HISO 10008.2:2015

Pathology and Radiology Messaging Standard

To be used in conjunction with:

HISO 10008.1:2015 Pathology and Radiology Messaging Implementation Guide

Document information

*HISO 10008 Pathology and Radiology Messaging Standard* is a standard approved for the New Zealand health and disability sector.

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Contributors

Representatives from the following organisations were involved in the review of HISO 10008 Pathology and Radiology Messaging Standard V1.1:

Patients First, Orion, Sysmex, HealthLink, Medtech, Canterbury Health Laboratories, ESR and a GP representative from the National Information Clinical Leadership Group.

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# Introduction

## Background

This Standard details the structure of electronic messages for Pathology and Radiology Orders and Results. It excludes information about the systems used to deliver messages from the provider to the Pathology and/or Radiology service.

This document is based on the HL7®[[1]](#footnote-1) version 2.4. For more information, please consult the HL7 specification.

This Standard provides consistent data definitions. It includes the data segments and data elements that are mandatory (required), optional or conditional (required, based on a condition), together with commentary and relevant notes for usage in the New Zealand health environment.

## Application

This Standard is for use by New Zealand health authorities, health service providers, pathology providers, radiology providers, health institutions, health information technology vendors, health information technology consultants and the health informatics community.

## Backward Compatibility

This Standard is not generally compatible with previous messaging standards operated in New Zealand. Occasionally it will be necessary to maintain backward compatibility. These instances are noted in the text.

## Scope

This Standard provides guidance to ensure that the right information is provided at the right time to the right person in the right place. With the appropriate security, continuity of patient information with a reduction in the risk for miscommunication within a secure system and at the right cost will be achieved.   
The Pathology and Radiology Messaging Standard may be used by other groups provided the validity of use is proven.

### Exclusions

The following events are specifically excluded from this Standard:

* health event summaries
* funding of services
* self-referrals.

## Privacy and Security

Privacy and security of health information in the health and disability sector is important for the following reasons:

1. Most health information is collected in a situation of confidence and trust, often in the context of a health professional/patient relationship. Maintaining this confidence and trust is critical.
2. Health information is sensitive and needs to be protected.
3. Health information may be required by the health agency and by other providers treating the individual, long after it has ceased to be needed for the original episode of care and treatment. Ensuring that health information is available only on a need-to-know basis is therefore important.
4. The ability to exchange high quality health information in a safe and secure manner between partners in health care processes is vital for a health system focused on achieving improved health outcomes.

The implementation of privacy and security protection measures is an important factor for electronic referral, status, and discharge solutions.

The implementation of privacy and security protection measures shall be based on the Health Information Privacy Code 1994, and the HISO 10029 Health Information Security Framework.

## Interpretation

For the purpose of this Standard, the words 'shall' and 'will' refer to the practices that are mandatory for compliance with this Standard. The words 'should' and 'may' refer to practices that are advised or recommended.

The terms 'normative' and 'informative' are used in Standards to define the application of an appendix. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is for information and guidance. Informative provisions do not form part of the mandatory requirements of the Standard. Appendix A defines the terms used in this Standard.

## ****Related Documents****

The documents listed below were referred to in developing this Standard. These documents should be consulted to clarify this Standard, if required.

### HISO

* HISO 10008 Pathology and Radiology Messaging Implementation Guide
* HISO 10004 New Zealand Pathology Observation Code Sets
* HISO 10011.1 Referral, Status and Discharges Business Process
* HISO 10011.2 Referral, Status and Discharges Messaging Standard
* HISO 10011.3 Referral, Status and Discharges Implementation Guide
* HISO 10011.4 eDischarge Messaging Standard
* HISO 10040.4 Clinical Document Metadata Standard
* HISO 10029 Health Information Security Framework

### Other Standards

* Health Level Seven Inc., HL7 version 2.4 – An Application Protocol For Electronic Data Exchange in Healthcare Environments This is the document referred to in the text as "HL7 version 2.4".
* AS/NZS 4700.1-2005 Implementation of Health Level Seven (HL7) version 2.4 – Patient administration
* ISO 3166 Codes for the representation of names of countries and their subdivisions
* ISO 2955 Information processing – Representation of SI and other units in systems with limited character sets.

### New Zealand Legislation and Regulations

The following Acts of Parliament and Regulations have specific relevance to this standard. Readers should be aware of the need to consider other Acts and Regulations as may be appropriate to their own implementation or use of this standard:

* Health Act 1856
* Health and Disability Commissioner (Code of Health and Disability Services Consumers’ Rights) Regulations 1996
* Privacy Act 1993
* Health Information Privacy Code 1994
* Medicines Act 1981
* Retention of Health Information 1996.

## Revision history

The following details the changes to the standard following its publication in 2015.

|  |  |
| --- | --- |
| **Updated** | **Details** |
| April 2021 | In Table 40: XCN Extended Composite ID Number and Name for Persons, the <Name Context> sub-component has been identified as the place to provide the HPI Facility ID when the XCN is used in OBR-28 Results copied to. See page 41. |
| November 2021 | The following changes have been made:   * Table 110: PID Attribute Table – Patient ID Segment, segment 10 Ethnicity, the Rpt has been changed to Y6 (see page 97). * Section 5.15.7 PID-10-Ethnicity (see page 99):   + the link to the Ministry of Health’s common code tables has been replaced by a link to the Ethnicity Data Protocols   + added text to reflect the change to collecting ethnicity data at level 4 and ability to record up to six ethnicities   + changed the ‘Variance to HL7’ to reflect NZ’s usage allowing up to six repeats of this field. |

# Transaction Flow

## Overview

Messages are sent in response to actual events and demands. This represents the most common sequence of events in which this message is transferred. There may be a message brokering service included in the process but, in the interests of simplicity, this has not been shown.

1. A patient presents at a medical encounter, usually with a general practitioner (GP).
2. The GP enters the details of a proposed diagnostic test into their ordering system
3. The Practice Management System (PMS) sends either an OML^O21 to a laboratory or an ORM^O01 to a radiology clinic, as described by this document.
4. The Laboratory replies with an ORL^O22 message, or the Radiology Clinic replies with an ORR^O02 message to the PMS, as described in this document.



1. The patient presents at the Laboratory where the required samples are taken and the test performed, or to a Radiology Clinic where the patient is examined.
2. The Laboratory or Radiology Clinic sends the results electronically back to the GP in an ORU^R01 message.
3. The PMS sends an ACK^R01 acknowledgement message, as described in this document.



1. After the tests have been performed and the results obtained, the results are normally transmitted electronically to the placer of the order.

### Modification of Orders

Once an order has been sent, the placer may wish to alter the order in some way or cancel it. In such a case the same OML^O21/ORM^O01 message shall be sent. The content of the message should be such that the filler system will know that this new message refers not to a new order, but to some modifications of an order made previously. The filler system shall respond with the same ORL/ORR message as in the above example, to communicate that the order has been modified or that it is unable to be modified. Refer to diagrams in the Implementation Guide for further details on how to modify orders.

# HL7 Issues

## Separators

Although the core standard allows for the possibility of using message defined delimiters, it is strongly recommended that the default HL7 characters are used for delimiting, as some implementations may not support alternatives. Delimiters are listed in the following table.

Table 1: Delimiters

|  |  |  |  |
| --- | --- | --- | --- |
| **Delimiter** | **Name** | **ASCII** | **Hex** |
| Field separator | "Vertical bar" or "Pipe" | '|' | 7C16 |
| Component separator | "Hat" or "caret" | '^' | 5E16 |
| Sub-component separator | "Ampersand" | '&' | 2616 |
| Repetition separator | "Tilde" | '~' | 7E16 |
| Escape character | "Back-slash" | '\' | 5C16 |

These separators are used in the example messages throughout this Standard.

The system generating a message does not need to place field separators for empty fields that occur at the end of the segment. Instead, the final field that contains data may be terminated with a carriage return. Examples 1 and 2 below are technically permissible, while Example 3 illustrates the preferred usage.

**Example 1:** Don't need trailing field separators where fields do not contain data:

...2.4^NZL|||||||<cr>

**Example 2:** Don't need to separate the final field with a field separator:

...2.4^NZL|<cr>

**Example 3:** Preferred option. Final field containing data terminated with carriage return:

...2.4^NZL<cr>

Please take care to use only the carriage return character to separate segments.

For further details concerning message construction and separator characters refer to HL7 version 2.4 chapters 2.10 (Message Construction Rules) and 2.7 (Message Delimiters).

## Field Content - Blanks and Nulls

When constructing a message, sometimes no information is available to be sent in a field. If the information is unknown or irrelevant then an empty field is sent. An empty field in a HL7 message is represented by "nothing" between the two delimiters, e.g. ...||.... The receiving system shall ignore this field and leave any information it already has unchanged. For example, if the PID-11 (patient address field) is empty, the existing patient address in the receiving system shall remain unchanged.

If a field is "null", the effect on the receiving system is quite different. A value of "null" is represented in HL7 by a pair of double-quotes (...|""|...). When a receiving system receives a field containing "null", it shall erase the value it has currently stored. For example, if PID-11 is "null" (e.g. .|""|...), then the patient address in the receiving system is erased.

|  |
| --- |
| ***NOTE:*** *Mandatory fields must be populated. Spaces and blanks must not be used to circumvent this requirement.* |

## Use of Escape Sequences in Test Fields

### Formatting Codes

When a field of type TX, FT, or ST is being encoded, the escape character may be used to assign special characteristics to portions of the text field. The escape character is whatever display ASCII character is specified in the <escape character> component of the MSH-2 (encoding characters field). For the purposes of this section, the character "\" will be used to represent the character so designated in a message. An escape sequence consists of the escape character followed by an escape code ID of one character, zero ("0") or more data characters, and another occurrence of the escape character. Table 2 defines the escape sequences:

Table 2: Escape Sequences

|  |  |
| --- | --- |
| **Symbol** | **Description** |
| \H\ | Start highlighting |
| \N\ | Normal text (end highlighting) |
| \F\ | Field separator |
| \S\ | Component separator |
| \T\ | Sub component separator |
| \R\ | Repetition separator |
| \E\ | Escape character |
| \Xdddd…\ | Hexadecimal data |
| \Zdddd…\ | Locally defined escape sequence |

The escape sequences for field separator, component separator, subcomponent separator, repetition separator, and escape character are also correct within an ST data field. No escape sequence may contain a nested escape sequence.

The formatted text character values in Table 3 are placed within these characters.

### Formatted Text

If the field is the FT data type, the escape character may also surround formatting commands. Each command begins with the ".x" character. The following formatting commands are available:

Table 3: Formatted Text

|  |  |
| --- | --- |
| **Value** | **Description** |
| .sp <number> | End current output line and skip <number> vertical spaces. <number> is a positive integer or absent. If <number> is absent, skip one space. The horizontal character position remains unchanged. Note that for purposes of backward compatibility, "^\.sp\" is equivalent to "\.br\". |
| .br | Begin new output line. Set the horizontal position to the current left margin and increment the vertical position by 1. |
| .fi | Begin word wrap or fill mode. This is the default state. It can be changed to a no-wrap mode using the .nf command. |
| .nf | Begin no-wrap mode. |
| .in <number> | Indent <number> of spaces, where <number> is a positive or negative integer. This command cannot appear after the first printable character of a line. |
| .ti <number> | Temporarily indent <number> of spaces where number is a positive or negative integer. This command cannot appear after the first printable character of a line. |
| .sk < number> | Skip <number> spaces to the right. |
| .ce | End current output line and centre the next line. |

The component separator that marks each line defines the extent of the temporary indent command (.ti), and the beginning of each line in the no-wrap mode (.nf). Examples of formatting instructions that are NOT included in this data type include: width of display, position on page or screen and type of output devices. two examples:

**Example 1:** FT data type from a radiology impression section of a radiology report showing formatted text as transmitted:

\.in+4\\.ti-4\ 1. The cardiomediastinal silhouette is now within normal limits.\.sp\\.ti-4\ 2. Lung fields show minimal ground glass appearance.\.sp\\.ti-4\ 3. A loop of colon visible in the left upper quadrant is distinctly abnormal with the appearance of mucosal effacement suggesting colitis.\.in-4|

**Example 2:** Another way of presenting the data in Example 1. The receiving system can create many other interpretations by varying the right margin:

1. The cardiomediastinal silhouette is now within normal limits.
2. Lung fields show minimal ground glass appearance.
3. A loop of colon visible in the left upper quadrant is distinctly abnormal with the appearance of mucosal effacement suggesting colitis.Conventions.

The message segments in this Standard are defined by the alphabetical order of their three-letter tag. The definitions begin with a table of fields, followed by a section of field notes. The aim here is to clarify HL7 by only commenting on the fields with direct relevance to this implementation. Fields not commented on may still be used. Their usage is governed by HL7.

# Message Definition

## Conventions

In message definition, any segment surrounded by parentheses '{ }' is allowed to repeat, and shall have at least one occurrence. A segment surrounded by square brackets '[ ]' is an optional segment. A segment without the surrounding square brackets should be considered as required. Segments that are both repeating and optional shall be surrounded by both square brackets and parentheses. Examples of parentheses and brackets are shown in the table below.

Table 4: Segment Parentheses and Brackets

|  |  |  |
| --- | --- | --- |
|  | **Cardinality** | **HL7 Notation** |
| Required | 1..1 | MSH |
| Required, may repeat | 1..n | {OBR} |
| Optional | 0..1 | [PV1] |
| Optional, may repeat | 0..n | [{OBX}] |

Groups of segments that operate as complete units in the message (known as segment groups) shall also be surrounded by square brackets to indicate that the entire group is optional, and by parentheses to indicate that the entire group may repeat. If a segment is required (i.e. it has no square brackets) inside a group that is optional, then that segment is only required if the group is present. Wherever possible, segment groups are indicated by indentation of the segments that belong to that segment group.

## Supported Messages

The implementation of this Standard in New Zealand supports the use of diagnostic order messages (OML^O21 for Laboratory or ORM^O01 for Radiology) and a series of responses (ORL^O22 from the Laboratory and ORR^O02 from Radiology).

Results are returned as a series of unsolicited results (ORU^R01). These are acknowledged using an acknowledgement message (ACK^R01).

This Standard does not cover the generic HL7 message processing procedures. Chapter 2.13 of the HL7 version 2.4 defines generic message exchanges between the initiator and the receiver, as well as the processes to be followed with regard to accepting or rejecting messages and the creation of responses.

## Message Exchange Principles

The following basic principles should be considered:

1. The mandatory segments identified in the Message Definitions shall always be sent, or the message will be rejected as invalid.[[2]](#footnote-2)
2. The mandatory data identified in the Segment Definitions shall always be sent, or the message will be rejected as invalid.
3. The sending system should send as much relevant information as possible in structured format. The receiving system can then select the data elements it requires. Unstructured free-form text should be avoided as much as possible.
4. The responding system should send back as much relevant information as possible, as this acts as a 'safety check' on the data of the sent message. The sending system can decide if it wants to compare the returned data with the original data sent or discard it.

While the need for a message response is clearly defined by HL7, the amount of time allowed for a response message to be returned ('message latency') is not specified by HL7. The latency depends on the nature of the sending and responding application and the communication mechanisms between both systems. [[3]](#footnote-3)

## OML – Laboratory Order Message (Event O21)

The laboratory order message may be used for the communication of laboratory and other order messages and shall be used for laboratory automation messages. The following table describes the structure of the OML message.

Table 5: OML^O21 Message Definition

|  |  |
| --- | --- |
| **Segment Name** | **Description** |
| MSH | Message Header |
| PID | Patient Identification |
| [PD1] | Additional Demographics |
| [{NTE}] | Notes and Comments |
| [ |  |
| PV1 | Patient Visit |
| [PV2] | Patient Visit Additional Information |
| [{IN1}] | Insurance segment |
| ] |  |
| [{AL1}] | Allergy Information |
| { |  |
| ORC | Common Order |
| [ |  |
| OBR | Order Detail – Observation Request |
| [{ |  |
| SAC | Specimen container Details |
| {] |  |
| [{NTE}] | Notes and Comments |
| [{DG1}] | Diagnosis |
| [{ |  |
| OBX | Observation Result |
| [{NTE}] | Notes and Comments |
| }] |  |
| [{CTI}] | Clinical Trail Identification |
| ] |  |
| } |  |

|  |
| --- |
| ***NOTE:*** *Only segments that are used in this message have been documented here.*  *Refer to HL7 version 2.4 Chapter 4.4.6 for full list of segments.* |

### OML Message Example

This example shows the correspondence of the message definition (above) with the actual message. For ease of viewing, the segments have been separated onto different lines. In an actual message, the segments would be separated only with a carriage return character. Where a segment will not fit on a single line, subsequent lines have been indented.

The following example contains two orders for one patient:

**Example:** Laboratory Order – OML^021

MSH|^~\&|DAP|testedi1|LeicaCerebro|testedi2|20141102104157||**OML^O21^OML\_O21**|43|D|2.4^NZL|||AL|NE

PID|||EVG1234||Evatt^Gabrielle||19710725|F|||208 Dunedin-Waitati Road^Upper Junction^Dunedin^^9010

PV1||I||||||THTH^Thorby^Thalia

ORC|NW|14/S00124.1^L||14/S00124^L

OBR|1|14/S00124.1^L|FillerOrderNumber|CASSETTE^^L

SAC||14/S00124^L|14/S00124.1^L|||COL^^COLON

OBX|1|ST|Case^CaseType^L||SU||||||F

ORC|NW||14/S00124.2^L||14/S00124^L

OBR|1|14/S00124.2^L|FillerOrderNumber|CASSETTE^^L

SAC||14/S00124^L|14/S00124.2^L|||SKN^^SKIN

OBX|1|ST|Case^CaseType^L||SU||||||F

## ORL – Laboratory Order Response Message (Event O22)

The function of the ORL message is to respond to the OML message. The table below describes the structure of the ORL message.

Table 6: ORL^O22 Message Definition

|  |  |
| --- | --- |
| **Segment Name** | **Description** |
| MSH | Message Header |
| MSA | Message Acknowledgment |
| [ERR] | Error |
| [PID | Patient Identification |
| [{NTE}] | Notes and Comments |
| [{ |  |
| ORC | Common Order |
| [ |  |
| OBR | Order Detail – Observation Request |
| [{SAC}] | Specimen container Details |
| ] |  |
| }] |  |
| ] |  |

|  |
| --- |
| ***NOTE:*** *Only segments that are used in this message have been documented here.*  *Refer to HL7 v2.4 Chapter 4.47 for full list of segments.* |

### ORL Message Example

**Example:** Order Acknowledgment - ORL^O22

MSH|^~\&|LeicaCerebro|testedi1|DAP|testedi2|20141102104159||ORL^O22^ORL\_O22|581018DA-315D-4F96-893A-9C7E46B0F6D0|P|2.4^NZL

MSA|AA|43

## ORM – General Order Message (Event O01)

The function of the ORM message is to initiate the transmission of information about an order. ORM messages may originate with a placer, filler or an interested third party. The table below describes the structure of the ORM message.

Table 7: ORM^O01 Message Definition

|  |  |
| --- | --- |
| **Segment Name** | **Description** |
| MSH | Message Header |
| PID | Patient Identification |
| [PD1] | Additional Demographics |
| [{NTE}] | Notes and Comments |
| [ |  |
| PV1 | Patient Visit |
| [PV2] | Patient Visit Additional Information |
| [IN1] | Insurance segment |
| ] |  |
| [{AL1}] | Allergy Information |
| { |  |
| ORC | Common Order |
| [ |  |
| OBR | Order Detail Segment OBR, etc. |
| [{NTE}] | Notes and Comments |
| [{DG1}] | Diagnosis |
| [{ |  |
| OBX | Observation/Result |
| [{NTE}] | Notes and Comments (for Results) |
| }] |  |
| ] |  |
| ] |  |
| [{CTI}] | Clinical Trail Identification |

|  |
| --- |
| ***NOTE:*** *Only segments that are used in this message have been documented here. Refer to HL7 version 2.4 Chapter 4.4.1 for full list of segments.* |

**Example:** General Order message - ORM^O01

MSH|^~\&|LIS-1|testedi1|WAM-1|testedi2|201405071412||ORM^O01^ORM\_O01|10871452|P|2.4^NZL

PID|||EVG1234||Evatt^Gabrielle||19710725|F|||208 Dunedin-Waitati Road^Upper Junction^Dunedin^^9010

PV1||I||||||THTH^Thorby^Thalia

ORC|NW|14-2964309-RET

OBR|1|14-2964309-RET-0||RET^^L|R|201405071411|201405071300|||||||||THTH^Thorby^Thalia||2964309

## ORR – General Order Response Message (Event ^O02 )

The function of the ORR message is to respond to an ORM message. The table below describes the structure of the ORR message.

Table 8: ORR^O02 Message Definition

|  |  |
| --- | --- |
| **Segment Name** | **Description** |
| MSH | Message Header |
| MSA | Message Acknowledgment |
| [ERR] | Error |
| [{NTE}] | Notes and Comments (for Header) |
| [ |  |
| [PID | Patient Identification |
| [{NTE}] | Notes and Comments (for Patient ID) |
| { |  |
| ORC | Common Order |
| OBR | Order Detail Segment OBR, etc. |
| [{NTE}] | Notes and Comments (for Detail) |
| [{CTI}] | Clinical Trail Identification |
| } |  |
| ] |  |

|  |
| --- |
| ***NOTE****: Only segments that are used in this message have been documented here.*  *Refer to HL7 version 2.4 Chapter 4.4.2 for full list of segments.* |

**Example:** General Order Acknowledgment - ORR^O02

MSH|^~\&|WAM-1|testedi1|LIS-1|testedi2|201405071413||ORR^O02^ORR\_O02|44|P|2.4^NZL

MSA|AA|10871452

## ORU – Unsolicited Observation Message (Event R01)

The function of the ORU is to transmit laboratory results to other systems. The table below describes the structure of the ORU message.

Table 9: ORU^R01 Message Definition

|  |  |
| --- | --- |
| **Segment Name** | **Description** |
| MSH | Message Header |
| { |  |
| PID | Patient Identification |
| [PD1] | Additional Demographics |
| [{NK1}] | Next of Kin Details |
| [{NTE}] | Notes and Comments |
| [ |  |
| PV1 | Patient Visit |
| [PV2] | Patient Visit Additional Information |
| ] |  |
| { |  |
| [ORC] | Common Order |
| OBR | Order Detail/Observation Request |
| [{NTE}] | Notes and Comments for Result |
| { |  |
| [OBX] | Observation/Result |
| [{NTE}] | Notes and Comments for Results |
| } |  |
| } |  |
| } |  |

|  |
| --- |
| **NOTE:** Only segments that are used in this message have been documented here.  Refer to HL7 version 2.4 Chapter 73.2 for full list of segments. |

For the ordering practitioner:

**Example:** Unsolicited Result Message - ORU^R01

MSH|^~\&|WAM-1|testedi1|LIS-1|testedi2|201408092056||ORU^R01^ORU\_R01|20140809205639267|P|2.4^NZL

PID|||EVG1234||Evatt^Gabrielle||19710725|F|||208 Dunedin-Waitati Road^Upper Junction^Dunedin^^9010

PV1||I||||||THTH^Thorby^Thalia

ORC|RE|14-9988520||14-9988520

OBR|1|14-2964309-RET-0||RET^^L|R|201405071411|201405071300||||||A bit of relevant clinical info|||THTH^Thorby^Thalia||2964309

OBX|1|ST|WBC^^L||6.9|10 x 9/L|||||F|||||HAEM

OBX|2|ST|RBC^^L||4.2|10 x 12/L|||||F|||||HAEM

OBX|3|ST|HGB^^L||126|g/L|||||F|||||HAEM

OBX|4|ST|HCT^^L||0.391|%|||||F|||||HAEM

OBX|5|ST|MCV^^L||93.1|fL|||||F|||||HAEM

OBX|6|ST|MCH^^L||30|pg|||||F|||||HAEM

OBX|7|ST|MCHC^^L||322|g/L|||||F|||||HAEM

OBX|8|ST|RDW-SD^^L||41.5|fL|||||F|||||HAEM

OBX|9|ST|RDW-CV^^L||12.3|%|||||F|||||HAEM

OBX|10|ST|PLT^^L||325|10 x 9/L|||||F|||||HAEM

OBX|11|ST|MPV^^L||9.6|fL|||||F|||||HAEM

OBX|12|ST|NEUT#^^L||3.89|10 x 9/L|||||F|||||HAEM

OBX|13|ST|LYMPH#^^L||2.13|10 x 9/L|||||F|||||HAEM

OBX|14|ST|MONO#^^L||0.44|10 x 9/L|||||F|||||HAEM

OBX|15|ST|EO#^^L||0.32|10 x 9/L|||||F|||||HAEM

OBX|16|ST|BASO#^^L||0.12|10 x 9/L|||||F|||||HAEM

OBX|22|ST|NEUT%^^L||56.4|%|||||F|||||HAEM

OBX|23|ST|LYMPH%^^L||30.9|%|||||F|||||HAEM

OBX|24|ST|MONO%^^L||6.4|%|||||F|||||HAEM

OBX|25|ST|EO%^^L||4.6|%|||||F|||||HAEM

OBX|26|ST|BASO%^^L||1.7|%|||||F|||||HAEM

OBX|32|ST|NRBC%^^L||0.1|%|||||F|||||HAEM

OBX|33|ST|NRBC#^^L||0.02|10 x 9/L|||||F|||||HAEM

NTE|1|L|Anisocytosis

NTE|2|L|Poikylocytosis

NTE|3|L|Microcytosis

## ACK – Acknowledgment (Event R01)

The simple Acknowledgment (ACK) can be used where the application does not define a special application level acknowledgment message, or where there has been an error that precludes application processing acknowledgment. The table below shows the segments that are applicable for the acknowledgement message.

Table 10: AKL^R01 Message Definition

|  |  |
| --- | --- |
| **Segment Name** | **Description** |
| MSH | Message Header |
| MSA | Message Acknowledgement |
| [ERR] | Error |

|  |
| --- |
| **NOTE:** Only segments that are used in this message have been documented here. |

### ACK Message Example

**Example:** Unsolicited Result Acknowledgment - ACK^R01

MSH|^~\&|LIS-1|testedi1|WAM-1|testedi2|201408092057||ACK^R01|D2FFD5E2-1C90-493B-8BBD-033D3B46E74F|P|2.4^NZL

MSA|AA|20140809205639268

# Segment Definition

## Conventions

The following table structure has been defined for the fields within each segment.

