

Acme Healthcare Enterprise

HL7 v2 Discharge Summary And Referral Specification

Prepared for Health Intersections Pty Ltd  
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# Introduction

This document describes the Discharge Summary and referral messages produced by Acme Integrated Healthcare when a patient is discharged.

The message format is based on HL7 v2.3.1 as described by the Australian Discharge Summary specification (AS 4700.6). This document details only the segments that are used, and describes how they are used and their possible values.

## Message Generation

A v2 discharge summary is generated in the Acme Clinical Management system for every inpatient or emergency patient that is discharged. The messages are distributed to the Acme Enterprise Interface Engine from where they are forwarded to the appropriate application based on the discharge destination.

Referral messages are also generated if the patient is being transferred to a new provider of care. Referral messages are only generated when the patient is being transferred to a new provider for which a destination is known.

## Standards Compliance

This specification complies with AS 4700.6-2004 with the exception of minor variations in coded values and field lengths in accord with the Standard Enterprise HL7 Specification, and other changes as required. Each deviation is noted as such. All other fields are fully standards compliant, except where this cannot be achieved due to a lack of standards compliance in the source data (e.g. from laboratory systems).

## Communications

The preferred communication method is via TCP/IP. The details of a TCP/IP communication are as follows.

|  |  |
| --- | --- |
| Summary | |
| Connectivity: | TCP/IP |
| Connection Type: | Permanent (est. by sending system) |
| Framing: | Minimal |
| Start Block: | ASCII 11 |
| End of Segment: | Carriage Return |
| End Block: | ASCII 28 |
| Message Continuation: | No |
| Character Set: | ASCII |

**Character Encoding/Standard**

All messages need to comply with the ISO-1 (ASCII) character set.

**Low Level**

The HL7 framing convention used will be “minimal” low-level protocol. The following characters will be used to denote the start/end of a message:

Start of Block - ASCII 11  
End of Block - ASCII 28

Each segment will end with a carriage return; the final segment in the message will end with a carriage return, followed by the end of block character.

AIE

Applications

ACME

**Acknowledgement**

The messages should be acknowledged with a simple ACK message with an ACK code. If no answer is received, or an NACK message with an AE code, the message will be resent repeatedly. If a NACK message with an AR is received, the message will not be sent again.

# Message Definition

This is a list of the segments that may be included in the message. Please note:

* The optionality of a segment is indicated by one of the following values in the “R/O” column:
  1. Required (R) – segment shall be present.
  2. Optional (O) – segment need not be present.
  3. A subsequent asterisk (e.g. “R\*” or “O\*”) indicates a deviation from the HL7 2.3.1 standard with respect to optionality.
* Segments which are optional in HL7 and will NOT be sent have been deleted from the listing.
* Any application that interfaces to this specification must support the receipt of any valid HL7 segment that can be sent in the HL7 message. The receiving application shall ignore segments that are not applicable.

| Segment | Name | R/O | Freq. of Occurrence |
| --- | --- | --- | --- |
| MSH | Message Header | R | 1 |
| RF1 | Referral Information | R | 1 |
| PRD | Provider Data | R | Multiple |
| PID | Patient Identification | R | 1 |
| NK1 | Next of Kin | O | Multiple |
| DG1 | Diagnosis | R\* | Multiple |
| AL1 | Allergy / Alert | O | Multiple |
| PR1 | Procedure | O | Multiple |
| ORC | Common Order – Observations | O | Multiple |
| OBR | Observation Request | R\* | Multiple |
| OBX | Observation/Result | R\* | Multiple |
| PV1 | Patient Visit | R\* | 1 |
| NTE | Patient Visit Note | R | 1 |
| ORC | Common Order – Medications | O | Multiple |
| RXO | Pharmacy/Treatment Order | O | Multiple |
| RXR | Pharmacy/Treatment Route | O | Multiple |

R\*: Conditions for a segment are explained below with the segment definition.

# Segment Definitions

The following sections outline the segments that are used in the message. A segment may be described multiple times when there are different uses of the segment. Please Note that the ORC/OBR/OBX cluster is used for 4 different purposes: laboratory reports, imaging examinations, the clinical summary and the referral details. ORC is only used with the referral .

