



RIAYATI Program Interface Control Document (HL7 ADT Inbound)

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Version and Distribution History			
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1.0	15-May-2020	Draft Specification	MOHAP
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3.3	30-Aug-2021	Changes based on Integration Testing <ul style="list-style-type: none"> Added ADT^A04 and ADT^A60 in the Matrix. Added ADT^A04 and ADT^A60 in the Trigger point list. Updated ADT^A08 trigger point with removing Vital Signs references. Updated PD1:11 with Facility Opt-out and Global Opt-out values. Added IAM Segment for Allergy management with the note that either AL1 or IAM can be used and not both. Updated AL1 segment with the note that either AL1 or IAM can be used and not both. Updated DG1-6 should be Primary/Secondary.	MOHAP
3.3	21-Sep-2021	Changed for required demographic fields <ul style="list-style-type: none"> Mothers Name and Nationality mandatory if Emirates Id, GCC-Id and Passport number is blank. Removed A05 and A38 triggering events. Update section 4 for triggering events criteria. Update notes for PD1-11 and PD1-12 fields. Added Note in section 4.1 Procedure Categories required by Riayati Added required field PR1-11. 	MOHAP
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		PID-28 – Nationality Id and Nationality Description changed code requirements	MOHAP
		PD1-11 - Publicity Code changed for Patient Consent requirements.	MOHAP
		PV1-10 - Hospital Service changed for code requirements.	MOHAP
		DG1-3.3 - Diagnosis Coding System Name changed for ICD10 system name	MOHAP
		DG1-5 – changed to optional	MOHAP
		PR1-3.3 - Procedure Code Name of Coding System change for CPT or CDT	MOHAP
		PR1-6 - Procedure Functional Type changed to optional	MOHAP
		PR1-17 changed to PR1-11	MOHAP
		AL1-3 - Allergen Code changed code type requirement.	MOHAP
		IAM-3 - Allergen Code changed code type requirement.	MOHAP
		ZSH-4 – SocialHabitCategory changed code type requirement.	MOHAP
		ZFH-3 – Diagnosis changed code type requirement.	MOHAP
4.2	17-Nov-2025	Removed A02 and A12 Messages Updated PID-4 and PID-19 as Not required Added PD1-6 and PD1-8 as Optional fields Added sample AL1 and IAM Segments Changed ZSH-5 and ZFH-4 as ST Data type along with sample segments.	MOHAP

Table 1: Version History

Document Acceptance and Sign-Off		
Name	Signature	Date
MOHAP		25-Dec-2025

Table 2: Document Acceptance and Sign-off

1 About this document

1.1 Purpose of this Document

The interfaces addressed in this document are designed to allow bi-directional communications using the health care industry's Health Level 7 (HL7) version 2.5.1 standards for the exchange of electronic health data between information systems. The interfaces are designed to:

- Process transcriptions communicated electronically from a sending system (such as an electronic medical record or practice management system) into the Riayati HIE receiving system.

This document describes the interface, addresses the data structure and available communication options, and provides other coordination information for implementing the interface. To assist the parties involved in planning, installing, and using the interface, applicable message segments are included.

We will commonly refer to the above as "providers", i.e., those who are participating in Riayati HIE program.

This document covers the following:

- a) The protocols and handshake supported for exchange of messages.
- b) Message Segment descriptions of different event type supported by Riayati HIE.

References to the HL7 standard are made throughout this document. The web site for HL7 specifications can be found at <http://www.hl7.org/>

1.2 Audience

This document is intended for the Technical Team from the Provider Organizations from the Northern Emirates and EMR vendors.

1.3 Abbreviations and Terms

Abbreviation	Term
API	Application Programming Interface
ESB	Enterprise Service Bus
FHIR	Fast Healthcare Interoperability Resources
HIE	Health Information Exchange
HTTP	Hyper Text Transport Protocol
MOHAP	Ministry of Health and Prevention
SOAP	Simple Object Access Protocol
UAE	United Arab Emirates

Table 3: Abbreviations and Terms

2 Introduction

2.1 RIAYATI Program

His Highness Sheikh Mohammed bin Rashid Al Maktoum announced in 2015 the initiative to establish a Health Information Exchange system – “RIAYATI” for patients in the Northern Emirates, UAE. In order to facilitate the movement of patients across healthcare providers, as well as connect public and private hospitals and clinics to share and exchange Health Records.

The RIAYATI Service will be the primary force driving an integrated, sustainable modern digital health platform that improves the safety of the patients, healthcare quality and population health in general through the safe sharing of medical data and information of all healthcare system beneficiaries across the Northern Emirates.

2.2 Health Information Exchange

RIAYATI Health Information Exchange will make quality healthcare data available for improvement of the patient care and support the futuristic innovative services like Clinical Decision Support, UAE specific clinical pathways, advanced analytics and Artificial Intelligence.

The RIAYATI HIE has various components as mentioned below to support the above-mentioned objectives.

- Enterprise Service Bus
- Registries
 - Patient Registry
 - Provider Registry
 - Organization Registry
 - Document Registry
 - Terminology Registry
- Repositories
 - Clinical Data
 - Documents

2.3 HL7 Concepts

2.3.1 HL7 Definitions

- i. **Message:** A message is the atomic unit of data transferred between systems. It is comprised of a group of segments in a defined sequence. Each message has a message type that defines its purpose and a trigger event. For example, the ADT is a message type and A01 is a trigger event. Between text messages in a batch, two carriage returns/line feeds (hex characters 0D0A0D0A) represent the end of each message. All the ADT messages will contain the snapshot of the AL1, DG1, PR1, IN1, NK1 segments for the visit.
- ii. **Segment:** A segment is a logical grouping of data fields. Segments within a defined message may be required or optional, may occur only once, or may be allowed to repeat. Each segment is named and is identified by a segment ID, a unique 3-character code. The hex characters '0D0A' that act as a Segment Terminator (equivalent to a Carriage Return and Line Feed) denote the end of each segment.
- iii. **Field:** A field is a string of characters. The segment it is in and the position within the segment identify each field; e.g., PID-5 is the fifth field of the PID segment. Optional data fields need not be valued. Whether a field is required, optional, or conditional in a segment is specified in the segment attribute tables.

A maximum length of the field is stated as normative information. Exceeding the listed length should be considered an error.

In segments attribute table Required/Mandatory data is designated as “**R**”, Optional field data is designated as “**O**” and Required if available is designated as “**RA**”.

- iv. **Component:** A component is one of a logical grouping of items that comprise the contents of a coded or composite field. Within a field having several components, not all components are required to be valued. Examples in this document demonstrate both fully valued and partially valued coded and composite fields.
- v. **Item number:** Each field is assigned a unique item number. Fields that is used in more than one segment will retain their unique item number across segments.
- vi. **Null and empty fields:** The null value is transmitted as two double quote marks (""). A null-valued field differs from an empty field. An empty field should not overwrite previously entered data in the field. The null value means that any previous value in this field should be overwritten.
- vii. **Data Type:** A data type restricts the contents and format of the data field. Data types are given a 2- or 3-letter code. Some data types are coded or composite types with several components. The applicable data type is listed and defined in each field definition. Refer <http://www.hl7.org/> for complete listing of data types used in this document and their definitions.
- viii. **Delimiters:** The delimiter values are given in MSH-1 and MSH-2 and used throughout the message. Applications must use agreed upon delimiters to parse the message.

Following are the recommended delimiters for messages:

Delimiter	Suggested Value	Usage
Segment Terminator	<CR> ((hex 0D0A)	Terminates a segment record. This value cannot be changed by implementers.
Field Separator		Separates two adjacent data fields within a segment. It also separates the segment ID from the first data field in each segment.
Component Separator	^	Separates adjacent components of data fields where allowed.
Subcomponent Separator	&	Separates adjacent subcomponents of data fields where allowed. If there are no subcomponents, this character may be omitted.
Repetition Separator	~	Separates multiple occurrences of a field where allowed.
Escape Character	\	Escape character for use with any field represented by an ST, TX or FT data type, or for use with the data (fourth) component of the ED data type. If no escape characters are used in a message, this character may be omitted. However, it must be present if subcomponents are used in the message.

- ix. **Message Syntax:** Each abstract message is defined in special notation that lists the 3-letter segment identifiers in the order they will appear in the message. The general rule is as follows: No brackets around it - Required - **[]** - Optional - **{ }** - Repeating - **{ [] }** - Optional Repeating.

2.3.2 Trigger Events:

The HL7 Standard is written from the assumption that an event in the real world of healthcare creates the need for data to flow among systems. The real-world event is called the trigger event. For example, the trigger event, an observation (e.g., a CBC result) for a patient is available, may cause the need for that observation to be sent to several other systems. When the transfer of information is initiated by the application system that deals with the triggering event, the transaction is termed an unsolicited update. HL7 Standards – Exceptions

Some exceptions to the HL7 conventions are noted herein. Data is added, updated and removed at the segment level. Messages should contain ALL current data. It is recommended that all segments for demographic interfaces contain fully populated fields appropriate for the message type. It is also recommended that all messages contain all segments. This should be observed even if the data has not changed.

Message segment maps indicate fields not directly used by the Riayati HIE as shaded entries. Unused fields are shown up to the last segment field that is processed by the Riayati HIE.

2.3.3 Robust Port Connectivity

If the sending system communicates to the Riayati HIE via a TCP/IP port number, it must be able to dynamically determine the status of the port to which it sends. In the event the client interface server has been rebooted or restarted for any reason, the sending system must be able to detect that the port was offline and reopen the port without user support.

2.3.4 Communications Options

Riayati HIE can configure an interface to function using TCP/ IP over Secure site-to-site Virtual Private Network (VPN) or File transfer using SFTP.

VPN (Virtual Private Network)

A Secure site-to-site Virtual Private Network (VPN) between Riayati HIE Servers and participants (Sending Systems) shall be implemented.

TCP/IP

TCP/IP is the preferred communications protocol for exchanging HL7 messages. The following is a list of the major guidelines for the establishment of TCP/IP communications:

1. A Site to site Secure VPN Tunnel will need to be established between the Participant and the Riayati HIE host system vendor prior to establishing the TCP/IP port and socket connection.
2. Unique TCP/IP port addresses and socket numbers must be determined by the client, Riayati HIE, and the host system vendor prior to installation. Suggested ports are:
3. The sending system will act as a TCP/IP client and is responsible for opening the port prior to sending data. The receiving system will act as a TCP/IP server.

IMPORTANT NOTE: The sending system must be able to monitor the status of the port and must be able to reconnect to the port without user support if it has been disconnected.

4. The HL7 minimal lower layer protocol recommendations are observed.
5. The leading character for each transmission can be configured for each interface and is represented here as <VT> (ASCII 11).
6. Up to three ending characters for each transmission can be configured for each interface. They are represented here as <FS> (ASCII 28) and <CR> (ASCII 13).
7. Each segment is followed by a <CR> (ASCII 13).
8. The exchange of messages will be as follows:

At the execution of the trigger event in the host system, the host sends a message to Riayati HIE:

Host System		Riayati HIE
<VT> MSH segment<CR> followed by first segment<CR> followed by next segment<CR> ... last segment<CR> <FS><CR> <CR>	□	Received by the product TCP/IP Receiver and placed in a directory on the file system. Predetermined identifiers in the message are validated by the Receiver script, if valid. The product takes the message and file to a SQL Message Queue, parser process it into the Data Store.

After receipt of each message, the product sends an ACK Message to Host on the same port number:

Host System		Riayati HIE
Received by Host	□	<VT> MSH segment<CR> MSA segment<CR> ERR segment<CR> <FS><CR> <CR>

If the MSA indicates that the message was received, then the host is free to send the next message. This is repeated until all messages are sent. If the MSA indicates that the message contained an error, the host must resend the message until either the MSA indicates the message was received, or the interface times out.

The simple general acknowledgment (ACK) should be sent by the receiving system to respond to the receipt of the messages.

The product TCP/IP Receiver script processes the MSH segment and the Message Control ID (MSH-10) is used to construct the outbound HL7 ACK. The ACK message only indicates that the message was received. Errors in processing usually result in HIE Event log messages. If the MSH segment is not found or cannot be processed, a HL7 NAK is sent. In the case of a low-level error, a TCP/IP NAK is returned.

