following is an example:

```
PID - Set ID 1
    OBR -Set ID 1
        OBX -Set ID 1
    FT1 -Set ID 1
    OBR -Set ID 2
        OBX -Set ID 1
    FT1 -Set ID 2
```


An additional requirement within the UnitedHealthcare lab result HL7 standard is that a single message (MSH) contains information only for a single patient (PID segment). This requirement will permit error processing for individual messages without having to reject the entire batch or file due to a single error.

- **OBX-2 Value Type [RE]** – This field contains the format of the observation value in OBX. It must be valued if OBX-11-Observation result status is not valued with an “X.” If the value is CE, then the result must be a coded entry. When the value type is TX or FT, then the results are bulk text.
 - The observation value must be represented according to the format for the data types defined below:

Data type	Data type name
CE	Coded Element
CNE	Coded No Exceptions




Data type	Data type name
CWE	Coded with Exceptions
ED	Encapsulated Data
NM	Numeric
SN	Structured Numeric
ST	String



Heads up!
Helpful tips and information


Submitters should only send lab results data using the data types specified above.



UnitedHealthcare standards
Constraints on HL7 standards

- The initial implementation of the UnitedHealthcare standard for lab results is not configured to handle binary observation value data which would include the “ED – encapsulated data” data type values such as images, Adobe Acrobat (PDF) files, or other binary formats. When submitting large blocks of text-based results such as pathology results, the “TX – text data” data type should be used.

- OBX-3 Observation Identifier [R]** – This field contains a unique identifier for the observation. The format is that of the Coded Element (CE).
Example: 8625-6^P-R interval^LN



UnitedHealthcare standards
Constraints on HL7 standards

- The expected coding systems for the UnitedHealthcare lab result standard are “LN” for LOINC. If LOINC is unavailable, “L” for Local general or proprietary codes can be accepted but will not be used for care quality gap closure.

- When local codes are used as the first identifier in this field, HL7 encourages sending a universal identifier as well to permit receivers to equivalence results from different providers of the same service (e.g., a hospital lab and commercial lab that provides serum potassium to a nursing home). LOINC® is an HL7-approved code system for the observation identifier. It covers observations and measurements, such as laboratory tests, physical findings, radiology studies and claims attachments and can be obtained from [Home – LOINC](#).



Value example

2571-8^Triglycerides^LN [Example of LOINC code for Triglycerides] OR
 2571-8^Triglycerides^LN^477X2^Triglycerides^L
 [Example of LOINC code for Triglycerides followed by a lab provider specific coding]

- **OBX-5 Observation Value [RE]** – This field contains the value observed by the observation producer. OBX-2-value type contains the data type for this field according to which observation value is formatted. HL7 defines this value as not a required field because some systems will report only the normalcy/abnormalcy (OBX-8), especially in product experience reporting. But for lab result reporting, this value is expected to be populated for each OBX segment. The length of the observation field is variable, depending upon OBX-2-value type. This field may repeat for multipart, single answer results with appropriate data types; e.g., CE, TX and FT data types.



UnitedHealthcare standards
 Constraints on HL7 standards

- The initial implementation of the UnitedHealthcare standard for lab results is not configured to handle binary observation value data which would include the “ED – encapsulated data” data type values such as images, Adobe Acrobat (PDF) files, or other binary formats. When submitting large blocks of text-based results such as pathology results, the “TX – text data” data type should be use.

- **Note:** The OBX-5 observation value is the location requested for lab result interpretive text and not the NTE segment. The NTE segment should be used for ancillary notes and comments related to the processing of the sample such as “Automated testing could not be performed; results are based on manual analysis” or “Specific criteria for analysis were not included therefore only partial testing occurred,” but NTE is not intended to be used for communicating the actual results or interpretation of results.
- **OBX-7 References Range [RE]** – When the observation quantifies the amount of a toxic substance, then the upper limit of the range identifies the toxic limit. If the observation quantifies a drug, the lower limits identify the lower therapeutic bounds and the upper limits represent the upper therapeutic bounds above which toxic side effects are common.
 - Components: for numeric values in the format:



- Lower limit-upper limit (when both lower and upper limits are defined, e.g., for potassium 3.5–4.5)



Heads up!