## MSH – Message Header

Always present

Mapping Content: Clinical Document

ClinicalDocument/id= (make my own GUID for each document)

ClinicalDocument/typeId/@extension="POCD\_HD000040"

ClinicalDocument/typeId/@root="2.16.840.1.113883.1.3"

ClinicalDocument/templateId

ClinicalDocument/templateId/@root="1.2.36.1.2001.1001.101

ClinicalDocument/templateId/@extension="1.1"

ClinicalDocument/code

ClinicalDocument/code/@code="57133-1"

ClinicalDocument/code/@codeSystem="2.16.840.1.113883.6

ClinicalDocument/code/@codeSystemName="LOINC"

ClinicalDocument/code/@displayName="Referral note"

|  | **Description** | **Data Type** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- |
| 1 | Field Separator | ST | true |  | n/a |
| 2 | Encoding Characters | ST | true |  | n/a |
| 3 | Sending Application | HD |  |  | ? |
| 4 | Sending Facility | HD |  |  | ? |
| 5 | Receiving Application | HD |  |  | ? |
| 6 | Receiving Facility | HD |  |  | ? |
| 7 | Date/Time Of Message | TS |  |  | ClinicalDocument/effectiveTime/@Value =<MSH.7> |
| 8 | Security | ST |  |  | Not used |
| 9 | Message Type | MSG | true |  | n/a |
| 10 | Message Control ID | ST | true |  | ClinicalDocument\RelatedDocument\@typeCode = “XFRM”  ClinicalDocument\RelatedDocument\ParentDocument/id/@root = “my own UID”  ClinicalDocument\RelatedDocument\ ParentDocument/id/@extension = <MSH-10> |
| 11 | Processing ID | PT | true |  | n/a |
| 12 | Version ID | VID | true |  | n/a |
| 13 | Sequence Number | NM |  |  |  |
| 14 | Continuation Pointer | ST |  |  |  |
| 15 | Accept Acknowledgment Type | ID |  |  |  |
| 16 | Application Acknowledgment Type | ID |  |  |  |
| 17 | Country Code | ID |  |  |  |
| 18 | Character Set | ID |  |  | n/a – see introduction |
| 19 | Principal Language Of Message | CE |  |  | ClinicalDocument\ |

## RF1 – Referral Information

Always present

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Referral Status | CE | 200 |  |  | “I^Interim^HL70283”,  “F^Final^HL70283” or  “C^Corrected^HL70283”  per additional Australian table values in AS 4700.6-2006.  ClinicalDocument\ext:completionCode\@code = <need to map>  ClinicalDocument\ext:completionCode\@codesystem = 1.2.36.1.2001.1001.101.104.20104  ClinicalDocument\ext:completionCode\@displayname = “Final“ [mapped] |
| 2 | Referral Priority | CE | 200 |  |  | n/a |
| 3 | Referral Type | CE | 200 |  |  | n/a (See MSH Segment) |
| 4 | Referral Disposition | CE | 200 |  |  | n/a |
| 5 | Referral Category | CE | 200 |  |  | n/a |
| 6 | Originating Referral Identifier | EI | 30 | true |  | ClinicalDocument\SetID\@extention = <RF1-6>  ClinicalDocument\SetID\@root = “make your own OID or UUID”  ClinicalDocument\versionnumber = <track which version internaly to transform> |
| 7 | Effective Date | TS | 26 |  |  | Date discharge summary/referral was approved  ClinicalDocument\authenticator\time\@value |
| 8 | Expiration Date | TS | 26 |  |  |  |
| 9 | Process Date | TS | 26 |  |  |  |
| 10 | Referral Reason | CE | 200 |  |  | n/a |

## PRD - Provider Data

There are multiple PRDs:

* One for Primary Provider (always present)
* One for consulting Provider, if present
* One for referring provider, if known (this is the provider who first referred the patient to ACME healthcare)
* One for each known intended recipient. For Referrals, the first intended recipient is the actual recipient of the referral, the others are copied inot the request.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comment** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Provider Role | CE | 200 | true |  | PP (Primary Provider)  CP (Consulting Provider)  RP (Referring Provider)  IR (intended Recipient)  ClinicalDocument\componentOf\EncompassingEncounter\encounterParticipant |
| 2 | Provider Name | XPN | 106 | true |  | For all except RP: <family name>^<given name>^<middle initial or name>^<suffix>^<prefix>^^<name type code>  For RP: <name> |
| 3 | Provider Address | XAD | 60 | true |  | <street address>^<other designation>^<city>^<state>^<postal code>^<country> |
| 4 | Provider Location | PL | 60 |  |  | For RP: Clinic name (Component 9) |
| 5 | Provider Communication Information | XTN | 100 |  | Y | 1st Repeat: Phone Number (Optional)  2nd Repeat: Email Address  (No email address for RP; optional for IR) |
| 6 | Preferred Method Of Contact | CE | 200 |  |  | Not used |
| 7 | Provider Identifiers | PI | 100 | True |  | Provider Number  e.g. “123456AF^MCR^AUSHICPR” |