Table 11: Conventions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** |
|  |  |  |  |  |  |

**!** *HL7 fields that are* ***not*** *supported in this Standard are identified as shaded rows in the following chapter.*

### Sequence (Seq)

**Column 1:** Identifies the position of the data within the segment.

### Element Name

**Column 2:** Descriptive name of the field.

### Length (Len)

**Column 3:** Defines the total length of the field. The maximum length of a field is calculated to include the component and subcomponent separators. The repetition separator is not included in calculating the maximum length, since the maximum length is that of a single occurrence. A composite data type may not have a maximum length less than the maximum length of its largest component data type (i.e., in PID-3, CX includes HD, which in turn includes an IS, ID, and ST).

Values in the Length (Len) column always refer to the total length of the field. So if a field contains a composite data type such as XPN (patient name), then the length will refer to the entire field including any separators.

**Example:**

...|Fyodor^I^Dostoevsky|...

This field contains 19 characters including the separators. This data would be sufficient if the length of the patient name field was 19 characters or more, but would fail if the length was any less than 19 even though there are only 17 characters of actual data.

|  |
| --- |
| ***NOTE****: The length always refers to a single instance of an item. Thus, if an item repeats then it is allowed up to the maximum length for each individual repeat. The repetition delimiter (tilde “~”, unless re-defined in MSH2) is not counted for the purposes of length validation.* |

### Optional (Opt)

**Column 5:** Refer to the table below for allowed values for the Option field.

Table 12: Options

|  |  |  |
| --- | --- | --- |
| **Value** | **Description** | **Explanation** |
| R | Required | This field must always contain data. |
| O | Optional | This field does not have to have data. |
| C | Conditional | This field must contain data in certain situations that will be described in the field notes. |
| B | Backward Compatibility | This field is left for backward compatibility with previous versions of HL7. |
| X | Not Used | This field is not used in this implementation. Data sent in this field may be ignored by the receiving application. |

### Repeat (Rpt)

**Column 6:** Refer to the table below for allowed values in the Repeat field.

Table 13: Repetitions

|  |  |  |
| --- | --- | --- |
| **Value** | **Description** | **Explanation** |
| N | No repetition | This field does not repeat (default). |
| Y | Allow repetition | This field may repeat as many times as necessary. |
| Yn | Allow "n" repetitions | This field may repeat the number of times specified by "n". |

If the value in the Rpt column is a number, then the field will be allowed to repeat up to that number of times. If the Rpt column is blank, then a value of "N" should be assumed.

### Data Types

**Column 4:** Refer to the following data types:

#### CE – Coded Element

The CE data type transmits codes, and the text associated with the code. The maximum length of this field is 250. The table below shows the CE data type components.

Table 14: CE – Coded Element Component

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <identifier> | ST | Sequence of characters (the code) that uniquely identifies the item being referenced by the <text>. Different coding schemes will have different elements here. |
| <text> | ST | Name or description of the item in question. |
| <name of coding system> | IS | Each coding system is assigned a unique identifier. Table 15 contains the allowed values. |
| <alternate identifier> | ST | Analogous to <identifier>, see note above. |
| <alternate text> | ST | Analogous to <text>, see note above. |
| <name of alternate coding system> | IS | These three components are analogous to <name of coding system>, above. If the <alternate text> component is absent, and the <alternate identifier> is present, the <alternate text> will be taken to be the same as the <text> component. If the <alternate coding system> component is absent, it will be taken to mean the locally-defined system. |

The most common Coding System values are provided in the table below:

Table 15: HL7 User Defined Table 0396 – Coding Systems

|  |  |
| --- | --- |
| **Value** | **Description** |
| 99zzz | Local general code (where ‘9’ is a place-holder for integer values and ‘z’ is an alphanumeric character) |
| RC | Read Classification |
| NZ | New Zealand Pathology Order Code Set (NZPOCS) |
| LN | Logical Observation Identifier Names and Codes (LOINC) |
| DSM4 | Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition |
| HL7nnnn | HL7 Defined Codes where nnnn is the HL7 table number |
| SNM-ccyy | Systematized Nomenclature of Medicine – Clinical Terminology (SNOMED CT), where ccyy is the year of the code set release. |
| BTH-ccyy | Bethesda Codes, where ccyy is the year of the code set version. (At the time this standard was published, these were 1991 and 2001). |
| ICD-v | ICD-10 CM, where v is the version number. At the time this Standard was published, these were 3, 4, 5, 6 and 8. Refer to the Ministry of Health’s website for the most up to date version number. |
| ISOnnnn | International Standards Organisation, where nnnn is the ISO table number |
| HI | Health Practitioner Index CPN |
| HO | Health Practitioner Index - Organisation Identifier |
| HF | Health Practitioner Index - Facility Identifier |

|  |
| --- |
| **NOTE**: The previous table is not comprehensive. |

#### CM – Composite

This field is a combination of other meaningful data fields. Each portion is called a component. The specific components of CM fields are defined within the field descriptions. Certain other composites have been separately identified and are described below.

|  |
| --- |
| **NOTE**: No new CMs are allowed after HL7 version 2.2, therefore this Standard discourages the use of CMs. |

#### CN - composite ID number and name

This data type is used when identifying a person both as a coded value and with a text name.

|  |
| --- |
| **NOTE**: CN has been replaced by XCN data type as of HL7 version 2.3. None of the new components in XCN are used in New Zealand. |

#### CP – Composite Price

The CP data type is used to indicate the composite price of the service. The table below shows the CP data type components.

|  |
| --- |
| **NOTE**: This data type is often used to define a repeating field within a given segment and replaces MO as of HL7 version 2.3. |

Table 16: CP – Composite Price Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <price> | MO | The only required component; usually containing a decimal point. |
| <price type > | ID | A coded value, data type ID. Refer to Table 17  for values. |
| <to value > | NM | Each is a NM data type and together they specify the 'range'. The range can be defined as either time or quantity. For example, the range can indicate that the first 10 minutes of the procedure has one price. Another repetition of the data type can use the range to specify that the following 10 to 60 minutes of the procedure is charged at another price. A final repetition can specify the final 60 to *n* minutes of the procedure at a third price. |
| <from value > | NM | See <to value>, above. |
| <range units > | CE | A coded value defined by the standard table of units for either time or quantity. This describes the units associated with the range, e.g. seconds, minutes, hours, days, quantity (i.e. count). It is required if <from value> and <to value> are present. |
| <range type > | ID | Refer to Table 18 for valid values. |

|  |
| --- |
| ***NOTE:*** *If the <price type> component is TP, both <from value> and <to value> may be "null".* |

Table 17: **HL7 Table 0205 – Price Type**

|  |  |
| --- | --- |
| **Value** | **Description** |
| AP | Administrative price or handling fee |
| DC | Direct unit cost |
| IC | Indirect unit cost |
| PF | Professional fee for performing provider |
| TF | Technology fee for use of equipment |
| TP | Total price |
| UP | Unit price, may be based on length of procedure or service |

Table 18: HL7 Table 0298 – CP Range Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| P | Pro-rata. Apply this price to this interval, pro-rated by whatever portion of the interval has occurred / been consumed. |
| F | Flat-rate. Apply the entire price to this interval, do not pro-rate the price if the full interval has not occurred / been consumed. |

#### CQ - Composite Quantity with Units

Refer to the following table:

Table 19: CQ - Composite Quantity with Units

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <quantity> | NM | Sequence of characters (the code) that uniquely identifies the item being referenced by the <text>. Different coding schemes will have different elements here. |
| <units> | CE | The units in which the quantity is expressed. Field-by-field, default units may be defined within the specifications. |

|  |
| --- |
| **NOTE:** In future versions, CQ fields should be avoided because the same data can usually be sent as two separate fields, one with the value and one with the units as a CE data type. |

#### CWE - Coded with Exceptions

The maximum length of this field is 250. Refer to the following table:

Table 20: CWE – Coded with Exceptions Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <identifier> | ST | Sequence of characters (the code) that uniquely identifies the item being referenced by the <text>. Different coding schemes will have different elements here. |
| <text> | ST | Name or description of the item in question. |
| <name of coding system> | IS | Each coding system is assigned a unique identifier.  Table 15 contains the allowed values. |
| <alternate identifier> | ST | Analogous to <identifier>, see note above. |
| <alternate text> | ST | Analogous to <text>, see note above. |
| <name of alternate coding system> | IS | Analogous to <name of coding system>, see note above. |
| <coding system version ID> | ST | Version ID for the coding system identified by first three sub components, above. Retained for backward compatibility. |
| <alternate coding system version ID> |  | Version ID for the coding system identified by the second three sub components, above. It belongs conceptually to the group of alternate components and appears here for backward compatibility. |
| <original text> | ST | The original text that was available to an automated process or a human before a specific code was assigned. |

#### CX – Extended Composite ID with Check Digit

The CX data type is used for specifying an identifier with its associated administrative detail. The maximum length of this field is 250. The following table shows the CX data type components.

Table 21: CX – Extended Composite ID with Check Digit Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <ID> | ST | The value of the identifier itself. |
| <check digit> | ST | This is the check digit that is part of the identifying number used in the sending application with ST data type allowed. If the sending application does not include a self-generated check digit in the identifying number, this component should be valued "null". |
| <code identifying the check digit scheme employed> | ID | Refer to Table 22. |
| <assigning authority> | HD | Refer to Table 43 for values. The assigning authority is the system, application or body that actually generates the ID number. If this field is blank then the value in the first component is assumed to be either the Health Practitioner Index (HPI) number or the National Health Index (NHI) number. In this case the assigning authority is the Ministry of Health (NZLMOH). If another identifier is being messaged then this field must be filled in. |
| <identifier type code> | ID | A code corresponding to the type of identifier. In some cases, this code may be used as a qualifier to the <assigning authority> component. Refer to Table 154 for valid values. |
| <assigning facility> | HD | The place or location identifier where the identifier was first assigned to the patient. |
| <effective date > | DT | The first date, if known, on which the identifier is valid and active. |
| <expiration date> | DT | The last date, if known, on which the identifier is valid and active. |

Table 22: HL7 Table 0061 – Check Digit Scheme

|  |  |
| --- | --- |
| **Value** | **Description** |
| NHI | Check digit algorithm in the National Health Index (NHI) |
| ISO | ISO 7064: 1983 *(Superseded by ISO 7064:2003)* |
| M10 | Mod 10 algorithm |
| [M11](file:///C:\pages\createpage.action%3fspaceKey=CSAD&title=_RF1_-_Referral&linkCreation=true&fromPageId=2850910) | Mod 11 algorithm |

|  |
| --- |
| **NOTE**: The check digit is not required when it already forms **part of** an identifier, e.g. the NHI. |

#### DT – Date

The table below describes the format of the date component.

Table 23: **DT – Date Component**

|  |  |  |
| --- | --- | --- |
| **Value** | **Type** | **Notes** |
| YYYY[MM[DD]] | DT | The precision of a date may be expressed by limiting the number of digits used with the format specification YYYY[MM[DD]]. Thus, YYYY is used to specify a precision of year, YYYYMM specifies a precision of month, and YYYYMMDD specifies a precision of day. |

#### ED – Encapsulated Data

The ED data type transmits encapsulated data from a source system to a destination system. It contains the identity of the source system, the type of data, the encoding method of the data, and the data itself. It contains the data that is to be sent to that system. The table below shows the ED data type components.

Table 24: Encapsulated Data Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <source application> | HD | A unique name that identifies the system which was the source of the data. |
| <type of data> | ID | An ID type that declares the general type of data. Refer to  Table 25 for allowed values. |
| <data subtype > | ST | An ID data type declaring the format for the data of sub component types. |
| <encoding> | ID | The type of encoding, if present, used to represent successive octets of binary data as displayable ASCII characters. Refer to Table 26 for values. |
| <data> | ST | Displayable ASCII characters which constitute the data to be sent from source application to destination application. |

Table 25: Constrained from HL7 Table 0191 – Type of Referenced Data

|  |  |
| --- | --- |
| **Value** | **Description** |
| AP | Other application data, typically uninterpreted binary data (HL7 version 2.3 and later) |
| AU | Audio data (HL7 version 2.3 and later) |
| IM | Image data (HL7 version 2.3 and later) |
| multipart | Multipurpose Internet Mail Extension (MIME) multipart package |
| TEXT | Machine readable text document (HL7 version 2.3.1 and later) |

Table 26: **HL7 Table 0299 – Encoding**

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | A No encoding – data are displayable ASCII characters |
| Hex | Hexadecimal encoding – consecutive pairs of hexadecimal digits represent consecutive single octets |
| Base64 | Encoding as defined by MIME Standard RFC 1521. Four consecutive ASCII characters represent three consecutive octets of binary data. Base64 utilises a 65-character subset of US-ASCII, consisting of both the upper and lower case alphabetic characters, digits "0" through "9", "+", "/", and "=". |

#### EI – Entity Identifier

The entity identifier defines a given entity within a specified series of identifiers. The table below shows the EI components.

Table 27: **EI – Entity Identifier Components**

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <entity identifier> | ST | This is usually defined to be unique within the series of identifiers created by the <assigning authority>, defined by a hierarchic designator. |
| <namespace ID> | SI | Used as the HL7 identifier for the user-defined table of values for this component. |
| <universal ID> | ST | Is a string formatted according to the scheme defined by the <universal ID type>. |
| <universal ID type> | ID | Refer to Table 28 for valid values. |

Table 28: HL7 Table 0301 – Universal ID Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| DNS | An Internet dotted name, either in ASCII or as integers |
| GUID | Same as UUID |
| HCD | The CEN Healthcare Coding Scheme Designator; identifiers used in DICOM follow this assignment scheme |
| HL7 | Reserved for future HL7 registration schemes |
| ISO | An International Standards Organisation Object Identifier |
| L, M, N | These are reserved for locally defined coding schemes |
| Random | The uniqueness depends on the length of the bits. Mail systems often generate ASCII string 'unique names', from a combination of random bits and system names. Such identifiers will not be constrained to the base64 character set. |
| UUID | The DCE Universal Unique Identifier |
| x400 | An X.400 MHS format identifier |
| x500 | An X.500 directory name |

|  |
| --- |
| **NOTE**: X400, X500, and DNS are not technically universally valid in perpetuity. Names may be de-registered from an existing user and registered to a new user. |

#### FC - Financial Class

This component contains the financial class assigned to a person.

#### FT – Formatted Text Data

This data type is derived from the string data type by allowing the addition of embedded formatting instructions. These instructions are limited to those that are intrinsic and independent of the circumstances under which the field is being used. The FT field is of arbitrary length (up to 64k) and may contain formatting commands enclosed in escape characters.

#### HD – Hierarchic Designator

This field identifies an entity; administrative, system, application, or other, with responsibility for managing or assigning a defined set of instance identifiers (e.g. placer or filler number, patient identifiers, provider identifiers, etc.). This entity may be a particular health care application such as a registration system that assigns patient identifiers, a governmental entity such as a licensing authority that assigns professional identifiers or drivers' license numbers, or a facility where such identifiers are assigned. The following table shows the HD components.

Table 29: **HD – Hierarchic Designator Component**

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <namespace ID> | IS | Used as the HL7 identifier for the user defined table of values for this component. |
| <universal ID> | ST | A string, formatted according to the scheme defined by the <universal ID type>. |
| <universal ID type> | ID | Can be drawn from either Table 28 or Table 154 if a New Zealand specific identifier is required. |

|  |
| --- |
| **Variance to HL7:** This implementation:   * permits a non-standard variation on the use of the HD data-type in MSH-4 and MSH-6, by allowing a single EDI Account number to be placed in these fields. * extends the code values allowed for the HD data-type in the HL7 Standard to include New Zealand-only values. These values are for use in fields MSH-4, MSH-6 and PV1-3. |

#### ID – Coded Value for HL7 Defined Tables

The value of such a field follows the formatting rules for an ST field, except that it is drawn from a table of valid values. There are HL7 tables associated with the use of ID data types in specific fields, e.g. Table 81: HL7 Table 0123 – Result Status.

#### IS – Coded Value for User Defined Tables

The value of such a field follows the formatting rules for a ST field, except that it is drawn from a site-defined (or user defined) table of valid values. There are HL7 tables associated with the use of IS data types in specific fields, e.g. Table 106: HL7 User Defined Table 0223 - Living Dependency.

#### NA – Numeric Array

This is used to represent a series (array) of numeric values, each one having a data type of NM.

#### NM – Numeric

A number represented as a series of ASCII numeric characters consisting of an optional leading sign (+ or -), the digits and an optional decimal point. In the absence of a sign, the number is assumed to be positive.

If there is no decimal point, the number is assumed to be an integer.

#### PL – Person Location

This data type is used to specify a patient location within a particular health care institution. Which components are valued depends on the needs of the site. The following table shows the components.

Table 30: **PL – Person Location Components**

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <point of care> | IS | Conditional on person location type (e.g. nursing unit, department, clinic). After <floor>, the most general patient location designation. |
| <room> | IS | Patient room. After <point of care>, the most general person location designation. |
| <bed> | IS | Patient bed. After <room>, the most general person location designation. |
| <facility> | HD | Subject to site interpretation but generally describes the highest level physical designation of an institution, medical centre or enterprise. |
| < location status> | IS | Location (e.g. bed) status. |
| <person location type> | IS | Categorisation of the person's location defined by <facility>, <building>, <floor>, <point of care>, <room>, or <bed>. Although not a required field, when used, it may be the only populated field. Refer to Table 31. |
| <building> | IS | After <facility>, the most general person location designation. |
| <floor> | IS | After <building>, the most general person location designation. |
| <location description> | ST | A free text description of the location |

Table 31: HL7 User Defined Table 0305 – Person Location Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| C | Clinic |
| D | Department |
| H | Home |
| N | Nursing Unit |
| O | Provider's Office |
| P | Phone |
| S | SNF |

#### PT - Processing Type

This data type indicates whether to process a message as defined in HL7 Application (level 7) Processing rules.

Table 32: PT - Processing Type Component

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <processing ID> | ID | A value that defines whether the message is part of a production, training, or debugging system. Refer to Table 33. |
| <processing mode> | ID | A value that defines whether the message is part of an archival process or an initial load. Refer to Table 34, below. |

Table 33: HL7 Table 0103 - Processing ID

|  |  |
| --- | --- |
| **Value** | **Description** |
| P | Process this message as normal. |
| D | This message is being used for debugging purposes. It should be properly acknowledged but all data contained within this message should be ignored. |
| T | This message is being used for training purposes. It should be properly acknowledged and data may be used to populate a training database (optional). |

Table 34: HL7 Table 0207 - Processing Mode

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Archive. |
| R | Restore from archive. |
| I | Initial load. |
| T | Current processing, transmitted at intervals (scheduled or on demand). |
| Not present | Not present (the default, meaning current processing). |

#### SI – Sequence ID

A non-negative integer in the form of a NM field. The uses of this data type are defined in the chapters defining the segments and messages in which it appears.

#### ST – String Data

String data is left justified with trailing blanks optional. Any displayable (printable) ACSII characters (hexadecimal values between 20 and 7E inclusive, or ASCII decimal values between 32 and 126), except the defined escape characters and defined delimiter characters.

|  |
| --- |
| **NOTE**: The ST data type is intended for short strings (e.g. less than 200 characters). For longer strings, the TX or FT data types should be used. |

#### TQ – Timing Quantity

Describes when a service should be performed and how frequently. The following table shows the TQ components.

Table 35: TQ - Timing/Quantity Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <quantity> | CQ | The quantity of the service that should be provided at each service interval, e.g. if three units of blood are to be typed and cross-matched, the quantity would be "3". The default value would be "1" day. |
| <interval> | CM | Determines the interval between repeated services. Refer Table 36. |
| <duration> | ST | Indicates how long the service should continue after it is started. E.g.: W3 - "3 weeks” |
| <start date/time> | TS | The earliest date/time from which the services should be started. |
| <end date/time> | TS | The last date/time at which the services should be performed. |
| <priority> | ST | The urgency of the request. E.g.: R – "Routine" is the default. |
| <condition> | ST | Free text field that describes the conditions under which a drug is to be given or service performed. |
| <text> | TX | Free text field for an optional full text version of the instruction. |
| <conjunction> | ST | This non-null component indicates that another timing specification is to follow using the repeat delimiter, and its relationship to this timing specification. |
| <order sequencing> | CM | There are many situations, such as the creation of an order for a group of intravenous (IV) solutions, where the sequence of the individual intravenous solutions (each a service in itself) needs to be specified. Refer to Table 37.  Also used to support a fully encoded version of order sequencing, or of a results condition, instead of the text <condition> component, above. |

Table 36: Timing/Quantity Intervals

|  |  |
| --- | --- |
| **Value** | **Description** |
| Q<integer>S | every <integer> seconds |
| Q<integer>M | every <integer> minutes |
| Q<integer>H | every <integer> hours |
| Q<integer>D | every <integer> days |
| Q<integer>W | every <integer> weeks |
| Q<integer>L | every <integer> months (Lunar cycle) |
| Q<integer>J<day#> | repeats on a particular day of the week, from the French *jour* (day). If <integer> is missing, the repeat rate is assumed to be 1. Day numbers are counted from 1=Monday to 7=Sunday. So Q2J2 means every second Tuesday; Q1J6 means every Saturday. |
| BID | twice a day at institution-specified times (e.g., 9AM-4PM) |
| TID | three times a day at institution-specified times (e.g., 9AM-4PM-9PM) |
| QID | four times a day at institution-specified times (e.g., 9AM-11AM-4PM-9PM) |
| xID | "X" times per day at institution-specified times, where X is a numeral 5 or greater. E.g.,5ID=five times per day; 8ID=8 times per day |
| QAM | in the morning at institution-specified time |
| QSHIFT | during each of three eight-hour shifts at institution-specified times |
| QOD | every other day (same as Q2D) |
| QHS | every day before the hour of sleep |
| QPM | in the evening at institution-specified time |
| C | service is provided continuously between start time and stop time |
| U <spec> | for future use, where <spec> is an interval specification as defined by the UNIX cron specification. |
| PRN | given as needed |
| PRNxxx | where xxx is some frequency code (e.g., PRNQ6H); given as needed over the frequency period |
| Once | one time only. This is also the default when this component is null. |
| Meal Related Timings | <timing>C ("cum")<meal> |
| A | Ante (before) |
| P | Post (after) |
| I | Inter (e.g., between this meal and the next, between dinner and sleep) |
| M | Cibus Matutinus (breakfast) |
| D | Cibus Diurnus (lunch) |
| V | Cibus Vespertinus (dinner) |

Table 37: TQ - Timing/Quantity Order Sequencing

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| 1 | Sequence/Results Flag | S for sequence conditions; C for cyclical; R is reserved for possible future use. The C will be used for indicating a repeating cycle of orders; for example, individual intravenous solutions used in a cyclical sequence (a.k.a. "Alternating IVs"). This value would be compatible with linking separate orders or with having all cyclical order components in a single order. Likewise, the value would be compatible with either Parent-Child messages or a single order message to communicate the orders' sequencing. |
| 2, 3 | Placer Order Number,  first two components | Required/Optional: Contains the first two components of the placer order number: entity identifier (ST) and namespace ID (IS) (respectively). Uses two subcomponents since the placer order number is an EI data type. Sub-subcomponents are not defined. |
| 4, 5 | Filler Order Number,  first two components | Required/Optional: Contains the first two components of the filler order number: entity identifier (ST) and namespace ID (IS) (respectively). Uses two subcomponents since the filler order number is an EI data type. Sub-subcomponents are not defined. |
| 6 | Sequence Condition  Value | The acceptable condition values have the form commonly used in project planning methodologies: <one of "SS", "EE", "SE", or "ES"> +/- <time> The first letter stands for start (S) or end (E) of predecessor order, where the predecessor is defined by the placer or filler order number in subcomponents 1,2 or subcomponents 3,4. The second letter stands for the start (S) or end (E) of the successor order, where the successor order is the order containing this quantity/timing specification. The time specifies the interval between the predecessor and successor starts or ends (see following examples).  Where <time> is defined as:   S<integer> do for <integer> seconds   M<integer> do for <integer> minutes   H<integer> do for <integer> hours   D<integer> do for <integer> days   W<integer> do for <integer> weeks   L<integer> do for <integer> months |
| 7 | Maximum Number of  Repeats | The maximum number of repeats to be used only on cyclic groups. The total number of repeats is constrained by the end date/time of the last repeat or the end date/time of the parent, whichever is first. |
| 8, 9 | Placer Order Number,  last two components | Required/Optional: Contains the last two components of the placer order number: universal ID (ST) and universal ID type (ID) (respectively). Uses two subcomponents since the placer order number is an EI data type. Sub-subcomponents are not defined. |
| 10, 11 | Filler Order Number,  last two components | Required/Optional: Contains the last two components of the filler order number: universal ID (ST) and universal ID type (ID) (respectively). Uses two subcomponents since the filler order number is an EI data type. Sub-subcomponents are not defined. |

#### TS – Time Stamp

Contains the exact time of an event, including the date.

By site-specific agreement, YYYY[MM[DD[HHMM[SS[.S[S[S[S]]]]]]]][/-ZZZZ]. All HL7 compliant systems are required to accept the time zone offset (/-ZZZZ), but its implementation is application specific.

#### TX – Text Data

String data meant for user display (on a terminal or printer). Since TX data is intended for display purposes, the repeat delimiter, when used with a TX data field, implies a series of repeating lines to be displayed on a printer or terminal. Therefore, the repeat delimiters are regarded as paragraph terminators or hard carriage returns.

A receiving system would word-wrap the text between repeat delimiters in order to fit it into an arbitrarily sized display window and start any line beginning with a repeat delimiter on a new line.

The TX field is of arbitrary length (up to 64k).