MSA Example with MSH Message Header:

```
MSH|^~\&|SENDING_APP|SENDING_APP|RECEIVING_APP|RECEIVING_APP|
dfx20030917141003||ACK^A01|89899775||2.5
MSA|AE|20190801222928586
ERR||ERR^1^1|ValErrors^Field PV2 is required because PV1/PatientClass has this value: I
```

3 Basic Message Construction Rules

3.1 Encoding Rules for Sending

- a) Encode each segment in the order specified in the abstract message format.
- b) Place the Segment ID first in the segment.
- c) Precede each data field with the field separator.
- d) Encode the data fields in the order and data type specified in the segment definition table.
- e) End each segment with the segment terminator.
- f) Component separators need not be represented for components, subcomponents, or repetitions that come at the end of a field. The data fields below, for example, are equivalent:

`^XXX&YYY&&^` is equal to `^XXX&YYY^`

`|ABC^DEF^^|` is equal to `|ABC^DEF|`

3.2 Encoding Rules for Receiving

The following rules apply to receiving HL7 messages and converting their contents to data values:

- a) Ignore segments, fields, components, subcomponents, and extra repetitions of a field that are present but were not expected.
- b) Treat segments that were expected but are not present as consisting entirely of fields that are not present.
- c) Treat fields and components that are expected but were not included in a segment as not present.

4 HL7 ADT (Admission, Discharge and Transfer)

HL7 ADT messages carry patient demographic information for HL7 communications but also provide important information about trigger events (such as patient admit, discharge, transfer, registration, etc.). Some of the most important segments in the ADT message are the PID (Patient Identification) segment, the PV1 (Patient Visit) segment, and occasionally the IN1 (Insurance) segment. ADT messages are extremely common in HL7 processing and are among the most widely used of all message types.

They communicate patient demographic and visit information, as well as the reason why the message is being sent. ADT messages are typically initiated by the EMR or a registration application and are used to keep ancillary systems in sync regarding the state of a patient. When a patient's record is updated, an ADT message is sent. This way, all systems can maintain the patient's current contact information, insurance, and next of kin, as well as their current location and attending doctor.

There are 15 different types of ADT messages that are used for various trigger events as below.

- a. ADT^A01 (Admit/visit notification)
- b. ADT^A03 (Discharge/end visit)
- c. ADT^A04 (Register a patient)
- d. ADT^A08 (Update patient information)
- e. ADT^A11 (Cancel admit/visit notification)
- f. ADT^A13 (Cancel discharge/end visit)
- g. ADT^A28 (Add patient information)
- h. ADT^A31 (Update patient information)
- i. ADT^A40 (Merge Patient)
- j. ADT^A45 (Move visit information)
- k. ADT^A50 (Change Visit Number)
- l. ADT^A60 (Update Allergy Information)

Real time events triggering ADT messages:

Type	Description	Trigger To be fired when?
A01	Admit/visit notification	When a new Patient visit is created, this to be used for "Admitted" patients only
A03	Discharge/end visit	When the patient's status has changed to "discharged" and that a discharge date has been recorded. The patient is no longer in the facility. For non-admitted patients, an A03 event signals the end of a patient's visit to a healthcare facility. It could be used to signal the end of a visit for a one-time or recurring outpatient who is not assigned to a bed. Note: - Any updates to clinical data after discharge, like adding diagnosis, updating notes, etc., must be sent to Riayati.
A04	Register a patient	When patient has arrived or checked in as a one-time, or recurring outpatient, and is not assigned to a bed
A08	Update Patient Information	When any patient information like Demographics, VIP Flag update, Patient Consent, Insurance, Diagnosis, Procedure, Allergy, Social or Family history has Addition/Update/Delete but when no other trigger event has occurred
A11	Cancel admit/visit notification	When an A01 (admit/visit notification) event is cancelled



A13	Cancel discharge/end visit	When an A03 (discharge/end visit) event is cancelled
A28	Add patient information	When new Patient is created and having no visits associated
A31	Update patient information	When Patient information is updated, it is similar to an A08 (update patient information) event, but an A08 (update patient information) event should be used to update patient information for a current episode. An A28 (add person information) or A31 can also be used for backloading MPI information for the person, or for backloading person and historical information.
A40	Merge patient identifier list	When a merge has been done at the patient identifier list level. That is, two PID-3 - Patient Identifier List identifiers have been merged into one.
A45	Move visit information	When a move has been done at the visit identifier level. That is, a PV1-19 - Visit Number or PV1-50 - Alternate Visit ID associated with one account identifier (PID-18 - Patient Account Number) has been moved to another account identifier.
A50	Change visit number	When a change has been done at the visit identifier level. That is, a PV1-19 - Visit Number has been found to be incorrect and has been changed.
A60	Update allergy information	If the Allergy information are managed with IAM segment and not with AL1 then this trigger point should be used.

HL7 ADT messages uses the segments listed below:

Segments Trigger event	A01	A03	A04	A05	A05	A08	A11	A13	A28	A31	A38	A40	A45	A50	A60
MSH	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
EVN	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
PID	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
PD1	RA	R A	R A	R A	R A	R A	R A	R A	R A	R A	R A	R A	R A	R A	R A
MRG	-	-	-	-	-	-	-	-	-	-	-	R	R	R	
PV1	R	R	R	R	R	R	R	R	R A	R A	R	-	R	R	R A
PV2	R	R	R A	R	R	R	R	R	O	O	O	-	-	-	R A
DG1	RA	R A	R A	R A	R A	R A	R A	R A	R A	R A	O	-	-	-	-
DRG	RA	R A	R A	R A	R A	R A	-	R A	R A	R A	O	-	-	-	-
PR1	RA	R A	R A	R A	R A	R A	-	R A	R A	R A	-	-	-	-	-
ROL	RA	R A	R A	R A	R A	R A	-	R A	R A	R A	-	-	-	-	-
OBX	RA	R A	O	R A	R A	R A	O	O	O	O	O	-	-	-	-
AL1	RA	R A	R A	R A	R A	R A	-	R A	R A	R A	-	-	-	-	-
IAM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
NK1	RA	R A	R A	R A	R A	R A	-	R A	R A	R A	-	-	-	-	
IN1	RA	R A	R A	R A	R A	R A	-	R A	R A	R A	-	-	-	-	
IN2	RA	R A	-	R A	R A	R A	-	R A	-	-	-	-	-	-	
ZSH	-	-	-	-	-	O	-	-	-	O	-	-	-	-	-
ZFH	-	-	-	-	-	O	-	-	-	O	-	-	-	-	-

Merge and Move messages (A40, A45) shall carry the Target Patient details in PID and Source Patient details in MRG.

Definitions

Term	Definition
R	Required
C	Conditional
O	Optional
RA	Required if available
RI	Required for In-patients

IMPORTANT NOTE: The Riayati HIE is a visit base system; therefore PV1 19(Patient Visit Number) is required in all messages. Messages with a blank Patient Visit number will be flag as a bad message and ignored.

IMPORTANT NOTE: DSC segments, ADD segments, and any continuation pointer functionality derived from these segments are not supported.

IMPORTANT NOTE: All coded fields use standard HL7 field codes unless otherwise specified. Any deviations from the standard HL7 field code tables must be reported to the Riayati HIE.

All messages must be sent in Snapshot mode - Riayati HIE expects all data to present in all the messages, for example every message for the Result must have all active part of the report. If any corrected report is sent after original report Riayati HIE application expects all OBR and OBX segment is sent for the report, if partial report is sent in latest message, Riayati HIE application will not retain part of the report sent in earlier messages.

Message Acknowledgement

Riayati HIE will respond with Acknowledgement (ACK) Message for each ADT Message with the MSA Segment along with ERR segment in case of any validation error in the HL7 message.

MSA Segment

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
MSA-1	R	Acknowledgment Code	ID	2	HL7 Table 0008
MSA-2	R	Message Control ID	ST	20	

ERR Segment

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
ERR-1	Backwards Compatible	Error Code and Location	ELD	493	Specifies the segment that contains an error and describes the nature of the error.
ERR-2	O	Error Location	ERL	18	This data type identifies the segment and its constituent where an error has occurred.
ERR-3	R	HL7 Error Code	CWE	705	Specifies a coded element and its associated detail.

4.1 MSH - Message Header

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
MSH-1	R	Field Separator	ST	1	This field contains the HL7 field separator " " and is located between the segment ID "MSH" and the MSH 2 field. This dictates that " " will act as the field separator for the rest of the HL7 message. ' ' (ASCII 124)
MSH-2	R	Encoding Characters	ST	4	'^~\&' where '^' is the component delimiter (ASCII 94) '~' is the repeat delimiter (ASCII 126) '\' is the escape delimiter (ASCII 92) '&' is the subcomponent delimiter (ASCII 38)
MSH-3	O	Sending Application Namespace ID	HD	227	This field identifies the Sending Application as defined in the internal. This Application code will be assigned by Riayati. Table No: To be discussed during onboarding.
MSH-4	R	Sending Facility Namespace ID	HD	227	Facility License Number.
MSH-5	O	Receiving Application Namespace ID	HD	227	
MSH-6	O	Receiving Facility Namespace ID	HD	227	
MSH-7	R	Date/Time of Message	TS	26	Format: YYYYMMDDTTTT
MSH-8	O	Security	ST	40	
MSH-9	R	Message Type	MSG	15	
MSH-9.1	R	Message Code	ID	3	ADT
MSH-9.2	R	Trigger Event	ID	3	MSH 9.2 - Contains the Event Trigger Table No:0003
MSH-9.3	R	Message Structure	ID	7	Message Structure

MSH-10	R	Message Control ID	ST	20	Unique message number Note: If a message is received with the same Message Control ID as the immediately previous message, it will be treated as an error.
MSH-11	O	Processing ID	PT	3	P (Production) or T (Testing) or D (Development)
MSH-12	R	Version ID	VID	60	HL7 version 2.5.1
MSH-13	O	Sequence Number	NM	15	
MSH-14	O	Continuation Pointer	ST	180	
MSH-15	O	Accept Acknowledgment Type	ID	2	
MSH-16	O	Application Acknowledgment Type	ID	2	
MSH-17	O	Country Code	ID	3	
MSH-18	O	Character Set	ID	16	
MSH-19	O	Principal Language of Message	CE	250	
MSH-20	O	Alternate Character Set Handling Scheme	ID	20	
MSH-21	O	Message Profile Identifier	EI	427	

Sample MSH segment:

```
MSH|^~\&|SENDING_APP|SENDING_FACILITY|RIAYATI|MOHAP|202008181126|SECURITY|ADT^A04^ADT_A01|
MSG00001|P|2.5||AL|NE|THA|UNICODE UTF-8|||
```

4.2 EVN - Event Type

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
EVN-1	R	Event Type Code	ID	3	Contains the Event Trigger and matches with MSH-9.2
EVN-2	R	Recorded Date/Time	TS	26	Format: YYYYMMDD[HHMM]
EVN-3	O	Date/Time Planned Event	TS	26	Format: YYYYMMDD[HHMM]
EVN-4	O	Event Reason Code	IS	3	
EVN-5	O	Operator ID	XCN	250	Though EVN-5 is a repeating field, only the first non-null instance will be used. If captured at the EMR, send the user's id, who initiated the transaction.
EVN-6	O	Event Occurred	TS	26	Format: YYYYMMDD[HHMM]
EVN-7	O	Event Facility	HD	241	This field is used to represent an organization in encounters. Facility License Number

Sample EVN segment:

EVN|A01|202004140929|||JamesG|

4.3 PID - Patient Identification

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
PID-1	RA	Set ID	SI	4	There will only be one patient being sent at a time. Therefore, this will always be set to the value of "1".
PID-2	O	Patient ID – External	CX	20	
PID-3	R	Patient Identifier	CX	250	<p>Number types SSN/EID, DL, or MRN here will override any SSN/EID, DL, or MRN in PID-4, PID-19, and PID-20.</p> <p>Every instance of PID-3 will be parsed. Number is parsed from "subfield 1" and Number Type is parsed from "subfield 5". Number Type should have value "EID", "MRN", "OMRN", "PPN", "GCCID" only.</p> <p>Component 1: Medical Record Number, Organization level Medical Record Number, Emirates Id, GCC Id, Passport Number</p> <p>Component 5: ID Domain</p> <p>Component 6: Facility Mnemonic</p>
PID-3.1	R	Patient ID – Internal	ST	15	<p>Note 1: ID must be unique. Failure to ensure uniqueness can result in patient record mismatches.</p> <p>Note 2:</p> <ul style="list-style-type: none"> There can be only one primary patient identifier (MRN) and multiple secondary identifiers per patient and facility in PID_3_1. Secondary identifier can be Emirates Id (with no hyphens), GCC Id or Passport Number The PID_3_5 should have MRN for primary identifier. The PID_3_5 should have OMRN for Organisation level Medical Record Number. The PID_3_5 should have EID for Emirates Id identifier. The PID_3_5 should have GCCID for GCC Id identifier.