## PID – Patient Identifier

Always Present

Context: ClinicalDocument\patient

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comment** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID – PID | SI | 4 | true |  | “1” |
| 2 | Patient ID | CX | 20 |  |  | Not used |
| 3 | Patient Identifier List | CX | 20 | true | Y | Patient Internal identifier  IHI if available in 2nd Repeat |
| 4 | Alternate Patient ID – PID | CX | 20 |  |  | Not used |
| 5 | Patient Name | XPN | 48 | true | Y | <family name>^<given name>^<middle initial>^^^^<name type code>  2nd repeat for preferred name: ^name |
| 6 | Mother’s Maiden Name | XPN | 48 |  |  | Not used |
| 7 | Date/Time Of Birth | TS | 26 |  |  | Date of birth if available |
| 8 | Sex | IS | 1 | True |  | M, F, O, or U |
| 9 | Patient Alias | XPN | 48 |  |  | Not used |
| 10 | Race | CE | 80 |  |  | Aboriginal or Torres Straight Islander Status (NHDD 000001 per AS 4700.1) |
| 11 | Patient Address | XAD | 106 |  | Y | <street address>^<other designation>^<city>^<state>^<postal code>^<country>^H – if known  <street address>^<other designation>^<city>^<state>^<postal code>^^M – if different to home address  <street address>^<other designation>^<city>^<state>^<postal code>^^B – if business address known |
| 12 | County Code | IS | 4 |  |  | Not used |
| 13 | Phone Number - Home | XTN | 40 |  | Y | Phone number.  Email in 2nd repeat if available |
| 14 | Phone Number – Business | XTN | 40 |  | Y | Phone Number |
| 15 | Primary Language | CE | 60 |  |  | Not used |
| 16 | Marital Status | CE | 80 |  |  | Not used |
| 17 | Religion | CE | 80 |  |  | Not used |
| 18 | Patient Account Number | CX | 20 |  |  | Not used |
| 19 | SSN Number - Patient | ST | 16 |  |  | Medicare Number if known |
| 20 | Driver's License Number – Patient | DLN | 25 |  |  | Driver’s license if known |
| 21 | Mother's Identifier | CX | 20 |  |  | Not used |
| 22 | Ethnic Group | CE | 80 |  |  | Not used |
| 23 | Birth Place | ST | 60 |  |  | Post code of birth location |
| 24 | Multiple Birth Indicator | ID | 1 |  |  | Not used |
| 25 | Birth Order | NM | 2 |  |  | Not used |
| 26 | Citizenship | CE | 80 |  |  | Not used |
| 27 | Veterans Military Status | CE | 60 |  |  | Not used |
| 28 | Nationality | CE | 80 |  |  | Not used |
| 29 | Patient Death Date and Time | TS | 26 |  |  | Date if patient died during admission (not in referral messages) |

## NK1 – Next of Kin

One NK1 segment for each nominated next of kin.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comment** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - NK1 | SI | 4 | True |  |  |
| 2 | Name | XPN | 48 | True |  | Name as a single field |
| 3 | Relationship | CE | 60 | True |  | Coded value from ACME Relationship table, or free text |
| 4 | Address | XAD | 106 |  |  | Any address information provided in first component |
| 5 | Phone Number | XTN | 40 |  |  | Phone number or email address if provided |

## DG1 - diagnosis segment

There may be multiple DG1 segments:

* A principal diagnosis if known
* A secondary diagnosis if known (only if a principal diagnosis is known)
* Multiple Complications (may be present whether or not diagnoses are known)

