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# HL7 Conformance Statement

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# 1 HL7 Communications

The HL7 interface supports HL7v2 and HL7v3 messages, which fall into the following functional groups:

■ **Patient Administration**

To manage patients within the eHealth Solutions infrastructure.

■ **Encounter Administration**

To manage patient encounters within the eHealth Solutions infrastructure.

■ **Document Administration**

To process documents within the eHealth Solutions infrastructure.

## 1.1 HL7v2

The primary goal of the eHealth Solutions HL7 v2 interface is to facilitate communication with third-party systems in heterogeneous healthcare environments. The eHealth Solutions HL7v2 interface is designed according to the HL7 Messaging Standard, version 2.5. Nevertheless, eHealth Solutions is able to process HL7v2 messages that conform to standard versions ranging from 2.2 up to and including 2.7. Segments and fields that are not recognized due to the use of a higher HL7 v2 standard version are ignored. The following sections describe the relevant HL7 v2 messages in detail. Messages and trigger events not listed in those sections are not supported by eHealth Solutions and will result in an error response.

### 1.1.1 Transport Protocol: MLLP

The HL7 v2 standard defines the Minimal Lower Layer Protocol (MLLP) as its message transport mechanism, the eHealth Solutions infrastructure uses this protocol to process both incoming and outgoing HL7 messages. The MLLP defines special start and stop bytes to demarcate HL7 messages in a TCP stream. The start byte is 0x0b (ASCII vertical tab character). The stop bytes are 0x1c (ASCII Field Separator Character) and 0x0d (ASCII Carriage Return), transmitted in sequence.

**Table 1:** Basic Message Structure

<VT>		<FS>	<CR>
(hex 0x0b)	HL7 message payload goes here	(hex 0x1c)	(hex 0x0d)

### 1.1.2 Security

HL7 v2 in itself does not define any security measures, but in compliance to the IHE *Audit Trail and Node Authentication* (ATNA) Integration Profile HL7 v2 communication must be secured. This is done by encrypting messages using the TLS protocol, mutual authentication of both sender (TLS client authentication) and receiver is also a mandatory part of this process. Encryption can be enabled in the HL7 connector configuration and requires a valid digital certificate to be provided in a Java Keystore File (\*.jks). Administrators are strongly encouraged to disable unencrypted communication in productive systems, as HL7 v2 messages in most cases contain personally identifiable information.

### 1.1.3 Message Encoding

HL7 v2 messages are encoded according to the standard ER7 (“Encoding Rules 7”) rules, which describe data segments, fields, components and subcomponents of variable length that are separated by special delimiter characters. ER7 defines the following default delimiter characters:

- Field Separator: |
- Component Separator: ^
- Subcomponent Separator: &
- Field Repetition Separator: ~
- Escape Character: \

Messages may specify custom delimiter characters in the MSH segment, though this is highly discouraged for interoperability reasons. The character immediately following the literal String “MSH” specifies the field separator. The rest of the delimiter characters are defined in MSH-2: component separator, repetition separator, escape character and subcomponent separator, in that respective order. The character encoding itself may be specified in MSH-18. This approach to specifying the character encoding is obviously problematic, as the MSH segment needs to be parsed on a best-effort basis to read MSH-18, and then re-parsed using the character encoding found in MSH-18. For this reason eHealth Solutions ignores MSH-18 and uses a static character encoding defined in the configuration.



#### Note

It is highly recommended to use UTF-8 to ensure correct processing of messages. eHealth Solutions can be configured to honor MSH-18 if a statically configured character encoding cannot be used due to restrictions in the domain (e.g. multiple sending systems that each use a different character encoding). As outlined above, this approach is strongly discouraged.

### 1.1.4 Data Types

This section provides an overview of the most commonly used HL7 v2 data types in eHealth Solutions. HL7 versions before 2.4 define very limiting restrictions on the maximum allowed length of many field/s/components. As an example, the combined length of all patient identifiers (PID-3) must not exceed 20 characters, which makes it virtually impossible to use real-world identifiers. For this reason eHealth Solutions is much more lenient when it comes to the maximum allowed length of components and sub-components. This is true regardless of what HL7 version is being used by the sending system. The following paragraphs always state the maximum allowed length of all components. Messages that exceed this maximum length will result in an error response.

#### 1.1.4.1 CWE - Coded With Exceptions

All components of this type are optional and can hold up to and including 255 characters. CWE values without CWE-1 usually do not make sense, sending systems should thus avoid sending such values. Only the following CWE components are processed, all other components are ignored:

- CWE-1: Identifier/Code, e.g. “F”
- CWE-2: Text, e.g. “Female”
- CWE-3: Name of Coding System, e.g. “Gender”



### Example 1: CWE - Language Code

```
en^English^ISO 639
```

#### 1.1.4.2 CX - Extended Composite ID With Check Digit

The only required component of the CX type is CX-1. Feed messages additionally require a valid CX-4 component, e.g. for patient identifiers transmitted in PID-3. Only the following CX components are processed, all other components are ignored:

- CX-1: ID Number. This component can hold up to and including 255 characters.
- CX-4: Assigning Authority. This component is of type HD (see below).
- CX-5: Identifier Type Code. Only values from HL7 table *0203 - Identifier Type* are allowed. Source patient identifiers must use "PI" as the identifier type code.

### Example 2: CX - Source Patient Identifier

```
patientId3978^^^My Local Clinic&1.2.123.27.1974&ISO^PI
```

#### 1.1.4.3 HD - Hierarchic Designator

In the HL7 standard all components are optional, but eHealth Solutions requires a value for HD-2. All HD components can be processed:

- HD-1: Namespace ID. This component can hold up to and including 255 characters.
- HD-2: Universal ID. eHealth Solutions can only process universal IDs in the ISO OID format, other universal ID types are not supported. This component can hold up to and including 255 characters.
- HD-3: Universal ID Type. The only supported value is "ISO" (for ISO OIDs). Sending systems may leave this empty, in which case "ISO" will be assumed by the eHealth Solutions infrastructure.

### Example 3: HD - Patient Assigning Authority

```
My Local Clinic&1.2.123.27.1974&ISO
```

#### 1.1.4.4 XAD - Extended Address

All components of this type are optional and can hold up to and including 255 characters. Only the following XAD components are processed, all other components are ignored:

- XAD-1.1: Street or Mailing Address. This field should only be used if sending systems cannot transmit street name and dwelling number in separate fields. The value in this field is thus used as a fallback if both XAD-1.2 and XAD-1.3 are empty.
- XAD-1.2: Street Name. This field should be preferred if sending systems can transmit street names and dwelling numbers in separate fields.
- XAD-1.3: Dwelling Number. This field should be preferred if sending systems can transmit street names and dwelling numbers in separate fields.

- XAD-3: City
- XAD-4: State or province
- XAD-5: Zip or postal code
- XAD-6: Country
- XAD-7: Address Type. Only values from HL7 table 0190 - *Address Type* are allowed. The address type *L* (*Legal Address*) has special meaning in eHealth Solutions: it denotes the main address of a person. A person may have only one main address.

#### Example 4: XAD - Structured Patient Address

```
&Main Street&17^^London^Greater London^SW1P 2LD^GB^L
```

#### Example 5: XAD - Unstructured Patient Address

```
Main Street 17^^London^Greater London^SW1P 2LD^GB^L
```

### 1.1.4.5 XCN - Extended Composite ID Number And Name

In the HL7 standard all components are optional, but eHealth Solutions requires a value for both XCN-1 and XCN-9, otherwise the field value will be ignored. All components of this type can hold up to and including 255 characters. Only the following XCN components are processed, all other components are ignored:

- XCN-1: ID Number. This component must have a value, otherwise the entire XCN value will be ignored by eHealth Solutions.
- XCN-2-1: Surname
- XCN-3: Given Name
- XCN-4: Second and further given names
- XCN-5: Suffix, e.g. "Jr."
- XCN-6: Prefix, e.g. "Mr."
- XCN-9: Assigning Authority. This component must have a valid HD value, otherwise the entire XCN value will be ignored by eHealth Solutions.
- XCN-10: Name Type Code. Only values from HL7 table 0200 - *Name Type* are allowed. The only exception of this role is the "PN" name type, which is ignored by eHealth Solutions (the MPI generates its own phonetic names internally). The name type *L* (*Legal Name*) has special meaning in eHealth Solutions: it denotes the main name of a person (the name that is displayed in the user interface). A person may have only one main name.
- XCN-13: Identifier Type Code. Only values from HL7 table 0203 - *Identifier Type* are allowed.
- XCN-21: Professional Suffix, e.g. "MD", "PhD"

#### Example 6: XCN - Physician Identifier And Name

```
1234^Watson^John^H.^Jr.^Dr.^My Local Clinic&1.2.123.27.1974&ISO^L^^^DN^^^^^^^AMD
```



- XTN-8: Extension, e.g. "410". Only used if XTN-12 is empty, see the description of the fallback mechanism below.
- XTN-9: Any Text, e.g. "only during office hours". Only used if XTN-12 is empty, see the description of the fallback mechanism below.
- XTN-12: Unformatted Telephone Number. This is the preferred way of transmitting a telecommunication address, with the exception of email addresses that must be transmitted in XTN-4.

In the case of telephone numbers, eHealth Solutions uses the following fallback mechanism to parse received numbers:

- if present use the unformatted telephone number from XTN-12. The internal telephone number representation used in eHealth Solutions is always in this unstructured format.
- else use the structured telephone number from XTN-5, XTN-6, XTN-7, XTN-8 and XTN-9 - if any of those components has a value.
- else use the deprecated unstructured telephone number from XTN-1.

#### Example 8: XTN - Landline Phone Number

```
^PRN^PH^^^^^^^^^^^^^^+43 512 1234567
```

#### Example 9: XTN - Email Address

```
^WPN^Internet^john.watson@mycompany.com
```

### 1.1.5 Common Segments

This section provides a detailed description of the HL7 segments that are supported by eHealth Solutions. Some segments are used in every HL7 message (e.g. MSH), whereas others are only used in specific contexts (e.g. TXA in document administration). The fields that are required in a given segment heavily depend on the transaction that is to be executed. Some segments, however, have static requirements that are the same for all transactions. These requirements are stated in the following sections:

- MSH Segment
- EVN Segment
- PID Segment
- PV1 Segment
- MRG Segment
- IN1 Segment

Please note that these listings will not be repeated in the detailed transaction descriptions for brevity considerations. A back-reference to this chapter will be provided instead.

#### 1.1.5.1 MSH Segment

Every HL7v2 message requires the MSH segment to be the first segment of the message. Additional segments may be required for individual messages, this is determined by the message type and trigger event defined in MSH-9.

## Example 10: HL7v2 Message Header

```
MSH|^~\&|My Sending Application^1.1.2.1.1^ISO|My Local Clinic^1.1.2^ISO|ITH MPI^1.1.1.1.1^  
ISO|ITH Community^1.1.1^ISO|20141001233656||ADT^A01|1412199415701|P|2.5|||AL
```

Table 2 shows a detailed field description of the MSH (Message Header) segment for all transactions.

### MSH-1 - Field Separator

This field specifies the delimiter character that should be used to demarcate individual fields in the HL7 message. The field separator is the first single character that follows the literal string "MSH" at the very beginning of the message. The default and thus recommended field separator is the "|" (pipe) character.

### MSH-2 - Encoding Characters

This field contains the following four delimiter characters in the given order: the component separator, repetition separator, escape character, and subcomponent separator. The default and thus recommended delimiter characters are: "^&~\|"

### MSH-3 - Sending Application

This field uniquely identifies the sending application among all other applications within the Affinity Domain. eHealth Solutions mandates that MSH-3-2 (Universal ID) contains a valid ISO OID. This implies that MSH-3-3 always must contain the value "ISO", which is the HL7 code for the ISO OID Universal ID Type.

### MSH-4 - Sending Facility

This field uniquely identifies the sending facility within the Affinity Domain. In most use cases this field will contain the identifier of the organization that hosts the sending application (e.g. hospital, primary care center etc.). eHealth Solutions mandates that MSH-4-2 (Universal ID) contains a valid ISO OID. This implies that MSH-4-3 always must contain the value "ISO", which is the HL7 code for the ISO OID Universal ID Type.

### MSH-5 - Receiving Application

This field uniquely identifies the receiving application among all other applications within the Affinity Domain. eHealth Solutions mandates that MSH-5-2 (Universal ID) contains a valid ISO OID. This implies that MSH-5-3 always must contain the value "ISO", which is the HL7 code for the ISO OID Universal ID Type.

### MSH-6 - Receiving Facility

This field uniquely identifies the receiving facility within the Affinity Domain. In most use cases this field will contain the identifier of the organization that hosts the receiving application (e.g. the central hospital in the Affinity Domain). eHealth Solutions mandates that MSH-6-2 (Universal ID) contains a valid ISO OID. This implies that MSH-6-3 always must contain the value "ISO", which is the HL7 code for the ISO OID Universal ID Type.

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

This field contains the date/time that the sending system created the message. eHealth Solutions ignores this field, but it is required by the HL7 standard.

### MSH-9 - Message Type

This field contains the message code (MSH-9-1), trigger event (MSH-9-2) and in some cases the message structure (MSH-9-3) of the message.

### MSH-10 - Message Control ID

The unique ID of the message. This ID is used in the MSA segment of response messages to correlate the request with the response message.

### MSH-11 - Processing ID

This field contains the processing mode of the message. eHealth Solutions ignores this field, but it is required by the HL7 standard. Sending systems should always use the value "P" (for "Production").

### MSH-12 - Version ID

Defines the version of the HL7 standard that is used by this message. Among other things, this field has strong impact on the format of response messages. If unsure, sending systems should use version "2.5, as this gives access to the more modern error handling approach introduced in HL7 version 2.5.

### MSH-18 - Character Set

Defines the character encoding of the message. This field is usually ignored, as specified in the "Message Encoding" section. If eHealth Solutions is configured to honor this field, only the first repetition will be evaluated.

**Table 2: MSH Segment Structure**

HL7 Path	Repeatable	Presence
MSH-1 - Field Separator	No	Required
MSH-2 - Encoding Characters	No	Required
MSH-3 - Sending Application	No	Required
MSH-4 - Sending Facility	No	Required
MSH-5 - Receiving Application	No	Required
MSH-6 - Receiving Facility	No	Required
MSH-7 - Date/Time Of Message	No	Required
MSH-9 - Message Type	No	Required
MSH-10 - Message Control ID	No	Required
MSH-11 - Processing ID	No	Required
MSH-12 - Version ID	No	Required
MSH-18 - Character Set	Yes	Optional

### 1.1.5.2 EVN Segment

Table 3 shows a detailed field description of the EVN (Event Type) segment for all transactions. This segment contains additional information about the real-world event that triggered a HL7 message.

### EVN-2 - Recorded Date/Time

The date/time that the real-world event was recorded. eHealth Solutions ignores this field, but it is required by the HL7 standard.

### EVN-5 - Operator ID

The person that triggered the message. The value of this field is used in audit logs, it is thus recommended to always provide a value here. HL7 allows repetitions of this field, but eHealth Solutions only evaluates the first repetition.

### EVN-7 - Event Facility

The organization/facility where the real-world event occurred. This field can only be used if the message uses HL7 version 2.4 or newer. The field is only evaluated for patient and encounter feed messages. It provides a fallback value in case PID-34 does not specify a value.

**Table 3: EVN Segment Structure**

HL7 Path	Repeatable	Presence
EVN-2 - Recorded Date/Time	No	Required
EVN-5 - Operator ID	No	Optional
EVN-7 - Event Facility	No	Optional

### 1.1.5.3 PID Segment

Table 4 shows a detailed field description of the PID (Patient Identification) segment for all patient and encounter-related transactions. For feed messages, eHealth Solutions imposes the following restrictions on the patient identifiers transmitted in PID-3:

- One of the identifiers must uniquely identify the patient within the entire Affinity Domain. eHealth Solutions uses the term *Source Patient Identifier* for this type of identifiers. It is possible that multiple source patient identifiers are listed in PID-3, but this is not recommended. A single source patient identifier suffices.
- Additional identifiers may be listed, for example: social security number, driver license number, national person identifier etc. In the real world, this identifiers also uniquely identify a patient. But from the perspective of the eHealth Solutions MPI, this identifiers do not qualify as source patient identifiers. Example: a patient may visit multiple healthcare providers in an Affinity Domain. The social security number will be the same for all providers, so it cannot be used to uniquely identify a patient that is transmitted by a healthcare provider.

#### ⋮ PID-3 - Patient Identifier List

The identifiers of the patient, e.g. source patient identifier, social security number, driver license number. At least one patient identifier must be present in this field for every HL7 message that contains a PID segment.

#### ⋮ PID-5 - Patient Name List

The names of the patient. At least one patient name must be present in this field for every HL7 message that contains a PID segment.

#### ⋮ PID-6 - Mother's Maiden Name

The maiden name of the patient's mother. The HL7 standard allows repetitions of this field, but eHealth Solutions only evaluates the first repetition. Only subcomponent PID-6-1-1 (Last Name) is processed, all other components are ignored.

#### ⋮ PID-7 - Date/Time of Birth

The birth date of the patient. It is usually sufficient to specify the birth date without the time components (hours, minutes etc.).

#### ⋮ PID-8 - Administrative Sex

The sex of the patient. Allowed values are defined in HL7 table 0001 - *Administrative Sex*: **M** (Male), **F** (Female), **O** (Other), **U** (Unknown), **A** (Ambiguous), **N** (Not Applicable). eHealth Solutions will use **U** as a fallback if the sending system does not specify a value for this field, or if the value is not recognized.

#### ⋮ PID-11 - Patient Address List

The addresses of the patient, e.g. living address, work address etc.

#### ⋮ PID-13 - Home Phone Number List

Despite the name, this field is not only used to specify telephone numbers, but can really be used to define all kinds of personal telecommunication addresses (e.g. cell phone number, email address etc.)

for the patient. The transmission of email addresses requires special attention, please consult the XTN section in this document for further information. The telecommunication use code **PRN** is used as a fallback for all repetitions that do not specify a value in XTN-2.

||| PID-14 - Business Phone Number List

Despite the name, this field is not only used to specify telephone numbers, but can really be used to define all kinds of business-related telecommunication addresses (e.g. cell phone number, email address etc.) for the patient. The transmission of email addresses requires special attention, please consult the XTN section in this document for further information. The telecommunication use code **WPN** is used as a fallback for all repetitions that do not specify a value in XTN-2.

||| PID-15 - Primary Language

The native language of the patient. To ensure interoperability with other vendors it is recommended to use ISO table 639 codes as values of this field.

||| PID-16 - Marital Status

The marital status of the patient. Allowed values are defined in HL7 table 0002 - *Marital Status*.

||| PID-17 - Religion

The religious affiliation of the patient. Allowed values are defined in HL7 table 0006 - *Religion*.

||| PID-18 - Patient Account Number

The patient account number of the patient. This field does not represent a patient identifier, it should not be confused with PID-3. Depending on the message type, this field can have several functions in eHealth Solutions: if the message is not an encounter message this field will be ignored; else if PV1-19 is empty the field will be used as the encounter identifier; else (PV1-19 has a value) the field will be used to group multiple patient encounters under one patient account. The "Move Patient Account" transaction can be used to move this encounter groups between patients. An encounter message is rejected if both PID-18 and PV1-19 are empty.

||| PID-24 - Multiple Birth Indicator

Indicates whether the patient is part of a multiple birth. Allowed values are **N** and **Y**. eHealth Solutions uses **N** if no value is specified in this field. This field will be ignored if PID-25 contains a value: **Y** is assumed in this case.

||| PID-25 - Birth Order

The birth order of the patient, if it was part of a multiple birth. Only positive natural numbers are allowed in this field.

||| PID-26 - Citizenships

The citizenships of the patient. The eHealth Solutions MPI interprets the first repetition as the *nationality* of the patient, this repetition thus has greater importance than the rest. To ensure interoperability with other vendors it is recommended to use ISO table 3166 codes as values of this field.

||| PID-29 - Patient Death Date/Time

The death date of the patient. It is usually sufficient to specify the death date without the time components (hours, minutes etc.). When a value is given here, it will be validated against the birth date (PID-7) that necessarily has to contain an earlier date.

||| PID-30 - Patient Death Indicator

Indicates whether the patient has already died. Allowed values are **N** and **Y**. eHealth Solutions uses **N** if no value is specified in this field. This field will be ignored if PID-29 contains a value: **Y** is assumed in this case.

||| PID-31 - Identity Unknown Indicator

Indicates whether the patient's identity has been established sufficiently. A frequent use case for this field is a medical emergency where no identity document of the patient is at hand. Such patients are



usually assigned temporary identifiers and dummy names. Possible values are **N** and **Y**. **N** is used as a default when the field is left empty.

■ PID-34 - Last Update Facility

This field is only evaluated for patient and encounter feeds: it represents the organization/facility that is sending the feed. It is recommended to use the same value that is used for the assigning authority of the source patient identifier (PID-3.4). This field is not mandatory, but eHealth Solutions requires a last update facility for patient feeds. EVN-7 and MSH-4 will be used as fallbacks if no value is specified here.