					<ul style="list-style-type: none"> The PID_3_5 should have PPN for Passport Number identifier. There can be only one combination of MRN with Facility number. Along with MRN either of three secondary valid identifiers is mandatory each message. Facility id in PID_3_6 for primary local identifier for the message sending facility, must Match with facility Id in MSH.4. <p>Note 3: For the Emirates ID, use the below when ID is not available.</p> <ul style="list-style-type: none"> All 0's – Visitors (Tourists), Non-Residents who have no Emirates ID. All 1's – New-borns and other Residents for whom the Emirates ID will be obtained later. All 2's – Special category where the Patient will not have Emirates ID forever. All 9's – Emergency / Unconscious Patients for whom the Emirates ID is not known. <p>Format:</p> <pre>MR001^^F12345^MRN~OMR001^^APPCODE^O MRN~789123412345671^^ICA^EID~1046403927 ^^GCC^GCCID~PASS001^^INTNL^PPN</pre>
PID-3.4	R	Assigning Authority	HD	227	
PID-3.4.1	R	Assigning Authority: Namespace Identifier	IS	20	<p>Facility License Number for MRN.</p> <p>Application / Organisation code assigned by Riayati for OMRN.</p> <p>"ICA" for EID.</p> <p>"GCC" for GCC ID.</p> <p>"INTNL" for Passport Number.</p>
PID-3.5	R	Identifier Type Code	ID	5	Identifier Type should have the value either "EID", "MRN", "OMRN", "PPN" or "GCCID".
PID-3.6.1	O	Assigning Facility: Namespace Identifier	IS	20	
PID-3.6.2	O	Assigning Facility: Universal Identifier	ST	199	

PID-3.6.3	O	Assigning Universal Type	Facility: Identifier	ID	6	
PID-3.7	O	Effective Date		DT	8	Format: YYYYMMDD[HHMM]
PID-3.8	O	Expiration Date		DT	8	Format: YYYYMMDD[HHMM]
PID-4	O	Alternate Patient ID		CX	20	Not required. Identifiers are to be sent only in PID-3.
PID-5	R	Patient Name		XPN	100	Only the first instance of this field is used. Component 1: Last Name Component 2: First Name Component 3: Middle Initial Component 4: Suffix Component 5: Title Component 6: Degree
PID-5.1	R	Patient Family name		FN	194	
PID-5.2	R	Patient Given name		ST	30	
PID-5.3	O	Patient Middle Initial or Name		ST	30	
PID-5.4	O	Patient Name Suffix		ST	20	
PID-5.5	O	Patient Name Prefix		ST	20	
PID-5.14	O	Patient Name Professional Suffix		ST	199	
PID-6	RA	Mother's Name	Maiden	XPN	250	This field contains the mother's maiden name. Required if Emirates or Passport is not captured for the patient record.
PID-6.1	O	Mother's Name: Family Name	Maiden	FN	194	
PID-6.2	O	Mother's Name: Given Name	Maiden	ST	30	
PID-6.3	O	Mother's Name: Middle initial	Maiden	ST	30	
PID-6.4	O	Mother's Name: Suffix	Maiden	ST	20	
PID-6.5	O	Mother's Name: Prefix	Maiden	ST	20	

PID-7	R	Date/time of Birth	TS	26	Only the date part of BirthTime is stored. Format: YYYYMMDD
PID-8	R	Sex	IS	1	HL7 Table 0001 If demographics contain no gender, the patient's gender will appear in the Clinical Viewer as "NS" for "Not Specified".
PID-9	O	Patient Alias	XPN	250	Component 1: Last Name Component 2: First Name Component 3: Middle Initial Component 4: Suffix Component 5: Title Component 6: Degree
PID-9-1	O	Patient Alias Family Name	FN	194	
PID-9-2	O	Patient Alias Given Name	ST	30	
PID-9-3	O	Patient Alias Middle Name	ST	30	
PID-9-4	O	Patient Alias Suffix	ST	20	
PID-9-5	O	Patient Alias Prefix	ST	20	
PID-10	O	Race Code	CE	250	Race If this field is valued, both code and description to be sent in the first two components as per the code table. PID.10.1 and PID.10.2
PID-10.1	O	Race Identifier Code	ST	20	HL7 Table 0005
PID-10.2	O	Race Identifier Description Text	ST	199	
PID-10.3	O	Race Identifier Code System	ID	20	
PID-10.6	O	Race Identifier Code System Version	ID	20	
PID-11	R	Address	XAD	250	Every non-null instance of PID-11 will be parsed. Component 1: Street Component 2: Street (Secondary, i.e., APT) Component 3: City

					Component 4: State Component 5: Zip Code
PID-11.1	R	Street Address	SAD	184	
PID-11.2	O	Other Designation	ST	120	
PID-11.3	R	City	ST	50	
PID-11.4	R	State or Province	ST	50	HL7 table 0347: Please use the description from the code table.
PID-11.5	O	Zip or Postal Code	ST	12	
PID-11.6	R	Country	ID	3	Must be the code from the below Riayati code table: RYT1145
PID-11.7	RA	Address Type	ID	3	HL7 table 0190
PID-11.8	O	Other Geographic Designation	ST	50	
PID-11.9	RA	County/Parish	IS	20	
PID-12	RA	County Code	IS	4	Three-digit ISO code
PID-13	R	Phone Number – Home	XTN	250	The TelecommunicationUseCode and TelecommunicationEquipmentTy are used to determine if the phone is a home phone or a mobile phone. Repeating field. Each instance can represent one of the Telecommunication information (Cell Phone, Phone Number and Email Address).
PID-13.1	O	Phone Number – Home Telephone Number	ID	199	Patient home phone number. Only parsed when the PID-13.3 is “CP” or “PH” Formatted as 009715xxxxxxxx
PID-13.2	R	Phone Number – Home Telecommunication Use Code	ID	3	“EMR” – Emergency Number (for Cell Phone). “PRN” – Primary Residence Number (for Home Phone Number). “NET” – Network (email) Address (for Email Address).
PID-13.3	R	Phone Number – Home Telecommunication Equipment Type	ST	8	“CP” – Cell Phone. “PH” – Home Phone Number. “Internet” – Email Address.
PID-13.4	O	Phone Number – Home	ST	199	Patient E-mail address. Only parsed when the PID-13.3 is “Internet”

		Email Address			
PID-14	O	Phone Number – Business	XTN	100	The TelecommunicationUseCode and TelecommunicationEquipmentTy are used to determine if the phone is a business phone or a mobile phone. Only one instance is expected with Work Phone Number.
PID-14.1	O	Phone Number – Business Telephone Number	ST	250	Formatted as 009714xxxxxxxx
PID-14.2	O	Phone Number – Business Telecommunication Use Code	ID	3	“WPN” – Work Primary Number.
PID-14.3	O	Phone Number – Business Telecommunication Equipment Type	ST	8	“EMP” – Employer
PID-14.4	O	Phone Number – Business Email Address	ST	199	
PID-15	R	Primary Language	CE	250	Patient's primary language. If this field is valued, both code and description to be sent in the first two components as per the code table, PID.15.1 and PID.15.2
PID-15.1	RA	Primary Language Code	ST	20	HL7 table 0296.
PID-15.2	O	Primary Language Description Text	ST	199	
PID-15.3	O	Primary Language Code System	ID	20	
PID-15.6	O	Primary Language Code System Version	ID	20	
PID-16	RA	Marital Status	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table. PID.16.1 and PID.16.2
PID-16.1	RA	Marital Status Code	ST	20	HL7 table 0002
PID-16.2	O	Marital Status Description Text	ST	199	

PID-16.3	O	Marital Status Code System	ID	20	
PID-16.6	O	Marital Status Code System Version	ST	20	
PID-17	O	Religion	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table. PID.17.1 and PID.17.2
PID-17.1	R	Religion Code	ST	20	HL7 table 0006
PID-17.2	O	Religion Description Text	ST	199	
PID-17.3	O	Religion Code System	ID	20	
PID-17.6	O	Religion Code System Version	ID	20	
PID-18	O	Patient Account Number	CX	250	
PID-19	O	SSN/EID Number – Patient	ST	16	Not required. EID to be sent only in PID-3.
PID-20	O	Driver's License Number	DLN	25	Driving License Number. This is not expected to be part of PID-3 Identifier list. Used only if there is no DL in PID-3 or PID-4.
PID-20.1	O	Driver's License Number	ST	20	
PID-20.2	O	Driver's License Number State	IS	20	
PID-21	O	Mother's Identifier	CX	250	Required for newborn patient records Mother Patient's MRN ID for the newborn patient records.
PID-22	O	Ethnic Group	CE	250	Patients Ethnicity If this field is valued, both code and description to be sent in the first two components as per the code table. PID.22.1 and PID.22.2
PID-22.1	O	Ethnic Group Code	ST	20	Riayati table RYT1028
PID-22.2	O	Ethnic Group Descriptive Text	ST	199	
PID-22.3	O	Ethnic Group Code System	ID	20	

PID-22.6	O	Ethnic Group Code System Version	ID	20	
PID-23	O	Birthplace	ST	250	
PID-24	O	Multiple Birth Indicator	ID	1	Required only for newborn patient records. HL7 table 0136
PID-25	O	Birth Order	NM	2	Integer value. Required only for newborn patient record and is part of multiple birth.
PID-28	RA	Nationality	CE	250	HL7 table 0212 or Riayati table RYT1145 If this field is valued, both code and description to be sent in the first two components as per the code table. PID.28.1 and PID.28.2 Mandatory if Emirates Id and Passport Number is not captured for the Patient.
PID-28.1	O	Nationality Code	ST		Code from HL7 table 0212 or Riayati table RYT1145
PID-28.2	O	Nationality Description	ST		Description from HL7 table 0212 or Riayati table RYT1145
PID-29	O	Patient Death Date/time	TS	26	Time of death Format: YYYYMMDD[HHMM]
PID-30	O	Patient Death Indicator	ID	1	HL7 table 0136 A value of "Y" in the HL7 will be parsed as 1, "N" will be parsed as 0, the delete instruction (two double quotes) will be parsed as-is, and any other value in the HL7 will not be parsed.

Sample PID segment:

```
PID|||MR001^^F12345^MRN~OMR001^^APPCODE^OMRN~789123412345671^^ICA^EID~1046403927^^GC
C^GCCID~PASS001^^INTNL^PPN||Family Name^Given Name^Second Name^Mr.||19610615|M||
STREET^^SHAIK
KHALIA^DXB^145445|GL|09715512346548^EMR^CP^~^NET^Internet^reach@email.com|00971027654321^WPN
^EMP||S||ACC128563||
```

4.4 PD1 - Patient Additional Demographic

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments									
PD1-1	O	Living Dependency	IS	2	HL7 Table 0223									
PD1-4	O	Patient Primary Care Provider Name & ID No.	XCN	250										
PD1-4.1	R	Primary Care Provider Identifier	ST	15										
PD1-4.2	R	Primary Care Provider Family Name	FN	194										
PD1-4.3	R	Primary Care Provider Given Name	ST	30										
PD1-4.4	O	Primary Care Provider Middle Name	ST	30										
PD1-4.5	O	Primary Care Provider Suffix	ST	20										
PD1-4.6	O	Primary Care Provider Prefix	ST	20										
PD1-4.9.2	R	Primary Care Provider Assigning Authority	ST	199										
PD1-6	O	Handicap	IS	2	Disability Status. Riayati table RYT1153									
PD1-8	O	Organ Donor Code	IS	2	Riayati table RYT1154									
PD1-11	R	Publicity Code	CE	250	<div>Facilities to obtain explicit consent from the patient on EACH VISIT, either to show/not show their clinical data in Riayati HIE by default. Below are the code and descriptions allowed.</div> <table><tr><th>Code</th><th>Description</th><th>Meaning</th></tr><tr><td>0</td><td>Global OptIn</td><td>Shows the clinical data from all facilities in Riayati HIE.</td></tr><tr><td>1</td><td>Global OptOut</td><td>Does not show the data from any facility in Riayati HIE.</td></tr></table>	Code	Description	Meaning	0	Global OptIn	Shows the clinical data from all facilities in Riayati HIE.	1	Global OptOut	Does not show the data from any facility in Riayati HIE.
Code	Description	Meaning												
0	Global OptIn	Shows the clinical data from all facilities in Riayati HIE.												
1	Global OptOut	Does not show the data from any facility in Riayati HIE.												



Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
PD1.11.1	R	Global Consent Flag Code	ST	1	0 or 1
PD1.11.2	R	Global Consent Flag Description	ST	20	Global OptIn (OR) Global OptOut
PD1-12	R	Protection Indicator	D	1	VIP Indicator. HL7 table 0136 By default, value in this field should be blank, Y or N codes must be sent only once in A08 or A31 message when there is change in Patient VIP status.

Sample PD1 segment:

PD1|1|MCR||DRDAMP^Dampier^Leland^R^II^&MD|||||0^Global OptIn|N|

4.5 PV1 - Patient Visit

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
PV1-1	O	Set ID	SI	3	This field contains the number that identifies this transaction.
PV1-2	R	Patient Class	IS	1	Supported values: E = Emergency I = Inpatient O = Outpatient C = Community N = Not Applicable P = Pre-admit G = Generated S = Silent
PV1-3	O	Assigned Patient Location	PL	80	Required when PV1-2: Patient Class is for Inpatient or Emergency or Outpatient.
PV1-3.1	O	Point of care	IS	20	Location Note: For Outpatient Encounter this field will contain Speciality description.
PV1-3.2	O	Room	IS	20	Room
PV1-3.3	O	Bed	IS	20	Bed
PV1-3.4	O	Facility	HD	227	Facility License Number (where the visit happens)
PV1-3.7	O	Building	IS	20	
PV1-3.8	O	Floor	IS	20	
PV1-3.9	O	Location Description	ST	199	
PV1-4	O	Admission Type	IS	2	This is a Patient's "Admit Priority" as defined in Admissions. HL7 table 0007 Value 'N' mandatory for Newborn messages.
PV1-5	O	Pre-admit Number	CX	250	A number given to the patient prior to being admitted but while information is being gathered
PV1-5.1	O	Pre-admit Number ID	ST	15	
PV1-5.4.2	O	Pre-admit Number Assigning Authority	ST	199	

PV1-5.5	O	Pre-admit Number Identifier Type Code	ID	5	
PV1-6	O	Prior Patient Location	PL	80	
PV1-7	R	Attending Doctor	XCN	250	
PV1-7.1	R	Attending Doctor ID Number	ST	15	Must be valid DOH, MOHAP or DHA license number.
PV1-7.2	R	Attending Doctor Last Name	FN	194	
PV1-7.3	O	Attending Doctor First Name	ST	30	
PV1-7.4	O	Attending Doctor Middle Name	ST	30	
PV1-7.5	O	Attending Doctor Suffix	ST	20	
PV1-7.6	O	Attending Doctor Prefix	ST	20	
PV1-7.7	O	Attending Doctor Degree	IS	5	HL7 Table 0360
PV1-7.9	R	Attending Doctor Assigning Authority	HD	227	Licensing Authority. Must have the value either MOHAP, DHA or DOH.
PV1-8	O	Referring Doctor	XCN	250	
PV1-8.1	R	Referring Doctor ID Number	ST	15	Must be valid DOH, MOHAP or DHA license number.
PV1-8.2	O	Referring Doctor Last Name	FN	194	
PV1-8.3	O	Referring Doctor First Name	ST	30	
PV1-8.4	O	Referring Doctor Middle Name	ST	30	
PV1-8.5	O	Referring Doctor Suffix	ST	20	
PV1-8.6	O	Referring Doctor Prefix	ST	20	
PV1-8.7	O	Referring Doctor Degree	IS	5	HL7 Table 0360
PV1-8.9	R	Referring Doctor Assigning Authority	HD	227	Licensing Authority. Must have the value either MOHAP, DHA or DOH.
PV1-9	O	Consulting Doctor	XCN	250	
PV1-9.1	R	Consulting Doctor ID Number	ST	15	Must be valid DOH, MOHAP or DHA license number.

PV1-9.2	O	Consulting Doctor Last Name	FN	194	
PV1-9.3	O	Consulting Doctor First Name	ST	30	
PV1-9.4	O	Consulting Doctor Middle Name	ST	30	
PV1-9.5	O	Consulting Doctor Suffix	ST	20	
PV1-9.6	O	Consulting Doctor Prefix	ST	20	
PV1-9.7	O	Consulting Doctor Degree	IS	5	HL7 Table 0360
PV1-9.9	R	Consulting Doctor Assigning Authority	HD	227	Licensing Authority. Must have the value either MOHAP, DHA or DOH.
PV1-10	O	Hospital Service	IS	3	Must be a valid SNOMED CT code, refer to the below code table for the hospital service mappings. Riayati Table: RYT1035
PV1-11	O	Temporary Location	PL	80	
PV1-12	O	Pre-admit Test Indicator	IS	2	
PV1-13	O	Re-admission Indicator	IS	2	
PV1-14	O	Admit Source	IS	6	HL7 Table 0023
PV1-15	O	Ambulatory Status	IS	2	HL7 Table 0009
PV1-16	O	VIP Indicator	IS	2	This is a Y/N flag that is defined as the VIP. Value 'Y' is mandatory for every VIP patient related message. To remove the previously wrongly set VIP flag HL7 Null ("") can be used.
PV1-17	C	Admitting Physician	XCN	250	Required when PV1-2: Patient Class is Inpatient with Main Responsible Physician (MRP) for the visit.
PV1-17.1	R	Admitting Physician ID Number	ST	15	
PV1-17.2	O	Admitting Physician Family Name	FN	194	
PV1-17.3	O	Admitting Physician Given Name	ST	30	
PV1-17.4	O	Admitting Physician Middle Name	ST	30	

PV1-17.5	O	Admitting Physician Suffix	ST	20	
PV1-17.6	O	Admitting Physician Prefix	ST	20	
PV1-17.7	O	Admitting Physician Degree	IS	5	HL7 Table 0360
PV1-17.9	R	Admitting Physician Assigning Authority	HD	227	Licensing Authority. Must have the value either MOHAP, DHA or DOH.
PV1-18	O	Patient Type	IS	2	HL7 Table 0018
PV1-19	R	Visit Number ID	CX	250	Visit number must be unique for the facility.
PV1-19.1	R	Visit Number ID	ST	15	
PV1-19.4	R	Visit Number Assigning Authority	HD	227	Facility License Number. Must match with facility Id in MSH.4
PV1-19.5	O	Visit Number Identifier Type Code	ID	5	
PV1-20	O	Financial Class	FC	50	This is the Patient's Financial Class as defined as Fin Class in Admissions. HL7 Table 0064
PV1-21	O	Charge Price Indicator	IS	2	
PV1-22	O	Courtesy Code	IS	2	
PV1-23	O	Credit Rating	IS	2	
PV1-24	O	Contract Code	IS	2	
PV1-25	O	Contract Effective Date	DT	8	Format: YYYYMMDD[HHMM]
PV1-26	O	Contract Amount	NM	12	
PV1-27	O	Contract Period	NM	3	
PV1-28	O	Interest Code	IS	2	
PV1-29	O	Transfer to Bad Debt Code	IS	4	
PV1-30	O	Transfer to Bad Debt Date	DT	8	Format: YYYYMMDD[HHMM]
PV1-31	O	Bad Debt Agency Code	IS	10	
PV1-32	O	Bad Debt Transfer Amt	NM	12	

PV1-33	O	Bad Debt Recovery Amt	NM	12	
PV1-34	O	Delete Account Indicator	IS	1	
PV1-35	O	Delete Account Date	DT	8	Format: YYYYMMDD[HHMM]
PV1-36	C	Discharge Disposition	IS	3	The conditions under which the patient was discharged. Mandatory for A03 message. Riayati Table: RYT1024
PV1-37	O	Discharge to Location	DLD	47	
PV1-38	O	Diet Type	CE	250	
PV1-39	O	Servicing Facility	IS	2	HL7 Table No:0115
PV1-40	O	Bed Status	IS	1	
PV1-41	O	Account Status	IS	2	HL7 Table No:0117
PV1-42	O	Pending Location	PL	80	
PV1-43	O	Prior Temporary Location	PL	80	
PV1-44	R	Admit Date/Time	TS	26	This field contains the admit date/time. If there is no value in this field, the system will use the date and time from when the message is transmitted. Format: YYYYMMDD[HHMM]
PV1-45	C	Discharge Date/Time	TS	26	This field contains the discharge date/time. Mandatory for A03 message. Format: YYYYMMDD[HHMM]

Sample PV1 segment:

```
PV1|1|O|General^^F12345||||GD12345^LastName^FirstName^^Dr.^^ASSIGNING_AUTH|14||P||||453640^^F12345|||||||
||||1|Home|||||20200401111800|20200401112000
```

4.6 PV2 - Patient Visit - Additional Information

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
PV2-1	O	Prior pending location	PL	80	
PV2-2	O	Accommodation code	CE	250	Accommodation Type of the bed associated with the preceding location. If this field is valued, both code and description to be sent in the first two components as per the code table. PV2.2.1 and PV2.2.2 HL7 TableNo:0129
PV2-3	R	Admit Reason	CE	250	Only Identifier and Text fields are used. The Identifier is used to hold the coded value and the Text is used to hold the description. If Text is blank, the Identifier is used for the description as well.
PV2-3.1	R	Admit Reason Code	ST	20	This will contain the free text Reason for Visit field
PV2-3.2	C	Admit Reason Description	ST	199	
PV2-3.3	O	Admit Reason Coding System	ID	20	
PV2-3.4	O	Admit Reason Alternate Code	ST	20	
PV2-3.5	O	Admit Reason Alternate Description	ST	199	
PV2-3.6	O	Admit Reason Alternate Coding System	ID	20	
PV2-4	O	Transfer Reason	CE	250	
PV2-5	O	Patient Valuables	ST	25	
PV2-6	O	Patient Valuables Location	ST	25	
PV2-7	O	Visit User Code	IS	2	HL7 Table No:0130
PV2-8	O	Expected Admit Date/Time	TS	26	Format: YYYYMMDD[HHMM]
PV2-9	O	Expected Discharge Date/Time	TS	26	Format: YYYYMMDD[HHMM]
PV2-10	O	Estimated Length of Inpatient Stay	NM	3	
PV2-11	O	Actual Length of Inpatient Stay	NM	3	

PV2-12	O	Visit Description	ST	50	
PV2-13	O	Referral Source Code	XCN	250	
PV2-14	O	Previous Service Date	DT	8	Format: YYYYMMDD[HHMM]
PV2-15	O	Employment Illness Related Indicator	ID	1	HL7 Table No:0136
PV2-16	O	Purge Status Code	IS	1	
PV2-17	O	Purge Status Date	DT	8	Format: YYYYMMDD[HHMM]
PV2-18	O	Special Program Code	IS	2	HL7 Table No:0214
PV2-19	O	Retention Indicator	ID	1	HL7 Table No:0136
PV2-20	O	Expected Number of Insurance Plans	NM	1	
PV2-21	O	Visit Publicity Code	IS	1	HL7 Table No:0215
PV2-22	O	Visit Protection Indicator	ID	1	HL7 Table No:0136
PV2-23	O	Clinic Organization Name	XON	250	
PV2-24	O	Patient Status Code	IS	2	HL7 Table No:0216
PV2-25	O	Visit Priority Code	IS	1	HL7 Table No:0217
PV2-26	O	Previous Treatment Date	DT	8	Patients previous treatment date if entered. Format: YYYYMMDD[HHMM]
PV2-27	O	Expected Discharge Disposition	IS	2	HL7 Table No:0112
PV2-28	O	Signature on File Date	DT	8	Format: YYYYMMDD[HHMM]
PV2-29	O	First Similar Illness Date	DT	8	Format: YYYYMMDD[HHMM]
PV2-30	O	Patient Charge Adjustment Code	CE	250	HL7 Table No:0218 If this field is valued, both code and description to be sent in the first two components as per the code table. PV2.30.1 and PV2.30.2
PV2-31	O	Recurring Service Code	IS	2	HL7 Table No:0219
PV2-32	O	Billing Media Code	ID	1	
PV2-33	O	Expected Surgery Date and Time	TS	26	Format: YYYYMMDD[HHMM]
PV2-34	O	Military Partnership Code	ID	1	