#### VID – Version Identifier

Table 38: VID - Version Identifier Component

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <Version ID> | ID | Used to identify the HL7 version. This implementation is based on HL7 version 2.4. Use "2.4" in this field. |
| <Internationalisation Code> | CE | Used to identify the international affiliated country code. This implementation is for New Zealand, use "NZL". |
| <International Version ID> | CE | This specification is local version "1.0". |

#### XAD – Extended Address

The field identifies the components of a postal address. The maximum length of this field is 250. The table below shows the XAD components.

Table 39: XAD – Extended Address components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <Street address> | ST | Address. All address information up to the suburb fits in here. |
| <Other designation> | ST | Suburb |
| <City> | ST | City |
| <State or Province> | ST |  |
| <Post code> | ST |  |
| <Country> | ID | Country. If left blank, the country is assumed to be New Zealand. Otherwise use values from ISO3166 Country Codes. *Refer to* [*http://www.iso.org/iso/country\_codes.htm*](http://www.iso.org/iso/country_codes.htm)*.* |
| <Type> | ID | "C" - current or temporary  "P" - permanent  "M" - mailing  "B" – business |
| <Other geographic designation> | ST | GeoCode X:Y coordinates. Both are entered here, separated by a colon. |
| <Country Code> | IS | *Not used* |
| <Census Tract> | IS | New Zealand domicile code |
| <Address Representation code | ID | *Not used* |
| <Address Validity Range> | DR | Contains a date range for the validity of this address |

|  |
| --- |
| **Variance to HL7:** The extended Street Address type in the first component is not used in this implementation. New Zealand use should follow HPI. |

#### XCN Extended Composite ID Number and Name for Persons

This field is usually reserved for the identification of health care providers. The maximum length of this field is 250. The table below shows the XCN components.

Table 40: XCN – Extended Composite ID Number and Name for Persons Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <ID number> | ST | HPI-CPN, NZMC, NZNC or APC number. |
| <Family Name> | FN |  |
| <Given Name> | ST |  |
| <Middle Initial or Name> | ST |  |
| <Suffix> | ST |  |
| <Prefix> | ST |  |
| <Degree> | IS |  |
| <Source Table> | IS | *Not used* |
| <Assigning Authority> | HD | Refer to Table 43 for values. The assigning authority is the system, application or body that actually generates the ID number. If this field is blank then the value in the first component is assumed to be the Health Practitioner Index (HPI) number. In this case the assigning authority is the Ministry of Health (NZLMOH). If another identifier is being messaged then this field must be filled in. |
| <Name Type Code> | ID | *Not used* |
| <Identifier Check Digit> | ST | *Not used* |
| <Check Digit Schema Code> | ID | *Not used* |
| <Identifier Type Code> | IS | A code corresponding to the type of identifier. In some cases, this code may be used as a qualifier to the <Assigning Authority> component. Table 154 includes the HPI code set as the suggested values. |
| <Assigning Facility> | HD | *Not used* |
| <Name Representation Code> | ID | *Not used* |
| <Name Context> | CE | An HPI Facility ID is to be provided when the XCN is used in OBR-28 Results copied to. When provided, it must be in CE format. |
| <Name Validity Range> | DR | *Not used* |
| <Name Assembly Order> | ID | *Not used* |

#### XON – Extended Composite Name and Identification Number for Organisations

This data type is used in fields (e.g. PV2-23) to specify the name and ID number of an organisation. The maximum length of this field is 250. The table below shows the XON components.

Table 41: XON – Extended Composite Name and ID Number for Organisations Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <organisation name> | ST | The name of the specified organisation. |
| <organisation name type code> | IS | A code that represents the type of name, i.e. legal name, display name. Refer to Table 42 for suggested values. |
| <ID number> | NM |  |
| <check digit> | NM | This is not an add-on produced by the message processor. It is part of the identifying number used in the sending application. If the sending application does not include a self-generated check digit in the identifying number, this component should be valued "null". |
| <code identifying the check digit scheme employed> | ID | The check digit scheme codes are defined in Table 22. |
| <assigning authority> | HD | The <assigning authority> is a unique identifier of the system (or organisation or agency or department) that creates the data. Assigning authorities are unique across a given HL7 implementation. Refer to Table 43 for suggested values for the first sub component of the HD component <namespace ID>. |
| <identifier type code> | ID | A code corresponding to the type of identifier. In some cases, this code may be used as a qualifier to the <assigning authority> component. The suggested values are in Table 154. |
| <assigning facility ID> | HD | The place or location identifier where the identifier was first assigned to the person. This component is not an inherent part of the identifier but rather part of the history of the identifier. As part of this data type, its existence is a convenience for certain intercommunicating systems. |
| <name representation code> | ID | Different <name/address types> and representations of the same <name/address> should be described by repeating of this field, with different values of the <name/address type> and/or <name/address representation> component.  This is not required, the default code of ‘A’ (alphabetic) is assumed. |

|  |
| --- |
| **NOTES:**   1. When the HD data type is used in a given segment as a component of a field of another data type, (referenced by the first sub component of the HD component) it may be re-defined (given a different user defined table number and name) by the technical committee responsible for that segment. 2. For <name representation code>: This new component remains in 'alphabetic' representation, with each repetition of the field using these data types, i.e. even though the name may be represented in an ideographic character set, this component will remain represented in an alphabetic character set. |

Table 42: HL7 User Defined table 0204 – Organisational Name Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Alias Name |
| L | Legal Name |
| D | Display Name |
| SL | Stock Exchange Listing Name |

Table 43: **HL7 User Defined table 0363 – Assigning Authority**

|  |  |
| --- | --- |
| **Value** | **Description** |
| AUSDVA | Australia – Dept. of Veterans Affairs |
| AUSHIC | Australia – Health Insurance Commission |
| NZLACC | New Zealand – Accident Compensation Commission |
| NZLMOH | New Zealand – Ministry of Health |
| LOCAL | Local to Sender |

#### ****XPN – Extended Person Name Component****

The maximum length of this field is 250. The table below shows the XPN components.

Table 44: XPN Extended Person Name Component

|  |  |
| --- | --- |
| **Component** | **Notes** |
| <Family Name> | ST |
| <Given Name> | ST |
| <Second and Further Given names or initials thereof > | Multiple names entered here should be separated with spaces |
| <Suffix> | Optional |
| <Prefix > | Optional |
| <Degree> | *Not used* |
| <Name Type Code> | A code that represents the type of name; refer  Table 45 for valid values. |
| <Name Representation Code> | *Not used* |
| <Name Context> | *Not used* |
| <Name Validity Range> | *Not used* |
| <Name Assembly Order> | *Not used* |

|  |
| --- |
| **Variance to HL7:** This definition uses an ST, whereas HL7 uses the FN composite type for the Family Name. |

Table 45: HL7 Table 0200 – Name Type Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Alias Name |
| B | Name at Birth |
| C | Adopted Name |
| D | Display Name |
| I | Licensing Name |
| L | Legal Name |
| M | Maiden Name |
| N | Nickname, "Call me", Name/Street Name |
| P | Name of Partner/Spouse (retained for backward compatibility only) |
| R | Registered Name (animals only) |
| S | Coded Pseudo-Name to ensure anonymity |
| T | Indigenous/Tribal/Community Name |
| U | Unspecified |

#### XTN Extended Telecommunications Number

The maximum length of this field is 250. Examples of the use of telecommunication equipment types:

**Example 1:** Home phone number:

...|PRN^PH^64^9^3456789|...

**Example 2:** Email address:

...|^NET^Internet^a.bloke@myisp.co.nz|...

**Example 3:** Work phone number. Note use of text field to quality number.

...|WPN^PH^64^9^3456789^320^Afternoons only|...

**Example 4:** Work fax number:

...|WPN^FX^64^9^3456059|...

Table 46: XTN Extended Telecommunications Number Component

|  |  |
| --- | --- |
| **Component** | **Notes** |
| <Phone Number String> | *Not used* |
| <Telecommunication Use Code> | Table 47 |
| <Telecommunication Equipment Type> | Table 48 |
| <Email Address> |  |
| <Country Code> |  |
| <Area Code> |  |
| <Number> |  |
| <Extension> |  |
| <Any Text> |  |

#### Telecommunication Use Codes

Use one of the values from the table below.

Table 47: HL7 Table 0201 – Telecommunication Use Codes

|  |  |
| --- | --- |
| **Value** | **Description** |
| PRN | Primary Residence Number |
| ORN | Other Residence Number |
| WPN | Work Phone Number |
| NET | Network Address (use for email addresses) |

|  |
| --- |
| **NOTE:** This table is not comprehensive. |

#### Telecommunication Equipment Types

Use one of the following values from the table below.

Table 48: HL7 Table 0202 – Telecommunication Equipment Types

|  |  |
| --- | --- |
| **Value** | **Description** |
| PH | Phone |
| FX | Fax |
| CP | Cellular Phone |
| Internet | Internet (use for email addresses or domain names) |

|  |
| --- |
| **NOTE:** This table is not comprehensive. |

#### Flags and Indicators

Use one of the following values from the table below.

Table 49: HL7 Table 0136 Yes/No Indicator

|  |  |
| --- | --- |
| **Value** | **Description** |
| Y | Yes |
| N | No |

## AL1 – Patient Allergy Information Segment

This segment contains details of patient allergies. The table below shows the AL1 attributes.

Table 50: AL1 Attribute Table – Patient Allergy Information

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| 1 | Set ID – AL1 | 250 | SI | R |  |  |
| 2 | Allergen Type Code | 250 | CE | O |  | Table 51 |
| 3 | Allergen Code/ Mnemonic/ Description | 250 | CE | R |  |  |
| 4 | Allergy Severity Code | 250 | CE | O |  | Table 52 |
| 5 | Allergy Reaction Code | 15 | ST | O | Y |  |
| 6 | Identification Date | 8 | DT | X |  |  |

### AL1-1 Set ID – AL1

This field identifies the repeat of the AL1 as it pertains to a separate patient. The first AL1 segment will have a Set ID of "1". This will increase for each subsequent allergy reported.

|  |
| --- |
| **Variance to HL7:** According to HL7 version 2.4 this field should have a data type of CE. This has been confirmed as a misprint. |

### 

### AL1-2 Allergen Type Code

This field indicates a general allergy category (drug, food, pollen, etc.). Refer to the table below for allergen types.

Table 51: HL7 User-Defined Table 0127 – Allergen Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| PH | Drug allergy |
| FX | Food allergy |
| MA | Miscellaneous allergy |
| MC | Miscellaneous contraindication |
| EA | Environmental Allergy |
| AA | Animal Allergy |
| PA | Plant Allergy |
| LA | Pollen Allergy |

### AL1-3 Allergen Code/Mnemonic/Description

This field uniquely identifies a particular allergen. This element may conform to some external, standard coding system (that shall be identified), or it may conform to local, largely textual or mnemonic descriptions.

### AL1-4 Allergy Severity Code

This field indicates the general severity of the allergy. This field may contain one of the values from the following table.

Table 52: HL7 User Defined Table 0128 – Allergy Severity

|  |  |
| --- | --- |
| **Value** | **Description** |
| SV | Severe reaction |
| MO | Moderate reaction |
| MI | Mild reaction |
| U | Unknown |

### 

### AL1-5 Allergy Reaction Code

This field contains a short textual description of the reaction to the allergy. Multiple reactions should be sent in repeats, e.g. convulsions, rash, etc.

## CTI – Clinical Trial Identification Segment

This segment is an optional segment that contains information to identify the clinical trial, phase and time point with which an order or result is associated. Refer to the table below for CTI attributes.

Table 53: **CTI Attribute Table – Clinical Trial Identification**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| 1 | Sponsor Study ID | 60 | EI | R |  |  |
| 2 | Study Phase Identifier | 250 | CE | C |  |  |
| 3 | Study Scheduled Time Point | 250 | CE | O |  |  |

### CTI-1 - Sponsor Study ID

This field contains the universal identifier for the clinical test.

### CTI-2 - Study Phase Identifier

This field identifies the phase of the study that a patient has entered. This field is used when a study has different evaluation intervals within it.

### CTI-3 - Study Scheduled Time Point

This field identifies a time point in the clinical trial phase. CTI-2 shall be valued if this field is valued.

## DG1 – Diagnosis

The DG1 segment contains patient diagnosis information of various types, e.g. admitting, primary, etc. The DG1 segment is used to send multiple diagnoses, e.g. for medical records encoding.

This diagnosis coding should be distinguished from the clinical problem segment used by caregivers to manage the patient. Coding methodologies are also defined. Refer to the following table for DG1 attributes.

Table 54: DG1 Attribute Table – Diagnosis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| 1 | Set ID | 4 | SI | R |  |  |
| 2 | Diagnosis Coding Method | 2 | ID | X |  |  |
| 3 | Diagnosis Code | 250 | CE | R |  |  |
| 4 | Diagnosis Description | 40 | ST | X |  |  |
| 5 | Diagnosis Date Time | 26 | TS | O |  |  |
| 6 | Diagnosis Type | 2 | IS | R |  | Table 55 |
| 7 | Major Diagnostic Category | 250 | CE | X |  |  |
| 8 | Diagnostic Related Group | 250 | CE | X |  |  |
| 9 | DRG Approval Indicator | 1 | ID | X |  |  |
| 10 | DRG Grouper Review Code | 2 | IS | X |  |  |
| 11 | Outlier Type | 250 | CE | X |  |  |
| 12 | Outlier Days | 3 | NM | X |  |  |
| 13 | Outlier Cost | 12 | CP | X |  |  |
| 14 | Grouper Version and Type | 4 | ST | X |  |  |
| 15 | Diagnosis Priority | 2 | ID | O |  | Table 56 |
| 16 | Diagnosing Clinician | 250 | XCN | O | Y |  |
| 17 | Diagnosis Classification | 3 | IS | O |  | Table 57 |
| 18 | Confidential Indicator | 1 | ID | O |  | Table 58 |
| 19 | Attestation Date Time | 26 | TS | O |  |  |

### 

### DG1-1 - Set ID

This field contains the number that identifies the transaction and will increase incrementally for each subsequent DG1 segment.

|  |
| --- |
| **NOTE:** This field is required by HL7. |

### DG1-3 - Diagnosis Code

This field replaces DG1-2 and DG1-4 for reporting coding method and diagnosis description. The Ministry of Health recommends the use of SNOMED CT for diagnosis coding at point of care.

|  |
| --- |
| **Variance to HL7:** This field is required in this implementation, whereas HL7 does not require this field. |

### DG1-5 - Diagnosis Date and Time

This field holds the date and time that the diagnosis in DG1-3 was first identified.

### DG1-6 - Diagnosis Type

This field contains the code that identifies the type of diagnosis being sent. Refer to the following table for allowed values.

Table 55: HL7 User Defined Table 0052 – Diagnosis Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Admitting Diagnosis |
| W | Working Diagnosis |
| F | Final Diagnosis |

### DG1-15 - Diagnosis Priority

This field contains the number that identifies the significance or priority of the diagnosis code. Refer to the table below for allowed values.

Table 56: HL7 User Defined Table 0359 – Diagnosis Priority

|  |  |
| --- | --- |
| **Value** | **Description** |
| 0 | Not included in diagnosis ranking |
| 1 | The primary diagnosis |
| 2… | For ranked secondary diagnoses |

### DG1-16 - Diagnosing Clinician

This field contains the details of the individual responsible for generating the diagnosis information. This field repeats to report multiple identifiers for the same person. It is not designed to report multiple clinicians.

### DG1-17 - Diagnosis Classification

This field indicates whether the patient information is for a diagnosis or a non-diagnosis code. Refer to the table below for allowed values.

Table 57: HL7 User Defined Table 0228 – Diagnosis Classification

|  |  |
| --- | --- |
| **Value** | **Description** |
| C | Consultation |
| D | Diagnosis |
| M | Medication (antibiotic) |
| O | Other |
| R | Radiological scheduling (not using ICDA codes) |
| S | Sign and symptom |
| T | Tissue diagnosis |
| I | Invasive procedure not classified elsewhere (IV, catheter, etc.) |

### DG1-18 - Confidential Indicator

This field indicates whether the diagnosis is confidential. Refer to the table below for allowed values.

Table 58: HL7 Table 0136 – Yes/No Confidential Indicator

|  |  |
| --- | --- |
| **Value** | **Description** |
| Y | Yes, the diagnosis is a confidential |
| N | No, the diagnosis is not confidential |

### DG1-19 - Attestation Date/Time

This field contains the time stamp that indicates the date and time that the attestation was signed.

## DSC – Continuation Pointer Segment

The DSC segment is used in the continuation protocol.

Table 59: DSC Attribute Table - Continuation Pointer

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| 1 | Continuation Pointer | 180 | ST | O |  |  |
| 2 | Continuation Style | 1 | ID | O |  | Table 60 |

### DSC-1 - Continuation Pointer

This field contains the continuation pointer. In an initial query, this field is not present. If the responder returns a value of "null" or not present, then there is no more data to fulfil any future continuation requests.

|  |
| --- |
| **NOTE**: For use with continuations of unsolicited messages. Continuation protocols work with both display- and record-oriented messages. |

### DSC-2 - Continuation Style

Indicates whether this is a fragmented message or part of an interactive continuation message. Refer to the table below for allowed values.

Table 60: HL7 Table 0398 – Continuation Style Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| F | Fragmentation |
| I | Interactive Continuation |

## ERR – Error Segment

The ERR segment is used to add error details. Refer to the table below for ERR attributes.

**Example:**  ERR message:

ERR|PID^2^5^Missing required field

Table 61: ERR Attribute Table – Error

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| 1 | Error Code and Location | 80 | CM | R | Y | Table 62 |

### ERR-1 - Error Code and Location

This field identifies an error in the system or message.

Table 62: ERR 1 - Error Code and Location Component

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <segment ID> | ST | Name of segment where the problem was identified, e.g. OBR |
| <sequence> | NM | Index of segment where there are more than one of type <segment ID> |
| <field position> | NM | Index of the field that caused the problem |
| <code identifying error> | CE | Should be set by site-specific agreement |

## IN1 – Insurance Segment

The IN1 segment contains insurance policy coverage information necessary to produce properly pro-rata patient and insurance bills. The allowed values are in the table below.

Table 63: IN1 Attribute Table - Insurance

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| 1 | Set ID – IN1 | 4 | SI | R |  |  |
| 2 | Insurance Plan ID | 250 | CE | R |  |  |
| 3 | Insurance Company ID | 250 | CX | R | Y |  |
| 4 | Insurance Company Name | 250 | XON | O | Y |  |
| 5 | Insurance Company Address | 250 | XAD | O | Y |  |
| 6 | Insurance Co Contact Person | 250 | XPN | O | Y |  |
| 7 | Insurance Co Phone Number | 250 | XTN | O | Y |  |
| 8 | Group Number | 12 | XT | X |  |  |
| 9 | Group Name | 250 | XON | X | Y |  |
| 10 | Insured’s Group Emp ID | 250 | CX | X | Y |  |
| 11 | Insured’s Group Emp Name | 250 | XON | X | Y |  |
| 12 | Plan Effective Date | 8 | DT | X |  |  |
| 13 | Plan Expiration Date | 8 | DT | X |  |  |
| 14 | Authorisation Information | 250 | CM | O |  | Table 64 |
| 15 | Plan Type | 3 | IS | X |  |  |
| 16 | Name Of Insured | 250 | XPN | O | Y |  |
| 17 | Insured's Relationship To Patient | 250 | CE | O |  | Table 65 |
| 18 | Insured’s Date of Birth | 26 | TS | X |  |  |
| 19 | Insured’s Address | 250 | XAD | X | Y |  |
| 20 | Assignment of Benefits | 2 | IS | X |  |  |
| 21 | Coordination of Benefits | 2 | IS | X |  |  |
| 22 | Coordination of Benefits, Priority | 2 | ST | X |  |  |
| 23 | Notice of Admission Flag | 1 | ID | X |  |  |
| 24 | Notice of Admission Date | 8 | DT | X |  |  |
| 25 | Report of Eligibility Flag | 1 | ID | X |  |  |
| 26 | Report of Eligibility Date | 8 | DT | X |  |  |
| 27 | Release Information Code | 2 | IS | X |  |  |
| 28 | Pre-Admit Cert (PAC) | 15 | ST | X |  |  |
| 29 | Verification Date/Time | 26 | TS | X |  |  |
| 30 | Verification By | 250 | XCN | X | Y |  |
| 31 | Type of Agreement Code | 2 | SI | X |  |  |
| 32 | Billing Status | 2 | IS | X |  |  |
| 33 | Lifetime Reserve Days | 4 | NM | X |  |  |
| 34 | Delay Before L.R. Day | 4 | NM | X |  |  |
| 35 | Company Plan Code | 8 | IS | X |  |  |
| 36 | Policy Number | 15 | ST | O |  |  |
| 37 | Policy Deductible | 12 | CP | X |  |  |
| 38 | Policy Limit - Amount | 12 | CP | X |  |  |
| 39 | Policy Limit - Days | 4 | NM | X |  |  |
| 40 | Room Rate – Semi-Private | 12 | CP | X |  |  |
| 41 | Room Rate - Private | 12 | CP | X |  |  |
| 42 | Insured’s Employment Status | 250 | CE | X |  |  |
| 43 | Insured’s Administrative Sex | 1 | IS | X |  |  |
| 44 | Insured’s Employer’s Address | 250 | XAD | X | Y |  |
| 45 | Verification Status | 2 | ST | X |  |  |
| 46 | Prior Insurance Plan ID | 8 | IS | X |  |  |
| 47 | Coverage Type | 3 | IS | X |  |  |
| 48 | Handicap | 2 | IS | X | Y |  |
| 49 | Insured’s ID Number | 250 | CX | X |  |  |

### IN1-1 - Set ID, (SI)

This field contains the number that identifies this transaction. For the first occurrence the sequence number shall be "1", for the second occurrence it shall be "2", etc.

### IN1-2 - Insurance Plan ID, (CE)

This field contains a unique identifier for the insurance plan.

### IN1-3 - Insurance Company ID, (CX)

This field contains unique identifiers for the insurance company. The assigning authority and identifier type code are strongly recommended for all CX data types.

### IN1-4 - Insurance Company Name, (XON)

This field contains the name of the insurance company. Multiple names for the same insurance company may be sent in this field. The legal name is assumed to be in the first repetition. When the legal name is not sent, a repeat delimiter must be sent first for the first repetition.

### IN1-5 - Insurance Company Address, (XAD)

This field contains the address of the insurance company. Multiple addresses for the same insurance company may be sent in this field. The mailing address is assumed to be in the first repetition. When the mailing address is not sent, a repeat delimiter must be sent first for the first repetition.

### IN1-6 - Insurance Co Contact Person, (XPN)

This field contains the name of the person who should be contacted at the insurance company. Multiple names for the same contact person may be sent in this field. The legal name is assumed to be in the first repetition. When the legal name is not sent, a repeat delimiter must be sent first for the first repetition.

### IN1-7 - Insurance Co Phone Number, (XTN)

This field contains the phone number of the insurance company. Multiple phone numbers for the same insurance company may be sent in this field. The primary phone number is assumed to be in the first repetition. When the primary phone number is not sent, a repeat delimiter must be sent first for the first repetition.

### IN1-14 - Authorisation Information, (CM)

Based on the type of insurance, some coverage plans require that an authorisation number or code be obtained prior to all non-emergency admissions, and within 48 hours of an emergency admission. Insurance billing would not be permitted without this number. The date and source of authorisation are the components of this field.

Table 64: Authorisation Information Sub Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <authorisation number> | ST | The number or code issued by the insurance company giving authorisation. |
| <date> | DT | The date, if known, on which the authorisation was issued. |
| <source> | ST | The insurance company issuing the authorisation number. |

### IN1-16 - Name of Insured, (XPN)

This field contains the name of the insured person. The insured is the person who has an agreement with the insurance company to provide health care services to persons covered by the insurance policy. Multiple names for the same insured person may be sent in this field. The legal name is assumed to be in the first repetition. When the legal name is not sent, a repeat delimiter must be sent first for the first repetition.

### IN1-17 - Insured's Relationship to Patient, (CE)

This field indicates the insured's relationship to the patient.

Table 65: User Defined Table 99NZREL - Relationship

|  |  |
| --- | --- |
| **Value** | **Description** |
| 01 | Mother |
| 02 | Father |
| 03 | Sister |
| 04 | Brother |
| 05 | Son |
| 06 | Daughter |
| 07 | Uncle |
| 08 | Aunt |
| 09 | Nephew |
| 10 | Niece |
| 11 | Cousin |
| 12 | Grandfather |
| 13 | Grandmother |
| 14 | Employer |
| 15 | Other |
| 16 | Spouse |
| 91 | Foster Father |
| 92 | Foster Mother |
| 93 | Stepfather |
| 94 | Stepmother |
| 99 | Self |

|  |
| --- |
| **Variance to HL7:** HL7 uses values from HL7 User Defined Table 0063 – Relationship in this field. |

### IN1-36 - Policy Number, (ST)

This field contains the individual policy number of the insured to uniquely identify this patient's plan.

## MSA – Message Acknowledgement Segment

The MSA segment contains information sent in acknowledging another message. Refer to the table below for MSA attributes.

**Example:** MSA message:

MSA|AR|12367|Application reject – Required field missing |||

Table 66: MSA Attribute Table – Message Acknowledgement Segment

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Acknowledgement Code | 2 | ID | R |  | Table 67 |
| 2 | Message Control ID | 20 | ST | R |  |  |
| 3 | Text Message | 80 | ST | O |  |  |
| 4 | Expected Sequence Number | 15 | NM | X |  |  |
| 5 | Delayed Acknowledgement Type | 1 | ID | X |  |  |
| 6 | Error Condition | 250 | CE | O |  |  |

|  |
| --- |
| **NOTE:** The ERR segment is used to return user defined error codes to further specify AR or AE type acknowledgements. |

### MSA-1 - Acknowledgement Code

This field contains the acknowledgement code. The most common values used are provided in the table below.

Table 67: HL7 Table 0008 – Acknowledgement code

|  |  |
| --- | --- |
| **Value** | **Description** |
| AA | Application Accept |
| AE | Application Error |
| AR | Application Reject |

|  |
| --- |
| **NOTE:** This list is not comprehensive. |

|  |
| --- |
| **Variance to HL7:** This system will not use the HL7 enhanced acknowledgment system. |

### MSA-2 - Message Control ID

This field contains the message control ID of the message to which this message is the response. This field allows the sending system to keep track of the messages it has processed.