**Table 4: PID Segment Structure**

HL7 Path	Repeatable	Presence
PID-3 - Patient Identifier List	Yes	Required
PID-5 - Patient Name List	Yes	Required
PID-6 - Mother's Maiden Name	No	Optional
PID-7 - Date/Time of Birth	No	Optional
PID-8 - Administrative Sex	No	Optional
PID-11 - Patient Address List	Yes	Optional
PID-13 - Home Phone Number List	Yes	Optional
PID-14 - Business Phone Number List	Yes	Optional
PID-15 - Primary Language	No	Optional
PID-16 - Marital Status	No	Optional
PID-17 - Religion	No	Optional
PID-18 - Patient Account Number	No	Conditionally Required
PID-24 - Multiple Birth Indicator	No	Optional
PID-25 - Birth Order	No	Optional
PID-26 - Citizenships	Yes	Optional
PID-29 - Patient Death Date/Time	No	Optional
PID-30 - Patient Death Indicator	No	Optional
PID-31 - Identity Unknown Indicator	No	Optional
PID-34 - Last Update Facility	No	Optional

### 1.1.5.4 PV1 Segment

**Table 5** shows a detailed field description of the PV1 (Patient Visit) segment. This segment contains information about a patient's visit in a healthcare facility. eHealth Solutions commonly uses *patient encounter* as an alternative term for visits.

■ PV1-2 - Patient Class

The class/type of the patient in the context of the encounter. This field is required in the HL7 standard, so it is recommended to always provide a value here. eHealth Solutions treats the field as optional though, as the patient class can be determined by the message trigger event. The following patient classes are supported, all other values are ignored: **E** (Emergency), **I** (Inpatient), **N** (Not Applicable), **B** (Obstetrics), **O** (Outpatient), **P** (Pre-Admission), **R** (Recurring Patient) and **U** (Unknown).

■ PV1-3 - Assigned Patient Location

The location of the patient in the context of the encounter. eHealth Solutions only processes PV1-3-4 (Facility), all other components are ignored. This field is optional for most transactions.

■ PV1-6 - Prior Patient Location

The location of the patient prior to the current encounter event. This field is mandated by some IHE

patient encounter transactions, but eHealth Solutions does not process it.

☰ PV1-7 - Attending Doctor

The doctor that treats the patient in the context of the encounter. The HL7 standard allows repetitions of this field, but eHealth Solutions only processes the first repetition.

☰ PV1-8 - Referring Doctor

The doctor that referred the patient to the current healthcare facility (see PV1-3). The HL7 standard allows repetitions of this field, but eHealth Solutions only processes the first repetition.

☰ PV1-15 - Ambulatory Status

The ambulatory status and special requirements (e.g. wheelchair accessibility) of the patient. Allowed values are defined in HL7 table 0009 - *Ambulatory Status*.

☰ PV1-19 - Visit Number

The unique identifier of the patient encounter. If no value is present, PID-18 will be used as a fallback encounter identifier. It is strongly recommended to use PV1-19 as the encounter identifier, and use PID-18 only to group encounters under a common patient encounter (if desired). It should be noted that this field is not intended to identify a specific encounter event (e.g. inpatient admission), but the patient encounter (a sequence of individual encounter events) as a whole.

☰ PV1-44 - Admit Date/Time

The timestamp of the inpatient admission or registration at the healthcare facility (for ambulatory encounters). This timestamp is mandatory for each HL7 message that starts a new patient encounter, but is ignored in all subsequent messages that pertain to the same encounter. It is thus not possible to change the encounter start timestamp at a later point in time.

☰ PV1-45 - Discharge Date/Time

The timestamp of the patient discharge. This timestamp is mandatory for each HL7 message that end-/finalizes a patient encounter, but is ignored in all other messages that pertain to the same encounter.

**Table 5: PV1 Segment Structure**

HL7 Path	Repeatable	Presence
PV1-2 - Patient Class	No	Optional
PV1-3 - Assigned Patient Location	No	Conditionally Required
PV1-6 - Prior Patient Location	No	Optional
PV1-7 - Attending Doctor	No	Conditionally Required
PV1-8 - Referring Doctor	No	Optional
PV1-15 - Ambulatory Status	Yes	Optional
PV1-19 - Visit Number	No	Conditionally Required
PV1-44 - Admit Date/Time	No	Conditionally Required
PV1-45 - Discharge Date/Time	No	Conditionally Required

### 1.1.5.5 MRG Segment

Table 6 shows a detailed field description of the MRG (Merge Patient Information) segment for all transactions that require it. This segment contains information about an obsolete/prior patient record. eHealth Solutions uses the term *recessive patient* for this patient records.

☰ MRG-1 - Prior Patient Identifier List

The patient identifiers of the obsolete/prior patient. This field is the functional equivalent of PID-3, but for the obsolete instead of the active patient. It is highly recommended to only list the single source

patient identifier of the obsolete patient here, all other identifiers (e.g. social security number etc.) should be left out.

MRG-3 - Prior Patient Account Number

The patient account number of the obsolete/prior patient.

MRG-7 - Prior Patient Name List

The names of the obsolete/prior patient. eHealth Solutions uses this field for logging purposes only, it may be left out completely.

**Table 6: MRG Segment Structure**

HL7 Path	Repeatable	Presence
MRG-1 - Prior Patient Identifier List	Yes	Required
MRG-3 - Prior Patient Account Number	No	Optional
MRG-7 - Prior Patient Name List	Yes	Optional

### 1.1.5.6 IN1 Segment

Table 7 shows a detailed field description of the IN1 (Insurance Segment) segment for all patient and encounter-related transactions. This segment contains information about the patient’s insurance policies, it is always optional.

IN1-1 - Set ID

The unique ID of this segment. Multiple IN1 segments may be specified per message, each segment is assigned a unique set ID. Set IDs are consecutive integers, the first occurrence of the IN1 segment has set ID “1”.

IN1-2 - Insurance Plan ID

The unique identifier of the insurance plan. eHealth Solutions only processes IN1-2-1 (ID number), all other components are ignored. The insurance plan identifier can hold up to and including 255 characters.

IN1-3 - Insurance Company ID

The unique identifier of the company that issued the insurance plan. The HL7 standard allows repetitions of this field, but eHealth Solutions only processes the first repetition.

IN1-4 - Insurance Company Name

The name of the company that issued the insurance plan. eHealth Solutions only processes IN1-4-1 (Organization Name), all other components are ignored. The insurance company name can hold up to and including 255 characters. The HL7 standard allows repetitions of this field, but eHealth Solutions only processes the first repetition.

**Table 7: IN1 Segment Structure**

HL7 Path	Repeatable	Presence
IN1-1 - Set ID	No	Required
IN1-2 - Insurance Plan ID	No	Required
IN1-3 - Insurance Company ID	No	Required
IN1-4 - Insurance Company Name	No	Optional

## 1.1.6 Responses

The HL7 standard uses the term *Acknowledgement* for response messages. Each request message is acknowledged by a corresponding response message. Response messages usually only contain a success indicator and, in the case of error responses, additional error information. The sole exception of this rule of thumb are query responses, which additionally contain the results of the query. HL7 versions up to and including 2.4 only provide very limited error reporting: it is not possible to return custom, application-specific error codes to the sending system. This severely limits a sender's capability to automatically react on predefined, recognizes error cases. It is thus recommended that sending systems use HL7 version 2.5 or higher, which enables them to receive and process eHealth Solutions application error codes. The following example illustrate both a success and error acknowledgement for legacy HL7 v2 versions (2.4 and older):

### Example 11: Success Acknowledgement - Version 2.4 and older

```
MSH|^~\&|ITH MPI^1.1.1.1.1^ISO|ITH Community^1.1.1^ISO|My Sending Application^1.1.2.1.1^ISO|
My Local Clinic^1.1.2^ISO|20180626112015.613+0200||ACK^A01^ACK|7a0a01fe-5d3c-4cfc
-9855-186139f40b4e|P|2.3.1|||||UNICODE UTF-8
MSA|AA|fdfe7eeb-a8da-4d31-9e7f-407b4922c24d|||0
```

### Example 12: Error Acknowledgement - Version 2.4 and older

```
MSH|^~\&|ITH MPI^1.1.1.1.1^ISO|ITH Community^1.1.1^ISO|My Sending Application^1.1.2.1.1^ISO|
My Local Clinic^1.1.2^ISO|20180626112015.613+0200||ACK^A01^ACK|7a0a01fe-5d3c-4cfc
-9855-186139f40b4e|P|2.3.1|||||UNICODE UTF-8
MSA|AE|52de5e91-a118-4f9c-be8f-56270171dbd6|A patient was expected, but no patient is
defined in the request!|||207
ERR|^|^207
```

In the above examples, MSA-1 contains the acknowledgement code that indicates overall success or failure of the request. eHealth Solutions only supports the original acknowledgement mode, which implies that only the following acknowledgement codes will be returned:

- AA: Application Accept. This code indicates that the request succeeded.
- AE: Application Error. This code indicates a request that failed due to the receiving system detecting or causing an error. The vast majority of error situations result in this acknowledgement code.
- AR: Application Reject. This code indicates a message that has been rejected. This acknowledgement code is usually returned for errors in the underlying messaging infrastructure (timeout, unsupported message type etc.).

MSA-2 mirrors the message control ID of the request message that is being acknowledged, this field thus directly relates to MSH-10 of the request message. As shown in the example, MSH-3 contains the human-readable error message. The ERR segment is very limited and only contains the HL7 error code, in the case of the example "207" (Application Internal Error). This situation changes in case HL7 v2.5 or newer is used, as shown in the following examples:

### Example 13: Success Acknowledgement - Version 2.5 and newer

```
MSH|^~\&|ITH MPI^1.1.1.1.1^ISO|ITH Community^1.1.1^ISO|My Sending Application^1.1.2.1.1^ISO|
My Local Clinic^1.1.2^ISO|20180626112015.613+0200||ACK^A01^ACK|7a0a01fe-5d3c-4cfc
-9855-186139f40b4e|P|2.5|||||UNICODE UTF-8
MSA|AA|fdfe7eeb-a8da-4d31-9e7f-407b4922c24d|||0
```

### Example 14: Error Acknowledgement - Version 2.5 and newer

```
MSH|^~\&|ITH MPI^1.1.1.1.1^ISO|ITH Community^1.1.1^ISO|My Sending Application^1.1.2.1.1^ISO|
My Local Clinic^1.1.2^ISO|20180626112015.613+0200||ACK^A01^ACK|7a0a01fe-5d3c-4cfc
-9855-186139f40b4e|P|2.5|||UNICODE UTF-8
MSA|AE|4b87d88f-dd97-42f3-9df3-725cf73114df
ERR||207|E|F-M-MPI-31004^HL70533||An invalid social security number was detected in the
request!
ERR||207|E|F-M-MPI-30001^HL70533||The validation of inbound request data failed due to
missing required information.
```

The only field that changes for success acknowledgements is the HL7 version ID, MSH-12. On the other hand, substantial structural changes exist for error acknowledgements:

- the MSA segment does not contain the HL7 error code and the error message anymore.
- multiple ERR segments can be present in the response. Each ERR segment represents a distinct error or warning that has been generated by eHealth Solutions.
- ERR-3 now contains the HL7 error code, in the example above "207" (Application Internal Error).
- ERR-4 contains the problem severity. eHealth Solutions only uses the **W** (Warning) and **E** (Error) severity values.
- ERR-5 contains the application error code. These codes conform to a proprietary format defined by eHealth Solutions, their form and purpose is explained in detail in the accompanying *Error Codes* documentation.
- ERR-8 contains the human-readable error message.

## 1.2 HL7v3

### 1.2.1 Required Elements

eHealth Solutions adheres strictly to the HL7 Standard. **The order of elements in HL7v3 is critical.**

#### Example 15: W3C SOAP Envelope

```
<?xml version="1.0" encoding="UTF-8"?><soapenv:Envelope xmlns:soapenv="http://www.w3.org
/2003/05/soap-envelope">
  <soapenv:Header xmlns:wsa="http://www.w3.org/2005/08/addressing">
    <wsa:To>http://localhost:1380/PIXPDQ/services/PIXPDQV3ManagerService</wsa:To>
    <wsa:MessageID>urn:uuid:ec9d096b-6261-4bf3-baaa-3f4ddda5e9d2</wsa:MessageID>
    <wsa:Action soapenv:mustUnderstand="1">urn:h17-org:v3:PRPA_IN201301UV02</wsa:Action>
    <wsa:ReplyTo soapenv:mustUnderstand="1">
      <wsa:Address>http://www.w3.org/2005/08/addressing/anonymous</wsa:Address>
    </wsa:ReplyTo>
  </soapenv:Header>
  <soapenv:Body>
    <!-- INSERT HL7 Message Here -->
  </soapenv:Body>
</soapenv:Envelope>
```

The following elements belong in the message header, in this specific order:

1. hl7v3:id
2. hl7v3:creationTime
3. hl7v3:interactionId
4. hl7v3:processingCode
5. hl7v3:processingModeCode
6. hl7v3:acceptAckCode
7. hl7v3:receiver

- 8. hl7v3:receiver.device
- 9. hl7v3:receiver.device.id
- 10. hl7v3:sender
- 11. hl7v3:sender.device

### Example 16: HL7v3 Message Header

Note that all messages share the same structure, but with different content.

```
<ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root="2.16.840.1.113883.1.6.1" extension="1453941234159"/>
<ns1:creationTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:TS" value="20160127193359"/>
<ns1:interactionId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root="2.16.840.1.113883.1.6" extension="PRPA_IN201301UV02"/>
<ns1:processingCode code="P"/>
<ns1:processingModeCode code="T"/>
<ns1:acceptAckCode code="AL"/>
<ns1:receiver typeCode="RCV">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root="1.3.6.1.4.1.21367.13.30.237"/>
  </ns1:device>
</ns1:receiver>
<ns1:sender typeCode="SND">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root="1.3.6.1.4.1.21367.13.10.218"/>
  </ns1:device>
</ns1:sender>
```



#### Note

The interactionId’s extension field changes in the header for each function. This corresponding extension is listed in each payload example.

## 1.2.2 General Responses

eHealth Solutions will provide acknowledgement response messages for three situations:

#### CA

“Commit Accepted”. The message has been accepted.

#### CE

“Commit Error”. The message contains an error.

#### CR

“Commit Rejected”. The message is fine, but could not be processed for some reason.

### Example 17: Acknowledgement Response Message “Commit Accepted”

See this line: <ns1:typeCode code="CA"/>

```
<ns1:MCCI_IN000002UV01 xmlns:ns1="urn:hl7-org:v3" ITSVersion="XML_1.0">
  <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root="1.2.3.4.5" extension="1461835574470.635724"/>
  <ns1:creationTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:TS" value="20160428112614"/>
  <ns1:versionCode code="V3PR1"/>
  <ns1:interactionId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root="2.16.840.1.113883" extension="MCCI_IN000002UV01"/>
  <ns1:processingCode code="P"/>
```

```

<ns1:processingModeCode code="T"/>
<ns1:acceptAckCode code="NE"/>
<ns1:receiver typeCode="RCV">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
  </ns1:device>
</ns1:receiver>
<ns1:receiver typeCode="RCV">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
  </ns1:device>
</ns1:receiver>
<ns1:sender typeCode="SND">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="2.1.12"/>
  </ns1:device>
</ns1:sender>
<ns1:acknowledgement>
  <ns1:typeCode code="CA"/>
  <ns1:targetMessage>
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="2.16.840.1.113883.1.6.1" extension="1461835565496"/>
  </ns1:targetMessage>
</ns1:acknowledgement>
</ns1:MCCI_IN000002UV01>

```

## 1.3 HL7 FHIR

eHealth Solutions is now also compliant with the HL7 FHIR standard in its current version STU3. In FHIR, data formats and elements are referred to as “resources”, of which the following are supported by eHealth Solutions:

### Appointment

Describes a scheduled meeting such as surgeries or conferences on a specific medical case.

### Composition

Describes a document containing a coherent set of healthcare-related information.

### Contract

Describes an agreement between two or more parties (**read-only**).

### Device

Describes a (medical or non-medical) item used for healthcare provision (**read-only**).

### Endpoint

Describes the technical details of a location used for the connection to electronic services (**read-only**).

### ImagingStudy

Describes the content of a DICOM study (**read-only**).

### Observation

Describes measurement values or simple assertions relevant for medical diagnoses.

### OperationDefinition

Describes a formal computable definition of an operation or a named query.

### PlanDefinition

Describes an amount of measures that shall be taken under certain conditions.

### Practitioner

Describes a person engaged in the provisioning of healthcare (**read-only**).

### QuestionnaireResponse

Describes a list of questions and corresponding answers (**read-only**).

### StructureDefinition

Describes a set of data element definitions and the conditions for their usage (**read-only**).

Furthermore, up to eHealth Solutions VA35B the following resources still use the versions DSTU1 and DSTU2:

### DocumentManifests

Describes a set of DocumentReference resources in one package.

### DocumentReference

Describes a document used in a healthcare system.

### Patient

Describes a set of (e. g. demographical) information on a patient.

### ValueSets

Describes a code set (**read-only**).

For resources marked with **read-only**, eHealth Solutions allows the mere retrieval of the information concerned, while updating or storing is not possible.

For a more detailed description of the mentioned resources please refer to the official FHIR documentation under <https://www.hl7.org/fhir/STU3/resourcelist.html>.

## 1.3.1 Parameters and Details

The individual parameters and functionalities are indicated in the manifest of the HL7 FHIR endpoint set up in your installation under:

[https://<host>:<port>/DataGateway/fhir/dstu3/metadata?\\_pretty=true&\\_format=application/json+fhir](https://<host>:<port>/DataGateway/fhir/dstu3/metadata?_pretty=true&_format=application/json+fhir).

Currently, the parameters are specified as follows:

```
{
  "resourceType": "CapabilityStatement",
  "status": "active",
  "date": "2018-10-23T16:48:18+02:00",
  "publisher": "Not provided",
  "kind": "instance",
  "software": {
    "name": "HAPI FHIR Server",
    "version": "2.4"
  },
  "fhirVersion": "3.0.1",
  "acceptUnknown": "extensions",
  "format": [
    "application/fhir+xml",
    "application/fhir+json"
  ],
  "rest": [
    {
      "mode": "server",
      "resource": [
        {
```



```

"type": "Appointment",
"profile": {
  "reference": "http://hl7.org/fhir/Profile/Appointment"
},
"interaction": [
  {
    "code": "search-type"
  }
],
"searchParam": [
  {
    "name": "identifier",
    "type": "reference",
    "documentation": "An Identifier of the Appointment"
  },
  {
    "name": "subject",
    "type": "reference"
  }
]
},
{
"type": "AuditEvent",
"profile": {
  "reference": "http://hl7.org/fhir/Profile/AuditEvent"
},
"interaction": [
  {
    "code": "search-type"
  }
],
"searchParam": [
  {
    "name": "patient",
    "type": "token",
    "documentation": "Direct reference to resource"
  },
  {
    "name": "date",
    "type": "date",
    "documentation": "Time when the event occurred on source"
  }
]
},
{
"type": "Binary",
"profile": {
  "reference": "http://hl7.org/fhir/Profile/Binary"
},
"interaction": [
  {
    "code": "read"
  }
]
},
{
"type": "Composition",
"profile": {
  "reference": "http://hl7.org/fhir/Profile/Composition"
},
"interaction": [
  {
    "code": "update"
  },
  {

```

```

    "code": "search-type"
  }
],
"searchParam": [
  {
    "name": "identifier",
    "type": "reference",
    "documentation": "Logical identifier of composition (version-independent)"
  },
  {
    "name": "subject",
    "type": "reference",
    "documentation": "Who and/or what the composition is about"
  },
  {
    "name": "subject",
    "type": "reference",
    "documentation": "Who and/or what the composition is about"
  },
  {
    "name": "attester",
    "type": "reference",
    "documentation": "Who attested the composition"
  },
  {
    "name": "caseUser",
    "type": "reference"
  },
  {
    "name": "limit",
    "type": "number"
  },
  {
    "name": "patient",
    "type": "reference",
    "documentation": "Who and/or what the composition is about"
  },
  {
    "name": "period",
    "type": "date",
    "documentation": "The period covered by the documentation"
  }
]
},
{
  "type": "Contract",
  "profile": {
    "reference": "http://hl7.org/fhir/Profile/Contract"
  },
  "interaction": [
    {
      "code": "update"
    },
    {
      "code": "delete"
    },
    {
      "code": "create"
    },
    {
      "code": "search-type"
    }
  ],
  "searchParam": [
    {