PV2-35	O	Military Non-Availability Code	IS	1	
PV2-36	O	Newborn Baby Indicator	IS	1	Indication (Yes or No) if patient is a newborn. HL7 Table No: 0136
PV2-37	O	Baby Detained Indicator	IS	1	HL7 Table No: 0136
PV2-38	O	Mode of Arrival Code	CE	250	Mode of arrival. If this field is valued, both code and description to be sent in the first two components as per the code table, PV2.38.1 and PV2.38.2
PV2-38.1	O	Mode of Arrival Code	ST	20	HL7 TableNo:0430
PV2-38.2	O	Mode of Arrival Description	ST	199	
PV2-39	O	Recreational Drug Use	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table, PV2.39.1 and PV2.39.2
PV2-39.1	O	Recreational Drug Use Code	ST	20	HL7 TableNo:0431
PV2-39.2	O	Recreational Drug Use Description	ST	199	
PV2-40	O	Admission Level of Care Code	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table, PV2.40.1 and PV2.40.2
PV2-40.1	O	Admission Level of Care Code	ST	20	HL7 Table No:0432
PV2-40.2	O	Admission Level of Care Description	ST	199	
PV2-41	O	Precaution Code	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table, PV2.41.1 and PV2.41.2
PV2-41.1	O	Precaution Code	ST	20	HL7 Table No:0433
PV2-41.2	O	Precaution Code Description	ST	199	
PV2-42	O	Patient Condition Code	CE	250	Patient condition code. If this field is valued, both code and description to be sent in the first two components as per the code table, PV2.42.1 and PV2.42.2
PV2-42.1	O	Patient Condition Code	ST	20	HL7 Table No:0434
PV2-42.2	O	Patient Condition Description	ST	199	
PV2-43	O	Living Will Code	IS	2	HL7 TableNo:0315

PV2-44	O	Organ Donor Code	IS	2	HL7 TableNo:0316
PV2-45	O	Advance Directive Code	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table, PV2.45.1 and PV2.45.2
PV2-45.1	O	Advance Directive Code	ST	20	HL7 TableNo:0435
PV2-45.2	O	Advance Directive Description	ST	199	
PV2-46	O	Patient Status Effective Date	DT	8	Format: YYYYMMDD[HHMM]
PV2-47	C	Expected LOA Return Date/Time	TS	26	Format: YYYYMMDD[HHMM]
PV2-48	O	Expected admission Pre-Testing Date/Time	TS	26	Format: YYYYMMDD[HHMM]
PV2-49	O	Notify Clergy Code	IS	20	HL7 TableNo:0534

Sample PV2 segment:

PV2|||123^Headache and Nausea|

4.7 DG1 - Diagnosis

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
DG1-1	R	Set ID	SI	4	Supported values: D = Delete Two double quotes ("") = Inactivate All (Status="I") Four double quotes ("""") = Clear All (Status="C") Any other value = Add or Update Two double quotes ("") in the DG1-1 will be parsed as Action Code="I", and four double quotes ("""") as "C". In either case the rest of the segment is ignored.
DG1-2	O	Diagnosis Method Coding	ID	2	
DG1-3	R	Diagnosis Code	CE	250	DG1-3 will only be parsed if subfield 1 or 2 is not null. Component 1 - Identifier Component 2 - Text Component 3 - ICD Code version
DG1-3.1	R	Diagnosis Identifier Code	ST	20	Must be a valid ICD10 code
DG1-3.2	R	Diagnosis Description	ST	199	
DG1-3.3	R	Diagnosis System Name Coding	ID	20	Must be ICD10, send the value as I10C
DG1-4	O	Diagnosis Description	ST	49	Used only if DG1-3 is empty.
DG1-5	O	Diagnosis Date/Time	TS	26	Format: YYYYMMDD[HHMM] Note: Default to Admit Date/Time or Message Date/Time if empty
DG1-6	R	Diagnosis Type	IS	2	Should be "Primary" for primary Diagnosis and "Secondary" for other Diagnoses.
DG1-7	O	Major Diagnostic Category	CE	250	
DG1-15	O	Diagnosis Priority	ID	250	HL7 table 0359 The value 1 means that this is the primary diagnosis. Values 2-99 convey ranked secondary diagnoses.

Sample DG1 segment:

DG1|""|||0

DG1|1|I10C|R50.9^Fever, unspecified^I10C|Fever, unspecified|20230209170047|Primary|||||1

DG1|2|I10C|J02.9^Acute pharyngitis, unspecified^I10C|Acute pharyngitis, unspecified|20230209170056|Secondary|||||2

DG1|3|I10C|R05^Cough^I10C|Cough|20230209170103|Secondary|||||2

4.8 DRG - Diagnosis Related Group

The following fields may be required from Attribute Table:

Note: - DRG segment should be snapshot at visit level, where all Active Diagnosis Group associated with Visit should be sent in each ADT message.

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
DRG-1	R	Diagnostic Group Related	CE	250	Component 1: Group ID Component 2: Group Text Component 3: Name of Coding System
DRG-2	O	DRG AssignedDate/Time	TS	26	Format: YYYYMMDD[HHMM]
DRG-3	O	DRG Approval Indicator	ID	1	HI7 Table No: 0136
DRG-4	O	DRG Grouper Review Code	IS	2	HI7 Table No: 0056
DRG-5	O	Outlier Type	CE	250	
DRG-6	O	Outlier Days	NM	3	
DRG-7	O	Outlier Cost	CP	12	
DRG-8	O	DRG Payor	IS	1	HI7 Table No:0229
DRG-9	O	Outlier Reimbursement	CP	9	
DRG-10	O	Confidential Indicator	ID	1	HI7 Table No: 0136

Sample DRG segment:

DRG|1|014142^TEXT DESCRIPTION^IR-DRG|20200419000000|Y|||||||

4.9 PR1 – Procedures

The following fields may be required from Attribute Table:

Note: - PR1 segment should be snapshot at visit level, where all Active Procedures associated with Visit should be sent in each ADT message where applicable.

Note: - Procedures which has been completed or performed only should be send to Riayati, planned but not executed should not be sent.

Note: - Following categories of procedures are required in ADT messages.

- Anesthesiology Procedures (Example ETT Insertion)
- Surgery (Minor and Major)
- Dental Procedures
- Nursing Procedures (Example Catheter Insertion)
- Bed Side Procedures (Example Chest Physiotherapy,)
- Departmental Procedures (Example Pulmonary Function Test, Holter monitoring)
- Radiology Orders (Not required in ADT)
- Pathology and Laboratory Orders (Not required in ADT)
- Medicine (Not required in ADT)

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
PR1-1	R	Set ID	SI	4	Send as a sequential number starting with 1, for the first procedure.
PR1-2	O	Procedure Coding Method	IS	3	
PR1-3	R	Procedure Code	CE	250	PR1-3 will be used if subfield 1 or 2 is not null. Component 1 - Identifier Component 2 - Text Component 3 – Coding scheme
PR1-3.1	R	Procedure Code Identifier	ST	20	Must be valid CDT code for Dental Procedures and CPT4 codes for Other Procedures.
PR1-3.2	R	Procedure Code Text	ST	199	
PR1-3.3	R	Procedure Code Name of Coding System	ID	20	Must be CPT4 or CDT, should be shared in the message as C4 – For all procedures except dental. CDT – For Dental procedures.
PR1-4	O	Procedure Description	ST	40	If PR1-3 is empty, this will be used instead.
PR1-5	R	Procedure Date/Time	TS	26	Time of the procedure Format: YYYYMMDD[HHMM]Note: Default to Admit Date/Time or Message Date/Time if empty
PR1-6	O	Procedure Functional Type	IS	2	HL7 table 0230
PR1-11	C	Surgeon	XCN	250	Procedure Performed physician/nurse information

PR1-11.1	R	Surgeon Physician ID Number	ST	15	
PR1-11.2	O	Surgeon Physician Family Name	FN	194	
PR1-11.3	O	Surgeon Physician Given Name	ST	30	
PR1-11.4	O	Surgeon Physician Middle Name	ST	30	
PR1-11.5	O	Surgeon Physician Suffix	ST	20	
PR1-11.6	O	Surgeon Physician Prefix	ST	20	
PR1-11.7	O	Surgeon Physician Degree	IS	5	HL7 Table 0360
PR1-11.9	R	Surgeon Physician Assigning Authority	HD	227	Licensing Authority. Must have the value either MOHAP, DHA or DOH.
PR1-20	R	Procedure Action Code	ID	20	Supported values: D = Delete Four Double quotes (""""") or C = Clear/Delete All Any other value = Add or Update

Sample PR1 segment:

PR1|1||0510T^Removal of sinus tarsi implant^CPT4||20200419000000|P|||||||||||A

4.10 ROL - ROLE

The following fields may be required from Attribute Table:

Note: - ROL segment should be snapshot at visit level, where all Physicians associated with Visit should be sent in each ADT message.

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
ROL-1	R	Role Instance ID	EI	60	
ROL-2	R	Action Code	ID	2	Action Code HL7 TableNo:0287
ROL -3	R	Role-ROL	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table ROL-3.1 and ROL-3.2
ROL-3.1	R	Role Code	ST	20	HL7 TableNo: 0443
ROL-3.2	R	Role Description	ST	199	
ROL -4	R	Role Person	XCN	250	Only the first instance of ROL-4 is used. Component 1: Mnemonic (Must be valid DOH, MOHAP or DHA license number.) Component 2: Last Name Component 3: First Name Component 4: Middle Initial Component 5: Suffix Component 6: Title Component 7: Degree Component 13: Domain (Must have value either DOH, MOHAP or DHA, depending on type of Provider mnemonic.)
ROL -5	O	Role Begin Date/Time	TS	26	Format: YYYYMMDD[HHMM]
ROL -6	O	Role End Date/Time	TS	26	Format: YYYYMMDD[HHMM]
ROL -7	O	Role Duration	CE	250	
ROL -8	O	Role Action Reason	CE	250	
ROL -9	O	Provider Type	CE	250	CareProviderType will only be parsed from ROL-9 if piece 1 or 2 is not null.
ROL -10	O	Organization Unit Type	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table ROL-10.1 and ROL-10.2
ROL-10.1	O	Organization Unit Type Code	ST	20	HL7 TableNo:0406



ROL-10.2	O	Organization Unit Type Description	ST	199	
ROL -11	O	Office/Home Address/Birthplace	XAD	250	Only the first instance of ROL-11 is used.
ROL-12	O	Phone	XTN	250	

Sample ROL segment:

ROL|1|AD|PP|DRMCRA^AGAT^LARIE^M^~~~~~XX|

4.11AL1 – Patient Allergy Information

The following fields may be required from Attribute Table:

Note: - The Allergies can be managed with IAM segment of ADT^A60 Message type as patient level snapshot. If not the AL1 segment should be implemented as snapshot at patient level where all Active Allergy information active for patient in each ADT message. But the combination of both AL1 and IAM should not be implemented together.