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comment** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - DG1 | SI | 4 | true |  |  |
| 2 | Diagnosis Coding Method | ID | 2 |  |  | Not Used |
| 3 | Diagnosis Code - DG1 | CE | 60 | true |  | ICD-10 code, Snomed Code, or free text in component 2 |
| 4 | Diagnosis Description | ST | 40 |  |  | Not Used |
| 5 | Diagnosis Date/Time | TS | 26 |  |  | Not Used |
| 6 | Diagnosis Type | IS | 2 | true |  | F for final |
| 7 | Major Diagnostic Category | CE | 60 |  |  | Not Used |
| 8 | Diagnostic Related Group | CE | 60 |  |  | Not Used |
| 9 | DRG Approval Indicator | ID | 1 |  |  | Not Used |
| 10 | DRG Grouper Review Code | IS | 2 |  |  | Not Used |
| 11 | Outlier Type | CE | 60 |  |  | Not Used |
| 12 | Outlier Days | NM | 3 |  |  | Not Used |
| 13 | Outlier Cost | CP | 12 |  |  | Not Used |
| 14 | Grouper Version And Type | ST | 4 |  |  | Not Used |
| 15 | Diagnosis Priority | ID | 2 | true |  | 1” (Principal Dx) for principal diagnosis  “2” (Secondary Dx) for secondary diagnosis  “3” (Complication) for complications |
| 16 | Diagnosing Clinician | XCN | 60 | true |  | Login Name of person who entered the diagnosis |

## AL1 – Allergies and Alerts

There will be one Al1 segment for each allergy or alert recorded on the clinical system.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - AL1 | SI | 4 | true |  |  |
| 2 | Allergy Type | IS | 2 |  |  | Not used |
| 3 | Allergy Code/Mnemonic/ Description | CE | 60 | true |  | A MIMS code, a Snomed Code, or free text.  Free text will be in the 2nd component. |
| 4 | Allergy Severity | IS | 2 |  |  | Not used |
| 5 | Allergy Reaction | ST | 15 |  | Y | Zero or more notes concerning reactions that have occurred in the past |
| 6 | Identification Date | DT | 8 |  |  | Not used |

## PR1 – Procedure

There will be one PR1 for each procedure noted in the record and associated with this episode.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - PR1 | SI | 4 | true |  |  |
| 2 | Procedure Coding Method | IS | 2 |  |  | Not used |
| 3 | Procedure Code | CE | 80 | true |  | Free text in second component |
| 4 | Procedure Description | ST | 40 |  |  | Not used |
| 5 | Procedure Date/Time | TS | 26 | true |  |  |

## OBR – Observation Request (Pathology)

There will be on OBR for each pathology report that the source of the summary or referral wishes to include.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - OBR | SI | 4 | True |  |  |
| 2 | Placer Order Number | EI | 22 |  |  | Not used |
| 3 | Filler Order Number | EI | 22 | true |  | Laboratory Report Identifier |
| 4 | Universal Service ID | CE | 200 | true |  | Laboratory Test Code |
| 5 | Priority-OBR | ID | 2 |  |  | Not used |
| 6 | Requested Date/time | TS | 26 |  |  | Not used |
| 7 | Observation Date/Time # | TS | 26 |  |  | Time of specimen collection |
| 8 | Observation End Date/Time # | TS | 26 |  |  | Not used |
| 9 | Collection Volume \* | CQ | 20 |  |  | Not used |
| 10 | Collector Identifier \* | XCN | 60 |  |  | Not used |
| 11 | Specimen Action Code \* | ID | 1 |  |  | Not used |
| 12 | Danger Code | CE | 60 |  |  | Not used |
| 13 | Relevant Clinical Info. | ST | 300 |  |  | If provided by laboratory |
| 14 | Specimen Received Date/Time \* | TS | 26 |  |  | Not used |
| 15 | Specimen Source | SPS | 300 |  |  | Not used |
| 16 | Ordering Provider | XCN | 120 |  |  | Provider Number |
| 17 | Order Callback Phone Number | XTN | 40 |  |  | Not used |
| 18 | Placer Field 1 | ST | 60 |  |  | Not used |
| 19 | Placer Field 2 | ST | 60 |  |  | Not used |
| 20 | Filler Field 1 + | ST | 60 |  |  | Laboratory Identifier |
| 21 | Filler Field 2 + | ST | 60 |  |  | Not used |
| 22 | Results Rpt/Status Chng - Date/Time + | TS | 26 |  |  | Not used |
| 23 | Charge to Practice + | MOC | 40 |  |  | Not used |
| 24 | Diagnostic Serv Sect ID | ID | 10 | True |  | Laboratory Department Code per AS 4700.2 |
| 25 | Result Status + | ID | 1 | True |  | Report Status – P for Interim, F for Final, C for Correction |
| 26 | Parent Result + | PRL | 200 |  |  | Not used |
| 27 | Quantity/Timing | TQ | 200 |  |  | Not used |
| 28 | Result Copies To | XCN | 150 |  |  | Not used |
| 29 | Parent | EIP | 200 |  |  | Not used |
| 30 | Transportation Mode | ID | 20 |  |  | Not used |
| 31 | Reason for Study | CE | 300 |  |  | Not used |
| 32 | Principal Result Interpreter + | NDL | 200 | True |  | Reporting Pathologist – Provider number and name |