### MSA-3 - Text Message

This field further describes an error condition. This text may be printed in error logs or presented to an end user. This field should only contain general error or processing information. All other specific error information should be entered into ERR-1 (error code and location field).

### MSA-6 – Error Condition

This field, if being used instead of ERR-1 to describe an error condition has an increased field length of 250 characters. This provides the ability to further describe an error condition in more detail.

## MSH – Message Header Segment

The MSH Segment contains the information about the message including sender, recipient and some syntactical information. Refer to the table below for MSH attributes.

**Example:** MSH

MSH|^~\&|SENDING\_APPLICATION|SENDING\_FACILITY|RECEIVING\_APPLICATION|RECEIVING\_FACILITY|199511200950||OML^O21|199511200950.001|P|2.4||||||8859

Table 68: MSH Attribute Table – Messaging Header Segment

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Field Separator | 1 | ST | R |  |  |
| 2 | Encoding Characters | 4 | ST | R |  |  |
| 3 | Sending Application | 180 | HD | O |  |  |
| 4 | Sending Facility | 180 | HD | R |  |  |
| 5 | Receiving Application | 180 | HD | O |  |  |
| 6 | Receiving Facility | 180 | HD | R |  |  |
| 7 | Date/Time Of Message | 26 | TS | R |  |  |
| 8 | Security | 40 | ST | O |  |  |
| 9 | Message Type | 15 | CM | R |  | Table 69 |
| 10 | Message Control ID | 20 | ST | R |  |  |
| 11 | Processing ID | 3 | PT | R |  | Table 70 |
| 12 | Version ID | 60 | VID | R |  | Table 72 |
| 13 | Sequence Number | 15 | NM | X |  |  |
| 14 | Continuation Pointer | 180 | ST | X |  |  |
| 15 | Accept Acknowledgment Type | 2 | ID | X |  |  |
| 16 | Application Acknowledgment Type | 2 | ID | X |  |  |
| 17 | Country Code | 3 | ID | X |  |  |
| 18 | Character Set | 16 | ID | O | Y | Table 73 |
| 19 | Principal Language of Message | 250 | CE | X |  |  |
| 20 | Alternate Character Set Handling Scheme | 20 | ID | X |  |  |
| 21 | Conformance Statement ID | 10 | ID | X | Y |  |

### MSH-1 - Field Separator

The field separator character will be "|".

### MSH-2 - Encoding Characters

This field contains the separator characters for component, sub component, repeat and the user defined character. It is strongly recommended that this field contain "^~\&".

### MSH-3 - Sending Application

This field identifies the application responsible for generating this message.

### MSH-4 - Sending Facility

This field should uniquely identify the facility that sends the message.

|  |
| --- |
| **Variance to HL7:** HL7 does not require this field. |

### MSH-5 - Receiving Application

This field identifies the receiving application.

### MSH-6 - Receiving Facility

This field should uniquely identify the facility that will receive the message.

|  |
| --- |
| **Variance to HL7:** HL7 does not require this field. |

### MSH-7 - Date/Time of Message

Date and time that the sending system created the message.

|  |
| --- |
| **Variance to HL7:** HL7 does not require this field. |

### MSH-8 - Security

HL7 does not define any requirements for the use of this field. If the message has been secured, it is recommended that the name of the encryption system used be entered here, depending on the type of implementation used.

### MSH-9 - Message Type

This field identifies the message type. Refer to the table below for MSH-9 sub components.

Table 69: MSH-9 Message Type Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <Message Type> | ID |  |
| <Trigger Event Code> | ID |  |
| <Message Structure ID> | ID |  |

|  |
| --- |
| **Variance to HL7:** According to HL7 version 2.4 this field should be length 13. This has been confirmed as an error and has been corrected to 15 in HL7 version 2.5. |

### MSH-10 - Message Control ID

This field is a number or other identifier that uniquely identifies the message. Message Control ID's will be unique to messages that have come from a particular site.

### MSH-11 - Processing ID

This field indicates how a receiving system should process this message. The allowed values for the first component are in the table below. The second component is not used.

Table 70: HL7 Table 0103 – Processing ID

|  |  |
| --- | --- |
| **Value** | **Description** |
| P | Process this message as normal. |
| D | This message is used for debugging purposes. It should be properly acknowledged but all data contained within this message should be ignored. |
| T | This message is used for training purposes. It should be properly acknowledged and data may be optionally used to populate a training database. |

Table 71: HL7 Table 0207 – Processing Mode

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Archive |
| R | Restore from archive |
| I | Initial load |
| T | Current processing, transmitted at intervals (scheduled or on demand) |
| Not present | Not present (the default, meaning current processing) |

### MSH-12 - Version ID

This field identifies the version of the message specification used. Refer to the table below for allowed values.

Table 72: Version ID components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <Version ID> | ID | Used to identify the HL7 version. This implementation is based on HL7 version2.4. Use "2.4" in this field. |
| <Internationalisation Code> | CE | Used to identify the international affiliated country code. This implementation is for New Zealand, so use "NZL". |
| <International Version ID> | CE | This specification is local version, "1.0". |

### MSH-18 - Character Set.

This field contains the character set for the entire message.

Table 73: HL7 Table 0211 – Alternative Character Sets

|  |  |
| --- | --- |
| **Value** | **Description** |
| ASCII | The printable 7-bit ASCII character set (the default if this field is omitted) |
| 8859/1 | The printable characters from the ISO 8859/1 Character set |
| 8859/2 | The printable characters from the ISO 8859/2 Character set |
| 8859/3 | The printable characters from the ISO 8859/3 Character set |
| 8859/4 | The printable characters from the ISO 8859/4 Character set |
| 8859/5 | The printable characters from the ISO 8859/5 Character set |
| 8859/6 | The printable characters from the ISO 8859/6 Character set |
| 8859/7 | The printable characters from the ISO 8859/7 Character set |
| 8859/8 | The printable characters from the ISO 8859/8 Character set |
| 8859/9 | The printable characters from the ISO 8859/9 Character set |
| ISO IR14 | Code for Information Exchange (one byte)(JIS X 0201-1976) - note that the code contains a space, i.e. "ISO IR14" |
| ISO IR87 | Code for the Japanese Graphic Character set for information interchange (JIS X 0208-1990) - note that the code contains a space, i.e. "ISO IR87" |
| ISO IR159 | Code of the supplementary Japanese Graphic Character set for information interchange (JIS X 0212-1990) - note that the code contains a space, i.e. "ISO IR159" |
| UNICODE | The worldwide character standard from ISO/IEC 10646:2014 |

|  |
| --- |
| **NOTE:** The field separator character must still be chosen from the printable 7-bit ASCII character set. |

The repetitions of this field specify different character sets apply only to fields of the FT, ST and TX data types.

The MSH-18 (character set field) is an optional, repeating field of data type ID, using IDs outlined in Table 73 (or equivalents from "ISO 2375").

If the field is not valued, the default single-byte character set (ASCII ("ISO IR6")) should be assumed. No other character sets are allowed in the message.

If the field repeats, but the first element is "null" (i.e. present but unvalued), the single-byte ASCII ("ISO IR6") is assumed as the default character set.

If the sequence is present and the first element is specified, this character set is regarded as the default character set for the message. This must be a single-byte character set (i.e. "ISO IR6", "ISO IR13", "ISO IR14", "ISO IR100", etc.).

Elements in the remainder of the sequence (i.e. elements 2..n) are alternate character sets that may be used. These may include multi-byte character sets (i.e. JIS X 0208).

The default character set should always be a single-byte character set. It should always have "ISO IR6" (ISO 646) or "ISO IR14" (JIS X 0201-1976) in the G0 area.

## NTE – Notes and Comments

An NTE segment always provides information regarding the segment that it immediately follows. The NTE should contain notes or comments that extend the information provided in the segment it follows.

The comment may contain multiple lines of text, using the line-break escape character to demark end-of-line. The preference should be to use a single NTE to contain the entire text where possible (see *Set ID* below).

Table 74: NTE Attribute Table - Notes and Comments

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID | 4 | SI | R |  |  |
| 2 | Source of comment | 8 | ID | O |  | Table 75 |
| 3 | Comment | 64k | FT | O | Y |  |
| 4 | Comment Type | 250 | CE | O |  |  |

### NTE-1 - Set ID

The number system used is as follows:

When several NTE segments are used to transmit a larger block (greater than 64k) of related text these segments would use the same *Set IDs.* Different *Set IDs* indicate unrelated text.

The first NTE in a sequence will have a Set ID of one ('1') and increment sequentially for the next unrelated NTE segment that pertains to the same segment. If more comments are required for any given segment, then the subsequent NTE segments will increment the Set ID by 1.

|  |
| --- |
| **Variance to HL7:** This implementation requires the use of Set IDs for NTE segments. |

**Example 1:** The following example shows the Set ID's from the same comment split across two NTE segments. Please be aware that comments of this length may not be stored on some systems.

OBX|…<cr>

NTE|1|L|Laboratory test performed as requested… <to 64K characters><cr>

NTE|1|L|and completed but no antibodies detected<cr>

**Example 2:** The following example shows the Set ID's from two unrelated comments for a single OBX segment.

OBX|…<cr>

NTE|1|L|Moderate neutrophilic leucocytosis<cr>

NTE|2|L|Mild thrombocytopenia<cr>

**Example 3:** The following example shows the Set ID's from two unrelated NTE segments pertaining to two different OBX segments.

OBX|…<cr>

NTE|1|L|Moderate neutrophilic leucocytosis<cr>

OBX|…<cr>

NTE|1|L|Poliomyelitis antibodies not detected<cr>

|  |
| --- |
| **NOTE:**   1. Where possible a NTE should not exceed 64k. The use of lengthy comments / notes that are required to be split is strongly discouraged 2. A NTE that has been split as shown in the example 1 above may not be supported by some systems. As a result information may be truncated 3. The use of NTEs for important information is discouraged, particularly where truncation may occur. Consideration should be given to using an OBX. |

### NTE-2 - Source of Comment

Identifies the source of the comment. Refer to the table below for allowed NTE-2 values.

Table 75: HL7 Table 0105 – Source of Comment

|  |  |
| --- | --- |
| **Value** | **Description** |
| L | Ancillary (filler) department is source of comment |
| P | Placer is source of comment |
| O | Other system |

### NTE-3 - Comment

This field contains the comment.

### NTE-4 - Comment Type

This field contains a value to identify the type of comment text being sent in the specific comment record.

Table 76: HL7 User Defined Table 0364 – Comment Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| PI | Patient Instructions |
| AI | Ancillary Instructions |
| GI | General Instructions |
| 1R | Primary Reason |
| 2R | Secondary Reason |
| GR | General Reason |
| RE | Remark |
| DR | Duplicate/Interaction Reason |

## OBR – Observation Request Segment

This segment is used to transmit information specific to an order for a diagnostic study, observation, physical examination, or assessment. In many cases this information would be the same as that sent in the ORC segment. However, this segment identifies the diagnostic specifics of the service required. Refer to the following table for OBR attributes.

**Example:**

OBR|1|0001|LAB-01|RNZ0202^Complete Blood Count^NZ|||200621110815||||||A bit of relevant clinical info|200621110930|BLDV|55REXH^Kildare^John^M^^Dr

Table 77: OBR Attribute Table – Observation Request Segment

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID | 4 | SI | O |  |  |
| 2 | Placer Order Number | 50 | EI | C |  |  |
| 3 | Filler Order Number | 50 | EI | C |  |  |
| 4 | Universal Service ID | 250 | CE | R |  |  |
| 5 | Priority | 2 | ID | X |  |  |
| 6 | Requested Date/Time | 26 | TS | X |  |  |
| 7 | Observation Date/Time | 26 | TS | C |  |  |
| 8 | Observation End Date/Time | 26 | TS | O |  |  |
| 9 | Collection Volume | 20 | CQ | O |  |  |
| 10 | Collector ID | 250 | XCN | O | Y |  |
| 11 | Specimen Action Code | 1 | ID | O |  | Table 78 |
| 12 | Danger Code | 250 | CE | O |  |  |
| 13 | Relevant Clinical Information | 300 | ST | O |  |  |
| 14 | Specimen Received Date/Time | 26 | TS | C |  |  |
| 15 | Specimen Source | 300 | CM | O |  | Table 79 |
| 16 | Ordering Provider | 250 | XCN | R | Y |  |
| 17 | Order Callback Phone Number | 250 | XTN | O | Y/2 |  |
| 18 | Placer Field 1 | 60 | ST | O |  |  |
| 19 | Placer Field 2 | 60 | ST | X |  |  |
| 20 | Filler Field 1 | 60 | ST | O |  |  |
| 21 | Filler Field 2 | 60 | ST | X |  |  |
| 22 | Results Rpt/Status Chg – Date/Time | 26 | TS | C |  |  |
| 23 | Charge to Practice | 40 | CM | O |  | Table 80 |
| 24 | Diagnostic Service Sector ID | 10 | ID | C |  | Table 152 |
| 25 | Result Status | 1 | ID | C |  | Table 81 |
| 26 | Parent Result | 400 | CM | O |  | Table 82 |
| 27 | Quantity/Timing | 200 | TQ | O | Y | Table 83 |
| 28 | Result Copies To | 250 | XCN | O | Y/5 |  |
| 29 | Parent | 200 | CM | O |  | Table 84  Table 85 |
| 30 | Transportation Mode | 20 | ID | O |  | Table 86 |
| 31 | Reason for Study | 250 | CE | O | Y |  |
| 32 | Principal Result Interpreter | 200 | CM | O |  |  |
| 33 | Assistant Result Interpreter | 200 | CM | O | Y |  |
| 34 | Technician | 200 | CM | O | Y |  |
| 35 | Transcriptionist | 200 | CM | O | Y |  |
| 36 | Scheduled Date/Time | 26 | TS | O |  |  |
| 37 | Number of Sample Containers | 4 | NM | O |  |  |
| 38 | Transport Logistics of Collected Sample | 250 | CE | X | Y |  |
| 39 | Collector's Comment | 250 | CE | O | Y |  |
| 40 | Transport Arrangement Responsibility | 250 | CE | O |  |  |
| 41 | Transport Arranged | 30 | ID | O |  | Table 93 |
| 42 | Escort Required | 1 | ID | O |  | Table 94 |
| 43 | Planned Patient Transport Comment | 250 | CE | O | Y |  |
| 44 | Procedure Code | 250 | CE | O |  |  |
| 45 | Procedure Code Modifier | 250 | CE | O | Y |  |
| 46 | Placer Supplemental Service Information | 250 | CE | O | Y |  |
| 47 | Filler Supplemental Service Information | 250 | CE | O | Y |  |

|  |
| --- |
| **NOTE:** OBR-24 is required when reporting results. |

### OBR-1 - Set ID

Used to identify repeats of this segment within a message.

### OBR-2 - Placer Order Number

This field uniquely identifies an individual order from the application responsible for placing the order. Refer to ORC-2 Placer Order Number Chapter 5.13.2 for information when this field must be valued.

|  |
| --- |
| **Variance to HL7**: The length of OBR-2 has been extended to 50 for New Zealand use. |

### 

### OBR-3 - Filler Order Number

This field uniquely identifies an individual order from the application responsible for filling the order. This field is the same as ORC-3 (filler order number). If the filler order number is not present in the ORC, it must be present in the associated OBR. This rule is the same for other identical fields in the ORC and OBR. It promotes compatibility going forward, including compatibility with the ASTM (American Society for Testing and Materials). This is particularly important when results are transmitted in an ORU message. In this case, the ORC is not required and the identifying filler order number must be present in the OBR segments.

|  |
| --- |
| **Variance to HL7:** The length of OBR-3 has been extended to 50 for New Zealand use. |

### OBR-4 - Universal Service ID

This field contains the identifier code for the requested service (observation/test/battery). This can be based on local and/or universal codes. Where possible it is recommended that a universal procedure identifier be used. This specification recommends the use the New Zealand Pathology Observation Code Sets (NZPOCS), or LOINC.

### OBR-7 - Observation Date/Time

This field is the clinically relevant date/time of the observation. In the case of observations taken directly from a subject, it is the actual date and time the observation was made. In the case of a specimen-associated study, this field shall represent the date and time the specimen was collected or obtained. This is a results-only field, except when the placer or a third party has already drawn the specimen.

|  |
| --- |
| **NOTE:** This field should only be sent with an order if the party responsible for placing the order has collected the sample, otherwise this field will be empty. |

### OBR-8 - Observation End Date/Time

This field is the end date and time of a study or timed specimen collection. If an observation takes place over a period of time, it will indicate when the observation period ended. If the observation occurred at a specific point in time, then this field will be empty.

|  |
| --- |
| **NOTE:** This field should only be sent by the placer if a party other than the filler is (or was) responsible for collecting samples. |

### OBR-9 - Collection Volume

This field is the collection volume of the specimen.

### OBR-10 - Collector ID

This field will identify the person, department, or facility that collected the specimen. In most order cases for outpatient orders, a collection room will be responsible for the collection of the sample and this field will be blank in both the order and the response and the collector ID will be reported with the results of the test.

### OBR-11 - Specimen Action Code

This field is the action to be taken with respect to the specimens that accompany or precede the order. Usually it informs the laboratory whether to take the specimens themselves, ("L") or that the specimens have been taken by some other means ("O").

Table 78: HL7 Table 0065 – Specimen Action Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Add ordered tests to the existing specimen |
| G | Generated order; reflex order |
| L | Laboratory to obtain specimen from patient |
| O | Specimen obtained by service other than laboratory |
| P | Pending specimen; order sent prior to delivery |
| R | Revised order |
| S | Schedule the tests specified below |

### OBR-13 - Relevant Clinical Information

This field contains additional clinical information about the patient or specimen. It may be used to report the suspected diagnosis and clinical findings on requests for interpreted diagnostic studies. If a more structured form of information is required, a series of OBX segments should be used instead.

### OBR-14 - Specimen Received Date/Time

This field represents the date/time that the specimen was received at the diagnostic service. This field must contain a value when the order is accompanied by a specimen, or when the observation requires a specimen and the message is a report.

### OBR-15 - Specimen Source

This field contains the site from where the specimen was or should be obtained. It comprises the following components listed in the table below.

Table 79: OBR 15 Specimen Source Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <Specimen source name or code> | CE | Refer to Table 150 for valid entries. This field is required. |
| <Additives> | TX | Additive to the specimen. |
| <Free text> | TX | Description of collection method. |
| <Body site> | CE | Body site from which specimen was obtained. Refer to Table 151. |
| <Site modifier> | CE | *Not used* |
| <Collection method modifier code> | CE | Indicates whether the specimen is frozen as part of the collection method. Suggested values are:  "F" – Frozen  "R" – Refrigerated  Blank – Room temperature |
| <Specimen role> | CE | *Not used* |

### OBR-16 - Ordering Provider

This field is the identity of the person who ordered the test.

|  |
| --- |
| **Variance to HL7:** This field is required for this implementation, whereas it is optional in HL7. |

### OBR-17 - Order Call-back Phone Number

This field is the telephone number for reporting a status or a result, or for requesting clarification of the order. It is identical to ORC-14.

### OBR-18 - Placer Field 1

This field contains text and may be put to any use by the placer. The filler should return it with results or reply.

### OBR-20 - Filler Field 1

This field may be put to any use by the filler.

### OBR-22 - Results Report/Status Change Date/Time

This field specifies the date/time when the results were reported or status changed. This field is used to indicate the date and time that the results are composed into a report and released, or that a status, as defined in ORC-5 (order status field), is entered or changed.

|  |
| --- |
| **NOTE:** This is a results field only. |

### OBR-23 - Charge to Practice

This field is the charge to the ordering entity for the studies performed, when applicable. The first component is a dollar amount when known by the filler. The second is a charge code when known by the filler (results only).

Table 80: Charge to Practice Components

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <dollar amount> | MO | The dollar amount when known by the filler |
| <charge code> | CE | The charge code used by the filler (results only). |

### OBR-24 - Diagnostic Service Section ID

This field is the section of the diagnostic service where the observation was performed. If the study was performed by an outside service, the identification of that service should be recorded here. This field is required when reporting results. Refer to Table 152 for details.

### OBR-25 - Result Status

This field is the status of the result ordered. This conditional field is required whenever the OBR is contained in a report message. It is not required as part of an initial order. Refer to the following table for allowed values.

Table 81: HL7 Table 0123 – Result Status

|  |  |
| --- | --- |
| **Value** | **Description** |
| O | Order received; specimen not yet received. |
| I | No results available; specimen received, procedure incomplete. |
| S | No results available; procedure scheduled, but not done. |
| A | Some, but not all, results available. |
| P | Preliminary: A verified early result is available, final results not yet obtained. |
| C | Correction to results. |
| R | Results stored; not yet verified. |
| F | Final results; results stored and verified. This shall only be changed with a corrected result. |
| X | No results available; order cancelled. |
| Y | No order on record for this test. Used only on queries. |
| Z | No record of this patient. Used only on queries. |

### OBR-26 - Parent Result

The information in this field may be linked to various departments (e.g. toxicology). This important information, together with the information in OBR-29 (parent field), uniquely identifies the parent result's OBX segment related to this order.

This field is present only when the parent result is identified by OBR-29-parent and the parent spawns child orders for each of many results.

Table 82: Parent Result Components

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <OBX-3-observation identifier of parent result> | CE |  |
| <OBX-4-sub-ID of parent result)> | ST |  |
| <part of OBX-5 observation result from parent (TX)see discussion> | TX | The third component may be used to record the name of the microorganism identified by the parent result directly |

### OBR-27 - Quantity/Timing

This field contains information about the timing, repetition and intervals of the test to be performed. In cases where timing is not important, this component should be left out. In such cases the quantity is always assumed to be one ("1").

This field is a composite, consisting of the items found in the table below.

Table 83: OBR-27 – Quantity/Timing Components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <Quantity>^ | CQ |  |
| <Interval>^ | CM | Table 36 |
| <Duration>^ | TX |  |
| <Start Date/Time>^ | TS |  |
| <End Date/Time >^ | TS |  |
| <Priority>^ | ST | "A" – ASAP  "R" – Routine (assumed if this field is not present)  "T" – Timing Critical  "S" – Stat |
| <Condition>^ | ST |  |
| <Text>^ | TX |  |
| <Conjunction>^ | ID | "S" - Synchronous  "A" – Asynchronous  "C" - Actuation Time |
| <Order Sequencing>^ | CM | Table 37 |
| <Occurrence Duration>^ | CE |  |
| <Total Occurrences> | NM |  |

### OBR-28 - Result Copies To

This field contains a list of people who are to receive copies of the results. It consists of up to five repeating XCN data types. Please refer to the XCN data type for the details of the components of this field.

### OBR-29 - Parent

This field relates a child to its parent when a parent-child relationship exists. Observations spawned by previous observations, e.g. antimicrobial susceptibilities spawned by blood cultures, record the parent (blood culture) filler order number here. Parent is a two-component field. The components of the placer order number and the filler order number are transmitted in subcomponents of the two components of this field.

Table 84: OBR-29 Parent Components

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <parent's placer order number> | EI | Table 85 |
| <parent's filler order number> | EI | Table 85 |

Table 85: OBR-29 Parent Sub Components

|  |  |  |
| --- | --- | --- |
| **Sub-Component** | **Type** | **Notes** |
| <entity identifier (ST)> | ST |  |
| <namespace ID (IS) > | IS |  |
| <universal ID (ST)> | ST |  |
| <universal ID type (IS)> | IS |  |

### OBR-30 - Transportation Mode

This field identifies how to transport the patient where applicable. Refer to the table below for allowed values.

Table 86: HL7 Table 0124 – Transportation Mode

|  |  |
| --- | --- |
| **Value** | **Description** |
| CART | Patient travels on a bed or trolley |
| PORT | The examining device goes to Patient's location |
| WALK | Patient walks to diagnostic service |
| WHLC | Patient travels in a wheelchair |

|  |
| --- |
| **Variance to HL7:**The value "CART" is described as a cart or gurney in HL7. |

### OBR-31 - Reason for Study

This field is the code or text using the convention for coded fields.

### OBR-32 - Principal Result Interpreter

This field identifies the physician or other clinician who interpreted the observation and is responsible for the report content.

Table 87: OBR-32 Principal Result Interpreter Components

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <name (CN)> | CN | CN has been replaced by XCN as of HL7 version 2.3  Refer to Table 88 for sub-components | |
| <start date/time> | TS |  | |
| <end date/time> | TS |  | |
| <point of care> | IS |  | |
| <room> | IS |  | |
| <bed> | IS |  | |
| <facility> | HD | Refer to Table 89 for sub components. | |
| <location status> | IS |  | |
| <patient location type> | IS |  | |
| <building> | IS |  | |
| <floor> | IS |  | |

Table 88: Name Sub-Components

|  |  |  |
| --- | --- | --- |
| **Sub-Component** | **Type** | **Notes** |
| <ID number> | ST |  |
| <family name> | ST |  |
| <given name> | ST |  |
| <middle initial or name> | ST |  |
| <suffix> | ST |  |
| <prefix> | ST |  |
| <degree> | ST |  |
| <source table> | IS |  |
| <assigning authority> | HD |  |

Table 89: Facility Sub Components

|  |  |  |
| --- | --- | --- |
| **Sub-Component** | **Type** | **Notes** |
| <namespace ID> | IS |  |
| <universal ID> | ST |  |
| <universal ID type> | ST |  |

### OBR-33 - Assistant Result Interpreter

This field identifies the clinical observer who assisted in the interpretation of the study.

Table 90: OBR-33 Assistant Result Interpreter

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <name> | CN | CN has been replaced by XCN as of HL7 version 2.3.  Refer to Table 88 for sub components. |
| <start date/time> | TS |  |
| <end date/time> | TS |  |
| <point of care> | IS |  |
| <room> | IS |  |
| <bed> | IS |  |
| <facility> | HD | Refer to Table 89 for sub components. |
| <location status> | IS |  |
| <patient location type> | IS |  |
| <building> | IS |  |
| <floor> | IS |  |

### OBR-34 - Technician

This field identifies the performing technician.