```

```

        "name": "subject",
        "type": "token",
        "documentation": "The identity of the subject of the contract"
    },
    {
        "name": "authority",
        "type": "token",
        "documentation": "The authority of the contract"
    },
    {
        "name": "consentType",
        "type": "string"
    }
]
},
{
    "type": "Device",
    "profile": {
        "reference": "http://hl7.org/fhir/Profile/Device"
    },
    "interaction": [
        {
            "code": "read"
        },
        {
            "code": "update"
        },
        {
            "code": "delete"
        },
        {
            "code": "create"
        },
        {
            "code": "search-type"
        }
    ],
    "searchParam": [
        {
            "name": "patient",
            "type": "token",
            "documentation": "Patient information, if the resource is affixed to a person"
        }
    ]
},
{
    "type": "DocumentManifest",
    "profile": {
        "reference": "http://hl7.org/fhir/Profile/DocumentManifest"
    },
    "interaction": [
        {
            "code": "read"
        },
        {
            "code": "search-type"
        }
    ],
    "searchParam": [
        {
            "name": "_include",
            "type": "string"
        },
        {
            "name": "author",

```

```

    "type": "string",
    "documentation": "Who and/or what authored the manifest"
  },
  {
    "name": "author",
    "type": "string",
    "documentation": "Who and/or what authored the manifest"
  },
  {
    "name": "created",
    "type": "date",
    "documentation": "When this document manifest created"
  },
  {
    "name": "identifier",
    "type": "token",
    "documentation": "Unique Identifier for the set of documents"
  },
  {
    "name": "patient",
    "type": "reference",
    "documentation": "The subject of the set of documents"
  },
  {
    "name": "patient",
    "type": "token",
    "documentation": "The subject of the set of documents"
  },
  {
    "name": "status",
    "type": "token",
    "documentation": "current | superseded | entered-in-error"
  },
  {
    "name": "type",
    "type": "token",
    "documentation": "Kind of document set"
  }
]
},
{
  "type": "DocumentReference",
  "profile": {
    "reference": "http://hl7.org/fhir/Profile/DocumentReference"
  },
  "interaction": [
    {
      "code": "read"
    },
    {
      "code": "delete"
    },
    {
      "code": "search-type"
    }
  ],
  "conditionalDelete": "single",
  "searchParam": [
    {
      "name": "author",
      "type": "string",
      "documentation": "Who and/or what authored the document"
    },
    {
      "name": "author",

```

```

    "type": "string",
    "documentation": "Who and/or what authored the document"
  },
  {
    "name": "class",
    "type": "token",
    "documentation": "Categorization of document"
  },
  {
    "name": "created",
    "type": "date",
    "documentation": "Document creation time"
  },
  {
    "name": "event",
    "type": "token",
    "documentation": "Main clinical acts documented"
  },
  {
    "name": "facility",
    "type": "token",
    "documentation": "Kind of facility where patient was seen"
  },
  {
    "name": "format",
    "type": "token",
    "documentation": "Format/content rules for the document"
  },
  {
    "name": "identifier",
    "type": "token",
    "documentation": "Master Version Specific Identifier"
  },
  {
    "name": "indexed",
    "type": "date",
    "documentation": "When this document reference was created"
  },
  {
    "name": "patient",
    "type": "reference",
    "documentation": "Who/what is the subject of the document"
  },
  {
    "name": "patient",
    "type": "token",
    "documentation": "Who/what is the subject of the document"
  },
  {
    "name": "period",
    "type": "date",
    "documentation": "Time of service that is being documented"
  },
  {
    "name": "related-id",
    "type": "token",
    "documentation": "Identifier of related objects or events"
  },
  {
    "name": "securitylabel",
    "type": "token",
    "documentation": "Document security-tags"
  },
  {
    "name": "setting",

```

```

        "type": "token",
        "documentation": "Additional details about where the content was created (e.g.
clinical specialty)"
    },
    {
        "name": "status",
        "type": "token",
        "documentation": "current | superseded | entered-in-error"
    },
    {
        "name": "subject",
        "type": "reference",
        "documentation": "Who/what is the subject of the document"
    },
    {
        "name": "subject",
        "type": "token",
        "documentation": "Who/what is the subject of the document"
    },
    {
        "name": "type",
        "type": "token",
        "documentation": "Kind of document (LOINC if possible)"
    },
    {
        "name": "manifest",
        "type": "token"
    },
    {
        "name": "patient",
        "type": "token",
        "documentation": "Who/what is the subject of the document"
    }
]
},
{
    "type": "Endpoint",
    "profile": {
        "reference": "http://hl7.org/fhir/Profile/Endpoint"
    },
    "interaction": [
        {
            "code": "read"
        },
        {
            "code": "update"
        },
        {
            "code": "delete"
        },
        {
            "code": "create"
        },
        {
            "code": "search-type"
        }
    ],
    "searchParam": [
        {
            "name": "catConfig",
            "type": "token"
        },
        {
            "name": "organization",
            "type": "reference",

```

```

        "documentation": "The organization that is managing the endpoint"
    },
    {
        "name": "status",
        "type": "token",
        "documentation": "The current status of the Endpoint (usually expected to be
active)"
    },
    {
        "name": "useProxy",
        "type": "string"
    }
]
},
{
    "type": "ImagingStudy",
    "profile": {
        "reference": "http://hl7.org/fhir/Profile/ImagingStudy"
    },
    "interaction": [
        {
            "code": "read"
        },
        {
            "code": "search-type"
        }
    ],
    "searchParam": [
        {
            "name": "_tag",
            "type": "token"
        },
        {
            "name": "_tag",
            "type": "token"
        }
    ]
},
{
    "type": "Instance",
    "interaction": [
        {
            "code": "search-type"
        }
    ],
    "searchParam": [
        {
            "name": "_tag",
            "type": "token"
        },
        {
            "name": "seriesUID",
            "type": "string"
        },
        {
            "name": "studyUID",
            "type": "string"
        }
    ]
},
{
    "type": "Observation",
    "profile": {
        "reference": "http://hl7.org/fhir/Profile/Observation"
    },
},

```

```

"interaction": [
  {
    "code": "read"
  },
  {
    "code": "update"
  },
  {
    "code": "delete"
  },
  {
    "code": "create"
  },
  {
    "code": "search-type"
  }
],
"searchParam": [
  {
    "name": "subject",
    "type": "token",
    "documentation": "The subject that the observation is about"
  },
  {
    "name": "category",
    "type": "token",
    "documentation": "The classification of the type of observation"
  },
  {
    "name": "code",
    "type": "token",
    "documentation": "The code of the observation type"
  },
  {
    "name": "date",
    "type": "date",
    "documentation": "Obtained date/time. If the obtained element is a period, a
date that falls in the period"
  },
  {
    "name": "device",
    "type": "reference",
    "documentation": "The Device that generated the observation data."
  },
  {
    "name": "code",
    "type": "token",
    "documentation": "The code of the observation type"
  },
  {
    "name": "subject",
    "type": "token",
    "documentation": "The subject that the observation is about"
  },
  {
    "name": "sources",
    "type": "string"
  }
]
},
{
  "type": "OperationDefinition",
  "profile": {
    "reference": "http://hl7.org/fhir/Profile/OperationDefinition"
  }
},

```



```

"interaction": [
  {
    "code": "read"
  }
],
{
  "type": "Patient",
  "profile": {
    "reference": "http://hl7.org/fhir/Profile/Patient"
  },
  "interaction": [
    {
      "code": "read"
    },
    {
      "code": "update"
    },
    {
      "code": "delete"
    },
    {
      "code": "create"
    },
    {
      "code": "search-type"
    }
  ],
  "searchParam": [
    {
      "name": "address",
      "type": "string",
      "documentation": "A server defined search that may match any of the string
fields in the Address, including line, city, state, country, postalCode, and/or text"
    },
    {
      "name": "birthdate",
      "type": "date",
      "documentation": "The patient's date of birth"
    },
    {
      "name": "family",
      "type": "string",
      "documentation": "A portion of the family name of the patient"
    },
    {
      "name": "gender",
      "type": "string",
      "documentation": "Gender of the patient"
    },
    {
      "name": "given",
      "type": "string",
      "documentation": "A portion of the given name of the patient"
    },
    {
      "name": "identifier",
      "type": "token",
      "documentation": "A patient identifier"
    }
  ]
},
{
  "type": "PlanDefinition",
  "profile": {

```

```

    "reference": "http://hl7.org/fhir/Profile/PlanDefinition"
  },
  "interaction": [
    {
      "code": "read"
    },
    {
      "code": "update"
    },
    {
      "code": "delete"
    },
    {
      "code": "create"
    },
    {
      "code": "search-type"
    }
  ],
  "searchParam": [
    {
      "name": "ignoreExtFailure",
      "type": "token"
    },
    {
      "name": "publisher",
      "type": "string",
      "documentation": "Name of the publisher of the plan definition"
    },
    {
      "name": "attende",
      "type": "reference"
    },
    {
      "name": "subject",
      "type": "reference"
    },
    {
      "name": "attester",
      "type": "reference"
    },
    {
      "name": "caseUser",
      "type": "reference"
    },
    {
      "name": "limit",
      "type": "number"
    },
    {
      "name": "patient",
      "type": "reference"
    },
    {
      "name": "period",
      "type": "date"
    }
  ]
},
{
  "type": "Practitioner",
  "profile": {
    "reference": "http://hl7.org/fhir/Profile/Practitioner"
  },
  "interaction": [

```

```

    {
      "code": "read"
    },
    {
      "code": "search-type"
    }
  ],
  "searchParam": [
    {
      "name": "email",
      "type": "token",
      "documentation": "A value in an email contact"
    },
    {
      "name": "family",
      "type": "string",
      "documentation": "A portion of the family name"
    },
    {
      "name": "given",
      "type": "string",
      "documentation": "A portion of the given name"
    },
    {
      "name": "specialty",
      "type": "string"
    }
  ]
},
{
  "type": "QuestionnaireResponse",
  "profile": {
    "reference": "http://hl7.org/fhir/Profile/QuestionnaireResponse"
  },
  "interaction": [
    {
      "code": "read"
    },
    {
      "code": "create"
    }
  ]
},
{
  "type": "SeriesResource",
  "interaction": [
    {
      "code": "search-type"
    }
  ],
  "searchParam": [
    {
      "name": "_tag",
      "type": "token"
    },
    {
      "name": "studyUID",
      "type": "string"
    }
  ]
},
{
  "type": "StructureDefinition",
  "profile": {
    "reference": "http://hl7.org/fhir/Profile/StructureDefinition"
  }
}

```

```

    },
    "interaction": [
      {
        "code": "read"
      },
      {
        "code": "search-type"
      }
    ]
  },
  {
    "type": "ValueSet",
    "profile": {
      "reference": "http://hl7.org/fhir/Profile/ValueSet"
    },
    "interaction": [
      {
        "code": "read"
      },
      {
        "code": "search-type"
      }
    ],
    "searchParam": [
      {
        "name": "name",
        "type": "string",
        "documentation": "Computationally friendly name of the value set"
      }
    ]
  }
],
"interaction": [
  {
    "code": "transaction"
  }
],
"operation": [
  {
    "name": "change-state",
    "definition": {
      "reference": "OperationDefinition/Composition-i-change-state"
    }
  },
  {
    "name": "add-documents",
    "definition": {
      "reference": "OperationDefinition/Composition-i-add-documents"
    }
  },
  {
    "name": "add-participant",
    "definition": {
      "reference": "OperationDefinition/Composition-i-add-participant"
    }
  },
  {
    "name": "add-case",
    "definition": {
      "reference": "OperationDefinition/Composition-i-add-case"
    }
  },
  {
    "name": "change-case-roles",
    "definition": {

```

```

    "reference": "OperationDefinition/Composition-i-change-case-roles"
  },
  {
    "name": "finalize-composition",
    "definition": {
      "reference": "OperationDefinition/Composition-i-finalize-composition"
    }
  },
  {
    "name": "remove-case",
    "definition": {
      "reference": "OperationDefinition/Composition-i-remove-case"
    }
  },
  {
    "name": "transfer-case",
    "definition": {
      "reference": "OperationDefinition/Composition-i-transfer-case"
    }
  },
  {
    "name": "make-note",
    "definition": {
      "reference": "OperationDefinition/Composition-i-make-note"
    }
  },
  {
    "name": "change-forminstance",
    "definition": {
      "reference": "OperationDefinition/Composition-i-change-forminstance"
    }
  },
  {
    "name": "change-participants",
    "definition": {
      "reference": "OperationDefinition/Composition-i-change-participants"
    }
  },
  {
    "name": "change-present-participants",
    "definition": {
      "reference": "OperationDefinition/Composition-i-change-present-participants"
    }
  },
  {
    "name": "remove-participant",
    "definition": {
      "reference": "OperationDefinition/Composition-i-remove-participant"
    }
  },
  {
    "name": "remove-documents",
    "definition": {
      "reference": "OperationDefinition/Composition-i-remove-documents"
    }
  },
  {
    "name": "add-participants",
    "definition": {
      "reference": "OperationDefinition/Composition-i-add-participants"
    }
  },
  {
    "name": "remove-participants",

```

```
    "definition": {
      "reference": "OperationDefinition/Composition-i-remove-participants"
    },
    {
      "name": "ihe-pix",
      "definition": {
        "reference": "OperationDefinition/Patient--ihe-pix"
      }
    }
  ]
}
}
```

## 2 Encounter Administration

These messages are used to create encounters/visits for a patient. Visits can be uniquely identified by using a composite of the Visit ID and the Assigning Authority ID. Therefore, it is strongly recommended that the Assigning Authority is provided in HL7v2 messages. This is already the required standard for HL7v3.

### HL7v2

The PV1-19 field should contain the Assigning Authority ID (PV1-19.4). If a value is present in this field, the patient visit notification will be processed by the MPI after the patient has been created/updated. The patient class (PV1-2) determines whether the visit refers to an inpatient or outpatient visit. If no patient class is provided, the trigger event determines the patient visit type: A01 for an inpatient visit, A04 for an outpatient visit.

### HL7v3

All visit-related inbound messages for HL7v3 must contain an Assigning Authority ID under:

`controlActProcess.subject.encounterEvent.id.item`

Currently the following encounter operations are supported in eHealth Solutions:

- Admit Inpatient
- Register Outpatient
- Discharge Patient
- Cancel Admit Inpatient/Outpatient
- Cancel Discharge Patient
- Transfer Patient
- Cancel Transfer Patient
- Change Outpatient To Inpatient
- Change Inpatient To Outpatient
- Change Patient Identifier List
- Change Attending Doctor
- Cancel Change Attending Doctor
- Begin Leave of Absence
- Cancel Begin Leave of Absence
- End Leave of Absence
- Cancel End Leave Of Absence
- Move Account Information
- Update Encounter Event
- Cancel Encounter Event
- Merge Patients/Encounters

Detailed descriptions are given in the sections below.

### 2.1 Admit Inpatient

This transaction is used to notify the MPI about an inpatient visit.

#### 2.1.1 Admit Inpatient -- HL7v2

- ADT A01 – Admit/visit notification

➤ **ADT A04** – Register a patient (see hint below)

### 2.1.1.1 Message Structure

This section provides an overview and description of the message structure of the **Admit Inpatient** transaction.

**Table 8:** Segments: **Admit Inpatient**

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A01</b> or <b>A04</b>
EVN	Event Information
IN1	Patient Insurance Information ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.



### 2.1.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

#### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

#### IN1-1

Set ID: The sequential number of this segment.

#### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

#### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

#### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

#### PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

#### PV1-3

Assigned Patient Location: The facility that processes the patient visit. The MPI only processes PV1-3.4 (Facility) and requires this component to be present.

#### PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

#### PV1-44

Admit Date/Time: The start date/time of the patient visit.

#### PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

#### ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity

ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

☰ ZBE-2

Start Movement Date/Time: The timestamp of the movement.

☰ ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

☰ ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 9:** Fields relevant for theThe Begin Inpatient Visit Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-3	Assigned Patient Location	No	Optional
PV1-19	Visit Number	No	Recommended
PV1-44	Admit Date/Time	No	Required
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 18:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306154052.781+0100||ADT^A01^ADT_A01|53b4e866-14b6-4cc5-995c-
aaa0743d3dd2|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306154052.781+0100|||userId9277^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306154052.697+0100
PID|||patientId3225^^^My Local Clinic&1.2.123.27.1974&ISO^PI~12850234582296^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678|en|M|VAR|patientAccount8753^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||N|GB|||N
PV1||I|^Radiology&1.2.123.27.1974.187.15&ISO|||doctor9396^Dorian^John^^^^^Medical
Staff&1.2.123.27.1974.185.23&ISO^L^^DN^^^^^^M.D.|doctor7763^House^Gregory^^^^^
Medical Staff&1.2.123.27.1974.185.23&ISO^L^^DN^^^^^^M.D.|||||A0|||visitId6965^^^My
Local Clinic&1.2.123.27.1974&ISO^VN|||||20180306154052.697+0100
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
```

```

^1.1.234.1245^ISO|20180313135112.535+0100||ADT^A01^ADT_A01|f943bb65-c45e-4ba5-a239-976
e2213f4bd|P|2.5|||AL|||UNICODE UTF-8
EVN||20180313135112.535+0100|||userId0103^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313135112.523+0100
PID|||patientId9777^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234586142^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980313|M|||&Main Street
&17^^London^^54820^GB^L|||^^^^^^^^^^^^011 44 20 1234 5678||en|M|VAR|patientAccount1946^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||N|GB|||N
PV1||I|^Radiology&1.2.123.27.1974.187.15&ISO|||doctor2884^Dorian^John^^^^^Medical
Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|doctor4412^House^Gregory^^^^^
Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|||A0|||visitId8498^^^My
Local Clinic&1.2.123.27.1974&ISO^VN
|||||20180313135112.523+0100|||V
ZBE|visitEvent3471^My Local Clinic^1.2.123.27.1974^ISO|20180313135112.523+0100||INSERT|N

```

**Response:**

```

MSH|^~\&|QUA^1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|201505051501||ACK
^A01|124|P|2.3.1
MSA|AA|123

```

## 2.1.2 Admit Inpatient -- HL7v3

### 2.1.2.1 Message Structure

**Example 19: HL7v3 Begin Inpatient Visit Root Element**  
interactionId's extension field: PRPA\_IN400001UV01

```

<h17:PRPA_IN400001UV01 ITSVersion="XML_1.0" xmlns:h17="urn:h17-org:v3" xmlns:xsi="http://www
.w3.org/2001/XMLSchema-instance">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</h17:PRPA_IN400001UV01>

```

### 2.1.2.2 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.subject
4. controlActProcess.subject.encounterEvent
5. controlActProcess.subject.encounterEvent.id
6. controlActProcess.subject.encounterEvent.id.item
7. controlActProcess.subject.encounterEvent.code
8. controlActProcess.subject.encounterEvent.statusCode
9. controlActProcess.subject.encounterEvent.effectiveTime
10. controlActProcess.subject.encounterEvent.effectiveTime.low
11. controlActProcess.subject.encounterEvent.subject
12. controlActProcess.subject.encounterEvent.subject.patient
13. controlActProcess.subject.encounterEvent.subject.patient.id
14. controlActProcess.subject.encounterEvent.subject.patient.id.item
15. controlActProcess.subject.encounterEvent.subject.patient.patientPerson.name
16. controlActProcess.subject.encounterEvent.responsibleParty
17. controlActProcess.subject.encounterEvent.responsibleParty.time
18. controlActProcess.subject.encounterEvent.responsibleParty.time.low

19. controlActProcess.subject.encounterEvent.responsibleParty.id
20. controlActProcess.subject.encounterEvent.responsibleParty.assignedOrganization
21. controlActProcess.subject.encounterEvent.admitter
22. controlActProcess.subject.encounterEvent.admitter.time
23. controlActProcess.subject.encounterEvent.admitter.assignedPerson
24. controlActProcess.subject.encounterEvent.admitter.assignedPerson.name
25. controlActProcess.subject.encounterEvent.admitter.assignedPerson.name.item
26. controlActProcess.subject.encounterEvent.admitter.assignedPerson.name.item.part

### Example 20: HL7v3 Begin In-Patient Visit Payload

The "IMP" in encounterEvent . code refers to stationary patients (in-patients).