Helpful tips and information

- Please note, this is a single component field. Submitters should not include a component separator.

- > lower limit (if no upper limit, e.g., >10)
- < upper limit (if no lower limit, e.g., <15)
- Alphabetical values: The normal value may be reported in this location

Value example
>59
OR 1.5–4.5

- **OBX-11 Observation Results Status [R]** – This field contains the observation result status. Refer to **HL7 table 0085 – Observation result status codes interpretation** for valid values. This field reflects the current completion status of the results for one observation identifier.
 - It is a required field. Previous versions of HL7 stated this implicitly by defining a default value of “F.”



UnitedHealthcare standards

Constraints on HL7 standards

- Code F indicates that the result has been verified to be correct and final, and is the requested status value in the UnitedHealthcare standard. Do not use other values.

NTE – Notes and comments segment

The NTE segment is commonly used for sending notes and comments that accompany lab result data. Note that, depending on its position in the ORU message in the HL7 standard, this segment may be associated with a PID, OBR and OBX segment.

Please note the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.





UnitedHealthcare standards
Constraints on HL7 standards

- The intended use within the UnitedHealthcare standard is to use the NTE segment when notes and comments are related to a specific lab result OBX segment value

FT1 – Financial transaction segment

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



Heads up!
Helpful tips and information

Though the FT1 segment is important because it links the lab result message with the appropriate EDI claims, UnitedHealthcare designates the FT1 segment as **optional**.

Please note that the constraints listed below are specific to UnitedHealthcare and may differ from the HL7 standard. Submitters should refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) for a complete list of the segment definitions.

- **FT1-1 Set ID – FT1 [R]** – This field contains the number that identifies the order sequence of this segment within the parent PID segment. This value should begin at 1 and increment by 1 for each subsequent FT1 segment within the PID segment.



UnitedHealthcare standards
Constraints on HL7 standards

The UnitedHealthcare standard requires that the Set ID numeric value is directly associated with the same numerical OBR segment Set ID value. A valid HL7 ORU_R01 message order requires that the FT1 is sent after the matching OBR segment within a parent PID.

Example:

PID

OBR|1|

OBX|1|

FT1|1| → FT1-1 associated with OBR-1

OBR|2|

OBX|1|


FT1|2| → FT1-2 associated with OBR-2



- FT1-4 Transaction Date [R]** – This field contains the date/time or date/time range of the transaction. For example, this field would be used to identify the date a procedure, item or test was conducted or used. To specify a single point in time, only the first component is valued. When the second component is valued, the field specifies a time interval during which the transaction took place.

 UnitedHealthcare standards Constraints on HL7 standards	<ul style="list-style-type: none"> The UnitedHealthcare standard defines this value as the First Service Date corresponding to the lab result submitted claim first service date value
---	---

Value example
minimum precision YYYYMMDD: 20091124 [November 24, 2009]


 UnitedHealthcare standards Constraints on HL7 standards	<ul style="list-style-type: none"> Submitters may include the time (minutes and seconds), however, UnitedHealthcare requires the date (year, month, day) to be provided
---	--

- FT1-6 Transaction Type [R]** – This field contains the code that identifies the type of transaction. This is a required field in the FT1 segment per the HL7 standard.