Table 91: OBR-24 Technician

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <name> | CN | CN has been replaced by XCN as of HL7 version 2.3.  Refer to Table 88 for sub components. | |
| <start date/time> | TS |  | |
| <end date/time> | TS |  | |
| <point of care> | IS |  | |
| <room> | IS |  | |
| <bed> | IS |  | |
| <facility> | HD | Refer to Table 89 for sub components. | |
| <location status> | IS |  | |
| <patient location type> | IS |  | |
| <building> | IS |  | |
| <floor> | IS |  | |

### OBR-35 - Transcriptionist

This field identifies the report transcriber.

Table 92: OBR-35 Transcriptionist Components

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <name> | CN | CN has been replaced by XCN as of HL7 version 2.3  Refer to Table 88 for sub components. |
| <start date/time> | TS |  |
| <end date/time> | TS |  |
| <point of care> | IS |  |
| <room> | IS |  |
| <bed> | IS |  |
| <facility> | HD | Refer to Table 89 for sub components. |
| <location status> | IS |  |
| <patient location type> | IS |  |
| <building> | IS |  |
| <floor> | IS |  |

### OBR-36 - Schedule Date/Time

This field is the date/time the filler scheduled the observation.

### OBR-37 - Number of Sample Containers

This field identifies the number of containers for a given sample.

### OBR-39 - Collector's Comment

This field is for reporting additional comments relating to the sample.

### OBR-40 - Transport Arrangement Responsibility

This field is an indicator of who is responsible for arranging transport to the planned diagnostic service. For example, "Provider", "Patient".

### OBR-41 - Transport Arranged

This field is an indicator of whether transport arrangements have been made. Refer to the table below for valid codes.

Table 93: HL7 Table 0224 – Transport Arranged

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Arranged |
| N | Not Arranged |
| U | Unknown |

### OBR-42 - Escort Required

This field is an indicator that the patient needs to be escorted. Refer to the table below for allowed values.

Table 94: HL7 Table 0225 – Escort Required

|  |  |
| --- | --- |
| **Value** | **Description** |
| R | Required |
| N | Not Required |
| U | Unknown |

### OBR-43 - Planned Patient Transport Comment

This field is the code for free text comments about special requirements for transport of the Patient.

### OBR-44 - Procedure Code

This field contains a unique identifier assigned to the procedure.

### OBR-45 - Procedure Code Modifier

This field contains the procedure code modifier to the procedure code reported in OBR-44.

### OBR-46 – Placer supplemental service information

This field contains supplemental service information sent from the placer system to the filler system for the universal procedure code reported in *OBR-4 Universal Service ID.*

### OBR-47 – Filler supplemental service information

This field contains supplemental service information sent from the filler system to the placer system for the procedure code reported in *OBR-4 Universal Service ID.*

## OBX – Observation Result Segment

The OBX segment is used to transmit a single observation or observation fragment. It represents the smallest indivisible unit of a report. Refer to the following table for OBX attributes.

**Example:** OBX message:

OBX|0001|ST|1003^Haemoglobin^L^718-7^ Haemoglobin^LN||214|g/L|135-180|H|||F

Table 95: OBX Attribute Table – Observation Result Segment

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID | 4 | SI | O |  |  |
| 2 | Value Type | 2 | ID | C |  | Table 96 |
| 3 | Observation Identifier | 250 | CE | R |  |  |
| 4 | Observation Sub-ID | 20 | ST | O |  |  |
| 5 | Observation Value | \* | \* | O | Y/3 |  |
| 6 | Units | 250 | CE | O |  |  |
| 7 | Reference Ranges | 60 | ST | O |  |  |
| 8 | Abnormal Flags | 5 | ID | O | Y/5 | Table 97 |
| 9 | Probability | 5 | NM | O |  |  |
| 10 | Nature of Abnormal Test | 2 | ID | O | Y | Table 98 |
| 11 | Observation Result Status | 1 | ID | R |  | Table 99 |
| 12 | Date Last Observation Normal Values | 26 | TS | X |  |  |
| 13 | User Defined Access Checks | 20 | ST | X |  |  |
| 14 | Date/Time of Observation | 26 | TS | O |  |  |
| 15 | Producer's ID | 250 | CE | O |  |  |
| 16 | Responsible Observer | 250 | XCN | O |  |  |
| 17 | Observation Method | 250 | CE | O | Y |  |
| 18 | Equipment Instance Identifier | 22 | CE | X |  |  |
| 19 | Date/Time of the Analysis | 26 | TS | X |  |  |

### OBX-1 - Set ID

This field is used to identify repeats of this segment within a message. The first segment for each parent OBR has a value of one ("1"), which will increase by one for each subsequent OBX segment with that parent OBR.

### OBX-2 - Value Type

This field contains the format of the observation value in OBX-5. This field must contain a value unless OBX-11, contains an "X" to indicate that this segment does not report any results. The valid values for this field are listed in the following table.

Table 96: Constrained from HL7 Table 0125 – Value Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| AD | Address |
| CE | Coded Entry |
| CF | Coded Element with Formatted Values |
| CK | Composite ID with Check Digit (not used in New Zealand) |
| CN | Composite ID and Name |
| CP | Composite Price |
| CX | Extended Composite ID with Check Digit |
| DT | Date |
| ED | Encapsulated Data |
| FT | Formatted Text (Display) |
| MO | Money |
| NM | Numeric |
| PN | Person Name |
| RP | Reference Pointer |
| SN | Structured Numeric |
| ST | String Data |
| TM | Time |
| TN | Telephone Number |
| TS | Time Stamp (Date and Time) |
| TX | Text Data (Display) |

### 

### OBX-3 - Observation Identifier

This field contains a unique identifier for the observation. In most systems this identifier will point to a master observation table that will provide other attributes of the observation.

It is recommended that if local codes are used as the first identifier, an equivalent universal identifier is also sent. This will allow receivers to compare results from different providers of the same service.

Where possible, this implementation advocates the use of NZPOCS or LOINC codes as a universal identifier.

### OBX-4 - Observation Sub-ID

This field is used to distinguish between multiple OBX segments with the same observation ID organised under one OBR. This frequently occurs when a single test measures multiple parameters and thus produces multiple results. Where there is only one result per test, this field should be empty.

### OBX-5 - Observation Value

This field contains the value observed (the actual result). This field is formatted according to the data type in OBX-2 (the value type field).

|  |
| --- |
| **Variance to HL7:** The length of OBX-5 is unlimited, but consideration must be given to restrictions imposed by the message transport system. |

### OBX-6 - Units

This field specifies the measurement units used within the OBX segment. Refer to Table 155.

### OBX-7 - Reference Ranges

The reference range is the range in which normal values fall.

### OBX-8 - Abnormal Flags

This field contains a table lookup indicating the normality status of the result. It is recommended, when applicable, that this value be sent. A repeat delimiter should separate multiple codes.

The most common values are listed in the table below.

Table 97: HL7 User Defined Table 0078 – Abnormal Flags

|  |  |
| --- | --- |
| **Value** | **Description** |
| L | Low |
| H | High |
| LL | Below Lower Panic Limit |
| HH | Above Upper Panic Limit |
| N | Normal, applies only to Non-Numeric Values |
| A | Abnormal |
| AA | Extremely Abnormal |
| S | Susceptible. Indicates for microbiology susceptibilities only |
| R | Resistant. Indicates for microbiology susceptibilities only |
| I | Intermediate. Indicates for microbiology susceptibilities only |

|  |
| --- |
| **NOTE:** This table is not comprehensive. |

### OBX-9 - Probability

This field contains the probability of a result being true for results with categorical values. It mainly applies to discrete coded results. This shall be a decimal number between 0 and 1, inclusive.

### OBX-10 - Nature of Abnormal Test

This field contains the nature of the abnormal test. There may be more than one code. If so, each code is separated by repeat delimiters. Refer to the table below for allowed values:

Table 98: HL7 Table 0080 – Nature of Abnormal Test

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | An age-based population |
| N | None – generic normal range |
| R | A race-based population |
| S | A sex-based population |

### OBX-11 - Observation Result Status

This field reflects the current status of the results for one observation identifier. The table below shows the most common values:

Table 99: HL7 Table 0085 – Observation Results Status

|  |  |
| --- | --- |
| **Value** | **Description** |
| F | Final results |
| P | Preliminary results |
| R | Results entered – not verified |
| S | Partial results |
| O | Order detail description only (no result) |
| C | Record coming over is a correction and thus replaces a final result |
| D | Deletes the OBX record |
| I | Specimen in laboratory; results pending |
| N | Not asked; used to affirmatively document that the observation identified in the OBX was not sought when the universal service ID in OBR-4 implies that it would be sought. |
| X | Results cannot be obtained for this observation |
| U | Results status change to final without retransmitting results already sent as 'preliminary.' E.g. radiology changes status from preliminary to final. |
| W | Post original as wrong, e.g. transmitted for wrong patient |

### 

### OBX-14 - Date/Time of Observation

This field is the physiologically relevant date/time or the closest approximation to that time. In the case of tests performed on specimens, the relevant date-time is the specimen's collection date/time. In the case of observations taken directly on the patient, the observation date/time is the date/time that the observation was performed.

### OBX-15 - Producer's ID

This field contains the unique identifier of the responsible producing service.

### OBX-16 - Responsible Observer

This field contains the identity of the individual directly responsible for the observation. This is the person who either performed the test or verified the result. It is used for audit trail information.

### OBX-17 - Observation Method

This field is used to transmit the method or procedure by which an observation was obtained when the sending system wishes to distinguish one measurement obtained by different methods and the distinction is not implicit in the test ID.

## ORC – Order Common Segment

The Common Order Segment (ORC) is common to all pathology and radiology orders. Refer to the following table for ORC attributes.

**Example:** For the use of an ORC message:

ORC|NW|230462123.0001||230462123|||||199708071000|||55REXH^Kildare^John^M^^Dr

Table 100: ORC Attribute Table – Order Common Segment

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Order Control | 2 | ID | R |  | Table 101 |
| 2 | Placer Order Number | 50 | EI | R |  |  |
| 3 | Filler Order Number | 50 | EI | C |  |  |
| 4 | Placer Group Number | 50 | EI | O |  |  |
| 5 | Order Status | 2 | ID | O |  | Table 102 |
| 6 | Response Flag | 1 | ID | O |  | Table 49 |
| 7 | Quantity/Timing | 200 | TQ | O | Y |  |
| 8 | Parent | 200 | CM | X |  |  |
| 9 | Date/Time of Transaction | 26 | TS | O |  |  |
| 10 | Entered By | 250 | XCN | O | Y |  |
| 11 | Verified By | 250 | XCN | O | Y |  |
| 12 | Ordering Provider | 250 | XCN | R | Y |  |
| 13 | Enterer’s Location | 80 | PL | X |  |  |
| 14 | Call Back Phone Number | 250 | XTN | O | Y/2 |  |
| 15 | Order Effective Date/Time | 26 | TS | O |  |  |
| 16 | Order Control Reason Code | 250 | CE | O |  |  |
| 17 | Entering Organisation | 250 | CE | O |  |  |
| 18 | Entering Device | 250 | CE | X |  |  |
| 19 | Action By | 250 | XCN | O | Y |  |
| 20 | Advanced Beneficiary Notice Code | 250 | CE | O |  |  |
| 21 | Ordering Facility Name | 250 | XON | O | Y |  |
| 22 | Ordering Facility Address | 250 | XAD | X | Y |  |
| 23 | Ordering Facility Phone Number | 250 | XTN | X | Y |  |
| 24 | Ordering Provider Address | 250 | XAD | X | Y |  |
| 25 | Order Status Number | 250 | CWE | O |  |  |

|  |
| --- |
| **NOTES:**   1. Placer order groups: The HL7 version 2.4 standard supports a mechanism to collect several orders together in a group. Most often this is used to represent an 'ordering session' for a single Patient. An order group is a list of orders (ORCs) associated with an ORC-4 Placer Group Number. A group is established when the placer supplies a placer group number with the original order. The order group consists of all the ORCs and order detail segments that have the same placer group number. Orders can be removed from the group using Cancel. New orders cannot otherwise be added to the group. 2. Duplicate fields: Although the ORC is intended to uniformly define the fields common to all orders, it does duplicate some fields in the order detail (OBR) segment. E.g., ORC 2 Placer Order Number has the same meaning and purpose as OBR-2 Placer Order Number. The rule for using these fields is that the value shall appear in the OBR segment if it does not appear in the ORC. The HL7 version 2.4 standard recommends transmitting the field value in both places to avoid confusion. We strongly endorse the HL7 recommendation. |

|  |
| --- |
| **Variance to HL7:** The length of the ORC-2 Placer Order Number, ORC-3 Filler Order Number and ORC-4 Placer Group Number filler have been increased to 50. |

### ORC-1 - Order Control

This field determines the function of the order segment. The standard code table for ORC-1 provides for approximately 45 control modes, such as "new order", "cancel request", "order cancelled", etc.

The order control code used in ORC-1 will determine the ORC-5 Order Status Code and ORC-16 Order Control Reason.

Table 101: HL7 Table 0119 – Order Control Codes

|  |  |  |  |
| --- | --- | --- | --- |
| **Value** | **Sender** | | **Description** |
| NW | Placer (P) | New order | |
| OK | Filler (F) | New order accepted | |
| UA | Filler (F) | Unable to accept | |
| CA | Placer (P) | Request to cancel order | |
| CR | Filler (F) | Order cancelled as requested | |
| IN | Placer or Filler | Information | |
| RU | Filler (F) | Replaced unsolicited | |
| UC | Filler (F) | Unable to cancel | |
| RE | Filler (F) | Results to follow; use in the ORU message | |

|  |
| --- |
| **NOTES:**   1. This list is not comprehensive. Refer to HL7 version 2.4 Chapter 4.20 for full list of Order Control Codes. 2. "F": Values originate from the filler and are not restricted for sending only to the placer. "P": Values originate from the placer or other application with placer privileges (as agreed in interface negotiation). 3. IN is not used in this standard but may be used in other New Zealand Messaging Standards. |

### ORC-2 - Placer Order Number

This field is the unique number that the placer application has assigned to this order. This uniqueness shall persist over time. If this field is not valued, then there must be a value in the OBR-2 Placer Order Number 5.11.2. If there is no value in OBR-2 Placer Order Number field, then there must be a value in ORC-2. If fields, ORC-2-placer order number and OBR-2-placer order number are valued, they must contain the same value. When results are transmitted in an ORU message, an ORC is not required, and the identifying placer order number must be present in the OBR segments.

### ORC-3 - Filler Order Number

This field contains the order number as assigned by the filling application.

This filler order number shall uniquely identify the order from other orders in a particular filling application and this uniqueness shall persist over time.

ORC-3 Filler Order Number is the same as OBR-3 Filler Order Number. If the filler order number is not present in the ORC, it must be present in the associated OBR. This is particularly important when results are transmitted in an ORU message. In this case, the ORC is not required and the identifying filler order number must be present in the OBR segments.

### ORC-4 - Placer Group Number

Allows an order placing application to group sets of orders together and subsequently identify them.

### ORC-5 - Order Status

This field specifies the status of an order and should be completed so the receiving system knows if the medication is current or historic. The following status codes are used when standard HL7 Order Control codes are used in ORC-1. Refer to the following table for allowed ORC-5 values:

Table 102: HL7 Table 0038 – Order Status

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Some, but not all, results available |
| CA | Order was cancelled |
| CM | Order is completed |
| DC | Order was discontinued |
| ER | Error, order not found |
| HD | Order is on hold |
| IP | In process, unspecified |
| RP | Order has been replaced |
| SC | In process, scheduled |

### ORC-6 - Response Flag

This field allows the sending application to determine the amount of information to be returned from the filler.

### ORC-7 - Quantity/Timing

This field contains the quantity of the ordered tests and the timing information, if that is critical. Refer to Table 83.

### ORC-9 - Date/Time of Transaction

This field is the date and time the current transaction was initiated.

### ORC-10 - Entered By

This field identifies the person who actually keyed the request into the application. It provides an audit trail in the event that clarification of the request is required.

### ORC-11 - Verified By

This field contains the identity of the person who verified the accuracy of the entered request.

### ORC-12 - Ordering Provider

This field is the identity of the person who is responsible for creating the request. It is used in cases where the request is entered by a technician and needs to be verified by a higher authority.

### ORC-14 - Call Back Phone Number

This field is the telephone number to call for clarification of an order.

### ORC-15 - Order Effective Date/Time

This field should contain the date/time that the changes to the request took effect.

### ORC-16 - Order Control Reason

This contains the explanation of the reason for the order event described in the order control. When the ORC-1 contains the New Zealand extension "IN", then codes from the following table are used to indicate the nature of the information that follows:

Table 103: Table 99NZIN – NZ Specific ORC Groups

|  |  |
| --- | --- |
| **Value** | **Description** |
| MEDLT | Long term medication details |
| MEDCU | Current medication |
| MEDIP | Inpatient medication (not continued after discharge) |
| MEDDS | Discharge prescription |
| MEDHS | Historical medication (GP prescribed medication prior to creating referral) |
| LIT | Literal rendition of the message |
| REFER | Main text of the referral |
| OBS | Observations |

### ORC-17 - Entering Organisation

This field identifies the organisation that the enterer belonged to at the time of entering/maintaining of the order.

### ORC-19 - Action By

This field identifies the person who initiated the event represented by the corresponding order control code.

### ORC-20 - Advanced Beneficiary Notice Code

This field indicates the status of the patient's or the patient's representative's consent for responsibility to pay for potentially uninsured services. Refer to the table below for allowed ORC-20 values:

Table 104: HL7 User Defined Table 0339 – Advanced Beneficiary Notice Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| 1 | Service is subject to medical necessity procedures |
| 2 | Patient has been informed of responsibility, and agrees to pay for service |
| 3 | Patient has been informed of responsibility, and asks that the payer be billed |
| 4 | Advanced Beneficiary Notice has not been signed |

### ORC-21 - Ordering Facility Name

This field is a unique identifier for a facility assigned by the data source. The facility identifier is assigned by the Health Practitioner Index (HPI) system at the time that the facility record in the HPI is created.   
The data type has a field size of eight and is alphanumeric. The layout is FXXNNN-C where F is a constant prefix, X is either an alpha or numeric, N is a number, and C is a check digit.

### ORC-25 - Order Status Modifier.

This field is a modifier or refiner of the ORC-5 Order Status Field. This field may be used to provide additional levels of specificity or additional information for the defined order status codes.

|  |
| --- |
| **NOTE:** This field may only be populated if the ORC-5 Order Status field is valued. |

## PD1 – Additional Patient Demographics

This segment contains additional patient demographic information that is subject to change. Refer to the table below:

Table 105: PD1 Attribute Table - Additional Patient Demographics

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Living Dependency | 2 | IS | O | Y | Table 106 |
| 2 | Living Arrangement | 2 | IS | O | Y | Table 107 |
| 3 | Patient Primary Facility | 250 | XON | O | Y |  |
| 4 | Patient Primary Care Provider Name & ID No. | 250 | XCN | O | Y |  |
| 5 | Student Indicator | 2 | IS | X |  |  |
| 6 | Handicap | 2 | IS | O |  | Table 108 |
| 7 | Living Will Code | 2 | IS | X |  |  |
| 8 | Organ Donor Code | 2 | IS | X |  |  |
| 9 | Separate Bill | 1 | ID | X |  |  |
| 10 | Duplicate Patient | 250 | CX | X | Y |  |
| 11 | Publicity Code | 250 | CE | X |  |  |
| 12 | Protection Indicator | 1 | ID | X |  |  |
| 13 | Protection Indicator Effective Date | 8 | DT | X |  |  |
| 14 | Place of Worship | 250 | XON | X | Y |  |
| 15 | Advance Directive Code | 250 | CE | X | Y |  |
| 16 | Immunisation Registry Status | 1 | IS | O |  | Table 109 |
| 17 | Immunisation Registry Status Effective Date | 8 | DT | O |  |  |
| 18 | Publicity Code Effective Date | 8 | DT | X |  |  |
| 19 | Military Branch | 5 | IS | X |  |  |
| 20 | Military Rank/Grade | 2 | IS | X |  |  |
| 21 | Military Status | 3 | IS | X |  |  |

### 

### PD1-1 - Living Dependency

This field identifies specific living conditions relevant to an evaluation of the patient's health care needs, including discharge planning. This field repeats because, e.g. "Spouse Dependent" and "Medical Supervision Required" can apply at the same time. Refer to the table below, for suggested values:

Table 106: HL7 User Defined Table 0223 - Living Dependency

|  |  |
| --- | --- |
| **Value** | **Description** |
| S | Spouse Dependent |
| M | Medical Supervision Required |
| C | Small Children Dependent |
| O | Other |
| U | Unknown |

### PD1-2 - Living Arrangement

This field identifies the situation in which the patient lives at his residential address. Refer to the table below, for suggested values:

Table 107: HL7 User Defined Table 0220 - Living Arrangement

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Alone |
| F | Family |
| I | Institution |
| R | Relative |
| S | Spouse only |
| U | Unknown |

### PD1-3 - Patient Primary Facility

This field contains the name and identifier that specifies the primary care health care facility selected by the patient at the time of enrolment in an insurance plan.

### PD1-4 - Patient Primary Care Provider Name & ID No.

This field is retained for backward compatibility only.

### PD1-6 - Handicap

This field indicates the nature of the patient's permanent physical or mental disability (e.g. deaf, blind). Refer to the following table for suggested values. For transient disabilities refer to the PV1-15 (ambulatory status field).

Table 108: HL7 User Defined Table 0295 - Handicap

|  |  |  |
| --- | --- | --- |
| **Value** | **Description** | |
| A0 | No functional limitations |
| A1 | Ambulates with assistive device |
| A2 | Wheelchair/stretcher bound |
| A5 | Vision impaired |
| A6 | Hearing impaired |
| A7 | Speech impaired |
| A9 | Functional level unknown |
| B3 | Amputee |
| B4 | Mastectomy |
| B5 | Paraplegic |

|  |
| --- |
| **NOTE:** This list is not comprehensive. |

### PD1-16 - Immunisation Registry Status

This code identifies the patient's current status on (or opted off) the Registry. Use values from the following table:

Table 109: HL7 User Defined Table 0441 - Immunisation Registry Status

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Active |
| P | Provisional Opt Off |

|  |
| --- |
| **NOTE:** This list is not comprehensive. |

### PD1-17 - Immunisation Registry Status Effective Date

The date that the registry status in PD1-16 came into effect.

## PID – Patient ID Segment

The PID segment is the primary means of communicating patient identification information. Refer to the table below for PID attributes.

**Example:** PID

PID|||ABC1234^^^NZLMOH||TEST^PATIENT||19650205|M|||1 Road^Suburb^City

Table 110: PID Attribute Table – Patient ID Segment

| **Seq** | **Element Name** | | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | | Set ID | 4 | SI | O |  |  |
| 2 | | Patient ID | 20 | CX | X |  |  |
| 3 | | Patient Identifier List | 250 | CX | R | Y |  |
| 4 | | Alternate Patient ID | 20 | CX | X | Y |  |
| 5 | | Patient Name | 250 | XPN | R | Y | Table 111 |
| 6 | | Mother's Maiden Name | 250 | XPN | O | Y |  |
| 7 | | Date of Birth | 26 | TS | O |  |  |
| 8 | | Sex | 1 | IS | O |  | Table 112 |
| 9 | | Patient Alias | 250 | XPN | X | Y |  |
| 10 | | Ethnicity | 250 | CE | O | Y6 |  |
| 11 | | Patient Address | 250 | XAD | O | Y |  |
| 12 | | Country Code | 4 | IS | X |  |  |
| 13 | | Home Phone | 250 | XTN | O | Y |  |
| 14 | | Business Phone | 250 | XTN | O | Y |  |
| 15 | | Primary Language | 250 | CE | O |  |  |
| 16 | | Marital Status | 250 | CE | O |  | Table 113 |
| 17 | | Religion | 250 | CE | O |  | Table 153 |
| 18 | | Patient Account Number | 250 | CX | O |  |  |
| 19 | | SSN Number | 16 | ST | X |  |  |
| 20 | | Driver’s License Number | 25 | DLN | X |  |  |
| 21 | | Mother's Identifier | 250 | CX | O | Y | Table 22 |
| 22 | | Ethnic Group | 250 | CE | O | Y |  |
| 23 | | Birth Place | 250 | ST | O |  |  |
| 24 | | Multiple Birth Indicator | 1 | ID | O |  | Table 49 |
| 25 | | Birth Order | 2 | NM | O |  |  |
| 26 | | Citizenship | 250 | CE | O | Y |  |
| 27 | | Veterans Military Status | 250 | CE | X |  |  |
| 28 | | Nationality | 250 | CE | X |  |  |
| 29 | | Patient Death Date and Time | 26 | TS | O |  |  |
| 30 | | Patient Death Indicator | 1 | ID | O |  | Table 114 |
| 31 | | Identity Unknown Indicator | 1 | ID | O |  | Table 115 |
| 32 | | Identity Reliability Code | 20 | IS | O | Y | Table 116 |
| 33 | | Last Update Date/Time | 26 | TS | X |  |  |
| 34 | | Last Update Facility | 40 | HD | X |  |  |
| 35 | | Species Code | 250 | CE | C |  |  |
| 36 | | Breed Code | 250 | CE | C |  |  |
| 37 | | Strain | 80 | ST | X |  |  |
| 38 | | Production Class Code | 250 | CE | X | 2 |  |

### PID-1 - Set ID

This field is used to identify repeats of this segment within a message.

### PID-3 - Patient Identifier List

This field contains the list of identifiers used by the health care facility to uniquely identify a patient, e.g. NHI number. It is recommended that the patient's NHI number is used as the identifier.

### PID-5 - Patient Name

Records the names and aliases of a particular patient. Where more than one name is recorded for each patient, a name type code is required to distinguish the names. The first name sent in such instances will be the primary name. Refer to the table below for the most common values:

Table 111: HL7 Table 0200 – Name Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| L | Legal Name |
| M | Maiden name |
| A | Alias name |
| B | Name at birth |

|  |
| --- |
| **NOTE:** This table is not comprehensive. |

### PID-6 - Mother's Maiden Name

This field contains the family name under which the mother was born (i.e. before marriage). It is used to distinguish between patients with the same last name.