```
<hl7:controlActProcess classCode="CACT" moodCode="EVN">
  <hl7:code code="PRPA_TE400001UV01" />
  <hl7:subject typeCode="SUBJ">
    <hl7:encounterEvent>
      <hl7:id>
        <hl7:item root="1.6.7.8.9.0" extension="12345678" />
      </hl7:id>
      <hl7:code code="IMP" />
      <hl7:statusCode code="active" />
      <hl7:effectiveTime>
        <hl7:low value="20141125155917" />
      </hl7:effectiveTime>
      <hl7:subject>
        <hl7:patient classCode="PAT">
          <hl7:id>
            <hl7:item root="1.1.1.1.1" extension="23018887746236" />
          </hl7:id>
          <hl7:patientPerson classCode="PSN" determinerCode="INSTANCE">
            <hl7:name></hl7:name>
          </hl7:patientPerson>
        </hl7:patient>
      </hl7:subject>
      <hl7:responsibleParty>
        <hl7:time>
          <hl7:low value="20141125155917" />
        </hl7:time>
        <hl7:id root="1.6.7.8.9.0" />
        <hl7:assignedOrganization classCode="ASSIGNED" />
      </hl7:responsibleParty>
      <hl7:admitter>
        <hl7:time></hl7:time>
        <hl7:assignedPerson classCode="ASSIGNED">
          <hl7:assignedPerson classCode="PSN" determinerCode="INSTANCE">
            <hl7:name>
              <hl7:item>
                <hl7:part type="FAM" value="Admitter" />
                <hl7:part type="GIV" value="Alan" />
              </hl7:item>
            </hl7:name>
          </hl7:assignedPerson>
        </hl7:assignedPerson>
      </hl7:admitter>
    </hl7:encounterEvent>
  </hl7:subject>
</hl7:controlActProcess>
```

### 2.1.2.3 Outbound Message Structure

See [Section 1.2.2](#).

## 2.2 Register Outpatient

This transaction is used to notify the MPI about an outpatient visit.

### 2.2.1 Register Outpatient -- HL7v2

- ADT A01 – Admit/visit notification (see hint below)
- ADT A04 – Register a patient

#### 2.2.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Register Outpatient**.

**Table 10:** Begin Outpatient Visit Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A01 or A04
EVN	Event Information
IN1	Patient Insurance Information (optional)
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action (optional)
ZBE-4	The type of action must be INSERT
ZBE-5	The movement indicator must be N

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.2.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#) These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### IN1-1

Set ID: The sequential number of this segment.

### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

### PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

### PV1-3

Assigned Patient Location: The facility that processes the patient visit. The MPI only processes PV1-3.4 (Facility) and requires this component to be present.

### PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

■ PV1-44

Admit Date/Time: The start date/time of the patient visit.

■ ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

■ ZBE-2

Start Movement Date/Time: The timestamp of the movement.

■ ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

■ ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 11:** Fields relevant for theThe Begin Outpatient Visit Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-3	Assigned Patient Location	No	Optional
PV1-19	Visit Number	No	Recommended
PV1-44	Admit Date/Time	No	Required
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 21:**  
**Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306155002.309+0100||ADT^A04^ADT_A01|a9263d4d-b333-4195-8e19-
f4713beb9852|P|2.5||AL||UNICODE UTF-8
EVN||20180306155002.309+0100||user^7015^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306154947.185+0100
PID||patient^9079^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234587990^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678||en|M|VAR|patientAccount0572^^^
My Local Clinic&1.2.123.27.1974&ISO^AN||||Y|2|GB||||N
PV1||0|^Radiology&1.2.123.27.1974.187.15&ISO|||doctor^5475^Dorian^John^^^^^Medical
Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|doctor^7834^House^Gregory^^^^^
Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|||||A0|||visitId2885^^^My
Local Clinic&1.2.123.27.1974&ISO^VN|||||20180306154947.185+0100
```

## Submission with Historic Movement Management

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313135304.181+0100||ADT^A04^ADT_A01|bd990e55-4f91-4129-8e5a-
bb58896ebb1b|P|2.5||AL||UNICODE UTF-8
EVN||20180313135304.181+0100||user^5361^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^EN|20180313135304.055+0100
PID||patient^5255^^^My Local Clinic&1.2.123.27.1974&ISO^PI~12850234580079^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980313|M||&Main Street
&17^^London^^54820^GB^L||^11 44 20 1234 5678||en|M|VAR|patientAccount3531^^^
My Local Clinic&1.2.123.27.1974&ISO^AN||||Y|2|GB||||N
PV1||0|^Radiology&1.2.123.27.1974.187.15&ISO|||doctor4392^Dorian^John^^^^^Medical
Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|doctor2948^House^Gregory^^^^^^
Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.||||A0|||visitId8471^^^My
Local Clinic&1.2.123.27.1974&ISO^VN
|||||20180313135304.055+0100|||||V
ZBE|visitEvent6753^My Local Clinic^1.2.123.27.1974^ISO|20180313135304.055+0100||INSERT|N
```

## Response

```
MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|201505051501||ACK
^A04|126|P|2.3.1
MSA|AA|125
```

## 2.2.2 Register Outpatient -- HL7v3

### Example 22: HL7v3 Begin Outpatient Visit Root Element

interactionId's extension field: PRPA\_IN400001UV01

```
<h17:PRPA_IN400001UV01 ITSVersion="XML_1.0" xmlns:h17="urn:h17-org:v3" xmlns:xsi="http://www
.w3.org/2001/XMLSchema-instance">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</h17:PRPA_IN400001UV01>
```

### 2.2.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.subject
4. controlActProcess.subject.encounterEvent
5. controlActProcess.subject.encounterEvent.id
6. controlActProcess.subject.encounterEvent.id.item
7. controlActProcess.subject.encounterEvent.code
8. controlActProcess.subject.encounterEvent.statusCode
9. controlActProcess.subject.encounterEvent.effectiveTime
10. controlActProcess.subject.encounterEvent.effectiveTime.low
11. controlActProcess.subject.encounterEvent.subject
12. controlActProcess.subject.encounterEvent.subject.patient
13. controlActProcess.subject.encounterEvent.subject.patient.id
14. controlActProcess.subject.encounterEvent.subject.patient.id.item
15. controlActProcess.subject.encounterEvent.subject.patient.patientPerson.name
16. controlActProcess.subject.encounterEvent.responsibleParty
17. controlActProcess.subject.encounterEvent.responsibleParty.time



18. controlActProcess.subject.encounterEvent.responsibleParty.time.low
19. controlActProcess.subject.encounterEvent.responsibleParty.id
20. controlActProcess.subject.encounterEvent.responsibleParty.assignedOrganization
21. controlActProcess.subject.encounterEvent.admitter
22. controlActProcess.subject.encounterEvent.admitter.time
23. controlActProcess.subject.encounterEvent.admitter.assignedPerson
24. controlActProcess.subject.encounterEvent.admitter.assignedPerson.name
25. controlActProcess.subject.encounterEvent.admitter.assignedPerson.name.item
26. controlActProcess.subject.encounterEvent.admitter.assignedPerson.name.item.part

### Example 23: HL7v3 Begin Outpatient Visit Payload

Change the encounterEvent.code to "AMB" for ambulant patients (out-patients). "EMER", which stands for emergency admission, may also be used for ambulant patients (out-patients).

See [Section 2.1.2 Admit Inpatient – HL7v3](#).

#### 2.2.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 2.3 Discharge Patient

This transaction is used to notify the **MPI** about the end of a patient visit (both inpatient and outpatient).

### 2.3.1 Discharge Patient -- HL7v2

➤ **ADT A03** – Discharge/end visit



#### Note

The ADT A03 message can be used to end patient visits for both inpatients and outpatients.

#### 2.3.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Discharge Patient**.

**Table 12:** End Patient Visit Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A03</b>
EVN	Event Information
IN1	Patient Insurance Information ( <b>optional</b> )
PID	Patient Information

Table 12: End Patient Visit Segments 

Segment	Description
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### PID Segment

The PID segment contains all relevant patient data.

### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.3.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#) These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

- ||| EVN-7  
Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.
- ||| IN1-1  
Set ID: The sequential number of this segment.
- ||| IN1-2  
Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.
- ||| IN1-3  
Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.
- ||| IN1-4  
Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.
- ||| PV1-2  
Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.
- ||| PV1-19  
Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.
- ||| PV1-45  
Discharge Date/Time: The end date/time of the patient visit.
- ||| PV1-51  
Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.
- ||| ZBE-1  
Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.
- ||| ZBE-2  
Start Movement Date/Time: The timestamp of the movement.
- ||| ZBE-4  
Movement Action: The type of movement to be See [Table 8](#).
- ||| ZBE-5  
Historical Movement Indicator: See [Table 8](#).

**Table 13:** Fields relevant for theThe End Patient Visit Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required

Table 13: Fields relevant for theThe End Patient Visit Transaction. 

Table 13: Fields relevant for the The End Patient Visit Transaction. 

HL7-Path	Name	Repeatable	Presence
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-45	Discharge Date/Time	No	Required
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management



**Warning**

eHealth Solutions does not process any patient information for the transaction **End Patient Visit**. Therefore, the PID segment may be empty.

**Example 24:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306173133.042+0100||ADT^A03^ADT_A03|9811c620-59b1-4fc1-b90f-
fdd02d535a7e|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306173133.042+0100|||userId9480^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN|20180306173132.949+0100
PID|||patientId4193^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234584816^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678||en|M|VAR|patientAccount1232^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||N||GB|||N
PV1||I|^Radiology&1.2.123.27.1974.187.15&ISO|||doctor2851^Dorian^John^^^^^Medical
Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|doctor8830^House^Gregory^^^^^
Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|||||A0|||visitId4087^^^My
Local Clinic&1.2.123.27.1974&ISO^VN|||||20180306173132.949+0100
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313140434.906+0100||ADT^A03^ADT_A03|90a0924d-c3c2-4997-93e2-
f5c8dc85baae|P|2.5|||AL|||UNICODE UTF-8
EVN||20180313140434.906+0100|||userId8867^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313140434.88+0100
PID|||patientId3096^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234587663^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980313|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678||en|M|VAR|patientAccount4723^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||Y|2|GB|||N
PV1||I|^Radiology&1.2.123.27.1974.187.15&ISO|||doctor4072^Dorian^John^^^^^Medical
Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|doctor6530^House^Gregory^^^^^
```

```

Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^^M.D.|||||A0||||visitId2318^^^My
Local Clinic&1.2.123.27.1974&ISO^VN
|||||||20180313140434.88+0100|||||V
ZBE|visitEvent7923^My Local Clinic^1.2.123.27.1974^ISO|20180313140434.880+0100||INSERT|N

```

## Response

```

MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|201505051501||ACK
^A03|128|P|2.3.1
MSA|AA|127

```

## 2.3.2 Discharge Patient -- HL7v3

### Example 25: HL7v3 End Patient Visit Root Element

interactionId's extension field: PRPA\_IN400003UV01

```

<hl7:PRPA_IN400003UV01 ITSVersion="XML_1.0" xmlns:hl7="urn:hl7-org:v3" xmlns:xsi="http://www
.w3.org/2001/XMLSchema-instance">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</hl7:PRPA_IN400003UV01>

```

### 2.3.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.classcode
3. controlActProcess.moodCode
4. controlActProcess.moodCode.code
5. controlActProcess.moodCode.subject
6. controlActProcess.moodCode.subject.encounterEvent
7. controlActProcess.moodCode.subject.encounterEvent.id
8. controlActProcess.moodCode.subject.encounterEvent.id.item
9. controlActProcess.moodCode.subject.encounterEvent.code
10. controlActProcess.moodCode.subject.encounterEvent.statusCode
11. controlActProcess.moodCode.subject.encounterEvent.effectiveTime
12. controlActProcess.moodCode.subject.encounterEvent.effectiveTime.high
13. controlActProcess.moodCode.subject.encounterEvent.subject
14. controlActProcess.moodCode.subject.encounterEvent.subject.patient
15. controlActProcess.moodCode.subject.encounterEvent.subject.patient.id
16. controlActProcess.moodCode.subject.encounterEvent.subject.patient.id.item
17. controlActProcess.moodCode.subject.encounterEvent.subject.patient.patientPerson
18. controlActProcess.moodCode.subject.encounterEvent.subject.patient.patientPerson.name
19. controlActProcess.moodCode.subject.encounterEvent.subject.patient.patientPerson.name.item
20. controlActProcess.moodCode.subject.encounterEvent.subject.patient.patientPerson.name.item.part
21. controlActProcess.moodCode.subject.encounterEvent.discharger
22. controlActProcess.moodCode.subject.encounterEvent.discharger.time
23. controlActProcess.moodCode.subject.encounterEvent.discharger.assignedPerson
24. controlActProcess.moodCode.subject.encounterEvent.discharger.assignedPerson.assignedPerson
25. controlActProcess.moodCode.subject.encounterEvent.discharger.assignedPerson.assignedPerson
26. controlActProcess.moodCode.subject.encounterEvent.discharger.assignedPerson.assignedPerson.name
27. controlActProcess.moodCode.subject.encounterEvent.discharger.assignedPerson.assignedPerson.name.item
28. controlActProcess.moodCode.subject.encounterEvent.discharger.assignedPerson.assignedPerson.name.item.part

## Example 26: HL7v3 End Patient Visit Payload

```
<hl7:controlActProcess
  classCode="CACT"
  moodCode="EVN">
  <hl7:code code="PRPA_TE400003UV01" />
  <hl7:subject typeCode="SUBJ">
    <hl7:encounterEvent>
      <hl7:id>
        <hl7:item root="1.6.7.8.9.0" extension="12345678" />
      </hl7:id>
      <hl7:code code="AMB"></hl7:code>
      <hl7:statusCode code="completed" />
      <hl7:effectiveTime>
        <hl7:high value="20141126155917" />
      </hl7:effectiveTime>
      <hl7:subject>
        <hl7:patient classCode="PAT">
          <hl7:id>
            <hl7:item root="1.1.1.1.1" extension="23018887746236" />
          </hl7:id>
          <hl7:patientPerson>
            <hl7:name>
              <hl7:item>
                <hl7:part type="FAM" value="Doe" />
                <hl7:part type="GIV" value="John" />
              </hl7:item>
            </hl7:name>
          </hl7:patientPerson>
        </hl7:patient>
      </hl7:subject>
      <hl7:discharger>
        <hl7:time></hl7:time>
        <hl7:assignedPerson classCode="ASSIGNED">
          <hl7:assignedPerson classCode="PSN" determinerCode="INSTANCE">
            <hl7:name>
              <hl7:item>
                <hl7:part type="FAM" value="Discharger" />
                <hl7:part type="GIV" value="Dennis" />
              </hl7:item>
            </hl7:name>
          </hl7:assignedPerson>
        </hl7:assignedPerson>
      </hl7:discharger>
    </hl7:encounterEvent>
  </hl7:subject>
</hl7:controlActProcess>
```

### 2.3.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 2.4 Cancel Admit Inpatient/Outpatient

### 2.4.1 Cancel Admit Inpatient/Outpatient -- HL7v2

This transaction is used to notify the **MPI** about the cancellation of a patient visit (both inpatient and outpatient):

## ➤ ADT A11 – Cancel admit/visit notification



### Note

The ADT A11 message can be used to cancel patient visits for both inpatients and outpatients.

### 2.4.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Cancel Admit Inpatient/Outpatient**.

**Table 14:** Cancel Patient Visit Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A11</b>
EVN	Event Information
IN1	Patient Insurance Information ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>CANCEL</b>
ZBE-5	The movement indicator must be <b>N</b>

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections

in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

### 2.4.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#). In cancellation messages, the PID segment is only required to contain a valid ID (PID-3) and the patient name (PID-5). The relevant fields of the other segments are:

An error has occurredAn error has occurredAn error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

#### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

#### IN1-1

Set ID: The sequential number of this segment.

#### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

#### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

#### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

#### PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

#### PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

#### PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

#### ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity



ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

☰ ZBE-2

Start Movement Date/Time: The timestamp of the movement.

☰ ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

☰ ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 15:** Fields relevant for theThe Cancel Patient Visit Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management



**Note**

eHealth Solutions does not process any patient information for the transaction **Cancel Patient Visit**. Therefore, the PID segment may be empty.

**Example 27:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306163345.831+0100||ADT^A11^ADT_A09|841a9cc5-65f6-40cd-8b8d-9
c4847d7cc52|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306163345.831+0100|||userId7879^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306163345.756+0100
PID|||patientId5372^^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||N|||||||||||||visitId8716^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313135514.035+0100||ADT^A11^ADT_A09|5c131f74-523e-49eb-8c1b-6
```

```

ce297610cfc|P|2.5|||AL|||UNICODE UTF-8
EVN||20180313135514.035+0100|||userId5418^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313135514.028+0100
PID|||patientId0472^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1|N|||||||||||||||||visitId9980^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||||||||||||||||||V
ZBE|visitEvent2551^My Local Clinic^1.2.123.27.1974^ISO|20180313135514.028+0100||CANCEL|N

```

### Response

```

MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|201505051501||ACK
^A11|130|P|2.3.1
MSA|AA|129

```

## 2.4.2 Cancel Admit Inpatient/Outpatient -- HL7v3

### Example 28: HL7v3 Cancel Patient Visit Root Element

interactionId's extension field: PRPA\_IN400006UV01

```

<h17:PRPA_IN400006UV01 ITSVersion="XML_1.0" xmlns:h17="urn:h17-org:v3" xmlns:xsi="http://www
.w3.org/2001/XMLSchema-instance">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</h17:PRPA_IN400006UV01>

```

### 2.4.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.authorOrPerformer
4. controlActProcess.authorOrPerformer.assignedPerson
5. controlActProcess.authorOrPerformer.assignedPerson.name
6. controlActProcess.authorOrPerformer.assignedPerson.name.item
7. controlActProcess.authorOrPerformer.assignedPerson.name.item.part
8. controlActProcess.subject
9. controlActProcess.subject.encounterEvent
10. controlActProcess.subject.encounterEvent.id
11. controlActProcess.subject.encounterEvent.id.item
12. controlActProcess.subject.encounterEvent.statusCode

### Example 29: HL7v3 Cancel Patient Visit Payload

```

<h17:controlActProcess classCode="CACT" moodCode="EVN">
  <h17:code code="PRPA_TE400999UV01" />
  <h17:authorOrPerformer typeCode="AUT">
    <h17:assignedPerson classCode="ASSIGNED">
      <h17:assignedPerson classCode="PSN" determinerCode="INSTANCE">
        <h17:name>
          <h17:item>
            <h17:part type="FAM" value="Canceler" />
            <h17:part type="GIV" value="Carrie" />
          </h17:item>
        </h17:name>
      </h17:assignedPerson>
    </h17:assignedPerson>
  </h17:controlActProcess>

```

```

</hl7:authorOrPerformer>
<hl7:subject typeCode="SUBJ">
  <hl7:encounterEvent>
    <hl7:id>
      <hl7:item root="1.2.6.7.8.9.0" extension="12345678" />
    </hl7:id>
    <hl7:statusCode code="nullified" />
  </hl7:encounterEvent>
</hl7:subject>
</hl7:controlActProcess>

```

### 2.4.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 2.5 Cancel Discharge Patient

This transaction is used to notify the MPI about the cancellation of a prior patient discharge event:

### 2.5.1 Cancel Discharge Patient -- HL7v2

➤ **ADT A13** – Cancel discharge/end visit



#### Note

The ADT A13 message can be used to cancel patient discharge events for both inpatients and outpatients. The patient visit will be active again once this message has been processed.

#### 2.5.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Cancel Discharge Patient**.

**Table 16:** Cancel End Patient Visit Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A13</b>
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>CANCEL</b>
ZBE-5	The movement indicator must be <b>N</b>

### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### PID Segment

The PID segment contains all relevant patient data.

### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.5.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#). In cancellation messages, the PID segment is only required to contain a valid ID (PID-3) and the patient name (PID-5). The relevant fields of the other segments are:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### IN1-1

Set ID: The sequential number of this segment.

### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

- IN1-3  
Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.
- IN1-4  
Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.
- PV1-2  
Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.
- PV1-19  
Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.
- PV1-51  
Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.
- ZBE-1  
Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.
- ZBE-2  
Start Movement Date/Time: The timestamp of the movement.
- ZBE-4  
Movement Action: The type of movement to be See [Table 8](#).
- ZBE-5  
Historical Movement Indicator: See [Table 8](#).

**Table 17:** Fields relevant for theThe Cancel End Patient Visit Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management

Table 17: Fields relevant for theThe Cancel End Patient Visit Transaction. 

Table 17: Fields relevant for the The Cancel End Patient Visit Transaction. 

HL7-Path	Name	Repeatable	Presence
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management



**Warning**

eHealth Solutions does not process any patient information for the transaction **Cancel End Patient Visit**. Therefore, the PID segment may be empty.

**Example 30: Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306170804.479+0100||ADT^A13^ADT_A01|0f922693-3233-4f4c-af2d-
d7fec1969376|P|2.5||AL||UNICODE UTF-8
EVN||20180306170804.479+0100||userId1582^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306170804.395+0100
PID||patientId8162^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||N|||||||||||||||||visitId2776^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313135820.874+0100||ADT^A13^ADT_A01|69e96337-9d78-4734-8c23-395
c95443af0|P|2.5||AL||UNICODE UTF-8
EVN||20180313135820.874+0100||userId7526^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^EN|20180313135820.865+0100
PID||patientId2905^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||N|||||||||||||||||visitId2914^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||||||||||||||||||V
ZBE|visitEvent1623^My Local Clinic^1.2.123.27.1974^ISO|20180313135820.865+0100||CANCEL|N
```

**Response**

```
MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|201505051501||ACK
^A13|130|P|2.3.1
MSA|AA|129
```

**2.5.2 Cancel Discharge Patient -- HL7v3**

**2.5.2.1 Message Structure**

**Example 31: HL7v3 Cancel End Patient Visit Root Element**

interactionId's extension field: PRPA\_IN400007UV01

```
<ns0:PRPA_IN400007UV01 xmlns:ns0="urn:h17-org:v3" xmlns:xsi="http://www.w3.org/2001/
XMLSchema-instance" ITSVersion="XML_1.0">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</ns0:PRPA_IN400007UV01>
```

### 2.5.2.2 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.subject
4. controlActProcess.subject.encounterEvent
5. controlActProcess.subject.encounterEvent.id
6. controlActProcess.subject.encounterEvent.id.item
7. controlActProcess.subject.encounterEvent.code
8. controlActProcess.subject.encounterEvent.statusCode
9. controlActProcess.subject.encounterEvent.effectiveTime
10. controlActProcess.subject.encounterEvent.effectiveTime.low
11. controlActProcess.subject.encounterEvent.subject
12. controlActProcess.subject.encounterEvent.subject.patient
13. controlActProcess.subject.encounterEvent.subject.patient.id
14. controlActProcess.subject.encounterEvent.subject.patient.id.item
15. controlActProcess.subject.encounterEvent.subject.patient.patientPerson
16. controlActProcess.subject.encounterEvent.subject.patient.patientPerson.name
17. controlActProcess.subject.encounterEvent.subject.patient.patientPerson.name.item
18. controlActProcess.subject.encounterEvent.subject.patient.patientPerson.name.item.part
19. controlActProcess.subject.encounterEvent.discharger
20. controlActProcess.subject.encounterEvent.discharger.time
21. controlActProcess.subject.encounterEvent.discharger.assignedPerson
22. controlActProcess.subject.encounterEvent.discharger.assignedPerson.assignedPerson
23. controlActProcess.subject.encounterEvent.discharger.assignedPerson.assignedPerson.name
24. controlActProcess.subject.encounterEvent.discharger.assignedPerson.assignedPerson.name.item
25. controlActProcess.subject.encounterEvent.discharger.assignedPerson.assignedPerson.name.item.part

#### Example 32: HL7v3 Cancel End Patient Visit Payload

```
<ns0:controlActProcess classCode="CACT" moodCode="EVN">
  <ns0:code code="PRPA_MT400001UV01" />
  <ns0:subject typeCode="SUBJ">
    <ns0:encounterEvent classCode="ENC">
      <ns0:id>
        <ns0:item root="1.6.7.8.9.0" extension="12345678" />
      </ns0:id>
      <ns0:code code="IMP" />
      <ns0:statusCode code="active" />
      <ns0:effectiveTime>
        <ns0:low value="20150217114002" />
      </ns0:effectiveTime>
      <ns0:subject>
        <ns0:patient classCode="PAT">
          <ns0:id>
            <ns0:item root="1.1.1.1.1" extension="23018887746236" />
          </ns0:id>
          <ns0:patientPerson>
            <ns0:name>
              <ns0:item>
                <ns0:part value="John" type="GIV" />
                <ns0:part value="Doe" type="FAM" />
              </ns0:item>
            </ns0:name>
          </ns0:patientPerson>
        </ns0:patient>
      </ns0:subject>
      <ns0:discharger>
        <ns0:time></ns0:time>
        <ns0:assignedPerson classCode="ASSIGNED">
```

```

    <ns0:assignedPerson classCode="PSN" determinerCode="INSTANCE">
      <ns0:name>
        <ns0:item>
          <ns0:part type="FAM" value="Reactivator" />
          <ns0:part type="GIV" value="Ronald" />
        </ns0:item>
      </ns0:name>
    </ns0:assignedPerson>
  </ns0:assignedPerson>
</ns0:discharger>
</ns0:encounterEvent>
</ns0:subject>
</ns0:controlActProcess>

```

### 2.5.2.3 Outbound Message Structure

See [Section 1.2.2](#).