## OBX –Observation Result (Pathology)

Each Lab OBR is followed by one or more OBX segments, as the pathology service provides.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - OBX | SI | 4 | True |  |  |
| 2 | Value Type | ID | 3 | true |  | As populated by laboratory |
| 3 | Observation Identifier | CE | 80 | true |  | As populated by laboratory |
| 4 | Observation Sub-ID | ST | 20 |  |  | As populated by laboratory |
| 5 | Observation Value | \* | 65536 | True | Y | As populated by laboratory |
| 6 | Units | CE | 60 |  |  | As populated by laboratory |
| 7 | References Range | ST | 60 |  |  | As populated by laboratory |
| 8 | Abnormal Flags | ID | 5 |  |  | As populated by laboratory |
| 9 | Probability | NM | 5 |  |  | Not used |
| 10 | Nature of Abnormal Test | ID | 2 |  |  | Not used |
| 11 | Observation Result Status | ID | 1 | true |  | As populated by laboratory |

## OBR – Observation Request (Radiology)

There will be on OBR for each radiology report that the source of the summary or referral wishes to include.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - OBR | SI | 4 | True |  |  |
| 2 | Placer Order Number | EI | 22 |  |  | Not used |
| 3 | Filler Order Number | EI | 22 | true |  | Radiology Report Identifier |
| 4 | Universal Service ID | CE | 200 | true |  | Image Exam Code |
| 5 | Priority-OBR | ID | 2 |  |  | Not used |
| 6 | Requested Date/time | TS | 26 |  |  | Not used |
| 7 | Observation Date/Time # | TS | 26 |  |  | Time of Examination |
| 8 | Observation End Date/Time # | TS | 26 |  |  | Not used |
| 9 | Collection Volume \* | CQ | 20 |  |  | Not used |
| 10 | Collector Identifier \* | XCN | 60 |  |  | Not used |
| 11 | Specimen Action Code \* | ID | 1 |  |  | Not used |
| 12 | Danger Code | CE | 60 |  |  | Not used |
| 13 | Relevant Clinical Info. | ST | 300 |  |  | Not used |
| 14 | Specimen Received Date/Time \* | TS | 26 |  |  | Not used |
| 15 | Specimen Source | SPS | 300 |  |  | Not used |
| 16 | Ordering Provider | XCN | 120 |  |  | Provider Number |
| 17 | Order Callback Phone Number | XTN | 40 |  |  | Not used |
| 18 | Placer Field 1 | ST | 60 |  |  | Not used |
| 19 | Placer Field 2 | ST | 60 |  |  | Not used |
| 20 | Filler Field 1 + | ST | 60 |  |  | Imaging Service Name |
| 21 | Filler Field 2 + | ST | 60 |  |  | Not used |
| 22 | Results Rpt/Status Chng - Date/Time + | TS | 26 |  |  | Not used |
| 23 | Charge to Practice + | MOC | 40 |  |  | Not used |
| 24 | Diagnostic Serv Sect ID | ID | 10 |  |  | Not used |
| 25 | Result Status + | ID | 1 | True |  | Not used |
| 26 | Parent Result + | PRL | 200 |  |  | Not used |
| 27 | Quantity/Timing | TQ | 200 |  |  | Not used |
| 28 | Result Copies To | XCN | 150 |  |  | Names of recipients for any additional copies. |
| 29 | Parent | EIP | 200 |  |  | Not used |
| 30 | Transportation Mode | ID | 20 |  |  | Not used |
| 31 | Reason for Study | CE | 300 |  | Y | Not used |
| 32 | Principal Result Interpreter + | NDL | 200 |  |  | Reporting Radiologist – Provider number and name |