### PID-7 - Date of Birth

This field contains the patient's date and time of birth.

|  |
| --- |
| **NOTE:** This information should be sent where it is available. |

### PID-8 - Administrative Sex

This field contains the Patient's sex. It is strongly recommended that "M" or "F" be used, except where this is clearly impossible. Refer to the table below for PID-8 values:

Table 112: HL7 User Defined Table 0001 – Administrative Sex

|  |  |
| --- | --- |
| **Value** | **Description** |
| F | Female |
| M | Male |
| I | Indeterminate |
| U | Unknown |

### PID-10 - Ethnicity

This field is used to record the ethnicity of the patient. Ethnicity details should be captured at level 4 of the StatsNZ’s ethnicity classification and be able to record up to six ethnicities.

Refer to the Ethnicity table referenced on the Ministry of Health’s website - <https://www.health.govt.nz/publication/hiso-100012017-ethnicity-data-protocols>

|  |
| --- |
| **NOTE:** This field is called Race in HL7 version 2.4. |

|  |
| --- |
| **Variance to HL7**: HL7 allows this field to repeat as many times as necessary. New Zealand usage allows up to six repeats of this field. |

### PID-11 - Patient Address

This field contains the address information of the Patient. The mailing address shall always be sent first. If the first address is not the mailing address then a repeat delimiter should be sent to indicate an empty mailing address.

### PID-13 - Home Phone

This field contains the patient's personal contact phone numbers.

### PID-14 - Business Phone

This field contains the patient's business phone numbers. All business phone numbers for the patient are sent in this sequence. An email address may be sent if the telecommunications use code is "NET".

### PID-15 - Primary Language

This field contains the patient's primary language. Refer to the following link for the Alpha-2 code set: <http://www.iso.org/iso/home/standards/language_codes.htm>.

### PID-16 - Marital status

This field contains the patient's marital (civil) status. Use one of the following values from the table below:

Table 113: HL7 User Defined Table 0002 – Marital Status

| **Value** | **Description** |
| --- | --- |
| A | Separated |
| D | Divorced |
| M | Married |
| S | Single |
| W | Widowed |
| C | Common Law |
| G | Living Together |
| P | Domestic Partner |
| R | Registered Domestic Partner |
| E | Legally Separated |
| N | Annulled |
| I | Interlocutory |
| B | Unmarried |
| U | Unknown |
| V | Civil Union |
| O | Other |
| T | Unreported |

|  |
| --- |
| **NOTE:** This has been extended for New Zealand purposes to include the civil union field. |

### PID-17 - Religion

This field contains the patient's religion. Use one of the values from Table 153.

### PID-18 - Patient Account Number

This field contains the patient account number assigned by accounting to which all charges, payments, etc., are recorded. It is used to identify the patient's account.

### PID-21 - Mother's Identifier

This field is used, e.g. as a link for newborns. Typically, a patient ID or account number may be used. This field can contain multiple identifiers for the same mother. Refer to Table 22 for valid values.

### PID-22 - Ethnic Group

This field further defines the patient's ancestry, e.g. iwi. The values required for this optional field should be agreed between the parties exchanging this information.

### PID-23 - Birth Place

This field indicates the location of the patient's birth. The actual address is reported in PID-11 with an identifier of "N".

### PID-24 - Multiple Birth Indicator

This field indicates whether the patient was part of a multiple birth.

### PID-25 - Birth Order

This field indicates numerically the patient's birth order if part of a multiple birth.

### PID-26 - Citizenship

This field contains the patient's country of citizenship. Refer to <http://www.iso.org/iso/country_codes.htm> for the most updated list of countries.

### PID-29 - Patient Death Date and Time

This field contains the date and time at which the patient death occurred.

### PID-30 - Patient Death indicator

This field indicates whether the patient is deceased. Refer to the table below for allowed values:

Table 114: HL7 Table 0136 Yes/No Indicator – Patient Death Indicator

|  |  |
| --- | --- |
| **Value** | **Description** |
| Y | The patient is deceased |
| N | The patient is not deceased |

### PID-31 - Identity Unknown Indicator

This field indicates whether or not the patient's/person's identity is known. Refer to the table below for suggested values:

Table 115: HL7 Table 0136 Yes/no Indicator – Identity Unknown Indicator

|  |  |
| --- | --- |
| **Value** | **Description** |
| Y | The patient's/person's identity is unknown |
| N | The patient's/person's identity is known |

### PID-32 - Identity Reliability Code

This field contains a coded value used to communicate information regarding the reliability of patient/person identifying data in a transmission. Values could indicate that certain fields on a PID segment for a given patient/person are known to be false. Refer to the table below for suggested values:

Table 116: HL7 User Defined Table 0445 - Identity Reliability Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| US | Unknown/Default Social Security Number |
| UD | Unknown/Default Date of Birth |
| UA | Unknown/Default Address |
| AL | Patient/Person Name is an Alias |

### PID-35 - Species Code

This field indicates the species of living organism. HL7 recommends SNOMED CT. If the field is not valued, a human is assumed.

### PID-36 - Breed Code

This field indicated the specific breed of animal. This field is specific to animals and cannot be generally used for all living organisms. HL7 recommends SNOMED CT.

## PV1 – Patient Visit

This segment is used to communicate information on a visit or account specific basis.

**Example:**

PV1||O|Renal||||55REXH^Kildare^John^M^^Dr

Table 117: PV1 Attribute Table - Patient Visit

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID | 4 | SI | O |  |  |
| 2 | Patient Class | 1 | IS | R |  | Table 118 |
| 3 | Assigned Patient Location | 80 | PL | O |  | Table 119 |
| 4 | Admission Type | 2 | IS | O |  | Table 120 |
| 5 | Pre-admit Number | 250 | CX | O |  |  |
| 6 | Prior Patient Location | 80 | PL | O |  |  |
| 7 | Attending Practitioner | 250 | XCN | O | Y |  |
| 8 | Referring Practitioner | 250 | XCN | O | Y |  |
| 9 | Consulting Practitioner | 250 | XCN | O | Y |  |
| 10 | Health Specialty | 3 | IS | O |  |  |
| 11 | Temporary Location | 80 | PL | O |  |  |
| 12 | Pre-admit Test Indicator | 2 | IS | O |  |  |
| 13 | Readmission Indicator | 2 | IS | O |  |  |
| 14 | Admit Source | 6 | IS | O |  | Table 121 |
| 15 | Ambulatory Status | 2 | IS | O | Y | Table 122 |
| 16 | VIP Indicator | 2 | IS | X |  |  |
| 17 | Admitting Practitioner | 250 | XCN | O | Y |  |
| 18 | Patient Type | 2 | IS | O |  |  |
| 19 | Visit Number | 250 | CX | O |  |  |
| 20 | Financial Class | 50 | FC | O | Y | Table 123 |
| 21 | Charge Price Indicator | 2 | IS | X |  |  |
| 22 | Courtesy Code | 2 | IS | X |  |  |
| 23 | Credit Rating | 2 | IS | X |  |  |
| 24 | Contract Code | 2 | IS | X | Y |  |
| 25 | Contract Effective Date | 8 | DT | O | Y |  |
| 26 | Contract Amount | 12 | NM | X | Y |  |
| 27 | Contract Period | 3 | NM | O | Y |  |
| 28 | Interest Code | 2 | IS | X |  |  |
| 29 | Transfer to Bad Debt Code | 1 | IS | X |  |  |
| 30 | Transfer to Bad Debt Date | 8 | DT | X |  |  |
| 31 | Bad Debt Agency Code | 10 | IS | X |  |  |
| 32 | Bad Debt Transfer Amount | 12 | NM | X |  |  |
| 33 | Bad Debt Recovery Amount | 12 | NM | X |  |  |
| 34 | Delete Account Indicator | 1 | IS | X |  |  |
| 35 | Delete Account Date | 8 | DT | X |  |  |
| 36 | Discharge Disposition | 3 | IS | X |  | Table 124 |
| 37 | Discharged to Location | 25 | CM | O |  | Table 125  Table 126 |
| 38 | Diet Type | 250 | CE | O |  |  |
| 39 | Servicing Facility | 2 | IS | O |  |  |
| 40 | Bed Status | 1 | IS | O |  |  |
| 41 | Account Status | 2 | IS | O |  |  |
| 42 | Pending Location | 80 | PL | O |  |  |
| 43 | Prior Temporary Location | 80 | PL | O |  |  |
| 44 | Admit Date/Time | 26 | TS | O |  |  |
| 45 | Discharge Date/Time | 26 | TS | O | Y |  |
| 46 | Current Patient Balance | 12 | NM | X |  |  |
| 47 | Total Charges | 12 | NM | O |  |  |
| 48 | Total Adjustments | 12 | NM | O |  |  |
| 49 | Total Payments | 12 | NM | O |  |  |
| 50 | Alternate Visit ID | 250 | CX | X |  |  |
| 51 | Visit Indicator | 1 | IS | X |  |  |
| 52 | Other Health Care Provider | 250 | XCN | O | Y |  |

### PV1-1 - Set ID

This field is used to identify repeats of this segment within a message. The first segment has a value of one ("1"). Numbering then increases incrementally for the next segment.

### PV1-2 - Patient Class

This field is used by systems to categorise patients. Allowed values are in the table below:

Table 118: HL7 User Defined Table 0004 - Patient Class

|  |  |
| --- | --- |
| **Value** | **Description** |
| E | Emergency |
| I | Inpatient |
| O | Outpatient |
| P | Pre-admit |
| B | Obstetrics |
| U | Unknown |
| N | Not Applicable. |

|  |
| --- |
| **NOTE:** This table is not comprehensive. |

### PV1-3 - Assigned Patient Location

This field contains the patient's assigned location. The information for status of the bed is in <location status>, the fifth component of the PL data type and supersedes PV1-40.

Table 119: HL7 User Defined Table 0116 - Bed Status

|  |  |
| --- | --- |
| **Value** | **Description** |
| C | Closed |
| H | Housekeeping |
| O | Occupied |
| U | Unoccupied |
| K | Contaminated |
| I | Isolated |

### 

### PV1-4 - Admission Type

This field indicates the circumstances under which the patient was or will be admitted.

Table 120: HL7 User Defined Table 0007 - Admission Type

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Accident |
| E | Emergency |
| L | Labour and Delivery |
| R | Routine |
| N | Newborn (Birth in Health Care Facility) |
| U | Urgent |
| C | Elective |

### PV1-5 - Pre-admit Number

This field uniquely identifies the patient's pre-admit account. Some systems will continue to use the Pre-admit Number as the billing number after the patient has been admitted. To maintain backward compatibility, a ST data type may be sent. However, HL7 recommends use of the CX data type, such as the account number, for new implementations. <Assigning authority> and <identifier> type codes are strongly recommended for all CX data types.

### PV1-6 - Prior Patient Location

This field contains the prior patient location if the patient is being transferred. The old location is "null" if the patient is new.

### PV1-7 - Attending Practitioner

This field contains the attending practitioner information.

### PV1-8 - Referring Practitioner

This field contains the referring practitioner information.

### PV1-9 - Consulting Practitioner

This field has been retained for backward compatibility only. This field contains the consulting physician information. The field sequences are used to indicate multiple consulting practitioners. Depending on local agreements, either the ID or the name may be absent from this field.

### PV1-10 - Health Specialty

This field contains the treatment or type of surgery that the patient is scheduled to receive. Refer to the valid table from the Ministry of Health’s website - <http://www.health.govt.nz/nz-health-statistics/data-references/code-tables/common-code-tables/health-specialty-code-table>.

### PV1-11 - Temporary Location

This field contains a location other than the assigned location, if required for a temporary period of time (e.g. OR, operating theatre etc.).

### PV1-12 - Pre-admit Test Indicator

This field indicates whether the patient must have pre-admission testing done in order to be admitted.

### PV1-13 - Readmission Indicator

This field indicates that a patient is being re-admitted to the health care facility and gives the circumstances. It is suggested that "R" for re-admission is used, otherwise "null".

### PV1-14 - Admit Source

This field indicates where the patient was admitted. Refer to the table below:

Table 121: HL7 User Defined Table 0023 - Admit Source

|  |  |
| --- | --- |
| **Value** | **Description** |
| 1 | Physician referral |
| 2 | Clinic referral |
| 3 | HMO referral |
| 4 | Transfer from a hospital |
| 5 | Transfer from a skilled nursing facility |
| 6 | Transfer from another health care facility |
| 7 | Emergency room |
| 8 | Court/law enforcement |
| 9 | Information not available |

### 

### PV1-15 - Ambulatory Status

This field indicates permanent or transient ambulatory status. Refer to the table below:

Table 122: HL7 User Defined Table 0009 - Ambulatory Status

|  |  |
| --- | --- |
| **Value** | **Description** |
| A0 | No functional limitations |
| A1 | Ambulates with assistive device |
| A2 | Wheelchair/stretcher bound |
| A3 | Comatose; non-responsive |
| A4 | Disoriented |
| A5 | Vision impaired |
| A6 | Hearing impaired |
| A7 | Speech impaired |
| A8 | Non-English speaking |
| A9 | Functional level unknown |
| B1 | Oxygen therapy |
| B2 | Special equipment (tubes, IVs, catheters) |
| B3 | Amputee |
| B4 | Mastectomy |
| B5 | Paraplegic |
| B6 | Pregnant |

|  |
| --- |
| **Variance to HL7:** HL7 uses the term 'transient handicapped condition'. |

### PV1-17 Admitting Practitioner

This field contains the admitting physician information. Multiple names and identifiers for the same physician may be sent. The field sequences are not used to indicate multiple admitting practitioners. The legal name must be sent in the first sequence. If the legal name is not sent, then a repeat delimiter must be sent in the first sequence. By local agreement, the name or ID may be absent in this field.

### PV1-18 - Patient Type

This field contains site-specific values that identify patient type. No suggested values are defined.

### PV1-19 - Visit Number

This field contains the unique number assigned to each patient visit/encounter.

### PV1-20 - Financial Class

This field contains the financial class(es) assigned to the patient for the purpose of identifying sources of reimbursement. Refer to the table below, for suggested values:

Table 123: HL7 User Defined Table 0064 - Financial Class

|  |  |
| --- | --- |
| **Value** | **Description** |
| 01 | ACC |
| 02 | Private health insurance |
| 03 | Self-funded |
| 04 | Clinical trial |
| 05 | Public funded |
| 06 | Other |

### PV1-25 - Contract Effective Date

This field contains the date that the contract is to start, or has started.

### PV1-27 - Contract Period

This field specifies the duration of the contract for user defined periods.

### PV1-36 - Discharge Disposition

This field contains the disposition of the patient at time of discharge.

Table 124: User Defined 99NZDIS - Discharge Disposition

|  |  |
| --- | --- |
| **Value** | **Description** |
| DA | Discharge to acute specialist facility (neonates and burns only). |
| DC | Psychiatric patient discharged to community care. |
| DD | Died. |
| DF | Statistical discharge for change in funder. |
| DI | Self-discharge from hospital, indemnity signed. |
| DL | Committed psychiatric patient discharged to leave for more than 10 days. |
| DN | Psychiatric remand patient discharged without committal. |
| DO | Discharge of a patient for organ donation. |
| DP | Psychiatric patient transferred for further psychiatric care. |
| DR | Ended routinely. |
| DS | Self-discharge from hospital (no indemnity). |
| DT | Discharge of non-psychiatric patient to another health care facility. |
| DW | Discharge to other service within same facility between the following specialties: Advanced Therapy and Rehabilitation (AT&R), mental health, obstetrics, and personal health. Not to be used for transfer between surgical and medical. |

|  |
| --- |
| **Variance to HL7:** HL7 uses values from HL7 User Defined Table 0112 in this field |

### PV1-37 - Discharged to Location

This field indicates the health care facility to which the patient was discharged.

Table 125: PV1-37 Discharged to Location Components

|  |  |  |
| --- | --- | --- |
| **Component** | **Type** | **Notes** |
| <discharge location> | IS | Table 126 |
| <effective date> | TS |  |

Table 126: HL7 User Defined Table 0113 – Discharged to Location

|  |  |
| --- | --- |
| **Value** | **Description** |
| FXXNNN-C | Facility Identifier as defined by the HPI |

The data type has a field size of eight and is alphanumeric. The layout is FXXNNN-C where F is a constant prefix, X is either an alpha or numeric, N is a number, and C is a check digit.

### PV1-38 - Diet Type

This field indicates a special diet type for a patient.

### PV1-39 - Servicing Facility

This field is used in a multiple facility environment to indicate the health care facility with which this visit is associated.

An optional sixth component, the facility ID, may be entered in each field in PV1, instead of recording it in PV1-39.

### PV1-40 - Bed Status

This field has been retained for backward compatibility. It is superseded by the fifth component of PV1-3, <location status>.

### PV1-41 - Account Status

This field contains the account status.

### PV1-42 - Pending Location

This field indicates the point of care, room, bed, health care facility ID, and bed status to which the patient may be moved. The first component may be the nursing station for inpatient locations, or the clinic, department, or home for locations other than inpatient.

### PV1-43 - Prior Temporary Location

This field is used to reflect the patient's temporary location (such as the operating room/theatre or x-ray), prior to a transfer from a temporary location to an actual location, or from a temporary location to another temporary location. The first component may be the nursing station for inpatient locations, or the clinic, department, or home for locations other than inpatient.

### PV1-44 - Admit Date/Time

This field contains the admit date/time of a patient.

### PV1-45 - Discharge Date/Time

This field contains the discharge date/time of a patient.

### PV1-47 - Total Charges

This field contains the total visit charges.

### PV1-48 - Total Adjustments

This field contains the total adjustments for visit.

### PV1-49 - Total Payments

This field contains the total payments for visit.

### PVI-52 - Other Health Care Providers

This field has been retained to maintain backward compatibility only.

## PV2 – Patient Visit Additional Information

The PV2 segment is a continuation of information contained on the PV1 segment. Refer the table below:

Table 127: PV2 Attribute Table - Patient Visit Additional Information

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Prior Pending Location | 80 | PL | C |  |  |
| 2 | Accommodation Code | 250 | CE | O |  |  |
| 3 | Admit Reason | 250 | CE | O |  |  |
| 4 | Transfer Reason | 250 | CE | O |  |  |
| 5 | Patient Valuables | 25 | ST | O | Y |  |
| 6 | Patient Valuables Location | 25 | ST | O |  |  |
| 7 | Visit User Code | 2 | IS | O | Y | Table 128 |
| 8 | Expected Admit Date/Time | 26 | TS | O |  |  |
| 9 | Expected Discharge Date/Time | 26 | TS | O |  |  |
| 10 | Estimated Length of Inpatient Stay | 3 | NM | O |  |  |
| 11 | Actual Length of Inpatient Stay | 3 | NM | O |  |  |
| 12 | Visit Description | 50 | ST | O |  |  |
| 13 | Referral Source Code | 250 | XCN | O | Y |  |
| 14 | Previous Service Date | 8 | DT | O |  |  |
| 15 | Employment Illness Related Indicator | 1 | ID | O |  | Table 49 |
| 16 | Purge Status Code | 1 | IS | O |  | Table 129 |
| 17 | Purge Status Date | 8 | DT | O |  |  |
| 18 | Special Program Code | 2 | IS | O |  |  |
| 19 | Retention Indicator | 1 | ID | O |  |  |
| 20 | Expected Number of Insurance Plans | 1 | NM | O |  |  |
| 21 | Visit Publicity Code | 1 | IS | O |  | Table 49 |
| 22 | Visit Protection Indicator | 1 | ID | O |  | Table 49 |
| 23 | Clinic Organisation Name | 250 | XON | O | Y |  |
| 24 | Patient Status Code | 2 | IS | O |  |  |
| 25 | Visit Priority Code | 1 | IS | O |  | Table 130 |
| 26 | Previous Treatment Date | 8 | DT | O |  |  |
| 27 | Expected Discharge Disposition | 2 | IS | X |  |  |
| 28 | Signature on File Date | 8 | DT | O |  |  |
| 29 | First Similar Illness Date | 8 | DT | O |  |  |
| 30 | Patient Charge Adjustment Code | 250 | CE | O |  |  |
| 31 | Recurring Service Code | 2 | IS | O |  |  |
| 32 | Billing Media Code | 1 | ID | O |  |  |
| 33 | Expected Surgery Date and Time | 26 | TS | O |  |  |
| 43 | Military Partnership Code | 1 | ID | X |  |  |
| 44 | Military Non-Availability Code | 1 | ID | X |  |  |
| 36 | Newborn Baby Indicator | 1 | ID | O |  |  |
| 37 | Baby Detained Indicator | 1 | ID | O |  |  |
| 38 | Mode of Arrival Code | 250 | CE | O |  | Table 131 |
| 39 | Recreational Drug Use Code | 250 | CE | O | Y | Table 132 |
| 40 | Admission Level of Care Code | 250 | CE | O |  | Table 133 |
| 41 | Precaution Code | 250 | CE | O | Y | Table 134 |
| 42 | Patient Condition Code | 250 | CE | O |  | Table 135 |
| 43 | Living Will Code | 2 | IS | O |  | Table 136 |
| 44 | Organ Donor Code | 2 | IS | O |  | Table 137 |
| 45 | Advance Directive Code | 250 | CE | O | Y | Table 138 |
| 46 | Patient Status Effective Date | 8 | DT | O |  |  |
| 47 | Expected Leave of Absence Return Date/Time | 26 | TS | C |  |  |

### PV2-1 Prior Pending Location

This field is required for cancel pending transfer messages. In all other events it is optional.

### PV2-2 - Accommodation Code

This field indicates the specific accommodations for this patient visit.

### PV2-3 - Admit Reason

This field contains the short description of the reason for patient admission.

### PV2-4 - Transfer Reason

This field contains the short description of the reason for a patient location change.

### PV2-5 - Patient Valuables

This field contains the short description of patient valuables checked in during admission.

### PV2-6 - Patient Valuables Location

This field indicates the location of the patient's valuables.

### PV2-7 - Visit User Code

This field further categorises a patient's visit with respect to an individual institution's needs, and is expected to be site-specific. Refer to the table below:

Table 128: HL7 User Defined Table 0130 - Visit User Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| TE | Teaching |
| HO | Home |
| MO | Mobile Unit |
| PH | Phone |

### PV2-8 - Expected Admit Date/Time

This field contains the date and time that the patient is expected to be admitted. This field is also used to reflect the date/time of an outpatient/emergency patient registration.

### PV2-9 - Expected Discharge Date/Time

This field contains the date and time that the patient is expected to be discharged. This field is also used to reflect the anticipated discharge date/time of an outpatient/emergency patient, or an inpatient. It may be used by ancillaries to determine projected workloads more accurately.

### PV2-10 - Estimated Length of Inpatient Stay

This field contains the estimated length of inpatient stay, in days.

### PV2-11 - Actual Length of Inpatient Stay

This field contains the actual length of inpatient stays, in days. The actual length of the inpatient stay may not be calculable from the admission and discharge dates because of possible leaves of absence.

### PV2-12 - Visit Description

This field contains a brief user defined description of the visit.

### PV2-13 - Referral Source Code

This field contains the name and the identification numbers of the person or organisation that made the referral. This person/organisation is not the same as the referring practitioner.

### PV2-14 - Previous Service Date

This field contains the date of previous service for the same recurring condition. This may be a required field for billing around certain illnesses (e.g. accident related) to a third party.

### PV2-15 - Employment Illness Related Indicator

This field specifies whether a patient's illness was job-related. Refer to Table 49.

### PV2-16 - Purge Status Code

This field contains the purge status code for the account. It is used by the application programme to determine purge processing. Refer to the table below:

Table 129: HL7 User Defined Table 0213 - Purge Status Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| P | Marked for purge. User is no longer able to update the visit. |
| D | The visit is marked for deletion and the user shall not enter new data against it. |
| I | The visit is marked inactive and the user shall not enter new data against it. |

### PV2-17 - Purge Status Date

This field contains the date on which the data will be purged from the system.

### PV2-18 - Special Programme Code

This field designates the specific health insurance programme for a visit required for health care reimbursement. For example, "Child Health Assistance", "Elective Surgery Program", "Family Planning", etc.

### PV2-19 - Retention Indicator

This field allows the user to control the financial and demographic purge processes at the visit. It is used to preserve demographic and financial data on specific, high priority visits.

### PV2-20 - Expected Number of Insurance Plans

This field contains the number of insurance plans that may provide coverage for this visit.

### PV2-21 - Visit Publicity Code

This field contains a user defined code indicating what level of publicity is allowed for a specific visit (e.g. "No” indicates no publicity is allowed, family only). Refer to Table 49 for values.

### PV2-22 - Visit Protection Indicator

This field identifies the patient's protection. This determines, in turn, whether access to information about this patient should be kept from unauthorised users, for a specific visit (e.g. “Yes” indicates the patient’s information is protected from unauthorised users). Refer to Table 49 for values.

### PV2-23 - Clinic Organisation Name

This field contains the organisation name or sub-unit and identifier associated with the (visit) episode of care.

### PV2-24 - Patient Status Code

This field indicates the status of the episode of care.

### PV2-25 - Visit Priority Code

This field identifies the priority of the visit. Refer to the table below:

Table 130: HL7 User Defined Table 0217 - Visit Priority Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| 1 | Emergency |
| 2 | Urgent |
| 3 | Elective |

### PV2-26 - Previous Treatment Date

This field contains the date that the patient last had treatment for any condition prior to this visit.

### PV2-28 - Signature on File Date

This field contains the date on which a signature was obtained for insurance billing purposes.

### PV2-29 - First Similar Illness Date

This field is used to determine if the patient has a pre-existing condition.

### PV2-30 - Patient Charge Adjustment Code

This field contains a user defined code indicating any adjustments that should be made to this patient's charges.

### PV2-31 - Recurring Service Code

This field indicates whether the treatment is continuous.

### PV2-32 - Billing Media Code

This field indicates if the account is to be rejected from tape billing.

### PV2-33 - Expected Surgery Date and Time

This field contains the date and time on which the surgery is expected to occur.

### PV2-36 - Newborn Baby Indicator

This field indicates whether the patient is a baby.

### PV2-37 - Baby Detained Indicator

This field indicates if the baby is being detained after the mother's discharge.