## 2.6 Transfer Patient

This transaction is used to notify the **MPI** about the delegation of a patient visit to another responsible organization.

### 2.6.1 Transfer Patient -- HL7v2

➤ **ADT A02** – Transfer a patient



#### Note

The ADT A02 message requires that the patient visit that should be delegated is already registered with the MPI.

#### 2.6.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Transfer Patient**.

**Table 18:** Delegate Patient Visit Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A02</b>
EVN	Event Information
IN1	Patient Insurance Information ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information

Table 18: Delegate Patient Visit Segments 



Segment	Description
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### PID Segment

The PID segment contains all relevant patient data.

### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.6.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

- || IN1-1  
Set ID: The sequential number of this segment.
- || IN1-2  
Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.
- || IN1-3  
Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.
- || IN1-4  
Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.
- || PV1-2  
Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.
- || PV1-3  
Assigned Patient Location: The facility that processes the patient visit. The MPI only processes PV1-3.4 (Facility) and requires this component to be present.
- || PV1-6  
Prior Patient Location: The facility formerly responsible for the patient visit. The MPI only processes PV1-6.4.2 and requires this component to be present.
- || PV1-19  
Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.
- || PV1-44  
Admit Date/Time: The start date/time of the patient visit.
- || PV1-51  
Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.
- || ZBE-1  
Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.
- || ZBE-2  
Start Movement Date/Time: The timestamp of the movement.
- || ZBE-4  
Movement Action: The type of movement to be See [Table 8](#).
- || ZBE-5  
Historical Movement Indicator: See [Table 8](#).

**Table 19:** Fields relevant for theThe Transfer Patient Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-3	Assigned Patient Location	No	Required
PV1-6	Prior Patient Location	No	Recommended
PV1-19	Visit Number	No	Recommended
PV1-44	Admit Date/Time	No	Required
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management



**Note**

eHealth Solutions does not process any patient information for the transaction **Delegate Patient Visit**. Therefore, the PID segment may be empty.

**Example 33:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306175226.599+0100||ADT^A02^ADT_A02|f354dbc3-4e4e-4983-bbab-03
bb121e7556|P|2.5||AL||UNICODE UTF-8
EVN||20180306175226.599+0100|||userId4616^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN|20180306175226.513+0100
PID|||patientId1911^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234586879^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678||en|M|VAR|patientAccount7152^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||Y|1|GB|||N
PV1|I|^Surgical ward&1.2.123.27.22861&ISO||^Radiology&1.2.123.27.1974.187.15&ISO|
doctor1455^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D.|
doctor9813^House^Gregory^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M.D
.|||||A0|||visitId0606^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313140649.202+0100||ADT^A02^ADT_A02|7811a967-7019-42bd-8feb-2
bfeffb86518|P|2.5||AL||UNICODE UTF-8
EVN||20180313140649.202+0100|||userId9297^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313140649.176+0100
```

```

PID||patientId9674^^^My Local Clinic&1.2.123.27.1974&ISO^PI~12850234580271^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980313|M||&Main Street
&17^^^London^^54820^GB^L||^011 44 20 1234 5678|en|M|VAR|patientAccount8490^^^
My Local Clinic&1.2.123.27.1974&ISO^AN||||N||GB||||N
PV1|I|^Surgical Ward&1.2.123.27.22861&ISO|^Radiology&1.2.123.27.1974.187.15&ISO|
doctor2574^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^M.D.|
doctor5441^House^Gregory^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^M.D
.|||||A0||||visitId6671^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||V
ZBE|visitEvent2791^My Local Clinic^1.2.123.27.1974^ISO|20180313140649.176+0100||INSERT|N

```

## Response

```

MSH|^~\&|QUA^1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1^ISO|ITEH^1.1.2^ISO|201505051501||ACK
^A02|134|P|2.3.1
MSA|AA|133

```

## 2.6.2 Transfer Patient -- HL7v3

### Example 34: HL7v3 Delegate Patient Visit Root Element

interactionId's extension field: PRPA\_IN303011UV01

```

<h17:PRPA_IN303011UV01 ITSVersion="XML_1.0" xmlns:h17="urn:h17-org:v3" xmlns:xsi="http://www
.w3.org/2001/XMLSchema-instance">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</h17:PRPA_IN303011UV01>

```

### 2.6.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.authorOrPerformer
4. controlActProcess.authorOrPerformer.assignedPerson
5. controlActProcess.authorOrPerformer.assignedPerson.assignedPerson
6. controlActProcess.authorOrPerformer.assignedPerson.assignedPerson.name
7. controlActProcess.authorOrPerformer.assignedPerson.assignedPerson.name.item
8. controlActProcess.authorOrPerformer.assignedPerson.assignedPerson.name.item.part
9. controlActProcess.subject
10. controlActProcess.subject.encounterEvent
11. controlActProcess.subject.encounterEvent.id
12. controlActProcess.subject.encounterEvent.id.item
13. controlActProcess.subject.encounterEvent.responsibleParty1
14. controlActProcess.subject.encounterEvent.responsibleParty1.time
15. controlActProcess.subject.encounterEvent.responsibleParty1.time.low
16. controlActProcess.subject.encounterEvent.responsibleParty1.statusCode
17. controlActProcess.subject.encounterEvent.responsibleParty1.assignedOrganization
18. controlActProcess.subject.encounterEvent.responsibleParty1.assignedOrganization.id
19. controlActProcess.subject.encounterEvent.responsibleParty1.assignedOrganization.id.item
20. controlActProcess.subject.encounterEvent.responsibleParty2
21. controlActProcess.subject.encounterEvent.responsibleParty2.time
22. controlActProcess.subject.encounterEvent.responsibleParty2.time.high
23. controlActProcess.subject.encounterEvent.responsibleParty2.statusCode

- 24. controlActProcess.subject.encounterEvent.responsibleParty2.assignedOrganization
- 25. controlActProcess.subject.encounterEvent.responsibleParty2.assignedOrganization.id.item

### Example 35: HL7v3 Delegate Patient Visit Payload

```

<hl7:controlActProcess classCode="CACT" moodCode="EVN">
  <hl7:code code="PRPA_TE303011UV01" />
  <hl7:authorOrPerformer typeCode="AUT">
    <hl7:assignedPerson classCode="ASSIGNED">
      <hl7:assignedPerson classCode="PSN" determinerCode="INSTANCE">
        <hl7:name>
          <hl7:item>
            <hl7:part type="FAM" value="Delegater" />
            <hl7:part type="GIV" value="Dennis" />
          </hl7:item>
        </hl7:name>
      </hl7:assignedPerson>
    </hl7:assignedPerson>
  </hl7:authorOrPerformer>
  <hl7:subject typeCode="SUBJ">
    <hl7:encounterEvent>
      <hl7:id>
        <hl7:item root="1.2.6.7.8.9.0" extension="12345678" />
      </hl7:id>
      <hl7:responsibleParty1>
        <hl7:time>
          <hl7:low value="20141127160100" />
        </hl7:time>
        <hl7:statusCode code="active" />
        <hl7:assignedOrganization classCode="ASSIGNED">
          <hl7:id>
            <hl7:item root="1.2.6.7.8.9.0" />
          </hl7:id>
        </hl7:assignedOrganization>
      </hl7:responsibleParty1>
      <hl7:responsibleParty2>
        <hl7:time>
          <hl7:high value="20141127160000" />
        </hl7:time>
        <hl7:statusCode code="completed" />
        <hl7:assignedOrganization classCode="ASSIGNED">
          <hl7:id>
            <hl7:item root="1.2.3.4.5" />
          </hl7:id>
        </hl7:assignedOrganization>
      </hl7:responsibleParty2>
    </hl7:encounterEvent>
  </hl7:subject>
</hl7:controlActProcess>

```

#### 2.6.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 2.7 Cancel Transfer Patient

This transaction is used to notify the **MPI** about the cancellation of a patient delegation to another responsible organization.

## 2.7.1 Cancel Transfer Patient -- HL7v2

### ➤ ADT A12 – Cancel Patient Transfer



#### Note

The ADT A02 message requires that the patient visit that should be delegated is already registered with the MPI.

### 2.7.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Transfer Patient**.

**Table 20:** Delegate Patient Visit Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A12
EVN	Event Information
IN1	Patient Insurance Information ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be CANCEL
ZBE-5	The movement indicator must be N

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### || XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### || ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.7.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#). In cancellation messages, the PID segment is only required to contain a valid ID (PID-3) and the patient name (PID-5). The relevant fields of the other segments are:

An error has occurredAn error has occurredAn error has occurred

### || EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### || EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### || EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### || IN1-1

Set ID: The sequential number of this segment.

### || IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

### || IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

### || IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

### || PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

### || PV1-3

Assigned Patient Location: The facility that processes the patient visit. The MPI only processes PV1-3.4 (Facility) and requires this component to be present.

### || PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

■ PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

■ ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

■ ZBE-2

Start Movement Date/Time: The timestamp of the movement.

■ ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

■ ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 21:** Fields relevant for theCancel Transfer Patient Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-3	Assigned Patient Location	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 36:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306190456.216+0100||ADT^A12^ADT_A12|e6a41f1b-e4b6-47b3-916c-2
fa895dde58e|P|2.5||AL||UNICODE UTF-8
EVN||20180306190456.216+0100|||userId6626^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306190456.136+0100
PID|||patientId3555^^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^L
PV1||I|^^^Radiology&1.2.123.27.1974.187.15&ISO|||visitId3415^^^^My Local
Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
```



```
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313140020.883+0100||ADT^A12^ADT_A12|db4362c7-9dfa-4e8b-9066-
e05b6c01b345|P|2.5||AL||UNICODE UTF-8
EVN||20180313140020.883+0100||userId3744^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^EN|20180313140020.874+0100
PID||patientId1866^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||I|^R^Radiology&1.2.123.27.1974.187.15&ISO|||||||||||||||||visitId8173^^^My Local
Clinic&1.2.123.27.1974&ISO^VN|||||||||||||||||||||||||||||V
ZBE|visitEvent6739^My Local Clinic^1.2.123.27.1974^ISO|20180313140020.874+0100||CANCEL|N
```

## 2.8 Change Outpatient To Inpatient

This transaction is used to notify the **MPI** about the change of a preexisting outpatient visit to an inpatient visit.

### 2.8.1 Change Outpatient To Inpatient -- HL7v2

➤ **ADT A06** – Change an outpatient to an inpatient.



**Note**  
The ADT A06 message requires that the outpatient visit that should be changed is already registered with the MPI.

#### 2.8.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Change Outpatient To Inpatient**.

**Table 22:** Change Outpatient To Inpatient Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A06</b>
EVN	Event Information
IN1	Patient Insurance Information ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message’s source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### PID Segment

The PID segment contains all relevant patient data.

### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.8.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### IN1-1

Set ID: The sequential number of this segment.

### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

|| PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

|| PV1-3

Assigned Patient Location: The facility that processes the patient visit. The MPI only processes PV1-3.4 (Facility) and requires this component to be present.

|| PV1-6

Prior Patient Location: The facility formerly responsible for the patient visit. The MPI only processes PV1-6.4.2 and requires this component to be present.

|| PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

|| PV1-44

Admit Date/Time: The start date/time of the patient visit.

|| PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

|| MRG-1

Prior Patient Identifier List: List of all Patient IDs of the recessive patient. The structure of this field corresponds to that of PID-3 (*Patient Identifier List*). For a valid transaction it is sufficient to provide one Source Patient Identifier. Regional identifiers such as social security numbers should not be used since they will be ignored by eHealth Solutions.

|| MRG-3

Prior Patient Account Number: Account Number of the recessive patient. The structure of this field corresponds to that of PID-18 (*Patient Account Number*).

|| MRG-7

Prior Patient Name List: Name of the recessive patient. Values given in this field will be used for logging purposes.

|| ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

|| ZBE-2

Start Movement Date/Time: The timestamp of the movement.

|| ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

|| ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 23:** Fields relevant for theThe Change Outpatient To Inpatient Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-3	Assigned Patient Location	No	Required
PV1-6	Prior Patient Location	No	Recommended
PV1-19	Visit Number	No	Recommended
PV1-44	Admit Date/Time	No	Required
PV1-51	Visit Indicator	No	Optional
MRG-1	Patient Identifier List	Yes	Required
MRG-3	Prior Patient Account Number	No	Optional
MRG-7	Prior Patient Name List	Yes	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management



**Note**

eHealth Solutions does not process any patient information for the transaction **Change Outpatient To Inpatient**. Therefore, the PID segment can be empty.

**Example 37:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306172741.348+0100||ADT^A06^ADT_A06|366ef1f2-06cb-4525-bd09
-28472b5141a5|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306172741.348+0100|||userId1502^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306172741.255+0100
PID|||patientId7542^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234581536^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678||en|M|VAR|patientAccount3869^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||||Y|1|GB||||N
PV1||I|^Radiology&1.2.123.27.1974.187.15&ISO|||^My Outpatient Clinic&1.2.123.27.27894&
ISO|doctor1191^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
.D.|doctor0077^House^Gregory^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
^^^^^^M.D.|||||A2|||visitId5939^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
```

```

ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313140335.883+0100||ADT^A06^ADT_A06|8cae2709-7d75-40e5-966f-
eb12bf29a943|P|2.5||AL||UNICODE UTF-8
EVN||20180313140335.883+0100||userId3804^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^EN|20180313140335.751+0100
PID||patientId9329^^^My Local Clinic&1.2.123.27.1974&ISO^PI~12850234583044^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^L||19980313|M||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678|en|M|VAR|patientAccount9838^^^
My Local Clinic&1.2.123.27.1974&ISO^AN||||Y|1|GB||||N
PV1||I|^Radiology&1.2.123.27.1974.187.15&ISO||^My Outpatient Clinic&1.2.123.27.27894&
ISO|doctor8800^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^DN^^^^^M
.D.|doctor2376^House^Gregory^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^DN
^^^^^M.D.|||||A2||||visitId2917^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||V
ZBE|visitEvent7437^My Local Clinic^1.2.123.27.1974^ISO|20180313140335.751+0100||INSERT|N

```

**Response:**

```

MSH|^~\&|QUA^1.1.1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|201505051501|ACK
^A06|132|P|2.3.1
MSA|AA|131

```

## 2.8.2 Change Outpatient To Inpatient -- HL7v3

### 2.8.2.1 Message Structure

There is no separate message for this type. See [Section 2.1.2 Admit Inpatient – HL7v3](#).

**Example 38: HL7v3 Change Outpatient to Inpatient Root Element**

See [Section 2.1.2 Admit Inpatient – HL7v3](#).

**Example 39: HL7v3 Change Outpatient to Inpatient Payload**

Change the encounterEvent.code to “IMP”, which refers to stationary patients (in-patients).

See [Section 2.1.2 Admit Inpatient – HL7v3](#).

## 2.9 Change Inpatient To Outpatient

This transaction is used to notify the MPI about the change of a preexisting inpatient visit to an outpatient visit.

### 2.9.1 Change Inpatient To Outpatient -- HL7v2

➤ **ADT A07** – Change an inpatient to an outpatient.



**Note**

The ADT A07 message requires that the inpatient visit that should be changed is already registered with the MPI.

### 2.9.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Change Inpatient To Outpatient**.

**Table 24:** Change Inpatient To Outpatient Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A07</b>
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

### 2.9.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

#### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

#### IN1-1

Set ID: The sequential number of this segment.

#### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

#### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

#### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

#### PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

#### PV1-3

Assigned Patient Location: The facility that processes the patient visit. The MPI only processes PV1-3.4 (Facility) and requires this component to be present.

#### PV1-6

Prior Patient Location: The facility formerly responsible for the patient visit. The MPI only processes PV1-6.4.2 and requires this component to be present.

#### PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

#### PV1-44

Admit Date/Time: The start date/time of the patient visit.

#### PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

MRG-1

Prior Patient Identifier List: List of all Patient IDs of the recessive patient. The structure of this field corresponds to that of PID-3 (*Patient Identifier List*). For a valid transaction it is sufficient to provide one Source Patient Identifier. Regional identifiers such as social security numbers should not be used since they will be ignored by eHealth Solutions.

MRG-3

Prior Patient Account Number: Account Number of the recessive patient. The structure of this field corresponds to that of PID-18 (*Patient Account Number*).

MRG-7

Prior Patient Name List: Name of the recessive patient. Values given in this field will be used for logging purposes.

ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

ZBE-2

Start Movement Date/Time: The timestamp of the movement.

ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 25:** Fields relevant for the Change Inpatient To Outpatient Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-3	Assigned Patient Location	No	Required
PV1-6	Prior Patient Location	No	Recommended
PV1-19	Visit Number	No	Recommended
PV1-44	Admit Date/Time	No	Required
PV1-51	Visit Indicator	No	Optional
MRG-1	Patient Identifier List	Yes	Required
MRG-3	Prior Patient Account Number	No	Optional
MRG-7	Prior Patient Name List	Yes	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management

Table 25: Fields relevant for the Change Inpatient To Outpatient Transaction. 



Table 25: Fields relevant for the the Change Inpatient To Outpatient Transaction. 

HL7-Path	Name	Repeatable	Presence
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management



**Note**

eHealth Solutions does not process any patient information for the transaction **Change Inpatient To Outpatient**. Therefore, the PID segment may be empty.

**Example 40:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306172412.257+0100||ADT^A07^ADT_A06|06d16e2e-bf31-4c14-8478-
c1855e339d17|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306172412.257+0100|||userId3513^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN|20180306172412.163+0100
PID|||patientId2683^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234587227^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M|||&Main Street
&17^^London^^54820^GB^L||^11442012345678|en|M|VAR|patientAccount9059^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||||N|GB||||N
PV1||0|^My Outpatient Clinic&1.2.123.27.27894&ISO|||^Radiology&1.2.123.27.1974.187.15&
ISO|doctor1720^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M
.D.|doctor4898^House^Gregory^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
^^^^^^M.D.|||||A4|||visitId6829^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313140213.169+0100||ADT^A07^ADT_A06|499cfba4-0606-4cb6-8287-727
a2367cde2|P|2.5|||AL|||UNICODE UTF-8
EVN||20180313140213.169+0100|||userId8903^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313140213.04+0100
PID|||patientId4794^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234585111^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980313|M|||&Main Street
&17^^London^^54820^GB^L||^11442012345678|en|M|VAR|patientAccount3576^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||||Y|1|GB||||N
PV1||0|^My Outpatient Clinic&1.2.123.27.27894&ISO|||^Radiology&1.2.123.27.1974.187.15&
ISO|doctor8534^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN^^^^^^M
.D.|doctor3422^House^Gregory^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
^^^^^^M.D.|||||A4|||visitId7153^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||V
ZBE|visitEvent6185^My Local Clinic^1.2.123.27.1974^ISO|20180313140213.040+0100||INSERT|N
```

**Response**

```
MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|201505051501||ACK
^A06|132|P|2.3.1
MSA|AA|131
```

## 2.9.2 Change Inpatient To Outpatient -- HL7v3

### 2.9.2.1 Inbound Message Structure

#### Example 41: HL7v3 Change Inpatient to Outpatient Root Element

See [Section 2.1.2 Admit Inpatient – HL7v3](#).