## OBX –Observation Result (Radiology)

Each Lab OBR is followed by one OBX segment that contains the radiology report as provided.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - OBX | SI | 4 | True |  |  |
| 2 | Value Type | ID | 3 | true |  | FT |
| 3 | Observation Identifier | CE | 80 | true |  | “Report” |
| 4 | Observation Sub-ID | ST | 20 |  |  | Not used |
| 5 | Observation Value | \* | 65536 | True | Y | Imaging Report |
| 6 | Units | CE | 60 |  |  | Not used |
| 7 | References Range | ST | 60 |  |  | Not used |
| 8 | Abnormal Flags | ID | 5 |  |  | As populated by the Imaging Service |
| 9 | Probability | NM | 5 |  |  | Not used |
| 10 | Nature of Abnormal Test | ID | 2 |  |  | Not used |
| 11 | Observation Result Status | ID | 1 | true |  | F |

## OBR – Observation Request (Clinical Summary)

For discharge summaries, the final OBR/OBX pair contains the clinical summary.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID – OBR | SI | 4 | True |  |  |
| 2 | Placer Order Number | EI | 22 |  |  | Not used |
| 3 | Filler Order Number | EI | 22 | true |  | Not used |
| 4 | Universal Service ID | CE | 200 | true |  | Loinc: 51900-9 (Summary) |

## OBX –Observation Result (Clinical Summary)

For discharge summaries, the final OBR is followed by a an OBX that contains the clinical summary, and other OBXs containing patient observations coded by LOINC.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - OBX | SI | 4 | True |  |  |
| 2 | Value Type | ID | 3 | true |  | FT or NM |
| 3 | Observation Identifier | CE | 80 | true |  | “Summary” or a LOINC code |
| 4 | Observation Sub-ID | ST | 20 |  |  | Not used |
| 5 | Observation Value | \* | 65536 | True | Y | Clinical Summary Contents or a value |
| 6 | Units | CE | 60 |  |  | A unit if the OBX is a patient observation |
| 7 | References Range | ST | 60 |  |  | Not used |
| 8 | Abnormal Flags | ID | 5 |  |  | Not used |
| 9 | Probability | NM | 5 |  |  | Not used |
| 10 | Nature of Abnormal Test | ID | 2 |  |  | Not used |
| 11 | Observation Result Status | ID | 1 | true |  | F for Final or C for Corrected |

## OBR – Observation Request (Referral Request)

For referrals, the final OBR/OBX pair contains the referral request

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID – OBR | SI | 4 | True |  |  |
| 2 | Placer Order Number | EI | 22 |  |  | Not used |
| 3 | Filler Order Number | EI | 22 | true |  | Not used |
| 4 | Universal Service ID | CE | 200 | true |  | Loinc: 51900-9 (Summary) |

## OBX –Observation Result (Referral Request)

For referrals, the final OBR is followed by an OBX that contains the referral request, and other OBXs containing patient observations coded by LOINC.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - OBX | SI | 4 | True |  |  |
| 2 | Value Type | ID | 3 | true |  | FT or NM |
| 3 | Observation Identifier | CE | 80 | true |  | “Referral Request” or a LOINC code |
| 4 | Observation Sub-ID | ST | 20 |  |  | Not used |
| 5 | Observation Value | \* | 65536 | True | Y | Referral request Contents or a value |
| 6 | Units | CE | 60 |  |  | A unit if the OBX is a patient observation |
| 7 | References Range | ST | 60 |  |  | Not used |
| 8 | Abnormal Flags | ID | 5 |  |  | Not used |
| 9 | Probability | NM | 5 |  |  | Not used |
| 10 | Nature of Abnormal Test | ID | 2 |  |  | Not used |
| 11 | Observation Result Status | ID | 1 | true |  | F for Final or C for Corrected |