### PV2-38 - Mode of Arrival Code

Identifies how the patient was brought to the health care facility. Refer to the table below:

Table 131: HL7 User Defined Table 0430 - Mode of Arrival Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Ambulance |
| C | Car |
| F | On foot |
| H | Helicopter |
| P | Public transport |
| O | Other |
| U | Unknown |

### PV2-39 - Recreational Drug Use Code

This field indicates what recreational drugs the patient uses. It is used for the purpose of room assignment. Refer to the table below:

Table 132: HL7 User Defined Table 0431 - Recreational Drug Use Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Alcohol |
| K | Kava |
| M | Marijuana |
| T | Tobacco - smoked |
| C | Tobacco - chewed |
| O | Other |
| U | Unknown |

### 

### PV2-40 - Admission Level of Care Code

This field indicates the acuity level assigned to the patient at the time of admission. Refer to the table below:

Table 133: HL7 User Defined Table 0432 - Admission Level Of Care Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| AC | Acute |
| CH | Chronic |
| CO | Comatose |
| CR | Critical |
| IM | Improved |
| MO | Moribund |

### PV2-41 - Precaution Code

This field indicates non-clinical precautions that need to be taken with the patient. Refer to the table below:

Table 134: HL7 User Defined Table 0433 - Precaution Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Aggressive |
| B | Blind |
| C | Confused |
| D | Deaf |
| I | On IV |
| P | Paraplegic |
| O | Other |
| U | Unknown |

### 

### PV2-42 - Patient Condition Code

This field indicates the patient's current medical condition for the purpose of communicating with non-medical outside parties, e.g. family, employer, religious minister, media, etc. Refer to the table below:

Table 135: HL7 User Defined Table 0434 - Patient Condition Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| A | Satisfactory |
| C | Critical |
| P | Poor |
| O | Other |
| U | Unknown |

### PV2-43 - Living Will Code

This field indicates whether or not the patient has a living will and if so, whether a copy of the living will is on file at the health care facility. If the patient does not have a living will, the value of this field indicates whether the patient was provided with information on living wills. Refer to the table below:

Table 136: HL7 User Defined Table 0315 - Living Will Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| Y | Yes, patient has a living will and it is on file |
| F | Yes, patient has a living will but it is not on file |
| N | No, patient does not have a living will and no information was provided |
| I | No, patient does not have a living will but information was provided |
| U | Unknown |

### 

### PV2-44 - Organ Donor Code

This field indicates whether the patient wants to donate his/her organs and whether an organ donor card or similar documentation is on file with the health care organisation. Refer to the table below:

Table 137: HL7 User Defined Table 0316 - Organ Donor Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| Y | Yes, patient is a documented donor and documentation is on file |
| F | Yes, patient is a documented donor, but documentation is not on file |
| N | No, patient has not agreed to be a donor |
| I | No, patient is not a documented donor, but information was provided |
| R | Patient leaves organ donation decision to relatives |
| P | Patient leaves organ donation decision to a specific person |
| U | Unknown |

### PV2-45 - Advance Directive Code

This field indicates the patient's instructions to the health care facility:

Table 138: HL7 User Defined Table 0435 - Advance Directive Code

|  |  |
| --- | --- |
| **Value** | **Description** |
| Y | Yes, patient has an Advance Directive and it is on file |
| F | Yes, patient has an Advance Directive and it is not on file |
| N | No, patient does not have an Advance Directive and no information has been provided |
| I | No, patient does not have an Advance Directive but information was provided |
| U | It is not known if the patient has an Advance Directive |

### PV2-46 - Patient Status Effective Date

This field indicates the effective date for PV2-24 (patient status field).

### PV2-47 - Expected Leave of Absence Return Date/Time

This field contains the date/time that the patient is expected to return from LOASAC – Specimen and Container Detail Segment

This segment contains the data necessary to maintain the containers being used throughout the Laboratory Automation System. Refer to the table below for SAC attributes:

Table 139: SAC Attribute Table – Specimen and Container Detail

| **Seq** | **Element Name** | **Len** | **Type** | **Opt** | **Rpt** | **Table** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | External Accession Identifier | 80 | EI | O |  |  |
| 2 | Accession Identifier | 80 | EI | O |  |  |
| 3 | Container Identifier | 80 | EI | C |  |  |
| 4 | Primary (parent) Container Identifier | 80 | EI | C |  |  |
| 5 | Equipment Container Identifier | 80 | EI | O |  |  |
| 6 | Specimen Source | 300 | CM | O |  | Table 140 |
| 7 | Registration Date/Time | 26 | TS | O |  |  |
| 8 | Container Status | 250 | CE | O |  | Table 142 |
| 9 | Carrier Type | 250 | CE | O |  |  |
| 10 | Carrier Identifier | 80 | EI | O |  |  |
| 11 | Position in Carrier | 80 | NA | O |  |  |
| 12 | Tray Type – SAC | 250 | CE | O |  |  |
| 13 | Tray Identifier | 80 | EI | O |  |  |
| 14 | Position in Tray | 80 | NA | O |  |  |
| 15 | Location | 250 | CE | O | Y |  |
| 16 | Container Height | 20 | NM | O |  |  |
| 17 | Container Diameter | 20 | NM | O |  |  |
| 18 | Barrier Delta | 20 | NM | O |  |  |
| 19 | Bottom Delta | 20 | NM | O |  |  |
| 20 | Container Height/Diameter/Delta Units | 250 | CE | O |  |  |
| 21 | Container Volume | 20 | NM | O |  |  |
| 22 | Available Volume | 20 | NM | O |  |  |
| 23 | Initial Specimen Volume | 20 | NM | O |  |  |
| 24 | Volume Units | 250 | CE | O |  |  |
| 25 | Separator Type | 250 | CE | O |  |  |
| 26 | Cap Type | 250 | CE | O |  |  |
| 27 | Additive | 250 | CE | O | Y | Table 143 |
| 28 | Specimen Component | 250 | CE | O |  | Table 144 |
| 29 | Dilution Factor | 20 | CE | O |  |  |
| 30 | Treatment | 250 | CE | O |  | Table 145 |
| 31 | Temperature | 20 | SN | O |  |  |
| 32 | Hemolysis Index | 20 | NM | O |  |  |
| 33 | Hemolysis Index Units | 250 | CE | O |  |  |
| 34 | Lipemia Index | 20 | NM | O |  |  |
| 35 | Lipemia Index Units | 250 | CE | O |  |  |
| 36 | Icterus Index | 20 | CE | O |  |  |
| 37 | Icterus Index Units | 250 | CE | O |  |  |
| 38 | Fibrin Index | 20 | NM | O |  |  |
| 39 | Fibrin Index Units | 250 | CE | O |  |  |
| 40 | System Induced Contaminants | 250 | CE | O | Y | Table 146 |
| 41 | Drug Interference | 250 | CE | O | Y |  |
| 42 | Artificial Blood | 250 | CE | O |  | Table 147 |
| 43 | Special Handling Considerations | 250 | CE | O | Y | Table 148 |
| 44 | Other Environmental Factors | 250 | CE | O | Y | Table 149 |

### SAC-1 - External Accession Identifier

This field is the identifier assigned by the external Laboratory Information System for a test order.

### SAC-2 - Accession Identifier

This field is the identifier assigned by the information system of the laboratory performing the test.

### SAC-3 - Container Identifier

This field identifies the container. This field is the container's unique identifier assigned by the corresponding equipment. A container may contain the primary (original) specimen or an aliquot (secondary sample) of that specimen. For primary sample this field contains Primary Container ID; for bar-coded aliquot samples this field contains Aliquot Container ID; for non bar-coded aliquot samples (e.g. microtiter plate), this field is empty.

### SAC-4 - Primary (Parent) Container Identifier

This field is only used to identify the primary container from which the specimen came. For primary samples the field is empty; for aliquot samples the field should contain the identifier of the primary sample.

### SAC-5 - Equipment Container Identifier

This field identifies the container in a particular device (e.g. one container in a carousel or rack of containers within an analyser, analyser specific bar code mapping, etc.).

### SAC-6 - Specimen Source

This field is the site where the specimen should be obtained from, or where the service should be performed. Refer to the following table for suggested values.

Table 140: Specimen source components

|  |  |  |
| --- | --- | --- |
| **Sub Component** | **Type** | **Notes** |
| <Specimen source name or code> | CE | Table 150 |
| <Additives> | TX |  |
| <Free text > | TX |  |
| <Body site > | CE | Table 151 |
| <Site modifier > | CE |  |
| <Collection method modifier code > | CE | Indicates whether the specimen is frozen as part of the collection method.  Suggested values are:  "F" – Frozen  "R" – Refrigerated  Blank – Room temperature |
| <Specimen role > | CE | Table 141 |

Table 141: HL7 User Defined Table 0369 – Specimen Role

|  |  |
| --- | --- |
| **Value** | **Description** |
| P | Patient (default if blank component value) |
| Q | Control specimen |
| C | Blind Sample |
| B | Calibrator |
| R | Replicate (of patient sample as a control) |

### SAC-7 - Registration Date/Time

This field is the date/time that the container was last registered with the 'automated system'.

### SAC-8 - Container Status

This field identifies the status of the unique container in which the specimen resides at the time that the transaction was initiated. Refer to the following table for suggested values.

Table 142: HL7 Table 0370 – Container status

|  |  |
| --- | --- |
| **Value** | **Description** |
| I | Identified |
| P | In Position |
| O | In Process |
| R | Process Completed |
| L | Left Equipment |
| M | Missing |
| X | Container Unavailable |
| U | Unknown |

### SAC-9 - Carrier Type

This field identifies the type of carrier. It should, if necessary, express the number of the positions in the carrier.

### SAC-10 - Carrier Identifier

This field identifies the carrier where the container is located.

### SAC-11 - Position in Carrier

This field identifies the position of the container in the carrier.

### SAC-12 - Tray Type

This field identifies the type of tray.

### SAC-13 - Tray Identifier

This field identifies the tray identifier where the container carrier is located.

### SAC-14 - Position in Tray

This field identifies the position of the carrier of the tray.

### SAC-15 - Location

This field is the physical location that the specimen was at the time that the transaction was initiated.

### SAC-16 - Container Height

This field identifies the height of the container in units specified below.

### SAC-17 - Container Diameter

This field identifies the outside diameter of the container in units specified below.

### SAC-18 - Barrier Delta

This field identifies the distance from the point of reference to the separator material (barrier) within the container in units specified below.

### SAC-19 - Bottom Delta

This field identifies the distance from the point of reference to the outside bottom of the container in units specified below.

### SAC-20 - Container Diameter/Height/Delta Units

This field is the unit identifier that is being used to describe the diameter, height and deltas of the container. If the units are ISO+ units, they should be recorded as single case abbreviations. If the units are ANS+ or L (local), the units and the source code table shall be recorded, except that in this case, component delimiters should be replaced by sub component delimiters. The default unit is millimetres (mm), which should be assumed if no units are reported.

### SAC-21 - Container Volume

This field indicates the capacity of the container in the units specified below.

### SAC-22 - Available Volume

This field identifies the current volume available for use in the container in the units specified below.

### SAC-23 - Initial Specimen Volume

This field identifies the draw volume of the container in the units specified below.

### SAC-24 - Volume Units

This field is the unit identifier that is being used to describe the volume of the container. If the units are ISO+ units, they should be recorded as single case abbreviations. The default unit is millilitres (ml), which should be assumed if no units are reported.

### SAC-25 - Separator Type

This field identifies the type of the separator that is being used (e.g. gel separator in the container – not to be confused with the communication separators).

### SAC-26 - Cap Type

This field indicates the type of cap that is to be used with this container for decapping, piercing or other mechanisms.

### SAC-27 - Additive

This field identifies any additives introduced to the specimen before or at the time of collection. It is a repetitive field. Refer to the table below for suggested values:

Table 143: HL7 Table 0371 – Additive

|  |  |
| --- | --- |
| **Value** | **Description** |
| EDTK | Potassium/K EDTA |
| EDTN | Sodium/Na EDTA |
| HEPL | Lithium/Li Heparin |
| HEPN | Sodium/Na Heparin |
| C32 | 3.2% Citrate |
| C38 | 3.8% Citrate |
| BOR | Borate |
| HCL6 | 6N HCL |

### 

### SAC-28 - Specimen Component

This field identifies the specimen component. Refer to the table below for suggested values.

Table 144: HL7 User Defined Table 0372 – Specimen Component

|  |  |
| --- | --- |
| **Value** | **Description** |
| SUP | Supernatant |
| SED | Sediment |
| BLD | Whole blood, homogeneous |
| BSEP | Whole blood, separated |
| PRP | Platelet rich plasma |
| PPP | Platelet poor plasma |
| SER | Serum, NOS (not otherwise specified) |
| PLAS | Plasma, NOS (not otherwise specified) |

### SAC-29 - Dilution Factor

This field identifies the factor of dilution already performed on the specimen. The equipment entity that changes the dilution is responsible for sending this information to other equipment. If the endogenous content of the test (analyte) in the diluent is required for the calculation of the test (analyte) concentration, then the test (analyte) specific values should be exchanged between the systems via Master Files or other means.

### SAC-30 - Treatment

This field identifies the specimen collection treatment. Refer to the table below for suggested values:

Table 145: HL7 User Defined Table 0373 – Treatment

|  |  |
| --- | --- |
| **Value** | **Description** |
| LDLP | LDL Precipitation |
| RECA | Recalification |
| DEFB | Defibrination |
| ACID | Acidification |
| NEUT | Neutraliation |
| AK | Alkalisation |
| FILT | Filtration |
| UFIL | Ultrafiltration |

### SAC-31 - Temperature

This field identifies the specimen temperature in degrees Celsius [°C] at the time of the transaction specified in the EQU segment.

### SAC-32 - Hemolysis Index

This field is the index identifier that is being used to describe the Hemolysis Index of the specimen.

### SAC-33 - Hemolysis Index Units

This field is the unit's identifier that is being used to describe the Hemolysis Index of the specimen. It is recommended to use g/L. (The transmission of the index values is added here instead of the original use of the OBX segments, because the frequency of the transfer of the specimen details justifies use of a more efficient mechanism).

If this field is "null", the recommended value is assumed.

### SAC-34 - Lipemia Index

This field is the index identifier that is being used to describe the Lipemia Index of the specimen. It is recommended to use the optical turbidity at 600 nm (in absorbance units).

### SAC-35 - Lipemia Index Units

This field is the unit's identifier that is being used to describe the Lipemia Index of the specimen.   
If this field is "null", the recommended value is assumed.

### SAC-36 - Icterus Index

This field is the index identifier that is being used to describe the Icterus Index of the specimen.

### SAC-37 - Icterus Index Units

This field is the unit's identifier that is being used to describe the Icterus Index of the specimen. It is recommended to use mMol/L of bilirubin.

If this field is "null", the recommended value is assumed.

### SAC-38 - Fibrin Index

This field is the index identifier that is being used to describe the Fibrin Index of the specimen.   
In the case of only differentiating between Absent and Present, we recommend using "0" and "1" respectively and send the field Fibrin Index Units "null".

### SAC-39 - Fibrin Index Units

This field is the unit's identifier that is being used to describe the Fibrin Index of the specimen.

### SAC-40 - System Induced Contaminants

This field describes the specimen contaminant identifier that is associated with the specimen. The values are taken from the National Committee for Clinical Laboratory Standards Subcommittee on System Status (NCCLS AUTO4). The value set can be extended with user specific values. Refer to the table below for suggested values:

Table 146: HL7 User Defined Table 0374 – System Induced Contaminants

|  |  |
| --- | --- |
| **Value** | **Description** |
| CNTM | Present, type of contamination unspecified |

### SAC-41 - Drug Interference

This field describes the drug interference identifier that is associated with the specimen.

### SAC-42 - Artificial Blood

This field describes the artificial blood identifier that is associated with the specimen. The values are taken from NCCLS AUTO4. The value set can be extended with user specific values. Refer to the table below for suggested values:

Table 147: HL7 User Defined Table 0375 – Artificial Blood

|  |  |
| --- | --- |
| **Value** | **Description** |
| SFHB | Stromal free hemoglobin preparations |
| FLUR | Fluorocarbons |

### 

### SAC-43 - Special Handling Considerations

This field describes any special handling considerations that are associated with the specimen. This table's values are taken from NCCLS AUTO4. The value set can be extended with user specific values. Refer to the table below for suggested values:

Table 148: HL7 User Defined Table 0376 – Special Handling Considerations

|  |  |
| --- | --- |
| **Value** | **Description** |
| PRTL | Protect from light |
| CFRZ | Critical Frozen |
| CATM | Critical do not expose to atmosphere – do not uncap |
| CREF | Critical refrigerated |
| CAMB | Critical ambient temperature |
| C37 | Critical maintain at 37C |

### SAC-44 - Other Environmental Factors

This field describes other environmental factors that are associated with the specimen. The values are taken from NCCLS AUTO4. The value set can be extended with user specific values. Refer to the table below for suggested values:

Table 149: HL7 User Defined Table 0377 – Other Environment Factors

|  |  |
| --- | --- |
| **Value** | **Description** |
| ATM | Opened container, atmosphere/duration unspecified |
| A60 | Opened container, indoor atmosphere, 60 minutes duration |

# Appendix A – Glossary

The following definitions are integral to the understanding of this document.

| **Value** | **Description** |
| --- | --- |
| Conformance Statement | A declaration which sets forth the name of the query supported by the Server, the logical structures of the information that can be queried, and the logical structure of what can be returned. |
| Data Elements | An atomic piece of data e.g. first name, last name etc. |
| Data Set | Collection of data groups, used for specific purposes e.g. Referral data set, Discharge data set. |
| Facility | A single physical location from which health goods and/or services are provided Extracted from the HPI Data Set. A health care provider organisation may consist of multiple facilities. |
| Filler | The Filler is the system that is responsible for filling the order. In the example above, the Laboratory Computer system is the Filler system. |
| Filler Order Number | An acceptance or receipt number from the lab to acknowledge that an order has been received and accepted |
| Health Care Provider | A person or organisation that provides Patient health care services. |
| HL7 | Health Level Seven – a common standard used in health care. |
| HPI | Health Practitioner Index |
| HPI-CPN | The common person number issued from the Health Practitioner Index. |
| HPI-FAC | The facility number issued from the Health Practitioner Index to identify a single physical location from which health goods and/or services are provided. |
| LOINC | Logical Observation Identifiers Names and Codes |
| NCCLS AUTO4 | National Committee for Clinical Laboratory Standards; the Subcommittee on System Status (AUTO4) |
| NZMC | The New Zealand Medical Council |
| NZNC | The New Zealand Nursing Council |
| Order | The request for service from which the messages are derived independent of transport mechanism. |
| Order Number | This uniquely identifies the order. |
| Placer | The Placer is the system that has placed the order. In the example event sequence above, the Practice Management of the system is the placer. |
| Placer Group Number | Used to identify a particular pathology episode and to link all tests that comprise that episode. All tests from a particular episode should have the same Placer Group Number |
| Placer Order Number | Order reference number generated by placer when ordering pathology testing |
| PMS | Practice Management System |
| Public Funded | Funding derived from local or central government |
| Report | A report is a set of one or more results and any associated interpretation usually generated in response to a request for a laboratory test or radiology examination. A report may include results previously reported and in some instances results from another request. |

# Appendix B – Tables

Specimen source code

Table 150 – HL7 Table 0070 – Specimen source code

|  |  |  |  |
| --- | --- | --- | --- |
| **Value** | **Description** | **Value** | **Description** |
| ABS | Abscess | MBLD | Menstrual blood |
| AMN | Amniotic fluid | MLK | Milk |
| ASP | Aspirate | MILK | Breast milk |
| BPH | Basophils | NAIL | Nail |
| BIFL | Bile fluid | NOS | Nose (nasal passage) |
| BLDA | Blood arterial | ORH | Other |
| BBL | Blood bag | PAFL | Pancreatic fluid |
| BLDC | Blood capillary | PAT | Patient |
| BPU | Blood product unit | PRT | Peritoneal fluid / ascites |
| BLDV | Blood venous | PLC | Placenta |
| BON | Bone | PLAS | Plasma |
| BRTH | Breath(use EXHLD) | PLB | Plasma bag |
| BRO | Bronchial | PLR | Pleural fluid (thoracentesis fld) |
| BRN | Burn | PMN | Polymorphonuclear neutrophils |
| CALC | Calculus (=Stone) | PPP | Platelet poor plasma |
| CDM | Cardiac muscle | PRP | Platelet rich plasma |
| CNL | Cannula | PUS | Pus |
| CTP | Catheter tip | RT | Route of medicine |
| CSF | Cerebral spinal fluid | SAL | Saliva |
| CVM | Cervical mucus | SEM | Seminal fluid |
| CVX | Cervix | SER | Serum |
| COL | Colostrum | SKN | Skin |
| CBLD | Cord blood | SKM | Skeletal muscle |
| CNJT | Conjunctiva | SPRM | Spermatozoa |
| CUR | Curettage | SPT | Sputum |
| CYST | Cyst | SPTC | Sputum / coughed |
| DIAF | Dialysis fluid | SPTT | Sputum/ tracheal aspirate |
| DOSE | Dose med or substance | STON | Stone (use CALC) |
| DRN | Drain | STL | Stool = Fecal |
| DUFL | Duodenal fluid | SWT | Sweat |
| EAR | Ear | SNV | Synovial fluid (Joint fluid) |
| EARW | Ear wax (cerumen) | TEAR | Tears |
| ELT | Electrode | THRT | Throat |
| ENDC | Endocardium | THRB | Thrombocyte (platelet) |
| ENDM | Endometrium | TISS | Tissue |
| EOS | Eosinophils | TISG | Tissue gall bladder |
| RBC | Erythrocytes | TLGI | Tissue large intestine |
| EYE | Eye | TLNG | Tissue lung |
| EXHLD | Exhaled gas (=breath) | TISPL | Tissue placenta |
| FIB | Fibroblasts | TSMI | Tissue small intestine |
| FLT | Filter | TISU | Tissue ulcer |
| FIST | Fistula | TUB | Tube NOS |
| FLU | Body fluid, unsp | ULC | Ulcer |
| GAS | Gas | UMB | Umbilical blood |
| GAST | Gastric fluid/contents | UMED | Unknown medicine |
| GEN | Genital | URTH | Urethra |
| GENC | Genital cervix | UR | Urine |
| GENL | Genital lochia | URC | Urine clean catch |
| GENV | Genital vaginal | URT | Urine catheter |
| HAR | Hair | URNS | Urine sediment |
| IHG | Inhaled Gas | USUB | Unknown substance |
| IT | Intubation tube | VLT | Vault |
| ISLT | Isolate | VOM | Vomitus |
| LAM | Lamella | BLD | Whole blood |
| WBC | Leukocytes | BDY | Whole body |
| LN | Line | WAT | Water |
| LNA | Line arterial | WICK | Wick |
| LNV | Line venous | WND | Wound |
| LIQ | Liquid NOS | WNDA | Wound abscess |
| LYM | Lymphocytes | WNDE | Wound exudate |
| MAC | Macrophages | WNDD | Wound drainage |
| MAR | Marrow | XXX | To be specified in another part of the message |
| MEC | Meconium |  |  |

|  |
| --- |
| **Variance to HL7:** Code VLT has been added to this table |

Body Site

Table 151 – HL7 Table 0163 - Body Site

| **Value** | **Description** | **Value** | **Description** |
| --- | --- | --- | --- |
| BE | Bilateral Ears | LVL | Left Vastus Lateralis |
| OU | Bilateral Eyes | NB | Nebulized |
| BN | Bilateral Nares | PA | Perianal |
| BU | Buttock | PERIN | Perineal |
| CT | Chest Tube | RA | Right Arm |
| LA | Left Arm | RAC | Right Anterior Chest |
| LAC | Left Anterior Chest | RACF | Right Antecubital Fossa |
| LACF | Left Antecubital Fossa | RD | Right Deltoid |
| LD | Left Deltoid | RE | Right Ear |
| LE | Left Ear | REJ | Right External Jugular |
| LEJ | Left External Jugular | OD | Right Eye |
| OS | Left Eye | RF | Right Foot |
| LF | Left Foot | RG | Right Gluteus Medius |
| LG | Left Gluteus Medius | RH | Right Hand |
| LH | Left Hand | RIJ | Right Internal Jugular |
| LIJ | Left Internal Jugular | RLAQ | Rt Lower Abd Quadrant |
| LLAQ | Left Lower Abd Quadrant | RLFA | Right Lower Forearm |
| LLFA | Left Lower Forearm | RMFA | Right Mid Forearm |
| LMFA | Left Mid Forearm | RN | Right Naris |
| LN | Left Naris | RPC | Right Posterior Chest |
| LPC | Left Posterior Chest | RSC | Right Subclavian |
| LSC | Left Subclavian | RT | Right Thigh |
| LT | Left Thigh | RUA | Right Upper Arm |
| LUA | Left Upper Arm | RUAQ | Right Upper Abd Quadrant |
| LUAQ | Left Upper Abd Quadrant | RUFA | Right Upper Forearm |
| LUFA | Left Upper Forearm | RVL | Right Vastus Lateralis |
| LVG | Left Ventragluteal | RVG | Right Ventragluteal |

Diagnostic Service Section ID

Table 152 **HL7 Table 0074 - Diagnostic service section ID**

|  |  |
| --- | --- |
| **Value** | **Description** |
| AU | Audiology |
| BG | Blood gases |
| BLB | Blood bank |
| CUS | Cardiac Ultrasound |
| CTH | Cardiac catheterisation |
| CAT | CT scan |
| CH | Chemistry |
| CP | Cytopathology |
| EC) | Electrocardiac (e.g., EKG, EEC, Holter) |
| EN | Electroneuro (EEG, EMG, EP, PSG) |
| HM | Hematology |
| ICU | Bedside ICU Monitoring |
| IMG | Diagnostic Imaging |
| IMM | Immunology |
| LAB | Laboratory |
| MB | Microbiology |
| MCB | Mycobacteriology |
| MYC | Mycology |
| NMS | Nuclear medicine scan |
| NMR | Magnetic resonance |
| NRS | Nursing service measures |
| OUS | Obstetrical ultrasound |
| OT | Occupational Therapy |
| OTH | Other |
| OSL | Outside Lab |
| PAR | Parasitology |
| PAT | Pathology (gross & histopath, not surgical) |
| PHR | Pharmacy |
| PT | Physical Therapy |
| PHY | Physician (Hx. Dx, admission note, etc.) |
| PF | Pulmonary function |
| RAD | Radiology |
| RX | Radiographic image(s) |
| RUS | Radiological ultrasound |
| RC | Respiratory Care (therapy) |
| RT | Radiation therapy |
| SR | Serology |
| SP | Surgical Pathology |
| TX | Toxicology |
| URN | Urinalysis |
| VUS | Vascular Ultrasound |
| VR | Virology |
| XRC | Cineradiograph |