 UnitedHealthcare standards Constraints on HL7 standards	For the UnitedHealthcare standard, the value should be set to “CG” – Charge”
	Required value
	CG

- FT1-7 Transaction Code [R]** – This field contains the code assigned by the institution for the purpose of uniquely identifying the transaction based on the Transaction Type (FT1-6). For example, this field would be used to uniquely identify a procedure, supply item, or test for charges; or to identify the payment medium for payments.
 - There are multiple locations to identify the transaction code within the HL7 ORU standard





UnitedHealthcare standards
Constraints on HL7 standards

- The UnitedHealthcare standard has defined this value to be the procedure code (CPT-4) that matches the claim submission for this lab result


- The coding system should be “C4” CPT-4 (see **HL7 table 0396 Coding system**). In many cases, submitters will have the same value within this field (FT1-7) and FT1-25 and OBR-4. The implementation allows the flexibility for labs to use other identifiers and methods for submitting results. For lab proprietary coding system as an alternative identifier, use “L” (Local general code).
 - HL7 format for CE data type:
 - <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)>

Field: FT1-7 Transaction Code (CE)

Component/sub-component	OPT
Identifier (ST)	R
Text (ST)	RE
Name of Coding System (IS)	RE
Alternate Identifier (ST)	O
Alternate Text (ST)	O
Name of Alternate Coding System (IS)	O

Value example
80061^Lipid Panel^C4 OR
80061^Lipid Panel^C4^423.1^Lipid Panel^L

- **FT1-14 Insurance Plan ID [RE]** – This field contains the identifier of the primary insurance plan with which this transaction should be associated



UnitedHealthcare standards
Constraints on HL7 standards

- The UnitedHealthcare lab result standard defines this value to be the group number as shown on the medical card. This is not the Member ID that is populated in PID-3.



- The coding system for this value should be set to “MB” – Member Number or “SN” – Subscriber Number (see *HL7 table 0203 Identifier Type*)
- HL7 format for CE data type:
 - <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)>

Field: FT1-14 Insurance Plan ID (CE)

Component/sub-component	OPT
Identifier (ST)	RE
Text (ST)	RE
Name of Coding System (IS)	RE
Alternate Identifier (ST)	O
Alternate Text (ST)	O
Name of Alternate Coding System (IS)	O

Value example
987654^UnitedHealthcare^HC

- **FT1-19/I10 Diagnosis Code [RE]** – This field should be reported if the diagnosis information has been received by the laboratory. The coding system for this value should be set to “I9C” – ICD9 CM or “I10” – ICD-10 (see *HL7 table 0396 Coding system*). Multiple diagnosis values can be sent when properly delimited in this repeating field.
 - HL7 format for CE data type:
 - <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)>

Field: FT1-19 Diagnosis Code (CE)

Component/sub-component	OPT
Identifier (ST)	RE
Text (ST)	RE
Name of Coding System (IS)	RE



Component/sub-component	OPT
Alternate Identifier (ST)	O
Alternate Text (ST)	O
Name of Alternate Coding System (IS)	O

Value example
250^DIABETES MELLITUS^I9C~272.2^MIXED HYPERLIPIDEMIA^I9C



Appendices

Lab order message transaction layout examples

OBX-2='NM' (A1C)

```
MSH|^~\&|Informatics|161387862^Quest Diagnostics^L||LABGATEWAY^UnitedHealth
Group^L|20190917010635-0600||ORU^R01^ORU_R01|M1926001063500000963|P|2.5|||||
```

```
PID|1||820154899^^^^HC||BEIGHE^DENISE^I^^^^L||19600415|F|||3174 E DESERT BROOM
WAY^^PHOENIX^AZ^85048^^M|| (623) 252-1760
```

```
OBR|1||PHO2019081541408081|83036^^C4^9230^Hemoglobin A1c With eAG^L|||2019081500000-
0600|||||1225300882^ZAMANI^SAMIRA^^^^^NPI|||||20190815215000-0600|||F
```

```
OBX|1|NM|4548-4^Hemoglobin A1c^LN^10009230^Hemoglobin A1c^L||5.2|%^ISO+|||||F
```

```
NTE|1|L|The American Diabetes Association (ADA) guidelines for interpreting Hemoglobin
A1c are as follows: Non-Diabetic
```

```
patient:~ <=5.6% Increased risk for future
Diabetes: 5.7-6.4% ADA diagnostic criteria for
Diabetes: >=6.5% Values for patients with Diabetes: Meets ADA's
recommended goal for therapy: <7.0% Exceeds ADA's recommended
goal: 7.0-8.0% ADA recommends reevaluation of
therapy: >8.0%
```

```
OBX|2|NM|27353-2^Estimated Average Glucose (eAG)^LN^12009230^Estimated Average Glucose
(eAG)^L||103|^^ISO+|Not Established|||||F
```

```
FT1|1|||20190815||CG|83036^^C4^9230^Hemoglobin A1c With eAG^L|||||705963^United
Healthcare^HC|||||83036^^C4^9230^Hemoglobin A1c With eAG^L
```