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
AL1-1	R	Set ID	SI	4	<p>Supported values:</p> <p>Two double quotes ("") = Inactivate All (Status="I")</p> <p>Four double quotes ("""") = Clear All (Status="C")</p> <p>Any other value = Add or Update</p> <p>Two double quotes ("") in the Set ID field (AL1-1) will be parsed as Action Code="I", and four double quotes (PV) as "C". In either case the rest of the segment is ignored.</p>
AL1-2	R	Allergen Type Code	CE	250	<p>This field indicates a general allergy category.</p> <p>AA = Animal Allergy</p> <p>DA = Drug allergy</p> <p>EA = Environmental Allergy</p> <p>FA = Food allergy</p> <p>LA = Pollen Allergy</p> <p>MA = Miscellaneous allergy</p> <p>MC = Miscellaneous contraindication</p> <p>PA = Plant Allergy</p> <p>If this field is valued, both code and description to be sent in the first two components as per the code table AL1-2.1 and AL1-2.2</p>
AL1-2.1	O	Allergy Type Code ID	ST	20	HL7 table 0127
AL1-2.2	O	Allergen Type Text	ST	199	
AL1-2.3	O	Allergen Type Code System	ID	20	
AL1-3	R	Allergen Code	CE	250	<p>Parsed if subfield 1 or 2 is not null.</p> <p>Component 1: Allergen Mnemonic (Must be SNOMED CT code)</p> <p>Component 2: Description</p> <p>Component 3: Module</p>
AL1-3.1	R	Allergen ID	ST	100	Must be SNOMED CT code
AL1-3.2	R	Allergy Text	ST	20	

AL1-3.3	R	Allergy Coding System	ID	199	Must be "SCT" for SNOMED CT
AL1-4	O	Allergy Severity Code	CE	250	Supported values: MI - Mild MO - Intermediate/Moderate SV - Severe U – Unknown If this field is valued, both code and description to be sent in the first two components as per the code table AL:1-4.1 and AL1-4.2
AL1-4.1	O	Allergy Severity Code	ST	20	HL7 table 0128 Supported values: SV-Severe MO-Moderate MI – Mild
AL1-4.2	O	Allergy Severity Text	ST	199	
AL1-4.3	O	Allergy Severity Coding System	ID	20	
AL1-5	O	Allergy Reaction Code	ST	15	Must be Allergy Reaction Text.
AL1-6	O	Identification Date	DT	8	The time of the onset of the allergy. Only the date part is required. Format: YYYYMMDD

Sample AL1 segment:

AL1|""|||

AL1|A|DA^Drug allergy|J61-4068-04410-01^PENICILLIN^DOH||RASH|20200326

AL1|A|DA^Drug allergyMedicines^CODING_SYSTEMDOH|J61-4068-04410-01^PENICILLINIron (III) Hydroxide Polymaltose Complex^CODING_SYSTEMDOH||RASHNone|20200326

AL1|A|DA^Medicines^DOH|J61-4068-04410-01^PENICILLIN^DOH||RASH|20200326

AL1|A|EA^Environmental Allergy|390952000^Dust Allergy^SCT|||20200326

4.12 IAM – Patient Adverse Reaction Information

The following fields may be required from Attribute Table:

Note: - The Allergies can be managed with IAM segment of ADT^A60 Message type as patient level snapshot. If not the AL1 segment should be implemented as snapshot at patient level where all Active Allergy information active for patient in each ADT message. But the combination of both AL1 and IAM should not be implemented together.

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
IAM-1	R	Set ID	SI	4	<p>Supported values:</p> <p>Two double quotes (") = Inactivate All (Status="I")</p> <p>Four double quotes (""") = Clear All (Status="C")</p> <p>D = Delete</p> <p>Any other value = Add or Update</p> <p>Two double quotes (") in the Set ID field (IAM-1) will be parsed as Action Code="I", and four double quotes (PV) as "C". In either case the rest of the segment is ignored.</p>
IAM-2	R	Allergen Type Code	CE	250	<p>This field indicates a general allergy category.</p> <p>AA = Animal Allergy</p> <p>DA = Drug allergy</p> <p>EA = Environmental Allergy</p> <p>FA = Food allergy</p> <p>LA = Pollen Allergy</p> <p>MA = Miscellaneous allergy</p> <p>MC = Miscellaneous contraindication</p> <p>PA = Plant Allergy</p> <p>If this field is valued, both code and description to be sent in the first two components as per the code table IAM-2.1 and IAM-2.2</p>
IAM-2.1	O	Allergy Type Code ID	ST	20	HL7 table 0127
IAM-2.2	O	Allergen Type Text	ST	199	
IAM-2.3	O	Allergen Type Code System	ID	20	
IAM-3	R	Allergen Code	CE	250	<p>Parsed if subfield 1 or 2 is not null.</p> <p>Component 1: Allergen Mnemonic (Must be SNOMED CT code for Allergies)</p> <p>Component 2: Description</p> <p>Component 3: Module</p>

					If this field is valued, both code and description to be sent in the first two components as per the code table IAM-3.1 and IAM-3.2
IAM-3.1	R	Allergen ID	ST	100	Must be SNOMED CT code
IAM-3.2	R	Allergy Text	ST	20	
IAM-3.3	R	Allergy Coding System	ID	199	Must be "SCT" for SNOMED CT
IAM-4	O	Allergy Severity Code	CE	250	Supported values: MI - Mild MO - Intermediate/Moderate SV - Severe U – Unknown If this field is valued, both code and description to be sent in the first two components as per the code table IAM-4.1 and IAM-4.2
IAM-4.1	O	Allergy Severity Code	ST	20	HL7 table 0128 Supported values: SV - Severe MO - Moderate MI – Mild
IAM-4.2	O	Allergy Severity Text	ST	199	
IAM-4.3	O	Allergy Severity Coding System	ID	20	
IAM-5	O	Allergy Reaction Code	ST	15	Must be Allergy Reaction Text.
IAM-6	R	Allergy Action Code	CNE	250	Supported values: A - Add U - Update D – Delete 'D' causes the selected allergy record to be physically deleted. Any other value is considered 'add or update'. If this field is valued, both code and description to be sent in the first two components as per the code table IAM-6.1 and IAM-6.2
IAM-11	O	Onset Date	DT	8	The time of the onset of the allergy. Only the date part is required. Format: YYYYMMDD
IAM-13	O	Reported Date/Time	TS	8	Entered On
IAM-17	O	Allergy Clinical Status Code	CE	250	If Status is not "A", "I", "R", or "C" (for "Active", "Inactive", "Resolved", and "To Be Confirmed", respectively) or null or the delete instruction, it will be set to null. Also, no matter

					what value is passed in for status, if the Allergy has an Inactive Time, Status will be set to "I".
IAM-20	O	Stated at Date/Time	TS	8	The Inactive time of the allergy. Only the date part is required. Format: YYYYMMDD

Sample IAM segment:

IAM|""|||""|||""

IAM|1|DA^Drug allergy|J61-4068-04410-01^PENICILLIN^DOH||RASH|A||||20200326||20210301|||A||

IAM|2|DA^Drug allergyMedicines^CODING_SYSTEMDOH|J61-4068-04410-01^PENICILLINIron (III) Hydroxide Polymaltose Complex^CODING_SYSTEMDOH||RASH|U||||20200326||20210301|||||20210301

IAM|3|EA^Environmental Allergy|390952000^Dust Allergy^SCT||RASH|U||||20200326||20210301|||R||

IAM|4|DA^Medicines^DOH|J61-4068-04410-01^PENICILLIN^DOH||RASH|D||||20200326||20210301|||||

4.13 NK1 – Next of Kin

The following fields may be required from Attribute Table:

Note: NK1 is mandatory with Mother details when PV1.4 has value 'N' (Newborn) and NK1-3.1 must have value 'MTH'

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
NK1-1	R	Set ID	SI	4	Supported values: Two double quotes ("") = Delete (Status "D") [This will be a specific delete of the segment content in which it is used] Any other value = Add or Update
NK1-2	R	NOK Name	XPB	250	Component 1 - Family Name Component 2 - Given Name Component 3 - Second Name or Initials Component 4 - Suffix Component 5 - Title Component 6 - Degree
NK1-2.1	RA	NOK Family Name	FN	194	
NK1-2.2	RA	NOK Given Name	ST	30	
NK1-2.3	O	NOK Middle Name	ST	30	
NK1-2.4	O	NOK Suffix	ST	20	
NK1-2.5	O	NOK Prefix	ST	20	
NK1-2.6	O	NOK Degree	IS	6	HL7 Table 0360
NK1-3	R	NOK Relationship	CE	250	
NK1-3.1	R	NOK Relationship ID	ST	20	HL7 Table: 0063
NK1-3.2	O	NOK Relationship Text	ST	199	
NK1-3.3	O	NOK Relationship Code System	ID	20	
NK1-4	O	NOK Address	XAD	250	Next of Kin mailing address. This field is comprised of the following components:
NK1-4.1	O	NOK Address 1	SAD	184	
NK1-4.2	O	NOK Address 2	ST	120	
NK1-4.3	O	NOK City	ST	50	

NK1-4.4	O	NOK State	ST	50	
NK1-4.5	O	NOK Zip	ST	12	
NK1-4.6	O	NOK Country	ID	3	
NK1-4.7	O	NOK Address Type	ID	3	
NK1-5	R	NOK Phone – Home	XTN	250	Repeating field. Each instance can represent one of the Telecommunication information (Cell Phone, Phone Number and Email Address).
NK1-5.1	O	NOK Phone – Home Telephone Number	ID	199	NOK home phone number. Only parsed when the NK1-5.3 is “CP” or “PH” Formatted as 009715xxxxxxx
NK1-5.2	R	NOK Phone – Home Telecommunication Use Code	ID	3	“EMR” – Emergency Number (for Cell Phone). “PRN” – Primary Residence Number (for Home Phone Number). “NET” – Network (email) Address (for Email Address).
NK1-5.3	R	NOK Phone – Home Telecommunication Equipment Type	ST	8	“CP” – Cell Phone. “PH” – Home Phone Number. “Internet” – Email Address.
NK1-5.4	O	NOK Phone – Home Email Address	ST	199	NOK E-mail address. Only parsed when the NK1-5.3 is “Internet”
NK1-6	O	NOK Phone – Business	XTN	250	Only one instance is expected with Work Phone Number. Formatted as 009715xxxxxxx
NK1.7	O	Contact Role	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table. NK1.7.1 and NK1.7.2
NK1-7.1	O	NOK Contact Role ID	ST	20	NOK NOT PTK EMP HL7 Table 0131
NK1-7.2	O	NOK Contact Role Text	ST	199	
NK1-8	O	NOK Start Date	DT	8	Format: YYYYMMDD
NK1-8	O	NOK End Date	DT	8	Format: YYYYMMDD
NK1-10	O	Next of Kin / Associated Parties Job Title	DT	60	Next of kin/associated parties job title.

NK1-13	O	Organization Name	XON	250	This field contains the name of the organization that serves as a next of kin/associated party or as the next of kin of the patient.
NK1-33	O	Next of Kin/Associated Party's Identifiers	CX	250	Only one instance of Identifier will be processed. For newborn Patient Records, this should have the MRN of the Mother Patient Record.

Sample NK1 segment:

NK1|U|Family Name^Given Name^Second Name^^Mr|FATHER||123 XYZ STREET^^SHAIK
HALIA^DXB^145445|09715512346548^EMR^CP^~^NET^Internet^reach@email.com|00971027654321|C|20190101||||||

4.14 IN1 - Insurance

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
IN1-1	R	Set ID – IN1	SI	4	Send as a sequential number starting with 1, for the first Insurance record.
IN1-2	R	Insurance Plan	CE	250	This field contains a unique identifier for the insurance plan.
IN1-2.1	R	Insurance Identifier Plan	ST	20	Table No: 0072
IN1-2.2	O	Insurance Descriptive Text Plan	ST	199	
IN1-3.1	R	Insurance Company ID	CX	250	Only the first instance of this field is used.
IN1-3.1	R	ID Number	ST	15	A unique identifier for insurance company
IN1-4.1	R	Insurance Company Name	ST	50	This field contains the name of the insurance company
IN1-5	O	Insurance Company Address	XAD	250	Only the first instance of this field is used. Component 1 - Street Address 1 Component 2 - Street Address 2 Component 3 - City Component 4 - State Component 5 - Zip Code
IN1-5.1	O	Insurance Company Address 1	SAD	184	
IN1-5.2	O	Insurance Company Address 2	ST	120	
IN1-5.3	O	Insurance Company City	ST	50	
IN1-5.4	O	Insurance Company State	ST	50	
IN1-5.5	O	Insurance Company Zip	ST	12	
IN1-5.6	O	Insurance Company Country	ID	3	

IN1-5.9	O	Insurance Company County	IS	20	
IN1-6	O	Insurance Company Contact Person	XPN	250	Only the first instance of this field is used.
IN1-6.1	RA	Insurance Company Contact Family Name	FN	194	Required if Available.
IN1-6.2	RA	Insurance Company Contact Given Name	ST	30	Required if Available.
IN1-6.3	RA	Insurance Company Contact Second and further given names	ID	30	Required if Available.
IN1-6.4	O	Insurance Company Contact Suffix	ID	20	
IN1-6.5	O	Insurance Company Contact Prefix	ID	20	
IN1-7	O	Insurance Company Phone Number	XTN	250	This field contains the phone number of the insurance company. Formatted as :009715XXXXXXXX
IN1-8	O	Group Number	ST	12	This field contains the group number of the insured's insurance.
IN1-9	O	Group Name	XON	250	This field contains the group name of the patient's insurance.
IN1-10	O	Insured's Group Employer ID	CX	250	
IN1-11	O	Insured's Group Employer Name	XON	250	
IN1-12	O	Plan Effective Date	DT	8	Formatted as YYYYMMDD
IN1-13	O	Plan Expiration Date	DT	8	Formatted as YYYYMMDD
IN1-14	O	Authorization Information	AUI	239	This field will contain the patient's insurance authorization number if entered upon registration
IN1-15	O	Plan Type	IS	3	
IN-16	RA	Insured Name	XPN	250	Component 1: Last Name Component 2: First Name Component 3: Middle Name Component 4: Surname Component 5: Title