#### Example 42: HL7v3 Change Inpatient to Outpatient Payload

Change the encounterEvent.code to "AMB" for ambulant patients (out-patients). "EMER", which stands for emergency admission, may also be used for ambulant patients (out-patients).

See [Section 2.1.2 Admit Inpatient – HL7v3](#).

### 2.9.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 2.10 Change Patient Identifier List

This transaction is used to notify the MPI about an adaption of the patient identifiers.

### 2.10.1 Change Patient Identifier List -- HL7v2

➤ ADT A47 – Change patient identifier list

#### 2.10.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction [Change Patient Identifier List](#).

**Table 26:** [Change Patient Identifier List](#) Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A47
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### PID Segment

The PID segment contains all relevant patient data.

### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.10.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### IN1-1

Set ID: The sequential number of this segment.

### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

### ⋮ PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

### ⋮ PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

### ⋮ PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

**Table 27:** Fields relevant for theThe Change Patient Identifier List Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional

## 2.11 Change Attending Doctor

This transaction is used to notify the MPI about a change of the doctor attended by the patient.

### 2.11.1 Change Attending Doctor -- HL7v2

➤ ADT A54 – Change attending doctor

#### 2.11.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction [Change Attending Doctor](#).

**Table 28:** Change Attending Doctor Segments

Segment	Description
MSH	Message Header

Table 28: Change Attending Doctor Segments 

Segment	Description
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A54</b>
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### PID Segment

The PID segment contains all relevant patient data.

### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

#### 2.11.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

|| EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

|| EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

|| IN1-1

Set ID: The sequential number of this segment.

|| IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

|| IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

|| IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

|| PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

|| PV1-7

Attending Doctor: Refers to the treating physician. In eHealth Solutions, repetitions of this field cannot be processed. The components evaluated by eHealth Solutions are: PV1-7.1 (Identifier), PV1-7.2.1 (Family Name, Surname), PV1-7.3 (Given Name), PV1-7.4 (Additional Given Names), PV1-7.5 (Suffix), PV1-7.6 (Prefix), PV1-7.7 (Degree), PV1-7.9 (Assigning Authority), PV1-7.10 (Name Type Code), PV1-7.13 (Identifier Type Code), PV1-7.19 (Effective Date), PV1-7.20 (Expiration Date), PV1-7.21 (Professional Suffix). At least one identifier (either PV1-7.1 or PV1-7.9) has to be provided so the field can be stored.

|| PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

|| PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

|| ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

|| ZBE-2

Start Movement Date/Time: The timestamp of the movement.

☐ ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

☐ ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 29:** Fields relevant for the Change Attending Doctor Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-7	Attending Doctor	Yes, but without effect	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 43:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306171409.784+0100||ADT^A54^ADT_A54|7ac18fbd-42b4-49be-8b8c-9
f2601491e7e|P|2.5||AL||UNICODE UTF-8
EVN||20180306171409.784+0100|||userId3093^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306171409.698+0100
PID|||patientId3068^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^L
PV1||N|||doctor5555^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
^^^^^^M.D.|||||||||visitId4052^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313140117.548+0100||ADT^A54^ADT_A54|247f1475-e79f-4e77-89ea-
c3f104ff4a5a|P|2.5||AL||UNICODE UTF-8
EVN||20180313140117.548+0100|||userId0566^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^EN|20180313140117.429+0100
PID|||patientId4462^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^L
||||||||||||||||N|||||N
PV1||N|||doctor1155^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
^^^^^^M.D.|||||||||visitId7718^^^My Local Clinic&1.2.123.27.1974&ISO^VN
||||||||||||||||V
ZBE|visitEvent0797^My Local Clinic^1.2.123.27.1974^ISO|20180313140117.429+0100||INSERT|N
```

## 2.12 Cancel Change Attending Doctor

This transaction is used to notify the MPI about the cancellation of a change in the doctor attended by the patient.

### 2.12.1 Cancel Change Attending Doctor -- HL7v2

- ADT A55 – Cancel change attending doctor
- ADT A52 – Cancel leave of absence for a patient

#### 2.12.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Cancel Change Attending Doctor**.

**Table 30: Cancel Change Attending Doctor Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A55 or A52
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be CANCEL
ZBE-5	The movement indicator must be N

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.



### ■ XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ■ ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.12.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#). In cancellation messages, the PID segment is only required to contain a valid ID (PID-3) and the patient name (PID-5). The relevant fields of the other segments are:

An error has occurredAn error has occurredAn error has occurred

### ■ EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### ■ EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### ■ EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### ■ IN1-1

Set ID: The sequential number of this segment.

### ■ IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

### ■ IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

### ■ IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

### ■ PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

### ■ PV1-7

Attending Doctor: Refers to the treating physician. In eHealth Solutions, repetitions of this field cannot be processed. The components evaluated by eHealth Solutions are: PV1-7.1 (Identifier), PV1-7.2.1 (Family Name, Surname), PV1-7.3 (Given Name), PV1-7.4 (Additional Given Names), PV1-7.5 (Suffix), PV1-7.6 (Prefix), PV1-7.7 (Degree), PV1-7.9 (Assigning Authority), PV1-7.10 (Name Type Code), PV1-7.13 (Identifier Type Code), PV1-7.19 (Effective Date), PV1-7.20 (Expiration Date), PV1-7.21 (Professional Suffix). At least one identifier (either PV1-7.1 or PV1-7.9) has to be provided so the field can be stored.

### || PV1-8

Referring doctor: In eHealth Solutions, repetitions of this field cannot be processed. The components evaluated by eHealth Solutions are: PV1-8.1 (Identifier), PV1-8.2.1 (Family Name, Surname), PV1-8.3 (Given Name), PV1-8.4 (Additional Given Names), PV1-8.5 (Suffix), PV1-8.6 (Prefix), PV1-8.7 (Degree), PV1-8.9 (Assigning Authority), PV1-8.10 (Name Type Code), PV1-8.13 (Identifier Type Code), PV1-8.19 (Effective Date), PV1-8.20 (Expiration Date), PV1-8.21 (Professional Suffix). At least one identifier (either PV1-8.1 or PV1-8.9) has to be provided so the field can be stored.

### || PV1-15

Ambulatory Status: Refers to special conditions of the patient such as the need of a wheelchair or a hearing impairment. Note that the selection of values is predefined by the HL7 standard.

### || PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

### || PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

### || ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

### || ZBE-2

Start Movement Date/Time: The timestamp of the movement.

### || ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

### || ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 31:** Fields relevant for the Cancel Change Attending Doctor Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-7	Attending Doctor	Yes, but without effect	Required
PV1-8	Referring Doctor	Yes, but without effect	Optional
PV1-15	Ambulatory Status	Yes	Optional
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management

Table 31: Fields relevant for the Cancel Change Attending Doctor Transaction 

Table 31: Fields relevant for thethe Cancel Change Attending Doctor Transaction 

HL7-Path	Name	Repeatable	Presence
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 44:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306170409.292+0100||ADT^A55^ADT_A52|b57b422a-9282-4d17-a717-7
cf89acc365b|P|2.5||AL||UNICODE UTF-8
EVN||20180306170409.292+0100|||userId9760^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN|20180306170409.209+0100
PID|||patientId2040^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^L
PV1||N|||doctord1804^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
^^^^^^M.D.|||||||||visitId9914^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313135718.16+0100||ADT^A55^ADT_A52|171e419e-33b0-4305-ab5b-61
cbbb805b39|P|2.5||AL||UNICODE UTF-8
EVN||20180313135718.16+0100|||userId8860^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313135718.047+0100
PID|||patientId6762^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^L
PV1||N|||doctord4565^Dorian^John^^^^^Medical Staff&1.2.123.27.1974.185.23&ISO^L^^^DN
^^^^^^M.D.|||||||||visitId5690^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||||||V
ZBE|visitEvent4553^My Local Clinic^1.2.123.27.1974^ISO|20180313135718.047+0100||CANCEL|N
```

**2.13 Begin Leave of Absence**

This transaction is used to notify the MPI that an admitted patient has left the institution temporarily.

**2.13.1 Begin Leave of Absence -- HL7v2**

- ADT A21 – Patient goes on a “leave of absence”

**2.13.1.1 Message Structure**

This section provides an overview and description of the message structure of the transaction **Begin Leave of Absence**.

**Table 32: Begin Leave of Absence Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A21</b>
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

### 2.13.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

- EVN-5  
Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.
- EVN-7  
Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.
- IN1-1  
Set ID: The sequential number of this segment.
- IN1-2  
Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.
- IN1-3  
Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.
- IN1-4  
Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.
- PV1-2  
Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.
- PV1-19  
Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.
- PV1-51  
Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.
- ZBE-1  
Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.
- ZBE-2  
Start Movement Date/Time: The timestamp of the movement.
- ZBE-4  
Movement Action: The type of movement to be See [Table 8](#).
- ZBE-5  
Historical Movement Indicator: See [Table 8](#).

**Table 33:** Fields relevant for the the Begin Leave of Absence Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required

Table 33: Fields relevant for the the Begin Leave of Absence Transaction 

Table 33: Fields relevant for the Begin Leave of Absence Transaction 

HL7-Path	Name	Repeatable	Presence
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 45:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306161712.247+0100||ADT^A21^ADT_A21|510ba620-3df5-463e-941b-
cf94e02ddaab|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306161712.247+0100|||userId6762^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306161712.166+0100
PID|||patientId9625^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234587517^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678|en|M|VAR|patientAccount8187^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||Y|1|GB|||N
PV1||N|||||||||||||visitId9284^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313135414.026+0100||ADT^A21^ADT_A21|5f85450a-67cb-4cbe-a588-
daefd90c391f|P|2.5|||AL|||UNICODE UTF-8
EVN||20180313135414.026+0100|||userId6205^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^EN|20180313135414.016+0100
PID|||patientId8502^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234581763^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980313|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678|en|M|VAR|patientAccount9499^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||Y|2|GB|||N
PV1||N|||||||||||||visitId9690^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||||||||||V
ZBE|visitEvent9028^My Local Clinic^1.2.123.27.1974^ISO|20180313135414.016+0100||INSERT|N
```

**2.14 Cancel Begin Leave of Absence**

This transaction is used to notify the MPI about the cancellation of a **Begin Leave of Absence** event.

## 2.14.1 Cancel Begin Leave of Absence -- HL7v2

- ADT A52 – Cancel leave of absence for a patient

### 2.14.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Cancel Begin Leave of Absence**.

**Table 34:** Cancel Begin Leave of Absence Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A52
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be CANCEL
ZBE-5	The movement indicator must be N

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

### 2.14.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#). In cancellation messages, the PID segment is only required to contain a valid ID (PID-3) and the patient name (PID-5). The relevant fields of the other segments are:

An error has occurredAn error has occurredAn error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

#### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

#### IN1-1

Set ID: The sequential number of this segment.

#### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

#### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

#### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

#### PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

#### PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

#### PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

#### ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

#### ZBE-2

Start Movement Date/Time: The timestamp of the movement.



☐ ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

☐ ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 35:** Fields relevant for thethe Cancel Begin Leave of Absence Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 46:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306164448.523+0100||ADT^A52^ADT_A52|ff27b11a-863a-4d12-96bf-28
db4dcb2070|P|2.5||AL||UNICODE UTF-8
EVN||20180306164448.523+0100|||userId1565^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN|20180306164448.447+0100
PID|||patientId1943^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||N|||||||||||||visitId7077^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313135607.178+0100||ADT^A52^ADT_A52|2b6f9ed2-bbc6-4018-a737-2
d2d114223fe|P|2.5||AL||UNICODE UTF-8
EVN||20180313135607.178+0100|||userId0184^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313135607.171+0100
PID|||patientId9219^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||N|||||||||||||visitId5690^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||||||||||||||V
ZBE|visitEvent7402^My Local Clinic^1.2.123.27.1974^ISO|20180313135607.171+0100||CANCEL|N
```

## 2.15 End Leave of Absence

This transaction is used to notify the MPI that an admitted patient has returned to the institution after temporarily leaving it.

### 2.15.1 End Leave of Absence -- HL7v2

- ADT A22 – Patient returns from a “leave of absence”
- ADT A21 – Patient goes on a “leave of absence”

#### 2.15.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **End Leave of Absence**.

**Table 36: End Leave of Absence Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A22 or A21
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>INSERT</b>
ZBE-5	The movement indicator must be <b>N</b>

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message’s source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.15.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### IN1-1

Set ID: The sequential number of this segment.

### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

### PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

### PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

### PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

|| ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

|| ZBE-2

Start Movement Date/Time: The timestamp of the movement.

|| ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

|| ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 37:** Fields relevant for the the End Leave of Absence Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 47:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306173425.879+0100||ADT^A22^ADT_A21|f04ed00a-3a7c-4026-851d-39
ad7df6229c|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306173425.879+0100|||userId4264^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^EN|20180306173425.788+0100
PID|||patientId0222^^^My Local Clinic&1.2.123.27.1974&ISO^PI~12850234582998^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M|||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678|en|M|VAR|patientAccount0355^^^
My Local Clinic&1.2.123.27.1974&ISO^AN|||Y|1|GB|||N
PV1||N|||||||||||||visitId7729^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313140543.34+0100||ADT^A22^ADT_A21|f283e54a-1d87-45b8-816a-
e46d80c2d963|P|2.5|||AL|||UNICODE UTF-8
EVN||20180313140543.34+0100|||userId6167^Warren^Karen^^^^^My Local Clinic
```

```

&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313140543.207+0100
PID||patientId1107^^^My Local Clinic&1.2.123.27.1974&ISO^PI~12850234580028^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980313|M||&Main Street
&17^^London^^54820^GB^L|^011 44 20 1234 5678|en|M|VAR|patientAccount8507^^^
My Local Clinic&1.2.123.27.1974&ISO^AN||||Y|1|GB||||N
PV1|N|||||||||||||||||visitId0280^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||||||||||||||||||V
ZBE|visitEvent4414^My Local Clinic^1.2.123.27.1974^ISO|20180313140543.207+0100||INSERT|N

```

## 2.16 Cancel End Leave Of Absence

This transaction is used to notify the MPI about the cancellation of an **End Leave of Absence** event.

### 2.16.1 Cancel End Leave Of Absence -- HL7v2

- **ADT A53** – Cancel patient returns from a leave of absence
- **ADT A52** – Cancel leave of absence for a patient

#### 2.16.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Cancel End Leave Of Absence**.

**Table 38: Cancel End Leave Of Absence Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A53 or A52
EVN	Event Information
IN1	Patient Insurance (optional)
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### ||| PID Segment

The PID segment contains all relevant patient data.

### ||| PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### ||| XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ||| ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.16.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#). In cancellation messages, the PID segment is only required to contain a valid ID (PID-3) and the patient name (PID-5). The relevant fields of the other segments are:

An error has occurredAn error has occurredAn error has occurred

### ||| EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### ||| EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### ||| EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### ||| IN1-1

Set ID: The sequential number of this segment.

### ||| IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

### ||| IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

### ||| IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

### ||| PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

### ||| PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for

all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

■ PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

**Table 39:** Fields relevant for thethe Cancel End Leave of Absence Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional

**Example 48:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306171152.786+0100||ADT^A53^ADT_A52|eb4eb86a-9cf9-48a5-b0b5
-01745136d698|P|2.5|||AL|||UNICODE UTF-8
EVN||20180306171152.786+0100|||userId9231^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN|20180306171152.701+0100
PID|||patientId0902^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||N|||||||||||||visitId3830^^^My Local Clinic&1.2.123.27.1974&ISO^VN
```

**Submission with Historic Movement Management**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313135921.01+0100||ADT^A53^ADT_A52|c7c54ec2-2dcd-4a9f-93d8-
db0fe791f007|P|2.5|||AL|||UNICODE UTF-8
EVN||20180313135921.01+0100|||userId3648^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^^EN|20180313135920.997+0100
PID|||patientId1751^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PV1||N|||||||||||||visitId2780^^^My Local Clinic&1.2.123.27.1974&ISO^VN
|||||||||||||||||V
ZBE|visitEvent8186^My Local Clinic^1.2.123.27.1974^ISO|20180313135920.997+0100||CANCEL|N
```

## 2.17 Move Account Information

### 2.17.1 Move Account Information -- HL7v2

- ADT A44 – Move account information - patient account number

## ➤ ADT A43 – XAD-PID Change Notification - patient identifier list

### 2.17.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Move Account Information**.

**Table 40: Move Account Information Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A44 or A43
EVN	Event Information
IN1	Patient Insurance (optional)
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information

#### ⋮ MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### ⋮ EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### ⋮ IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### ⋮ PID Segment

The PID segment contains all relevant patient data.

#### ⋮ PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### ⋮ XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### ⋮ ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

### 2.17.1.2 Field Overview

The data required for the MSH segment can be seen in **Table 2**, those for the PID segment are listed in **Table 4**. These are the relevant fields of the other segments:



An error has occurredAn error has occurredAn error has occurred

EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

IN1-1

Set ID: The sequential number of this segment.

IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

MRG-1

Prior Patient Identifier List: List of all Patient IDs of the recessive patient. The structure of this field corresponds to that of PID-3 (*Patient Identifier List*). For a valid transaction it is sufficient to provide one Source Patient Identifier. Regional identifiers such as social security numbers should not be used since they will be ignored by eHealth Solutions.

MRG-3

Prior Patient Account Number: Account Number of the recessive patient. The structure of this field corresponds to that of PID-18 (*Patient Account Number*).

MRG-7

Prior Patient Name List: Name of the recessive patient. Values given in this field will be used for logging purposes.

**Table 41:** Fields relevant for the Move Account Information Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
MRG-1	Patient Identifier List	Yes	Required
MRG-3	Prior Patient Account Number	No	Optional
MRG-7	Prior Patient Name List	Yes	Optional

**Example 49:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180306174815.292+0100||ADT^A44^ADT_A43|73aba801-c195-4adb-89c6-5
d9098bc57b8|P|2.5||AL||UNICODE UTF-8
EVN||20180306174815.292+0100||userId9885^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN
PID||patientId3526^^^My Local Clinic&1.2.123.27.1974&ISO^PI~12850234581018^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980306|M||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678|en|M|VAR|||||Y|2|GB||||N
MRG|previousPatientId1234^^^My Local Clinic&1.2.123.27.1974&ISO^PI||patientAccount5844^^^
My Local Clinic&1.2.123.27.1974&ISO^AN
```

## 2.18 Update Encounter Event

### 2.18.1 Update Encounter Event -- HL7v2

- ADT Z99 – Historic Movement
- ADT A01 – Admit/visit notification

#### 2.18.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Update Encounter Event**.

**Table 42:** Update Encounter Event Segments

Segment	Description
MSH	Message Header

Table 42: Update Encounter Event Segments 

Segment	Description
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>Z99</b> or <b>A01</b>
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>UPDATE</b>
ZBE-5	The movement indicator must be <b>Y</b>

### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### PID Segment

The PID segment contains all relevant patient data.

### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.18.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

- EVN-5  
Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.
- EVN-7  
Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.
- IN1-1  
Set ID: The sequential number of this segment.
- IN1-2  
Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.
- IN1-3  
Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.
- IN1-4  
Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.
- PV1-2  
Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.
- PV1-19  
Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.
- PV1-51  
Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.
- ZBE-1  
Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.
- ZBE-2  
Start Movement Date/Time: The timestamp of the movement.
- ZBE-4  
Movement Action: The type of movement to be See [Table 8](#).
- ZBE-5  
Historical Movement Indicator: See [Table 8](#).