OBX-2='ST'

```
MSH|^~\&|Informatics|161387862^Quest Diagnostics^L||LABGATEWAY^UnitedHealth
Group^L|20190917010635-0600||ORU^R01^ORU_R01|M19260010635000003860|P|2.5|||||
```

```
PID|1||^HC||DUNNING^SCOTT^^^^L||19800902|M|||18661 N 61ST
AVENUE^^GLENDALE^AZ^85308^^M|| (602) 410-2498
```

```
OBR|1||PHO2019062140026477|87324^^C4^9171^C. difficile Toxin A and B,
EIA^L|||20190621000000-
0600|||||1033358387^Cutrona^Faith^^^^^NPI|||||20190622120600-0600|||F
```

```
OBX|1|ST|34468-9^C. difficile Toxin A and B, EIA^LN^9171^C. difficile Toxin A and B,
EIA^L||Negative|^^ISO+|||||F
```

```
NTE|1|L|15540814
```



```
FT1|1|||20190622||CG|87324^^C4^9171^C. difficile Toxin A and B,  
EIA^L| |||||6X5208^United Healthcare^HC| |||||87324^^C4^9171^C. difficile Toxin A  
and B, EIA^L
```

Frequently asked questions

1. How does a submitter obtain feedback about the success or failure of an individual file submission?

Each file submission will result in a set of reports with detailed error information shared with the submitter.

2. What if a submitter's lab data exchange format version is different or older than the HL7 2.5.1 version in the UnitedHealthcare standard?

While the UnitedHealthcare standard is based on the HL7 2.5.1 version of the ORU_R01 message, there has been an attempt to select segments and elements to try to align to prior versions of HL7 back to version 2.2. The submitter's file will be accepted and processed as long as the data elements sent meet the requirements for element population as described in this implementation guide.

3. Does the submitter's connection to UnitedHealthcare have to be set up prior validating their format per the published lab result standard?

Yes.

4. Does the Submitter ID have to be assigned by UnitedHealthcare?

Yes. This ID will be identified by UnitedHealthcare during the connectivity setup process.

5. Can submitters expect to receive 1 response for a single file or batch and one 1 MSA response for each message of that batch?

Yes. A typical response will be a corresponding single file containing 1 MSA response transaction for each MSH submitted in the batch.

6. What is PGP encryption?

PGP stands for Pretty Good Privacy. It is a computer program that provides cryptographic privacy and authentication. PGP is often used for signing, encrypting and decrypting emails to increase the security of email communications.

UnitedHealthcare accepts PGP-encrypted lab result files via FTP.



7. If the submitter is transmitting via FTP, how is an acknowledgment received?

All transaction responses are sent to the Electronic Communication Gateway (ECG) mailbox associated with the FTP account.

8. Does a submitter have to purchase any additional software from UnitedHealthcare or Optum if they are connecting directly to UnitedHealthcare to submit the lab result data?

No.

9. What is the process for correcting rejected transactions?

Rejected lab result messages that could not be processed due to errors can be resubmitted once a submitter has incorporated corrections or updates. A new file containing the corrected message can be submitted with the same file segment and batch segment requirements as any other batch file submission.