Religion

Table 153 **HL7 User defined Table 0006 - Religion**

| **Value** | **Description** |
| --- | --- |
| AGN | Agnostic |
| ATH | Atheist |
| BAH | Baha'i |
| BUD | Buddhist |
| BMA | Buddhist: Mahayana |
| BTH | Buddhist: Theravada |
| BTA | Buddhist: Tantrayana |
| BOT | Buddhist: Other |
| CFR | Chinese Folk Religionist |
| CHR | Christian |
| ABC | Christian: American Baptist Church |
| AMT | Christian: African Methodist Episcopal |
| AME | Christian: African Methodist Episcopal Zion |
| ANG | Christian: Anglican |
| AOG | Christian: Assembly of God |
| BAP | Christian: Baptist |
| CAT | Christian: Roman Catholic |
| CRR | Christian: Christian Reformed |
| CHS | Christian: Christian Science |
| CMA | Christian: Christian Missionary Alliance |
| COC | Christian: Church of Christ |
| COG | Christian: Church of God |
| COI | Christian: Church of God in Christ |
| COM | Christian: Community |
| COL | Christian: Congregational |
| EOT | Christian: Eastern Orthodox |
| EVC | Christian: Evangelical Church |
| EPI | Christian: Episcopalian |
| FWB | Christian: Free Will Baptist |
| FRQ | Christian: Friends |
| GRE | Christian: Greek Orthodox |
| JWN | Christian: Jehovah's Witness |
| LUT | Christian: Lutheran |
| LMS | Christian: Lutheran Missouri Synod |
| MEN | Christian: Mennonite |
| MET | Christian: Methodist |
| MOM | Christian: Latter-day Saints |
| NAZ | Christian: Church of the Nazarene |
| ORT | Christian: Orthodox |
| COT | Christian: Other |
| PRC | Christian: Other Protestant |
| PEN | Christian: Pentecostal |
| COP | Christian: Other Pentecostal |
| PRE | Christian: Presbyterian |
| PRO | Christian: Protestant |
| QUA | Christian: Friends |
| REC | Christian: Reformed Church |
| REO | Christian: Reorganised Church of Jesus Christ-LDS |
| SAA | Christian: Salvation Army |
| SEV | Christian: Seventh Day Adventist |
| SOU | Christian: Southern Baptist |
| UCC | Christian: United Church of Christ |
| UMD | Christian: United Methodist |
| UNI | Christian: Unitarian |
| UNU | Christian: Unitarian Universalist |
| WES | Christian: Wesleyan |
| WMC | Christian: Wesleyan Methodist |
| CNF | Confucian |
| ERL | Ethnic Religionist |
| HIN | Hindu |
| HVA | Hindu: Vaishnavites |
| HSH | Hindu: Shaivites |
| HOT | Hindu: Other |
| JAI | Jain |
| JEW | Jewish |
| JCO | Jewish: Conservative |
| JOR | Jewish: Orthodox |
| JOT | Jewish: Other |
| JRC | Jewish: Reconstructionist |
| JRF | Jewish: Reform |
| JRN | Jewish: Renewal |
| MOS | Muslim |
| MSU | Muslim: Sunni |
| MSH | Muslim: Shiite |
| MOT | Muslim: Other |
| NAM | Native American |
| NRL | New Religionist |
| NOE | Nonreligious |
| OTH | Other |
| SHN | Shintoist |
| SIK | Sikh |
| SPI | Spiritist |
| VAR | Unknown |

Identifier Type

Table 154: HPI 10006 - **Identifier type**

| Code | Description |
| --- | --- |
| AC | ACC Provider Number |
| CH | Chiropractor Board Register Number |
| CS | Cervical Screening Identifier Number |
| DI | Dietetic Board Register Number |
| HF | \*Health Practitioner Index – Facility Identifier |
| HI | \*Health Practitioner Index CPN |
| HO | \*Health Practitioner Index – Organisation Identifier |
| HP | HealthPAC Number |
| LT | Medical Laboratory Science Register Number |
| MC | Medical Council of New Zealand Register Number |
| MW | Midwifery Council Register Number |
| NC | Nursing Council Register Number |
| OD | Optometry Board Optical Dispensing Register Number |
| OH | Dental Council of New Zealand Register Number |
| OP | Optometry Board Register Number |
| OR | Optometry Board Optometry Prescriber Register Number |
| OS | Osteopath Board Register Number |
| OT | Occupational Therapy Board Register Number |
| PC | Register of Psychologists Number |
| PM | Pharmacy Council Register Number |
| PO | Podiatry Board Register Number |
| PT | Physiotherapy Board Register Number |
| RT | Medical Radiation Technology Board Register Number |
| ST | Staff List or Employee Number |

|  |
| --- |
| *NOTE: Codes identified with an ‘****\*****’ are specific to this Standard.* |

Common ISO Derived Units and ISO+ extensions

Table 155: **Common ISO derived units and ISO+ extensions**

| **Code/Abbreviation** | **Name** |
| --- | --- |
| /(arb\_u) | \*1 / arbitrary unit |
| /iu | \*1 / international unit |
| /kg | \*1 / kilogram |
| /L | 1 / litre |
| 1/mL | \*1 / millilitre |
| 10.L/min | \*10 x litre / minute |
| 10.L /(min.m2) | \*10 x (litre / minute) / metre2 = litre / (minute × metre2) |
| 10\*3/mm3 | \*103 / cubic millimetre (e.g., white blood cell count) |
| 10\*3/L | \*103 / Litre |
| 10\*3/mL | \*103 / millilitre |
| 10\*6/mm3 | \*106 / millimetre3 |
| 10\*6/L | \*106 / Litre |
| 10\*6/mL | \*106 / millilitre |
| 10\*9/mm3 | \*109 / millimetre3 |
| 10\*9/L | \*109 / Litre |
| 10\*9/mL | \*109 / millilitre |
| 10\*12/L | \*1012 / Litre |
| 10\*3(rbc) | \*1000 red blood cells† |
| a/m | Ampere per metre |
| (arb\_u) | \*Arbitrary unit |
| bar | Bar (pressure; 1 bar = 100 kilopascals) |
| /min | Beats or Other Events Per Minute |
| bq | Becquerel |
| (bdsk\_u) | \*Bodansky Units |
| (bsa) | \*Body surface area |
| (cal) | \*Calorie |
| 1 | \*Catalytic Fraction |
| /L | Cells / Litre |
| cm | Centimetre |
| cm\_h20 | \*Centimetres of water =H20 (pressure) |
| cm\_h20.s/L | Centimetres H20 / (litre / second) = (centimetres H20 × second) / litre (e.g., mean pulmonary resistance) |
| cm\_h20/(s.m) | (Centimetres H20 / second) / metre = centimetres H20 / (second × metre) (e.g., pulmonary pressure time product) |
| (cfu) | \*Colony Forming Units |
| m3/s | Cubic metre per second |
| d | Day |
| db | Decibels |
| dba | \*Decibels a Scale |
| cel | Degrees Celsius |
| deg | Degrees of Angle |
| (drop) | Drop |
| 10.un.s/cm5 | Dyne × Second / centimetre5 (1 dyne = 10 micronewton = 10 un) (e.g., systemic vascular resistance) |
| 10.un.s/(cm5.m2) | ((Dyne × second) / centimetre5) / metre2 = (Dyne × second) / (centimetre5 × metre2) (1 dyne = 10 micronewton = 10 un) (e.g., systemic vascular resistance/body surface area) |
| ev | Electron volts (1 electron volt = 160.217 zeptojoules) |
| eq | Equivalent |
| f | Farad (capacitance) |
| fg | Femtogram |
| fL | Femtoliter |
| fmol | Femtomole |
| /mL | \*Fibers / millilitre |
| g | Gram |
| g/d | \*Gram / Day |
| g/dL | Gram / Decilitre |
| g/hr | Gram / Hour |
| g/(8.hr) | \*Gram / 8 Hour Shift |
| g/kg | Gram / Kilogram (e.g., mass dose of medication per body weight) |
| g/(kg.d) | (Gram / Kilogram) / Day = gram / (kilogram × day) (e.g., mass dose of medication per body weight per day) |
| g/(kg.hr) | (Gram / Kilogram) / Hour = gram / (kilogram × hour) (e.g., mass dose of medication per body weight per hour) |
| g/(8.kg.hr) | (Gram / Kilogram) /8 Hour Shift = gram / (kilogram × 8 hour shift) (e.g., mass dose of medication per body weight per 8 hour shift) |
| g/(kg.min) | (Gram / Kilogram) / Minute = gram / (kilogram × minute) (e.g., mass dose of medication per body weight per minute) |
| g/L | Gram / Litre |
| g/m2 | Gram / Metre2 (e.g., mass does of medication per body surface area) |
| g/min | Gram / Minute |
| g.m/(hb) | Gram × metre / heart beat (e.g., ventricular stroke work) |
| g.m/((hb).m2) | (Gram × metre/ heartbeat) / metre2 = (gram × metre) / (heartbeat × metre2) (e.g., ventricular stroke work/body surface area, ventricular stroke work index) |
| g(creat) | \*Gram creatinine |
| g(hgb) | \*Gram hemoglobin |
| g.m | Gram metre |
| g(tot\_nit) | \*Gram total nitrogen |
| g(tot\_prot) | \*Gram total protein |
| g(wet\_tis) | \*Gram wet weight tissue |
| gy | Grey (absorbed radiation dose) |
| hL | Hectalitre = 102 litre |
| h | Henry |
| in | Inches |
| in\_hg | Inches of Mercury (=Hg) |
| iu | \*International Unit |
| iu/d | \*International Unit / Day |
| iu/hr | \*International Unit / Hour |
| iu/kg | International Unit / Kilogram |
| iu/L | \*International Unit / Litre |
| iu/mL | \*International Unit / Millilitre |
| iu/min | \*International Unit / Minute |
| j/L | Joule/litre (e.g., work of breathing) |
| kat | \*Katal |
| kat/kg | \*Katal / Kilogram |
| kat/L | \*Katal / Litre |
| k/watt | Kelvin per watt |
| (kcal) | Kilocalorie (1 kcal = 6.693 kilojoule) |
| (kcal)/d | \*Kilocalorie / Day |
| (kcal)/hr | \*Kilocalorie / Hour |
| (kcal)/(8.hr) | \*Kilocalorie / 8 Hours Shift |
| kg | Kilogram |
| kg(body\_wt) | \*Kilogram body weight |
| kg/m3 | Kilogram per cubic metre |
| kh/h | Kilogram per hour |
| kg/L | Kilogram / litre |
| kg/min | Kilogram per minute |
| kg/mol | Kilogram / mole |
| kg/s | Kilogram / second |
| kg/(s.m2) | (Kilogram / second)/ metre2 = kilogram / (second × metre2) |
| kg/ms | Kilogram per square metre |
| kg.m/s | Kilogram metre per second |
| kpa | Kilopascal (1 mmHg = 0.1333 kilopascals) |
| ks | Kilosecond |
| (ka\_u) | King-Armstrong Unit |
| (knk\_u) | \*Kunkel Units |
| L | Litre |
| L/d | \*Litre / Day |
| L/hr | Litre / hour |
| L/(8.hr) | \*Litre / 8 hour shift |
| L/kg | Litre / kilogram |
| L/min | Litre / minute |
| L/(min.m2) | (Litre / minute) / metre2 = litre / (minute × metre2) (e.g., cardiac output/body surface area = cardiac index) |
| L/s | Litre / second (e.g., peak expiratory flow) |
| L.s | Litre / second / second2 = litre × second |
| lm | Lumen |
| lm/m2 | Lumen / Metre2 |
| (mclg\_u) | \*MacLagan Units |
| mas | Megasecond |
| m | Metre |
| m2 | Metre2 (e.g., body surface area) |
| m/s | Metre / Second |
| m/s2 | Metre / Second2 |
| ueq | \*Microequivalents |
| ug | Microgram |
| ug/d | Microgram / Day |
| ug/dL | Microgram / Decilitre |
| ug/g | Microgram / Gram |
| ug/hr | \*Microgram / Hour |
| ug(8hr) | Microgram / 8 Hour Shift |
| ug/kg | Microgram / Kilogram |
| ug/(kg.d) | (Microgram / Kilogram) /Day = microgram / (kilogram × day) (e.g., mass dose of medication per Patient body weight per day) |
| ug/(kg.hr) | (Microgram / Kilogram) / Hour = microgram / (kilogram × hours) (e.g., mass dose of medication per Patient body weight per hour) |
| ug/(8.hr.kg) | (Microgram / Kilogram) / 8 hour shift = microgram / (kilogram × 8 hour shift) (e.g., mass dose of medication per Patient body weight per 8 hour shift) |
| ug/(kg.min) | (Microgram / Kilogram) / Minute = microgram / (kilogram × minute) (e.g., mass dose of medication per Patient body weight per minute) |
| ug/L | Microgram / Litre |
| ug/m2 | Microgram / Metre2 (e.g., mass dose of medication per Patient body surface area) |
| ug/min | Microgram / Minute |
| uiu | \*Micro international unit |
| ukat | \*Microkatel |
| um | Micrometre (Micron) |
| umol | Micromole |
| umol/d | Micromole / Day |
| umol/L | Micromole / Litre |
| umol/min | Micromole / Minute |
| us | Microsecond |
| uv | Microvolt |
| mbar | Millibar (1 millibar = 100 pascals) |
| mbar.s/L | Millibar / (litre / second) =(millibar × second) / litre (e.g., expiratory resistance) |
| meq | \*Milliequivalent |
| meq/d | \*Milliequivalent / Day |
| meq/hr | \*Milliequivalent / Hour |
| meq/(8.hr) | Milliequivalent / 8 Hour Shift |
| meq/kg | Milliequivalent / Kilogram (e.g., dose of medication in milliequivalents per Patient body weight) |
| meq/(kg.d) | (Milliequivalents / Kilogram) / Day = milliequivalents / (kilogram × day) (e.g., dose of medication in milliequivalents per Patient body weight per day) |
| meq/(kg.hr) | (Milliequivalents / Kilogram) / Hour = milliequivalents / (kilogram × hour) (e.g., dose of medication in milliequivalents per Patient body weight per hour) |
| meq/(8.hr.kg) | (Milliequivalents / Kilogram) / 8 Hour Shift = milliequivalents / (kilogram × 8 hour shift) (e.g., dose of medication in milliequivalents per Patient body weight per 8 hour shift) |
| meq/(kg.min) | (Milliequivalents / Kilogram) / Minute = milliequivalents / (kilogram × minute) (e.g., dose of medication in milliequivalents per Patient body weight per minute) |
| meq/L | Milliequivalent / Litre |
| meq/m2 | Milliequivalent / Metre2 (e.g., dose of medication in milliequivalents per Patient body surface area) |
| meq/min | Milliequivalent / Minute |
| mg | Milligram |
| mg/m3 | Milligram / Metre3 |
| mg/d | Milligram / Day |
| mg/dL | Milligram / Decilitre |
| mg/hr | Milligram / Hour |
| mg/(8.hr) | Milligram / 8 Hour shift |
| mg/kg | Milligram / Kilogram |
| mg/(kg.d) | (Milligram / Kilogram) / Day = milligram / (kilogram × day) (e.g., mass dose of medication per Patient body weight per day) |
| mg/(kg.hr) | (Milligram / Kilogram) / Hour = milligram/ (kilogram × hour) (e.g., mass dose of medication per Patient body weight per hour) |
| mg/(8.hr.kg) | (Milligram / Kilogram) /8 Hour Shift = milligram / (kilogram × 8 hour shift) (e.g., mass dose of medication per Patient body weight per 8 hour shift) |
| mg/(kg.min) | (Milligram / Kilogram) / Minute = milligram / (kilogram × minute) (e.g., mass dose of medication per Patient body weight per hour) |
| mg/L | Milligram / Litre |
| mg/m2 | Milligram / Metre2 (e.g., mass dose of medication per Patient body surface area) |
| mg/min | Milligram / Minute |
| mL | Millilitre |
| mL/cm\_h20 | Millilitre / Centimetres of Water (H20) (e.g., dynamic lung compliance) |
| mL/d | \*Millilitre / Day |
| mL/(hb) | Millilitre / Heart Beat (e.g., stroke volume) |
| mL/((hb).m2) | (Millilitre / Heart Beat) / Metre2 = Millilitre / (Heart Beat × Metre2) (e.g., ventricular stroke volume index) |
| mL/hr | \*Millilitre / Hour |
| mL/(8.hr) | \*Millilitre / 8 Hour Shift |
| mL/kg | Millilitre / Kilogram (e.g., volume dose of medication or treatment per Patient body weight) |
| mL/(kg.d) | (Millilitre / Kilogram) / Day = millilitre / (kilogram × day) (e.g., volume dose of medication or treatment per Patient body weight per day) |
| mL/(kg.hr) | (Millilitre / Kilogram) / Hour = millilitre / (kilogram × hour) (e.g., volume dose of medication or treatment per Patient body weight per hour) |
| mL/(8.hr.kg) | (Millilitre / Kilogram) / 8 Hour Shift = millilitre / (kilogram × 8 hour shift) (e.g., volume dose of medication or treatment per body weight per 8 hour shift) |
| mL/(kg.min) | (Millilitre / Kilogram) / Minute = millilitre / (kilogram × minute) (e.g., volume dose of medication or treatment per Patient body weight per minute) |
| mL/m2 | Millilitre / Metre2 (e.g., volume of medication or other treatment per Patient body surface area) |
| mL/mbar | Millilitre / Millibar (e.g., dynamic lung compliance) |
| mL/min | Millilitre / Minute |
| mL/(min.m2) | (Millilitre / Minute) / Metre2 = millilitre / (minute × metre2) (e.g., millilitres of prescribed infusion per body surface area; oxygen consumption index) |
| mL/s | Millilitre / Second |
| mm | Millimetre |
| mm(hg) | \*Millimetre (HG) (1 mm Hg = 133.322 kilopascals) |
| mm/hr | Millimetre/ Hour |
| mmol/kg | Millimole / Kilogram (e.g., molar dose of medication per Patient body weight) |
| mmol/(kg.d) | (Millimole / Kilogram) / Day = millimole / (kilogram × day) (e.g., molar dose of medication per Patient body weight per day) |
| mmol/(kg.hr) | (Millimole / Kilogram) / Hour = millimole / (kilogram × hour) (e.g., molar dose of medication per Patient body weight per hour) |
| mmol/(8.hr.kg) | (Millimole / Kilogram) / 8 Hour Shift = millimole / (kilogram × 8 hour shift) (e.g., molar dose of medication per Patient body weight per 8 hour shift) |
| mmol/(kg.min) | (Millimole / Kilogram) / Minute = millimole / (kilogram × minute) (e.g., molar dose of medication per Patient body weight per minute) |
| mmol/L | Millimole / Litre |
| mmol/hr | Millimole / Hour |
| mmol/(8hr) | Millimole / 8 Hour Shift |
| mmol/min | Millimole / Minute |
| mmol/m2 | Millimole / Metre2 (e.g., molar dose of medication per Patient body surface area) |
| mosm/L | \*Milliosmole / Litre |
| ms | Milliseconds |
| mv | Millivolts |
| miu/mL | \*Milliunit / Millilitre |
| mol/m3 | Mole per cubic metre |
| mol/kg | Mole / Kilogram |
| mol/(kg.s) | (Mole / Kilogram) / Second = mole / (kilogram × second) |
| mol/L | Mole / Litre |
| mol/s | Mole / Second |
| ng | Nanogram |
| ng/d | Nanogram / Day |
| ng/hr | \*Nanogram / Hour |
| ng/(8.hr) | Nanogram / 8 Hour shift |
| ng/L | Nanogram / Litre |
| ng/kg | Nanogram / Kilogram (e.g., mass dose of medication per Patient body weight) |
| ng/(kg.d) | (Nanogram / Kilogram) / Day = nanogram / (kilogram × day) (e.g., mass dose of medication per Patient body weight per day) |
| ng/(kg.hr) | (Nanogram / Kilogram) / Hour = nanogram / (kilogram × hour) (e.g., mass dose of medication per Patient body weight per hour) |
| ng/(8.hr.kg) | (Nanogram / Kilogram) / 8 Hour Shift = nanogram / (kilogram × 8 hour shift) (e.g., mass dose of medication per Patient body weight per 8 hour shift) |
| ng/(kg.min) | (Nanogram / Kilogram) / Minute = nanogram / (kilogram × minute) (e.g., mass dose of medication per Patient body weight per minute) |
| ng/m2 | Nanogram / Metre2 (e.g., mass dose of medication per Patient body surface area) |
| ng/mL | Nanogram / Millilitre |
| ng/min | \*Nanogram / Minute |
| ng/s | \*Nanogram / Second |
| nkat | \*Nanokatel |
| nm | Nanometre |
| nmol/s | Nanomole / Second |
| ns | Nanosecond |
| n | Newton (force) |
| n.s | Newton second |
| (od) | \*O.D. (optical density) |
| ohm | Ohm (electrical resistance) |
| ohm.m | Ohm metre |
| osmol | Osmole |
| osmol/kg | Osmole per kilogram |
| osmol/L | Osmole per litre |
| /m3 | \*Particles / Metre3 |
| /L | \*Particles / Litre |
| /(tot) | \*Particles / Total Count |
| (ppb) | \*Parts Per Billion |
| (ppm) | \*Parts Per Million |
| (ppth) | Parts per thousand |
| (ppt) | Parts per trillion (10^12) |
| pal | Pascal (pressure) |
| /(hpf) | \*Per High Power Field |
| (ph) | \*pH |
| pa | Picoampere |
| pg | Picogram |
| pg/L | Picogram / Litre |
| pg/mL | Picogram / Millilitre |
| pkat | \*Picokatel |
| pm | Picometre |
| pmol | \*Picomole |
| ps | Picosecond |
| pt | Picotesla |
| (pu) | \*P.U. |
| % | Percent |
| dm2/s2 | Rem (roentgen equivalent man) = 10-2 metre2 / second2 = decimetre2 / second2 Dose of ionizing radiation equivalent to 1 rad of x-ray or gamma ray) [From Dorland's Medical Dictionary] |
| sec | Seconds of arc |
| sie | Siemens (electrical conductance) |
| sv | Sievert |
| m2/s | Square metre / second |
| cm2/s | Square centimetre / second |
| t | Tesla (magnetic flux density) |
| (td\_u) | Todd Unit |
| v | Volt (electric potential difference) |
| 1 | Volume Fraction |
| wb | Weber (magnetic flux) |

|  |
| --- |
| ***NOTE:*** *\*Starred items are not genuine ISO, but do not conflict. †This approach to units is discouraged by IUPAC. We leave them solely for backward compatibility.* |

# Appendix C - **Variances to HL7 version 2.4**

Table 156: Variance Table

| **Chapter # containing Variance** | **Table # containing Variance** | **Variance (Segment) Details** | **Difference** |
| --- | --- | --- | --- |
| 5.1.6.26 | Table 39 | XAD | The extended Street Address type in the first component is not used in New Zealand |
| 5.1.6.29 | Table 44 | XPN | This definition uses an ST type for Family Name. |
| 5.2.1 |  | AL1-1 | According to HL7 v2.4 this field should have a data type of CE. This has been confirmed as a misprint |
| 5.4.2 |  | DG1-3 | This field is required in this implementation |
| 5.7.10 | Table 65 | IN1-17 | HL7 uses values from HL7 User Defined Table 0063 – Relationship in this field. |
| 5.8.1 |  | MSA-1 | This system will not use the HL7 enhanced acknowledgment system. |
| 5.9.4 |  | MSH-4 | HL7 does not require this field |
| 5.9.6 |  | MSH-6 | HL7 does not require this field |
| 5.9.7 |  | MSH-7 | HL7 does not require this field |
| 5.9.9 |  | MSH-9 | According to HL7 v2.4 this field should be length 13. This has been confirmed as an error and has been corrected to 15 in HL7 v2.5. |
| 5.10.1 |  |  | This implementation requires the use of Set IDs for NTE segments. |
| 5.11.2 |  | OBR-2 | The length of this field has been extended to 50 |
| 0 |  | OBR-3 | The length of this field has been extended to 50 |
| 5.11.13 |  | OBR-16 | This field is required in this implementation |
| 5.11.25 | Table 86 | OBR-30 | The value "CART" is described as a cart or gurney in HL7 |
| 5.12.5 |  | OBX-5 | The length of OBX-5 is unlimited, but consideration must be given to restrictions imposed by the message transport system |
| 5.13.2 |  | ORC-2 | The length of this field has been extended to 50 |
| 5.13.3 |  | ORC-3 | The length of this field has been extended to 50 |
| 7.13.4 |  | ORC-4 | The length of this field has been extended to 50 |
| 5.15.7 |  | PID-10 | New Zealand usage allows up to 6 repeats of this field.  This field is called "Race" in HL7 v2.4. |
| 5.16.15 | Table 122 | PV1-15 | HL7 uses the term 'transient handicapped condition' |
| 5.16.22 | Table 124 | PV1-36 | HL7 uses values from HL7 User Defined Table 0112 in this field |
| Appendices | Table 140 | HL7 Table 0070 - Specimen Source Code | VLT Vault is not used in HL7 |

1. HL7® is the trademark of Health Level Seven and is referred to as HL7 within this document. [↑](#footnote-ref-1)
2. It may not only be the receiving application that rejects messages that are missing one or more required data items. Incomplete messages may be rejected by intermediate systems, such as message transport systems or interface engines. [↑](#footnote-ref-2)
3. More specifically, the allowed message response latency could range from seconds or minutes for two applications linked by a TCP/IP 'socket', up to a few days if the messages are transported by floppy disk or tape. [↑](#footnote-ref-3)