**Table 43:** Fields relevant for the Update Encounter Event Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required

Table 43: Fields relevant for the Update Encounter Event Transaction 

Table 43: Fields relevant for the Update Encounter Event Transaction 

HL7-Path	Name	Repeatable	Presence
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

**Example 50:  
Submission**

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180313125647.897+0100||ADT^Z99^ADT_A01|d5d31bd2-edf5-4615-b11e
-1087d0df4dca|P|2.5|||UNICODE UTF-8
EVN||20180313125647.897+0100||userId6136^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO^L^^EN|20180313125647.814+0100
PID||patientId9538^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^L|||||||||
patientAccount3391^^^My Local Clinic&1.2.123.27.1974&ISO^AN|||||N|||||N
PV1||I|^Radiology&1.2.123.27.1974.187.15&ISO|||doctor0876^Dorian^John^^^^^Medical
Staff&1.2.123.27.1974.185.23&ISO^L^^DN^^^^^^M.D.|doctor7659^House^Gregory^^^^^
Medical Staff&1.2.123.27.1974.185.23&ISO^L^^DN^^^^^^M.D.|||||||||visitId0278^^^My
Local Clinic&1.2.123.27.1974&ISO^VN|||||||||||||||||||||V
ZBE|visitEvent4692^My Local Clinic^1.2.123.27.1974^ISO|20180313125647.814+0100||UPDATE|Y
```

**2.19 Cancel Encounter Event**

**2.19.1 Cancel Encounter Event -- HL7v2**

- > ADT Z99 – Historic Movement
- > ADT A01 – Admission of an inpatient

**2.19.1.1 Message Structure**

This section provides an overview and description of the message structure of the transaction **Cancel Encounter Event**.

**Table 44: Cancel Encounter Event Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>Z99</b> or <b>A01</b>
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
ZBE	Movement Action ( <b>optional</b> )
ZBE-4	The type of action must be <b>CANCEL</b>
ZBE-5	The movement indicator must be <b>N</b>

#### MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

### 2.19.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#). In cancellation messages, the PID segment is only required to contain a valid ID (PID-3) and the patient name (PID-5). The relevant fields of the other segments are:

An error has occurredAn error has occurredAn error has occurred

EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

IN1-1

Set ID: The sequential number of this segment.

IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

ZBE-1

Movement ID: The unique identifier of the movement. All components are processed, ZBE-1.1 (Entity ID) and ZBE-1.3 (Universal ID; we recommend to use the value given in the Source Patient Assigning Authority) are required.

ZBE-2

Start Movement Date/Time: The timestamp of the movement.

ZBE-4

Movement Action: The type of movement to be See [Table 8](#).

ZBE-5

Historical Movement Indicator: See [Table 8](#).

**Table 45:** Fields relevant for theThe Cancel Encounter Event Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional
ZBE-1	Movement ID	No	Required for Historic Movement Management
ZBE-2	Start Movement Date/Time	No	Required for Historic Movement Management
ZBE-4	Movement Action	No	Required for Historic Movement Management
ZBE-5	Historical Movement Indicator	No	Required for Historic Movement Management

## 2.20 Merge Patients/Encounters

### 2.20.1 Merge Patients/Encounters -- HL7v2

- ADT A34 – Merge Patient Information - Patient ID Only

or

- ADT A40 – Merge Patient - Patient Identifier List
- ADT A39 – Merge Person - Patient ID

#### 2.20.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Merge Patients/Encounters**.

**Table 46:** Merge Patients/Encounters Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A40 and A39 or A34
EVN	Event Information
IN1	Patient Insurance ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information



### ■ MSH Segment

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

### ■ EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message. Values provided in fields other than those listed in the Field Overview will be ignored.

### ■ IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

### ■ PID Segment

The PID segment contains all relevant patient data.

### ■ PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

### ■ XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### ■ ZBE Segment

The ZBE segment can be used to uniquely identify individual movements- This allows for corrections in historic information at a later point. Note that, when the ZBE segment is used, at least one patient assigning authority must be configured to support the Historic Movement Management option. As long as this configuration is active, the ZBE segment is treated as required.

## 2.20.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

### ■ EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

### ■ EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

### ■ EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

### ■ IN1-1

Set ID: The sequential number of this segment.

### ■ IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

PV1-19

Visit Number: The globally unique identifier of the patient visit. The value is supposed to be static for all messages referring to the same encounter. The MPI only processes PV1-19.1 and PV1-19.4. If no assigning authority (PV1-19.4) is present, the MPI uses the assigned patient location from PV1-3.4.2 as the visit number assigning authority.

PV1-51

Visit Indicator: Specifies the field that is used to identify the encounter. Possible values are **A** for PID-18, **V** for PID-19 (recommended). It is recommended by IHE to set a value for this field. In eHealth Solutions, however, values given here will not be processed.

Table 47: Fields relevant for theThe Merge Patients/Encounters Transaction

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
PV1-19	Visit Number	No	Recommended
PV1-51	Visit Indicator	No	Optional

Example 51: Submission

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180312153358.894+0100||ADT^A40^ADT_A39|419e1774-2fc6-4890-838e-
a0305d9d0713|P|2.3.1||AL||UNICODE UTF-8
EVN||20180312153358.894+0100||userId8374^Karen Warren ^^^^^^My Local Clinic
&1.2.123.27.1974.1.239&ISO
PID||patientId3978^^^My Local Clinic&1.2.123.27.1974&ISO^PI-12850234581551^^^Social
Security Association&1.2.123.27.1974&ISO^SS||Doe^John^^^^^L||19980312|M||&Main Street
&17^^London^^54820^GB^L||^011 44 20 1234 5678||en|M|VAR|||||2|GB|||N
MRG|patientId4377^^^My Local Clinic&1.2.123.27.1974&ISO^PI||||Doe^John^^^^^L
PV1|N
```

# 3 Patient Administration

Patient Administration messages are used to exchange patient information as defined by the IHE PAM (*Patient Administration*) profile. It allows for the creation and updating of patients using the following transactions:

ITI-8

used to communicate patient information, including corroborating demographic data, after a patient's identity is established, modified or merged or after the key corroborating demographic data has been modified.

ITI-9

used to query Patient Identifiers from the MPI using the local (or any other known) patient identifier.

ITI-21

used to query one or multiple patients (demographics including their identifiers).

Within these transactions, individual HL7 messages and events are used to administrate patient information. Other HL7 messages do not correspond directly to an IHE transaction, but are used for eHealth Solutions's proprietary transactions.

Currently the following patient operations are supported in eHealth Solutions:

- > Create Patient
- > Update Patient
- > Merge Patients
- > Link Patients
- > Unlink Patients
- > Query Patient IDs
- > Query Patients

Detailed descriptions are given in the sections below.

## 3.1 Create Patient

### 3.1.1 Create Patient -- HL7v2

The following HL7 messages can be received and processed to create a new patient:

- > ADT-A01
- > ADT-A04
- > ADT-A05
- > ADT-A08 (see hint below)
- > ADT-A28
- > ADT-A31 (see hint below)



**Note**

Despite the different trigger events (admit, update etc.) the eHealth Solutions processes the received patient data identically: it always checks whether the given patient already exists in another domain. If so, the patient data is compared/linked. Only when no equivalent patient exists a new patient is created.

### 3.1.1.1 Message Structure

This section provides an overview and description of the message structure of the **Create Patient** transaction.

**Table 48:** List of Segments - Create Patient.

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A01, A04, A05, A08, A28 or A31
EVN	Event Information
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
PV1-2	The Patient Class should be N.

#### MSH Segment

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a visit-specific basis. For the **Merge Patients** transaction, it is sufficient to fill the PV1-2 field.

### 3.1.1.2 Field Overview

The data required for the MSH segment can be seen in **Table 2**, those for the PID segment are listed in **Table 4**. These are the relevant fields of the other segments:

An error has occurredAn error has occurredAn error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

- EVN-7  
Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.
- IN1-1  
Set ID: The sequential number of this segment.
- IN1-2  
Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.
- IN1-3  
Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.
- IN1-4  
Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.
- PV1-2  
Patient Class: Determines the type of patient visit. The field should have the value **N** for “not applicable”.

**Table 49:** Fields Relevant for the Create Patient Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required



**Note**

To be able to identify a given patient uniquely and unambiguously, it is advisable to include at least PID-3.1, PID-3.4.2 and PID-3.4.3 in submitted patient identifiers. Nevertheless, IHE permits an alternative way of patient identification: namespace IDs specified in PID-3.4.1. The default configuration of the **PIX/PDQ Manager** does not include namespace IDs in patient identifier queries.

**Example 52: HL7v2 Create Patient Message**

**Submission:**

```
MSH|^~\&|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|QUA^1.1.1.1.1^ISO|QUA^1.1.1.1^ISO|20141001233656||ADT^A01|1412199415701|P|2.3.1||AL
EVN||20141001233656||^unknown
PID|||1412199415782^^^&1.1.1.1.3&ISO^PI~66127483762232^
^^NATIONAL SOCIAL SECURITY ASSOCIATION&1.3.6.1.4.1.9784.999200.2.1&ISO^SS||Robinson^Asa
|19030930233655|M
PV1||N
```

**Response:**

```
MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO
|20141001233657||ACK^A01|1412199417491285|P|2.3.1
MSA|AA|1412199415701
```

### 3.1.2 Create Patient -- HL7v3

#### Example 53: HL7v3 Create Patient Root Element

interactionId's extension field: PRPA\_IN201301UV02

```
<ns1:PRPA_IN201301UV02 xmlns:ns1="urn:h17-org:v3" ITSVersion="XML_1.0">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</ns1:PRPA_IN201301UV02>
```

#### 3.1.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.subject
4. controlActProcess.subject.registrationEvent
5. controlActProcess.subject.registrationEvent.id
6. controlActProcess.subject.registrationEvent.statusCode
7. controlActProcess.subject.registrationEvent.subject1
8. controlActProcess.subject.registrationEvent.subject1.patient
9. controlActProcess.subject.registrationEvent.subject1.patient.id
10. controlActProcess.subject.registrationEvent.subject1.patient.statusCode
11. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson
12. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name
13. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name.given
14. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name.family
15. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.administrativeGenderCode
16. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.birthTime
17. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization
18. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization.id
19. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization.contactParty
20. controlActProcess.subject.registrationEvent.custodian
21. controlActProcess.subject.registrationEvent.custodian.assignedEntity
22. controlActProcess.subject.registrationEvent.custodian.id
23. controlActProcess.subject.registrationEvent.custodian.assignedOrganization
24. controlActProcess.subject.registrationEvent.custodian.assignedOrganization.name
25. controlActProcess.subject.registrationEvent.custodian.assignedOrganization.delimiter

#### Example 54: HL7v3 Create Patient Payload

```
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
  PRPA_TE201301UV02"/>
  <ns1:subject typeCode="SUBJ">
    <ns1:registrationEvent classCode="REG" moodCode="EVN">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      nullFlavor="NA"/>
      <ns1:statusCode code="active"/>
      <ns1:subject1 typeCode="SBJ">
        <ns1:patient classCode="PAT">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
          root="1.3.6.1.4.1.21367.13.20extension="icoserveRandomPatient944137299460026"/>
          <ns1:statusCode code="active"/>
          <ns1:patientPerson classCode="PSN" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:PN
            ">
```

```

        <ns1:given>knZJxsPAaCOBAbJaUPQy</ns1:given>
        <ns1:family>cbVbEGiuJnOeJsMuLYwf</ns1:family>
    </ns1:name>
    <ns1:administrativeGenderCode code="F"/>
    <ns1:birthTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:TS" value="19820707"/>
</ns1:patientPerson>
<ns1:providerOrganization classCode="ORG" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.1.2.1.1"/>
    <ns1:contactParty classCode="CON"/>
</ns1:providerOrganization>
</ns1:patient>
</ns1:subject1>
<ns1:custodian typeCode="CST">
    <ns1:assignedEntity classCode="ASSIGNED">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.10.218"/>
        <ns1:assignedOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:EN
">
                <ns1:delimiter>1.3.6.1.4.1.21367.13.30.237</ns1:delimiter>
            </ns1:name>
        </ns1:assignedOrganization>
    </ns1:assignedEntity>
</ns1:custodian>
</ns1:registrationEvent>
</ns1:subject>
</ns1:controlActProcess>

```

### 3.1.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 3.2 Update Patient

### 3.2.1 Update Patient -- HL7u2

The following HL7 messages can be received and processed in order to update a patient:

- > ADT-A01
- > ADT-A04
- > ADT-A05
- > ADT-A08
- > ADT-A28
- > ADT-A31



#### Note

Despite the different trigger events (admit, update etc.) eHealth Solutions processes the received patient data identically: it always checks whether the given patient already exists in another domain. If so, the patient data is compared/linked. Only when no equivalent patient exists a new patient is created.

### 3.2.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Update Patient**.

**Table 50:** List of Segments - Update Patient.

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A01, A04, A05, A08, A28 or A31
EVN	Event Information
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
PV1-2	The Patient Class should be N.

#### MSH Segment

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a visit-specific basis. For the **Merge Patients** transaction, it is sufficient to fill the PV1-2 field.

### 3.2.1.2 Field Overview

The data required for the MSH segment can be seen in **Table 2**, those for the PID segment are listed in **Table 4**. These are the relevant fields of the other segments:

An error has occurred An error has occurred An error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.



EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

PV1-2

Patient Class: Determines the type of patient visit. The field should have the value **N** for "not applicable".

IN1-1

Set ID: The sequential number of this segment.

IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

**Table 51:** Fields Relevant for the Update Patient Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
PV1-2	Patient Class	No	Required
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional

**Example 55: HL7v2 Update Patient Submission:**

```
MSH|^~\&|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|20141001234455||
ADT^A08|1412199893935|P|2.3.1
EVN||20141001234455||^unknown
PID|||1412199894037^^^&1.3.6.1.4.1.21367.2010.2.1.419&ISO^PI~23649402402049^^^NATIONAL
SOCIAL SECURITY ASSOCIATION&1.3.6.1.4.1.9784.999200.2.1&ISO^SS||NOLL^Levi
||19370310234454|U
PV1||N
```

**Response:**

```
MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|20141001234455||
ACK^A08|1412199895764279|P|2.3.1
MSA|AA|1412199893935
```

## 3.2.2 Update Patient -- HL7v3

### Example 56: HL7v3 Update Patient Root Element

interactionId's extension field=PRPA\_IN201302UV02

```
<ns1:PRPA_IN201302UV02 xmlns:ns1="urn:h17-org:v3" ITSVersion="XML_1.0">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</ns1:PRPA_IN201302UV02>
```

#### 3.2.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.subject
4. controlActProcess.subject.registrationEvent
5. controlActProcess.subject.registrationEvent.id
6. controlActProcess.subject.registrationEvent.statusCode
7. controlActProcess.subject.registrationEvent.subject1
8. controlActProcess.subject.registrationEvent.subject1.patient
9. controlActProcess.subject.registrationEvent.subject1.patient.id
10. controlActProcess.subject.registrationEvent.subject1.patient.statusCode
11. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson
12. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name
13. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name.given
14. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name.family
15. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.administrativeGenderCode
16. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.deceasedInd
17. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization
18. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization.id
19. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization.contactParty
20. controlActProcess.subject.registrationEvent.custodian
21. controlActProcess.subject.registrationEvent.custodian.assignedEntity
22. controlActProcess.subject.registrationEvent.custodian.id
23. controlActProcess.subject.registrationEvent.custodian.assignedOrganization
24. controlActProcess.subject.registrationEvent.custodian.assignedOrganization.name
25. controlActProcess.subject.registrationEvent.custodian.assignedOrganization.delimiter

### Example 57: HL7v3 Update Patient Payload

```
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
  PRPA_TE201302UV02"/>
  <ns1:subject typeCode="SUBJ" contextConductionInd="false">
    <ns1:registrationEvent classCode="REG" moodCode="EVN">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      nullFlavor="NA"/>
      <ns1:statusCode code="active"/>
      <ns1:subject1 typeCode="SBJ">
        <ns1:patient classCode="PAT">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
          PRPA_MT201302UV02.Patient.id" root="1.3.6.1.4.1.21367.13.20.202" extension="
          icoserveRandomPatient665657615417511" assigningAuthorityName="ICOSERVE"/>
          <ns1:statusCode xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
          ns1:PRPA_MT201302UV02.Patient.statusCode" code="active"/>
          <ns1:patientPerson xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type
```

```

="ns1:PRPA_MT201302UV02.Patient.patientPerson" classCode="PSN" determinerCode="INSTANCE
">
  <ns1:name xsi:type="ns1:PN">
    <ns1:given>Jane</ns1:given>
    <ns1:family>Doe</ns1:family>
  </ns1:name>
  <ns1:administrativeGenderCode code="F"/>
  <ns1:deceasedInd xsi:type="ns1:BL" value="false"/>
</ns1:patientPerson>
<ns1:providerOrganization classCode="ORG" determinerCode="INSTANCE">
  <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.20.202"/>
  <ns1:contactParty classCode="CON">
    <ns1:telecom xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:TEL" value="http://www.ith-icoserve.com" use="PUB"/>
  </ns1:contactParty>
</ns1:providerOrganization>
</ns1:patient>
</ns1:subject1>
<ns1:custodian typeCode="CST">
  <ns1:assignedEntity classCode="ASSIGNED">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.10.218"/>
    <ns1:assignedOrganization classCode="ORG" determinerCode="INSTANCE">
      <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:EN
">
        <ns1:delimiter>1.3.6.1.4.1.21367.13.30.237</ns1:delimiter>
      </ns1:name>
    </ns1:assignedOrganization>
  </ns1:assignedEntity>
</ns1:custodian>
</ns1:registrationEvent>
</ns1:subject>
</ns1:controlActProcess>

```

### 3.2.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 3.3 Merge Patients

### 3.3.1 Merge Patients -- HL7v2

The following HL7 messages can be received and processed in order to merge patients:

- ADT-A34
- ADT-A39
- ADT-A40
- ADT-A41
- ADT-A42
- ADT-A43
- ADT-A47

The MPI provides the ability to merge (combine) two patients into one resulting patient. One of those patients is the „surviving/dominant“ patient, while the other one is „deleted/recessive“. The MPI adds all patient identifiers (e.g. local identifier, social security numbers, ...) of the recessive patient to the dominant patient. In the final step the recessive patient is deprecated, rendering it inaccessible by clients. The dominant patient is then updated in eHealth Solutions, it is thus highly recommended to transmit the full patient data in the PID segment.



**Note**

The recessive patient may or may not be known by the MPI. Merging an unknown recessive patient with an unknown dominant patient is not supported, and therefore results in an error response.

### 3.3.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Merge Patient**.

**Table 52:** Merge Patient Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A34, A39, A40, A41, A42, A43 or A47
EVN	Event Information
IN1	Patient Insurance Information (optional)
PID	Patient Information
XTN	Extended Telecommunication Number
PV1	Patient Visit Information
PV1-2	The Patient Class should be N.

⋮ MSH Segment

The HL7 MSH segment is present in every HL7 message type and defines the message’s source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

⋮ EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message.

⋮ IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

⋮ PID Segment

The PID segment contains all relevant patient data.

⋮ XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

⋮ PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a visit-

specific basis. For the **Merge Patients** transaction, it is sufficient to fill the PV1-2 field.

### 3.3.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurred An error has occurred An error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

#### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

#### IN1-1

Set ID: The sequential number of this segment.

#### IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

#### IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

#### IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

#### PV1-2

Patient Class: Determines the type of patient visit. The field should have the value **N** for "not applicable".

#### MRG-1

Prior Patient Identifier List: List of all Patient IDs of the recessive patient. The structure of this field corresponds to that of PID-3 (*Patient Identifier List*). For a valid transaction it is sufficient to provide one Source Patient Identifier. Regional identifiers such as social security numbers should not be used since they will be ignored by eHealth Solutions.

#### MRG-3

Prior Patient Account Number: Account Number of the recessive patient. The structure of this field corresponds to that of PID-18 (*Patient Account Number*).

#### MRG-7

Prior Patient Name List: Name of the recessive patient. Values given in this field will be used for logging purposes.