10. Can test files be sent after a submitter has received approval for lab result transaction production submissions?

Even after being granted production status for lab result file submissions, the submitter has the ability to designate a file as a test file by sending a “T” in the MSH-11 Processing ID field. When doing so, the file will be treated as a test transaction file and will not be forwarded for processing. The submitter can still send lab result test transaction messages when granted production status for lab result transactions.

Note: If a submitter has not yet been approved for production status, all messages will be processed as test messages regardless of the value in the MSH-11 Processing ID element.



Recommended data for UnitedHealthcare

In the simplest of terms, submitters should provide the following information to UnitedHealthcare for processing. Please see table below for a high-level overview:

Data element	Segment ID	Data type	Optionality	Comments
Member information				
Member ID number (i.e., UnitedHealthcare insurance card number)	PID-3	ST	Required	Utilize the number on the member's UnitedHealthcare ID card. Do not send internal system identification numbers.
First name, last name	PID-5	XPN	Required	Information should be sent for an <i>active member or active within 18 months of date of service.</i>
Date of birth	PID-7	TS	Required	YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]][/-ZZZZ] format
Race	PID-10	CE	Optional	This information is used to close health disparities. Recommended to send if available.
Address (city, state, ZIP code)	PID-11	XAD	Recommended	The patient's mailing address
Patient visit information				
Patient class	PV1-2	IS	Required	E = Emergency department visits I = Inpatient admission O = Outpatient
Patient visit number	PV1-19		Required	UnitedHealthcare maps this field as an encounter number. Without a value in this field, no data within the entire PV1 segment is retrieved.



Data element	Segment ID	Data type	Optionality	Comments
Set ID	OBX-1		Recommended	Via FHIR, this information is used to tie data back to the original submitter. UnitedHealthcare is actively using this segment to identify the source data, and can be used in identifying and resolving data issues. Recommended to send if available.
Observation identifier	OBX-3	CE	Required	Provide LOINC code submission or CPT-4 code submission.
Universal service identifier	OBR-4	CE	Required	Code of the lab procedure requested
Observation value	OBX-5	*	Required	Result of lab procedure
Provider information				
First name, last name, NPI number	OBR-16	XCN	Recommended	Identifies the provider who ordered the test, and a second set of XCN provider values for the treating provider (if known)
Observation request				
Observation date/time	OBR-7	TS	Required	<ul style="list-style-type: none"> Date the lab was collected from the member, not the date the lab analyzed the specimen. YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ] format Date of service, code and coding system must be provided. Without a value in this field, no data within the entire OBR segment is retrieved. UnitedHealthcare required field
Result status	OBR-25		Required	UnitedHealthcare required field



Data element	Segment ID	Data type	Optionality	Comments
Financial transaction				
Set ID	FT-1		Required	Via FHIR, this information is used to tie data back to the original submitter. UnitedHealthcare is actively using this segment to identify the source data, and can used in identifying and resolving data issues. Recommended to send if available.

By providing this information, the data can be utilized more holistically, enabling greater quality of patient care, as well as decreasing the number of clinical care gaps.

Note: These fields are required/recommended/optional for UnitedHealthcare processing. This is not an all-inclusive list of required fields. Submitters should refer to previous sections of this document as well as the **Lab results interface implementation guide** for all required elements.

Additional tips

Please see additional recommended tips below for cleaner data and faster processing:

- Help ensure values that are numeric are noted within those fields (i.e., do not enter a number into a text field)
- Do not enter special characters (i.e., <, >) into a numeric field. Only enter numerals.
- Provide data for UnitedHealthcare members only
- Review data to help ensure it is clinically appropriate and makes sense (i.e., 80/120 for a blood pressure reading, instead of 120/80)



References

For a full description of messages, segments (i.e., definitions, usage, cardinality), fields, delimiters, values and formats, as well as other critical fundamental information not covered within this implementation guide, please refer to the [HL7 Version 2.5.1 Implementation Guide: Lab Results Interface \(LRI\)](#) as well as HL7.org.

For support and access to HL7, FHIR and integration experts, please refer to caristix.com.