## PV1 – Patient Visit

There is always a PV1 segment

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Set ID - PV1 | SI | 4 |  |  |  |
| 2 | Patient Class | IS | 1 | True |  | I for Inpatient or E for Emergency |
| 3 | Assigned Patient Location | PL | 80 |  |  | Not used |
| 4 | Admission Type | IS | 2 |  |  | Not used |
| 5 | Preadmit Number | CX | 20 |  |  | Not used |
| 6 | Prior Patient Location | PL | 80 |  |  | Not used |
| 7 | Attending Doctor | XCN | 60 |  |  | Not used |
| 8 | Referring Doctor | XCN | 60 |  |  | Not used |
| 9 | Consulting Doctor | XCN | 60 | True |  | Provider Id^family name^given name^^^^^^^AUSHICPR |
| 10 | Hospital Service | IS | 3 | True |  | Code of clinical service |
| 11 | Temporary Location | PL | 80 |  |  | Not used |
| 12 | Preadmit Test Indicator | IS | 2 |  |  | Not used |
| 13 | Re-admission Indicator | IS | 2 |  |  | Not used |
| 14 | Admit Source | IS | 3 |  |  | Not used |
| 15 | Ambulatory Status | IS | 2 |  |  | Not used |
| 16 | VIP Indicator | IS | 2 |  |  | Not used |
| 17 | Admitting Doctor | XCN | 60 |  |  | Not used |
| 18 | Patient Type | IS | 2 |  |  | Not used |
| 19 | Visit Number | CX | 20 | True |  | Episode Number |
| 20 | Financial Class | FC | 50 |  |  | Not used |
| 21 | Charge Price Indicator | IS | 2 |  |  | Not used |
| 22 | Courtesy Code | IS | 2 |  |  | Not used |
| 23 | Credit Rating | IS | 2 |  |  | Not used |
| 24 | Contract Code | IS | 2 |  |  | Not used |
| 25 | Contract Effective Date | DT | 8 |  |  | Not used |
| 26 | Contract Amount | NM | 12 |  |  | Not used |
| 27 | Contract Period | NM | 3 |  |  | Not used |
| 28 | Interest Code | IS | 2 |  |  | Not used |
| 29 | Transfer to Bad Debt Code | IS | 1 |  |  | Not used |
| 30 | Transfer to Bad Debt Date | DT | 8 |  |  | Not used |
| 31 | Bad Debt Agency Code | IS | 10 |  |  | Not used |
| 32 | Bad Debt Transfer Amount | NM | 12 |  |  | Not used |
| 33 | Bad Debt Recovery Amount | NM | 12 |  |  | Not used |
| 34 | Delete Account Indicator | IS | 1 |  |  | Not used |
| 35 | Delete Account Date | DT | 8 |  |  | Not used |
| 36 | Discharge Disposition | IS | 3 | True |  | For inpatients, NHDD Mode of Separation.  For emergency patients, NHDD Emergency Department Departure Status |
| 37 | Discharged to Location | DLD | 25 |  |  | Free Text in Component 1 |
| 38 | Diet Type | CE | 80 |  |  | Not used |
| 39 | Servicing Facility | IS | 2 | True |  | State Hospital Code for the health care facility by which the patient is being cared for. Note: Deviation from HL7 standard - exceeds standard maximum length. |
| 40 | Bed Status | IS | 1 |  |  | Not used |
| 41 | Account Status | IS | 2 |  |  | Not used |
| 42 | Pending Location | PL | 80 |  |  | Not used |
| 43 | Prior Temporary Location | PL | 80 |  |  | Not used |
| 44 | Admit Date/Time | TS | 26 | True |  | Admission Date |
| 45 | Discharge Date/Time | TS | 26 | True |  | Discharge Date |

## NTE – Notes and Comments (Usual GP)

The NTE Segment is used to carry the patients Usual GP, if known

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| 1 | Set ID – NTE | SI | 4 |  |  |  |
| 2 | Source of Comment | ID | 8 |  |  | Not Used |
| 3 | Comment | FT | 65536 | true |  | Name of usual GP / Clinic |
| 4 | Comment Type | CE | 60 |  |  | Not Used |

## ORC – Common Order Segment (Medications)

Finally, after the Patient visit segment, there is a series of ORC/RXO/RXR triplets that record information about the medications. Medications may be either:

* Ceased on this visit
* Newly prescribed on this visit
* Or remain unchanged on this visit