					Component 6: Degree
IN1-16.1	RA	Insured's Last Name	FN	194	Last Name
IN1-16.2	RA	Insured's First Name	ST	30	First Name
IN1-16.3	O	Insured's Middle Name	ST	30	Middle Name
IN1-16.4	O	Insured's Suffix	ST	20	
IN1-16.5	O	Insured's Prefix	ST	20	
IN1-17	RA	Insured's Relationship to Patient	CE	250	If this field is valued, both code and description to be sent in the first two components as per the code table. IN1.17.1 and IN1.17.2
IN1-17.1	O	Insured's Relationship to Patient Code	ST	20	HL7 table 0063
IN1.17.2	O	Insured's Relationship to Patient Code	ST	199	
IN1-18	O	Insured's Date of Birth	TS	26	Format: YYYYMMDD
IN1-19.1	O	Insured's Address 1	SAD	184	
IN1-19.2	O	Insured's Address 2	ST	120	
IN1.19.3	O	Insured's City	ST	50	
IN1-19.4	O	Insured's State	ST	50	
IN1-19.5	O	Insured's Zip	ST	12	
IN1-19.6	O	Insured's Country	ID	3	
IN1-19.9	O	Insured's County	ID	20	
IN1-20	O	Assignment of Benefits	IS	2	
IN1-21	O	Coordination of Benefits	IS	2	
IN1-22	O	Coordination of Benefits Priority	ST	2	
IN1-23	O	Notice of Admission Flag	ID	1	
IN1-24	O	Notice of Admission Date	DT	8	Format: YYYYMMDD
IN1-25	O	Report of Eligibility Flag	ID	1	
IN1-26	O	Report of Eligibility Date	DT	8	Format: YYYYMMDD
IN1-27	O	Release Info Code	IS	2	

IN1-28	O	Pre-admit Certification	ST	15	
IN1-29	O	Verification Date/Time	TS	26	The date that the healthcare provider verified the patient's insurance Format: YYYYMMDD
IN1-30	O	Verification By	XCN	250	The mnemonic of the user who verified the benefits.
IN1-31	O	Type Agreement Code	IS	2	
IN1-32	O	Billing Status	IS	2	
IN1-33	O	Lifetime Reserve Days	NM	4	
IN1-34	O	Delay Before LR Day	NM	4	
IN1-35	O	Company Plan Code	IS	8	
IN1-36	O	Policy Number	ST	15	Unique policy number of the insured.
IN1-37	O	Policy Deductible	CP	12	
IN1-38	O	Policy Limit – Amt	CP	12	
IN1-39	O	Policy Limit – Days	NM	4	
IN1-40	O	Rm Rate _Semi-Private	CP	12	
IN1-41	O	Rm Rate – Private	CP	12	
IN1-42	O	Insured's Employment Status	CE	250	Component 1: Mnemonic of Employment Status Component 2: Name of Employment Status
IN1-43	O	Insured's Sex	IS	1	
IN1-44.1	O	Street Address	SAD	184	
IN1-44.2	O	Other Designation	ST	120	
IN1-44.3	O	City	ST	50	
IN1-44.4	O	State or Province	ST	50	
IN1-44.5	O	Zip or Postal Code	ST	12	
IN1.45	O	Verification Status	ST	2	The verification status of the patient's relationship with the insurance carrier.
IN1-47	O	Coverage Type	IS	3	
IN1-49	O	Insured's ID Number	CX	250	

Sample IN1 segment:

IN1|1||E001|Thiqa|||||||||||||||||||||||||||||||||||||XXX7979



4.15 IN2 – Insurance Additional Information

The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
IN2_1	O	Insured's Employee ID	CX	250	
IN2_2	O	Insured's Social Security Number	ST	11	
IN2_33	O	Citizenship	CE	250	A Yes or No flag indicating whether the insured is a citizen of the UAE.
IN2_42	O	Ethnic Group	CE	250	The mnemonic of the insured's race from the code set list shared by MOHAP.
IN2_43	O	Marital Status	CE	250	Marital Status of the insured. This field will populate with a valid mnemonic from the code set list shared by MOHAP.
IN2_63	O	Insured's Telephone Number	XTN	250	The phone number of the insured.

Sample IN2 segment:

IN2|||||||||||||||||||||Y|||||||M|

4.16 MRG - Merge Patient Information

The product supports MRN merges, visit moves and visit id change. The following fields may be required from Attribute Table:

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
MRG-1	R	Prior Patient Identifier List	CX	250	Must contain only non-surviving MRN number. Each instance of MRG-1 with subfield 4 not null will be parsed
MRG-2	O	Prior Alternate Patient ID	CX	250	
MRG-3.1	O	Prior Patient Account Number	ST	250	
MRG-4	O	Prior Patient ID	CX	250	
MRG-5	O	Prior Patient Visit Number	CX	250	If the EncounterNumber of this Encounter was changed or if another Encounter was merged into this one, this is the old/other EncounterNumber.
MRG-5.1	O	Prior Patient Visit Number	ST	15	Mandatory for visit moves and visit id change (A45 and A50). Note: the Assigning Authority in MRG-5.4 is not required.

Example MRG: MRN

MRG|123456^^^MRN|||||Jones^Our^M

4.17ZSH – Social History

We have defined a user defined segment to capture Social History. Following fields may be required from attribute table.

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
ZSH-1	R	SetIDZSH	SI	4	D = Delete, I = Inactivate All, C = Clear All
ZSH-2	R	SocialHabit	CE	20	Should be SNOMED CODE with ZSH:2.3 = "SCT"
ZSH-3	R	SocialHabitQty	CE	20	Should be SNOMED CODE with ZSH:3.3 = "SCT"
ZSH-4	R	SocialHabitCategory	CE	250	Should be a LOINC code and description. Please refer to the table: RYT1149
ZSH.4.1	R	SocialHabitCategory Code	ST	50	Use code from the table: RYT1149
ZSH.4.2	R	SocialHabitCategory Text	ST	200	Use description from the table: RYT1149
ZSH.4.3	R	SocialHabitCategory Coding System	ST	50	LOINC
ZSH-5	O	Comments	ST	250	
ZSH-6	R	Status	ST	2	
ZSH-7	O	FromDateTime	TS	26	
ZSH-8	O	ToDateTime	TS	26	
ZSH-9	O	EnteredBy	XCN	250	

Example ZSH:

ZSH|C

ZSH|1|428071000124103^Heavy tobacco smoker^SCT|56771006^Heavy smoker (over 20 per day)^SCT|72166-2^Smoking Status^LOINC||Active||

4.18ZFH – Family History

We have defined a user defined segment to capture Family History. Following fields may be required from attribute table.

Seg/Field	Req	HL7 Name	Data Type	Max Len	Comments
ZFH-1	R	SetIDZFH	SI	4	D = Delete, I = Inactivate All, C = Clear All
ZFH-2	R	FamilyMember	CE	20	
ZFH-3	R	Diagnosis	CE	20	Should be ICD10, or SNOMED with ZFH:3.3 = "I10C" or "SCT"
ZFH-4	O	Comments	ST	250	
ZFH-5	R	Status	ST	2	
ZFH-6	O	FromDateTime	TS	26	
ZFH-7	O	ToDateTime	TS	26	
ZFH-8	O	EnteredBy	XCN	250	

Example ZFH:

ZFH|C

ZFH|1|MTH^Mother^SCT|73211009^Diabetes^SCT||Active||

ZFH|2|MTH^Mother^SCT|38341003^Hypertension^SCT||Active||

5 Appendix - OMRN based merge / unmerge.

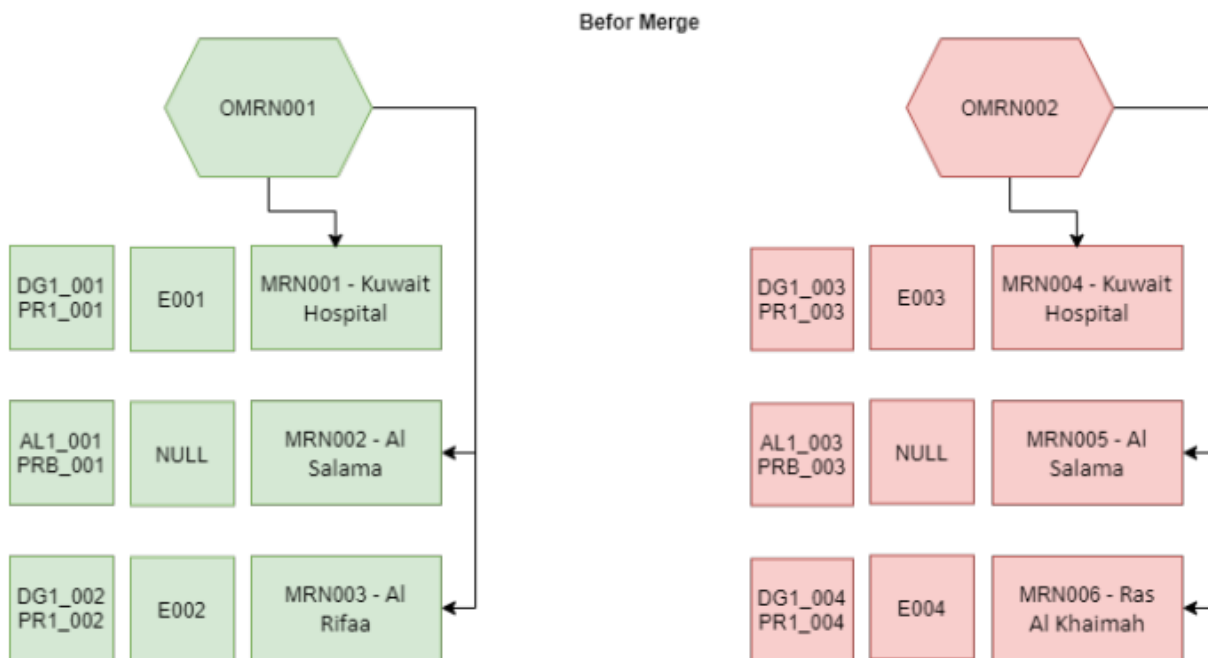
Riayati HIE supports only Facility Patient Identifier based merges and unmerges. If EMR system supports merge and unmerge at OMRN (Organizational Patient Identifier), then use messages and trigger event explained in this document section to send information to HIE.

Note:

1. OMRN is one unique patient identifier which is unique for all the facilities in the Organization. It is used by Multitenancy Facility (multiple facilities under same organization using single EMR/HIS instance).
2. MRN is unique patient identifier for every facility.
3. Patient can have only one OMRN and multiple MRN's.

5.1 OMRN Merge

Consider example in below MRN hierarchy diagram.



When OMRN001 and OMRN002 is merged in EMR system, then messages to be sent to Riayati are,

1. A40 to merge MRN004 with MRN001, important fields
 - PID_3_1 = MRN001
 - PID_3_4 = License number of Kuwait Hospital facility
 - MRG_1_1 = MRN004
 - MRG_1_4 = License number of Kuwait Hospital facility

```

MSH|^~\&|Wareed|Kuwait
Hospital|RIAYATI|MOHAP|202012281741||ADT^A40^ADT_A40|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN001^^Kuwait Hospital^MRN~OMRN001^^Wareed^OMRN||Surviving^Patient^1||19800320|M||
MRG|MRN004^^Kuwait Hospital^MRN||||
  
```

2. A40 to merge MRN005 with MRN002

- PID_3_1 = MRN002
- PID_3_4 = License number of Al Salama facility
- MRG_1_1 = MRN005
- MRG_1_4 = License number of Al Salama facility

```

MSH|^~\&|Wareed|AI
|RIAYATI|MOHAP|202012281741||ADT^A40^ADT_A40|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN002^^^AI Salama ^MRN~OMRN001^^^Wareed^OMRN||Surviving^Patient^1||19800320|M||
MRG|MRN005^^^AI Salama ^MRN||||
  
```

Salama

3. A31 to reparent MRN006 to OMRN001

- PID_3_1 = MRN006
- PID_3_4 = License number of Ras Al Khaimah
- PID_3_1 = OMRN001 (Second repeat of PID_3 field)
- PID_3_5 = OMRN (Value OMRN used in Second repeat of PID_3 field)

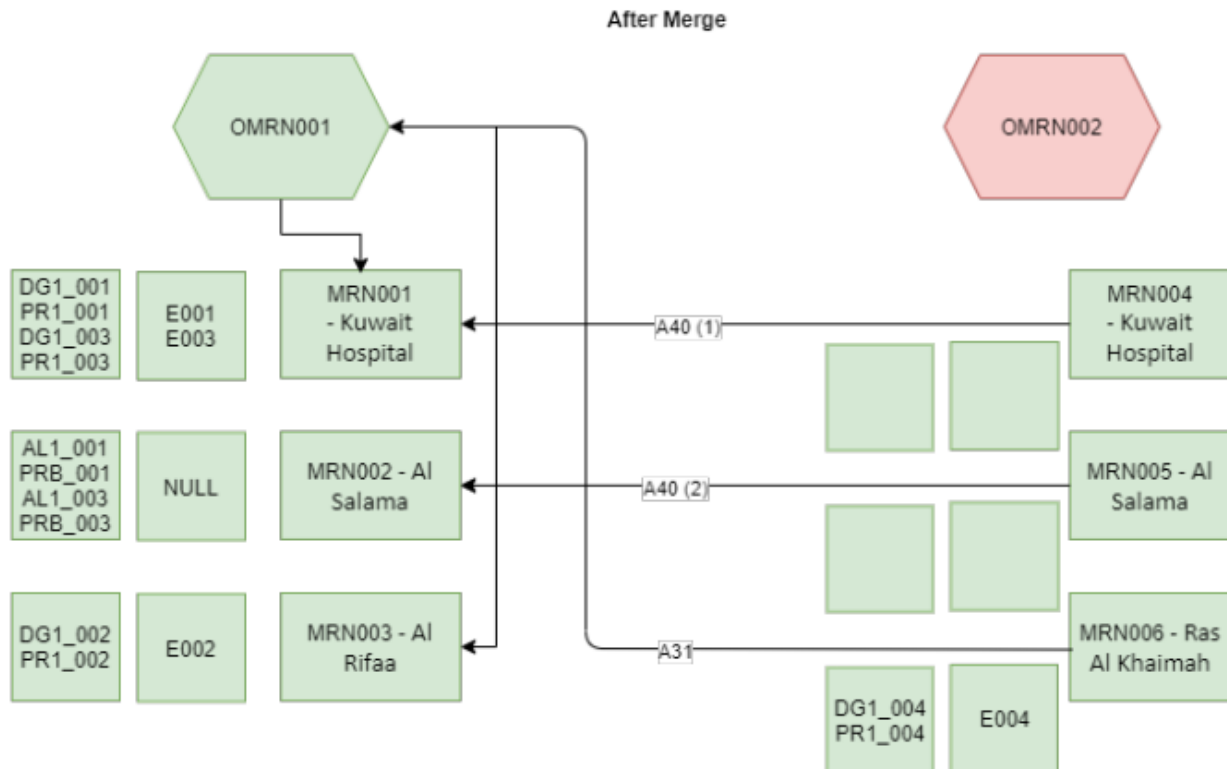
```

MSH|^~\&|Wareed|
Khaimah|RIAYATI|MOHAP|202012281741||ADT^A31^ADT_A31|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN006^^^Ras Al Khaimah^MRN~OMRN001^^^Wareed^OMRN||Surviving^Patient^1||19800320|M||
  
```

Ras

AI

MRN hierarchy diagram after the merge is executed.

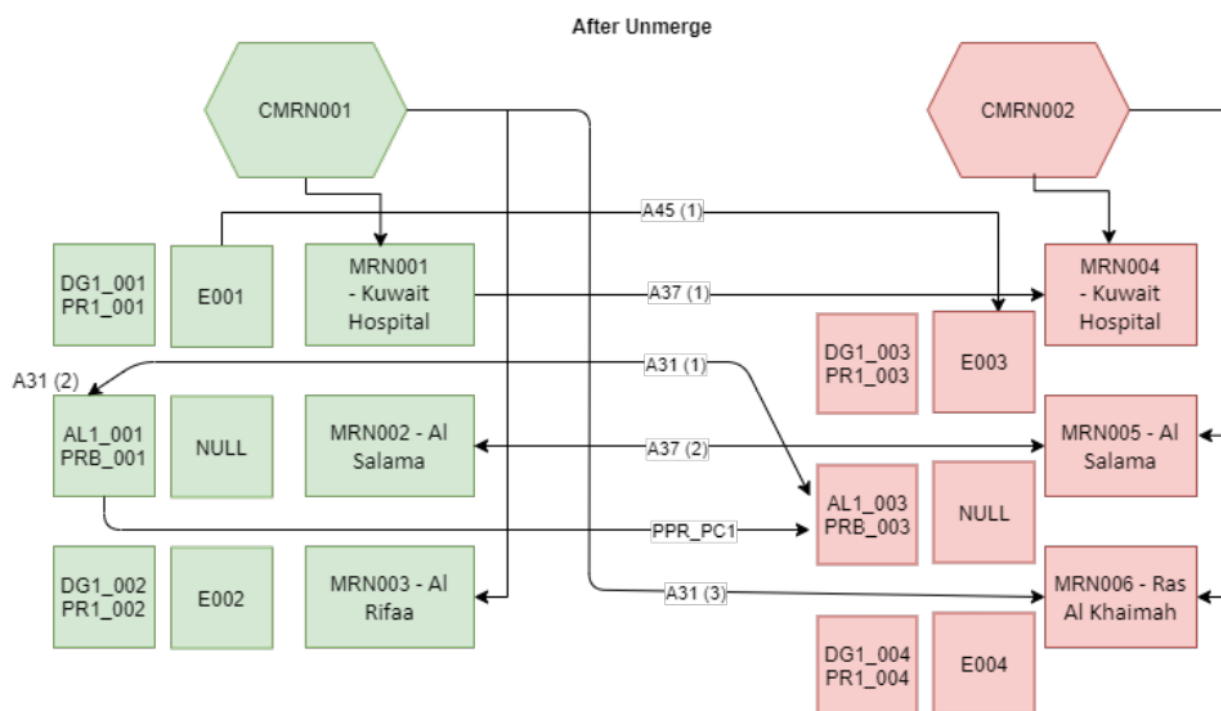


5.2 OMRN Unmerge

Patient identifiers used in Merge example, if unmerged then use these message types to send updated to Riayati.

- ADT^A37 Messages for each facility level unmerges.
- ADT^A45 Messages for each Visit movement from Merged patient to Unmerging patient.
- ADT^A31 Messages for the Merged patient to update Patient level information.
- PPR^PC3 Messages for the Problems removal from Merged patient.
- ADT^A31 Messages for Unmerging patient to update the Patient level information.
- PPR^PC1 Messages for the Problems addition to Unmerging patient.

Note: Same messages will apply when a facility MRN is Unmerged.



1. A37 to UnMerge MRN004 from MRN001

- PID_3_1 = MRN001 (First PID Segment in the message)
- PID_3_4 = License number of Kuwait Hospital facility
- PID_3_1 = OMRN001 (Second repeat of PID_3 field in First PID Segment)
- PID_3_4 = OMRN (Value ORM used in Second repeat of PID_3 field)
- PID_3_1 = MRN004 (Second PID Segment in the message)
- PID_3_4 = License number of Kuwait Hospital facility
- PID_3_1 = OMRN002 (Second repeat of PID_3 field in Second PID Segment)
- PID_3_4 = OMRN (Value ORM used in Second repeat of PID_3 field)

MSH|^~\&|Wareed|Kuwait

Hospital|RIAYATI|MOHAP|202012281741||ADT^A37^ADT_A37|20201228|P|2.5.1||AL|NE|ARE

PID|1||MRN001^^Kuwait Hospital^MRN~OMRN001^^Wareed^OMRN||Surviving^Patient^1||19800320|M||

PID|1||MRN004^^Kuwait Hospital^MRN~OMRN002^^Wareed^OMRN||Surviving^Patient^1||19800320|M||

2. A37 to UnMerge MRN005 from MRN002

- PID_3_1 = MRN002 (First PID Segment in the message)
- PID_3_4 = License number of Al Salama facility
- PID_3_1 = OMRN001 (Second repeat of PID_3 field in First PID Segment)
- PID_3_4 = OMRN (Value ORM used in Second repeat of PID_3 field)
- PID_3_1 = MRN005 (Second PID Segment in the message)
- PID_3_4 = License number of Al Salama facility
- PID_3_1 = OMRN002 (Second repeat of PID_3 field in Second PID Segment)
- PID_3_4 = OMRN (Value ORM used in Second repeat of PID_3 field)

```
MSH|^~\&|Wareed| Al Salama
|RIAYATI|MOHAP|202012281741||ADT^A37^ADT_A37|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN002^^^Al Salama^MRN~OMRN001^^^Wareed^OMRN||Surviving^Patient^1||19800320|M|||
PID|1||MRN005^^^Al Salama^MRN~OMRN002^^^Wareed^OMRN||Surviving^Patient^1||19800320|M|||
```

2. A45 to move encounter E003 back to MRN004

- PID_3_1 = MRN004 (Second PID Segment in the message)
- PID_3_4 = License number of Kuwait Hospital facility
- MRG_1_1 = MRN001
- MRG_1_4 = License number of Kuwait Hospital facility
- MRG_5_1 = E003
- MRG_5_4 = License number of Kuwait Hospital facility

```
MSH|^~\&|Wareed|Kuwait
Hospital|RIAYATI|MOHAP|202012281741||ADT^A37^ADT_A37|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN004^^^Kuwait Hospital^MRN~OMRN002^^^Wareed^OMRN||Surviving^Patient^1||19800320|M|||
MRG|MRN001^^^Kuwait Hospital^MRN|||E003^^^Kuwait Hospital^
```

3. A31 to reparent MRN006 to OMRN002

- PID_3_1 = MRN006
- PID_3_4 = License number of Ras Al Khaimah
- PID_3_1 = OMRN002 (Second repeat of PID_3 field)
- PID_3_4 = OMRN (Value ORM used in Second repeat of PID_3 field)

```
MSH|^~\&|Wareed|Ras Al
Khaimah|RIAYATI|MOHAP|202012281741||ADT^A31^ADT_A31|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN006^^^Ras Al Khaimah^MRN~OMRN002^^^Wareed^OMRN||Surviving^Patient^1||19800320|M|||
```

4. A31 to move Allergy and Problem (AL1_003 and PPR_PC3) data back to MRN005

- PID_3_1 = MRN005
- PID_3_4 = License number of Al Salama
- PID_3_1 = OMRN002 (Second repeat of PID_3 field)
- PID_3_4 = OMRN (Value ORM used in Second repeat of PID_3 field)
- One AL1 segment for every Allergy record for MRN005 must be sent.
- One PRB segment for every Problem record for MRN005 must be sent.

MSH|^~\&|Wareed| Al Salama
|RIAYATI|MOHAP|202012281741||ADT^A31^ADT_A05|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN005^^^Al Salama^MRN~OMRN002^^^Wareed^OMRN||Surviving^Patient^1||19800320|M||
AL1|1|LA^Pollen Allergy|300910009^Pollen^SNOMED|MI^Mild||199902280000

5. A31 to refresh Allergy and Problem (AL1_003 and PPR_PC1) data from to MRN002

- PID_3_1 = MRN002
- PID_3_4 = License number of Al Salama
- PID_3_1 = OMRN002 (Second repeat of PID_3 field)
- PID_3_4 = OMRN (Value ORM used in Second repeat of PID_3 field)
- One AL1 segment for every Allergy record for MRN002 must be sent.
- One PRB segment for every Problem record for MRN002 must be sent.

MSH|^~\&|Wareed| Al Salama
|RIAYATI|MOHAP|202012281741||ADT^A31^ADT_A05|20201228|P|2.5.1|||AL|NE|ARE
PID|1||MRN002^^^Al Salama^MRN~OMRN002^^^Wareed^OMRN||Surviving^Patient^1||19800320|M||
AL1|1|LA^Pollen Allergy|300910009^Pollen^SNOMED|MI^Mild||199902280000