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Order Control | ID | 2 | True |  | IN for Information |
| 2 | Placer Order Number | EI | 22 | True |  | [Id]^ACME.CMS |
| 3 | Filler Order Number | EI | 22 |  |  | Not used |
| 4 | Placer Group Number | EI | 22 |  |  | Not used |
| 5 | Order Status | ID | 2 | True |  | IP – Medication Added  CM – Medication Cancelled  SC – Medication Continued  ER – Error |
| 6 | Response Flag | ID | 1 | True |  | E – report Exceptions |
| 7 | Quantity/Timing | TQ | 200 | True |  | Duration of Medication Instruction. Either:   * A specific date range: ^^^start^end * A length of time: ^^3d * Until advised otherwise: ^^standing * Until advised otherwise: ^^as required   Units for length of time are one of d, w, m, y |
| 8 | Parent | EIP | 200 |  |  | Not used |
| 9 | Date/Time of Transaction | TS | 26 |  |  | Not Used |
| 10 | Entered By | XCN | 120 | true |  | Active Directory User Login |
| 11 | Verified By | XCN | 120 |  |  | Not used |
| 12 | Ordering Provider | XCN | 120 |  |  | Not used |
| 13 | Enterer’s Location | PL | 80 |  |  | Not used |
| 14 | Call Back Phone Number | XTN | 40 |  |  | Not used |
| 15 | Order Effective Date/Time | TS | 26 |  |  | Date of change |
| 16 | Order Control Code Reason | CE | 200 |  |  | Reason for change, if provided |
| 17 | Entering Organization | CE | 60 |  |  | Not used |
| 18 | Entering Device | CE | 60 |  |  | Not used |
| 19 | Action By | XCN | 120 |  |  | Not used |
| 20 | Advanced Beneficiary Notice Code | CE | 40 |  |  | Not used |
| 21 | Ordering Facility Name | XON | 60 | true |  | ACME Hospital^[State identifier]^State Code |
| 22 | Ordering Facility Address | XAD | 106 | true |  | Hospital Address |

## RXO – Pharmacy Order

One for each medication ORC segment

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Requested Give Code | CE | 100 | True |  | Name of medication.  Code^Name^Coding System  Use either MIMS, PBS or EAN code. Name is either trade name or generic name  AMT code (if available from mapping), in components 4-6:  Term^preferred description^AMT |
| 2 | Requested Give Amount – Minimum | NM | 20 |  |  | Not used |
| 3 | Requested Give Amount – Maximum | NM | 20 |  |  | Not used |
| 4 | Requested Give Units | CE | 60 |  |  | Item Strength |
| 5 | Requested Dosage Form | CE | 60 |  |  | Item Form |
| 6 | Provider’s Pharmacy/ Treatment Instructions | CE | 200 |  |  | Not used |
| 7 | Provider’s Admin- istration Instructions | CE | 200 |  | Y | Free text instructions in second component |
| 8 | Deliver-to Location | LA1 | 200 |  |  | Not used |
| 9 | Allow Substitutions | ID | 1 | True |  | Y or N |
| 10 | Requested Dispense Code | CE | 100 |  |  | Not used |
| 11 | Requested Dispense Amount | NM | 20 |  |  | Not used |
| 12 | Requested Dispense Units | CE | 60 |  |  | Not used |
| 13 | Number Of Refills | NM | 3 |  |  | Not used |
| 14 | Ordering Provider’s DEA Number | XCN | 60 |  |  | Not used |
| 15 | Pharmacist/Treatment Supplier’s Verifier ID | XCN | 60 |  |  | Not used |
| 16 | Needs Human Review | ID | 1 |  |  | Not used |
| 17 | Requested Give Per (Time Unit) | ST | 20 |  |  | Not used |
| 18 | Requested Give Strength | NM | 20 |  |  | Not used |
| 19 | Requested Give Strength Units | CE | 60 |  |  | Not used |
| 20 | Indication | CE | 200 |  |  | Free text in second component |

## RXR – Pharmacy Treatment Route

One for each RXO segment.

|  | **Description** | **Data Type** | **Size** | **Required** | **Repetition** | **Comments** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Route | CE | 60 | true |  | From HL7 table 0162 |
| 2 | Site | CE | 60 |  |  | Not used |
| 3 | Administration Device | CE | 60 |  |  | Not used |
| 4 | Administration Method | CE | 60 |  |  | Not used |
| 5 | Routing Instruction | CE | 60 |  |  | Not used |