**Table 53:** Fields Relevant for the Merge Patients Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
MRG-1	Patient Identifier List	Yes	Required
MRG-3	Prior Patient Account Number	No	Optional
MRG-7	Prior Patient Name List	Yes	Optional

**Example 58:  
Submission:**

```
MSH|^~\&|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|20141001235158||
ADT^A40|1412200317060|P|2.3.1
EVN||20141001235158||^unknown
PID|||1412200317139^^^&1.1.1.1.3&ISO^PI~648786472101230541^^^NATIONAL SOCIAL SECURITY
ASSOCIATION&1.3.6.1.4.1.9784.999200.2.1&ISO^SS||ROSARIO^Carlo||18770926235157|M
MRG|1412200318179^^^&1.1.1.1.3&ISO^PI~2569605884678423^^^NATIONAL SOCIAL SECURITY
ASSOCIATION&1.3.6.1.4.1.9784.999200.2.1&ISO^SS
```

**Response:**

```
MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|20141001235159||
ACK^A40|1412200319353285|P|2.3.1
MSA|AA|1412200317060
```

### 3.3.2 Merge Patients -- HL7v3

**Example 59: HL7v3 Merge Patient Root Element**

interactionId's extension field: PRPA\_IN201304UV02

```
<ns1:PRPA_IN201304UV02 xmlns:ns1="urn:h17-org:v3" ITSVersion="XML_1.0">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</ns1:PRPA_IN201304UV02>
```

#### 3.3.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.subject
4. controlActProcess.subject.registrationEvent
5. controlActProcess.subject.registrationEvent.id

6. controlActProcess.subject.registrationEvent.statusCode
7. controlActProcess.subject.registrationEvent.subject1
8. controlActProcess.subject.registrationEvent.subject1.patient
9. controlActProcess.subject.registrationEvent.subject1.patient.id
10. controlActProcess.subject.registrationEvent.subject1.patient.statusCode
11. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson
12. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name
13. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name.given
14. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.name.family
15. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.administrativeGenderCode
16. controlActProcess.subject.registrationEvent.subject1.patient.patientPerson.deceasedInd
17. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization
18. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization.id
19. controlActProcess.subject.registrationEvent.subject1.patient.providerOrganization.contactParty
20. controlActProcess.subject.registrationEvent.custodian
21. controlActProcess.subject.registrationEvent.custodian.assignedEntity
22. controlActProcess.subject.registrationEvent.custodian.id
23. controlActProcess.subject.registrationEvent.custodian.assignedOrganization
24. controlActProcess.subject.registrationEvent.custodian.assignedOrganization.name
25. controlActProcess.subject.registrationEvent.custodian.assignedOrganization.delimiter

### Example 60: HL7v3 Merge Patient Payload

```

<ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
  ="2.16.840.1.113883.1.6.1" extension="1461852144741"/>
<ns1:creationTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:TS"
  value="20160428160226"/>
<ns1:interactionId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
  root="2.16.840.1.113883.1.6" extension="PRPA_IN201304UV02"/>
<ns1:processingCode code="P"/>
<ns1:processingModeCode code="T"/>
<ns1:acceptAckCode code="AL"/>
<ns1:receiver typeCode="RCV">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.3.6.1.4.1.21367.13.30.237"/>
  </ns1:device>
</ns1:receiver>
<ns1:sender typeCode="SND">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.3.6.1.4.1.21367.13.10.218"/>
  </ns1:device>
</ns1:sender>
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
    PRPA_TE201304UV02"/>
  <ns1:subject typeCode="SUBJ" contextConductionInd="false">
    <ns1:registrationEvent classCode="REG" moodCode="EVN">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
        nullFlavor="NA"/>
      <ns1:statusCode code="active"/>
      <ns1:subject1 typeCode="SBJ">
        <ns1:patient classCode="PAT">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
            root="1.3.6.1.4.1.21367.13.20.202" extension="icoserveRandomPatient211253822522044"
            assigningAuthorityName="ICOSERVE"/>
          <ns1:statusCode code="active"/>
          <ns1:patientPerson classCode="PSN" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:PN
              ">
              <ns1:given>Jane</ns1:given>

```

```

        <ns1:family>Doe</ns1:family>
    </ns1:name>
    <ns1:administrativeGenderCode code="F"/>
    <ns1:deceasedInd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type
="ns1:BL" value="false"/>
</ns1:patientPerson>
<ns1:providerOrganization classCode="ORG" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.20.202"/>
    <ns1:contactParty classCode="CON">
        <ns1:telecom xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:TEL" value="http://www.ith-icoserve.com" use="PUB"/>
    </ns1:contactParty>
</ns1:providerOrganization>
</ns1:patient>
</ns1:subject1>
<ns1:custodian typeCode="CST">
    <ns1:assignedEntity classCode="ASSIGNED">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.10.218"/>
        <ns1:assignedOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:EN
">
                <ns1:delimiter>1.3.6.1.4.1.21367.13.30.237</ns1:delimiter>
            </ns1:name>
        </ns1:assignedOrganization>
    </ns1:assignedEntity>
</ns1:custodian>
<ns1:replacementOf typeCode="RPLC">
    <ns1:priorRegistration classCode="REG" moodCode="EVN">
        <ns1:statusCode code="obsolete"/>
        <ns1:subject1 typeCode="SBJ">
            <ns1:priorRegisteredRole classCode="PAT">
                <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II
" root="1.3.6.1.4.1.21367.13.20.202" extension="icoserveRandomPatient045665053175362"
assigningAuthorityName="ICOSERVE"/>
            </ns1:priorRegisteredRole>
        </ns1:subject1>
    </ns1:priorRegistration>
</ns1:replacementOf>
</ns1:registrationEvent>
</ns1:subject>
</ns1:controlActProcess>

```

### 3.3.2.2 Outbound Message Structure

See [Section 1.2.2](#).

## 3.4 Link Patients

### 3.4.1 Link Patients -- HL7v2

This transaction is used to link a Local Patient to a Master Patient. The following HL7 messages can be received and processed in order execute this transaction:

➤ ADT-A24



### 3.4.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Merge Patient**.

**Table 54:** Link Patient Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be ADT
MSH-9-2	The trigger event must be A24
EVN	Event Information
IN1	Patient Insurance Information (optional)
PID	Patient Information
XTN	Extended Telecommunication Number

#### MSH Segment

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### 3.4.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurred An error has occurred An error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

#### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

IN1-1

Set ID: The sequential number of this segment.

IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

Table 55: Fields Relevant for the Link Patients Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional

The PID Segment has to be placed twice in this message, as each occurrence refers to one patient to be linked. The first occurrence is always a Source Patient, the second can be either a Source- or a Master Patient. Links are however always established to a Master Patient.

Example 61: Submission:

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180312132909.639+0100||ADT^A24^ADT_A24|c2997f5e-7027-4f57-acc8-
f36a625b2624|P|2.5||AL||UNICODE UTF-8
EVN||20180312132909.639+0100||userId5583^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN
PID||patientId4436^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PID||patientId4316^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Denver^John^^^^^L
```

### 3.5 Unlink Patients

#### 3.5.1 Unlink Patients -- HL7v2

This transaction is used to remove a link between a Local Patient and a Master Patient. The following HL7 messages can be received and processed in order execute this transaction:

- ADT-A37

### 3.5.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Merge Patient**.

**Table 56:** Link Patient Segments

Segment	Description
MSH	Message Header
MSH-9-1	The message type must be <b>ADT</b>
MSH-9-2	The trigger event must be <b>A37</b>
EVN	Event Information
IN1	Patient Insurance Information ( <b>optional</b> )
PID	Patient Information
XTN	Extended Telecommunication Number

#### MSH Segment

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### EVN Segment

The EVN segment is used to communicate necessary trigger event information to receiving applications and specifies the type of event contained within the message.

#### IN1 Segment

The IN1 segment is used to transmit information about the paying body of the health services received by the patient. This could be an insurance or the patient himself. The segment is optional. However, once it is used, the fields marked with *Conditionally Required* are mandatory.

#### PID Segment

The PID segment contains all relevant patient data.

#### XTN Segment

The XTN segment provides information on telecommunication options to contact the patient.

### 3.5.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurred An error has occurred An error has occurred

#### EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

#### EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

#### EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

IN1-1

Set ID: The sequential number of this segment.

IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

Table 57: Fields Relevant for the Unlink Patients Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional

The PID Segment has to be placed twice in this message, as each occurrence refers to one patient to be unlinked. The first occurrence is always a Source Patient, the second can be either a Source- or a Master Patient. The link to be removed however always points to a Master Patient.

Example 62: Submission:

```
MSH|^~\&|My Clinic ADT System^1.2.123.27.1974.165.12^ISO|My Local Clinic^1.2.123.27.1974^
ISO|eHealth Solutions MPI^1.1.234.1245.2^ISO|eHealth Solutions Affinity Domain
^1.1.234.1245^ISO|20180312133336.031+0100||ADT^A37^ADT_A37|06d50d88-7e4b-4884-a32c-259
e0a3705e4|P|2.5||AL||UNICODE UTF-8
EVN||20180312133336.031+0100||userId0241^Warren^Karen^^^^^My Local Clinic
&1.2.123.27.1974&ISO^L^^^EN
PID||patientId5795^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Doe^John^^^^^L
PID||patientId5346^^^My Local Clinic&1.2.123.27.1974&ISO^PI||Denver^John^^^^^L
```

### 3.6 Query Patient IDs

#### 3.6.1 Query Patient IDs -- HL7v2

The PIX/PDQ Manager provides two patient query methods: **Query Patient IDs** and **Query Patients** (Section 3.7). The transaction **Query Patient IDs** passes one patient identifier (most commonly the identifier of the local CIS, PACS, ...) and receives all identifiers (or optionally only identifiers from a given subset of patient assigning authorities) in return.

### 3.6.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Query Patient IDs**.

#### ■ The Query

The Request for Corresponding Patient Identifiers transaction is conducted by the QBP Q23 message. The segments of the message listed in [Table 58](#) are required:

**Table 58:** Query Patient ID Segments

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be <b>QBP</b>
MSH-9-2	The TriggerEvent must be <b>Q23</b>
QPD	Query Parameter Definition
RCP	Response Control Parameter

#### ■ Message Header

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### ■ Query Parameter Definition

echo the QPD Segment value that was sent in the QBP Q23 message.

#### ■ Response Control Parameter

The RCP Segment must only have the first element populated with an "I", indicating that this message must be processed immediately.

#### ■ The Response

The response message is (in difference to administrative ACK responses) a RSP K23 message (see [Table 59](#)).

**Table 59:** Query Patient ID Responses

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be <b>RSP</b>
MSH-9-2	The TriggerEvent must be <b>K23</b>
MSA	Message Acknowledgement
ERR	Error
QAK	Query Acknowledgement
QPD	Query Parameter Definition
PID	Patient Identifier

#### ■ Message Header

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

Message Acknowledgement

Message Acknowledgement displaying the success of the message.

Error

If an error occurred this segment is populated with the details

Query Acknowledgement

The Query Acknowledgement repeats the Query Tag (send by the client in the QPD-2 field) and a query status.

Query Parameter Definition

echo the QPD Segment value that was sent in the QBP Q23 message.

Patient Identifier

If the corresponding patient was found, a PID segment having only PID-3 (requested Identifiers) and PID-5 (names) valued.

Response Control Parameter

The RCP Segment must only have the first element populated with an "I", indicating that this message must be processed immediately.

### 3.6.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurred An error has occurred An error has occurred

EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

IN1-1

Set ID: The sequential number of this segment.

IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

QPD-1

Query Parameter Definition: This is a constant value and must be „IHE PIX Query“ (defined by the IHE).

QPD-2

Query Tag: Name for the query. This value will be returned to find matching responses to queries.

QPD-3

Person Identifier: One or more Patient Identifier used to query the patient in the PIX/PDQ. Datatype: CX

QPD-8

What Domains Returned: Instead of querying all patient IDs, the requesting system is also able to query only a selected number of patient IDs. It does so by populating QPD-4-What Domains Returned with as many repetitions as needed. The number of repetitions equals the number of domains from which the patient IDs are supposed to come from.

**Table 60:** Fields Relevant for the Query Patient ID Transaction.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
QPD-1	Query Parameter Definition	Required	No
QPD-2	Query Tag	Required	No
QPD-3	Person Identifier	Required	No
QPD-8	What Domains Returned	Optional	Yes

**Example 63:**

**Submission:**

```
MSH|^~\&|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|20141001235552||
  QBP^Q23^QBP_Q21|1412200551815|P|2.5||AL
QPD|IHE PIX Query|QRY1412200552364|1412200317139^^&1.1.1.1.3&ISO
RCP|I
```

**Response:**

```
MSH|^~\&|QUA^1.1.1.1.1^ISO|QUA^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2^ISO|20141001235552||
  RSP^K23^RSP_K23|141220055272243497|P|2.5
MSA|AA|1412200551815
QAK|QRY1412200552364|OK|IHE PIX Query|5
QPD|IHE PIX Query|QRY1412200552364|1412200317139^^&1.1.1.1.3&ISO
PID|||648786472101230541^^OTHER NATIONAL SOCIAL SECURITY ASSOCIATION
  &1.3.6.1.4.1.9784.999200.2.1&
ISO^SS~2569605884678423^^OTHER NATIONAL SOCIAL SECURITY ASSOCIATION&1.3.6.1.4.1.9784.
999200.2.1&ISO^SS~de2dbe72-dc87-492b-baa6-dccbda635ac1^^XDS Affinity Domain 1&1.1.1&ISO^
  GPI||~^^^S
```

## 3.6.2 Query Patient IDs -- HL7v3

### Example 64: HL7v3 Query Patient IDs Root Element

interactionId's extension field: PRPA\_IN201309UV02

```
<ns1:PRPA_IN201309UV02 xmlns:ns1="urn:h17-org:v3" ITSVersion="XML_1.0">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</ns1:PRPA_IN201309UV02>
```

#### 3.6.2.1 Inbound Message Structure

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.authorOrPerformer
4. controlActProcess.authorOrPerformer.assignedDevice
5. controlActProcess.authorOrPerformer.assignedDevice.id
6. controlActProcess.authorOrPerformer.assignedDevice.assignedDevice
7. controlActProcess.queryByParameter
8. controlActProcess.queryByParameter.queryId
9. controlActProcess.queryByParameter.statusCode
10. controlActProcess.queryByParameter.responsePriorityCode
11. controlActProcess.queryByParameter.parameterList
12. controlActProcess.queryByParameter.parameterList.value
13. controlActProcess.queryByParameter.parameterList.value
14. controlActProcess.queryByParameter.parameterList.semanticsText

### Example 65: HL7v3 Query Patient IDs Payload

```
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
    PRPA_TE201309UV02"/>
  <ns1:authorOrPerformer typeCode="AUT">
    <ns1:assignedDevice classCode="ASSIGNED">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
        ="1.3.6.1.4.1.21367.13.10.218"/>
      <ns1:assignedDevice classCode="DEV" determinerCode="INSTANCE"/>
    </ns1:assignedDevice>
  </ns1:authorOrPerformer>
  <ns1:queryByParameter>
    <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      root="1.3.6.1.4.1.21367.13.10.218" extension="1461919522407"/>
    <ns1:statusCode code="new"/>
    <ns1:responsePriorityCode code="I"/>
    <ns1:parameterList>
      <ns1:patientIdentifier>
        <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
          root="1.1.1.1.2" extension="ID-Value - 8642741598patientID0"/>
        <ns1:semanticsText>Patient.id</ns1:semanticsText>
      </ns1:patientIdentifier>
    </ns1:parameterList>
  </ns1:queryByParameter>
</ns1:controlActProcess>
```



### Example 66: HL7v3 Query Patient IDs with Domain Restriction Payload

```
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
  PRPA_TE201309UV02"/>
  <ns1:authorOrPerformer typeCode="AUT">
    <ns1:assignedDevice classCode="ASSIGNED">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.3.6.1.4.1.21367.13.10.218"/>
      <ns1:assignedDevice classCode="DEV" determinerCode="INSTANCE"/>
    </ns1:assignedDevice>
  </ns1:authorOrPerformer>
  <ns1:queryByParameter>
    <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
    root="1.3.6.1.4.1.21367.13.10.218" extension="1461857158532"/>
    <ns1:statusCode code="new"/>
    <ns1:responsePriorityCode code="I"/>
    <ns1:parameterList>
      <ns1:dataSource>
        <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
        root="1.3.6.1.4.1.21367.13.20.2000"/>
        <ns1:semanticsText>DataSource.id</ns1:semanticsText>
      </ns1:dataSource>
      <ns1:patientIdentifier>
        <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
        root="1.3.6.1.4.1.21367.3000.1.6" extension="IHEFACILITY-998"/>
        <ns1:semanticsText>Patient.id</ns1:semanticsText>
      </ns1:patientIdentifier>
    </ns1:parameterList>
  </ns1:queryByParameter>
</ns1:controlActProcess>
</ns1:PRPA_IN201309UV02>
```

### 3.6.2.2 Outbound Message Structure

#### Example 67: HL7v3 Query Patient IDs Response with Results

```
<ns1:PRPA_IN201310UV02 xmlns:ns1="urn:h17-org:v3" ITSVersion="XML_1.0">
  <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
  ="1.2.3.4.5" extension="30"/>
  <ns1:creationTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:TS"
  value="20160429104522"/>
  <ns1:versionCode code="V3PR1"/>
  <ns1:interactionId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
  root="2.16.840.1.113883" extension="PRPA_IN201310UV02"/>
  <ns1:processingCode code="P"/>
  <ns1:processingModeCode code="T"/>
  <ns1:acceptAckCode code="NE"/>
  <ns1:receiver typeCode="RCV">
    <ns1:device classCode="DEV" determinerCode="INSTANCE">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
    </ns1:device>
  </ns1:receiver>
  <ns1:sender typeCode="SND">
    <ns1:device classCode="DEV" determinerCode="INSTANCE">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
    </ns1:device>
  </ns1:sender>
  <ns1:acknowledgement>
    <ns1:typeCode code="AA"/>
  </ns1:acknowledgement>
</ns1:PRPA_IN201310UV02>
```

```

<ns1:targetMessage>
  <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
  ="2.16.840.1.113883.1.6.1" extension="1461919519877"/>
</ns1:targetMessage>
</ns1:acknowledgement>
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
  PRPA_TE201310UV02"/>
  <ns1:subject typeCode="SUBJ">
    <ns1:registrationEvent classCode="REG" moodCode="EVN">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      nullFlavor="NA"/>
      <ns1:statusCode code="active"/>
      <ns1:subject1 typeCode="SBJ">
        <ns1:patient classCode="PAT">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
          root="1.3.6.1.4.1.9784.999200.2.1.1" extension="2776347772" assigningAuthorityName="
          NATIONAL SOCIAL SECURITY ASSOCIATION"/>
          <ns1:statusCode code="active"/>
          <ns1:patientPerson classCode="PSN" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
            PN" nullFlavor="NA"/>
            <ns1:asOtherIDs classCode="ROL">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
              II" root="1.1.1" extension="3ae7a73a-7200-4cd3-99c9-f2653a06cfc7"
              assigningAuthorityName="XDS Affinity Domain 1"/>
              <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
                <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
                ns1:II" root="1.1.1"/>
              </ns1:scopingOrganization>
            </ns1:asOtherIDs>
            <ns1:asOtherIDs classCode="ROL">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
              II" root="1.1.1.1.2" extension="ID-Value - 8642741598patientID0" assigningAuthorityName
              ="Landeskrankenhaus Innsbruck"/>
              <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
                <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
                ns1:II" root="1.1.1.1.2"/>
              </ns1:scopingOrganization>
            </ns1:asOtherIDs>
          </ns1:patientPerson>
        </ns1:patient>
      </ns1:subject1>
      <ns1:custodian typeCode="CST">
        <ns1:assignedEntity classCode="ASSIGNED">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
          root="1.3.6.1.4.1.21367.2010.1.2.600" extension="xxx"/>
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
          root="1.3.6.1.4.1.21367.2010.1.2.600" extension="xxx"/>
          <ns1:assignedOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
            EN">
              <ns1:given>org</ns1:given>
            </ns1:name>
          </ns1:assignedOrganization>
        </ns1:assignedEntity>
      </ns1:custodian>
    </ns1:registrationEvent>
  </ns1:subject>
</ns1:queryAck>
  <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
  root="1.3.6.1.4.1.21367.13.10.218" extension="1461919522407"/>
  <ns1:statusCode code="deliveredResponse"/>
  <ns1:queryResponseCode code="OK"/>
</ns1:queryAck>

```

```

<ns1:queryByParameter>
  <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
  root="1.3.6.1.4.1.21367.13.10.218" extension="1461919522407"/>
  <ns1:statusCode code="new"/>
  <ns1:responsePriorityCode code="I"/>
  <ns1:parameterList>
    <ns1:patientIdentifier>
      <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      root="1.1.1.1.2" extension="ID-Value - 8642741598patientID0"/>
      <ns1:semanticsText>Patient.id</ns1:semanticsText>
    </ns1:patientIdentifier>
  </ns1:parameterList>
</ns1:queryByParameter>
</ns1:controlActProcess>
</ns1:PRPA_IN201310UV02>

```

### Example 68: HL7v3 Query Patient IDs Response without Results

```

<ns1:PRPA_IN201310UV02 xmlns:ns1="urn:hl7-org:v3" ITSVersion="XML_1.0">
  <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
  ="1.2.3.4.5" extension="30"/>
  <ns1:creationTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:TS"
  value="20160428174949"/>
  <ns1:versionCode code="V3PR1"/>
  <ns1:interactionId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
  root="2.16.840.1.113883" extension="PRPA_IN201310UV02"/>
  <ns1:processingCode code="P"/>
  <ns1:processingModeCode code="T"/>
  <ns1:acceptAckCode code="NE"/>
  <ns1:receiver typeCode="RCV">
    <ns1:device classCode="DEV" determinerCode="INSTANCE">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
    </ns1:device>
  </ns1:receiver>
  <ns1:sender typeCode="SND">
    <ns1:device classCode="DEV" determinerCode="INSTANCE">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
    </ns1:device>
  </ns1:sender>
  <ns1:acknowledgement>
    <ns1:typeCode code="AA"/>
    <ns1:targetMessage>
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="2.16.840.1.113883.1.6.1" extension="1461858586585"/>
    </ns1:targetMessage>
  </ns1:acknowledgement>
  <ns1:controlActProcess classCode="CACT" moodCode="EVN">
    <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
    PRPA_TE201310UV02"/>
    <ns1:queryAck>
      <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      root="1.3.6.1.4.1.21367.13.10.218" extension="1461858589205"/>
      <ns1:statusCode code="deliveredResponse"/>
      <ns1:queryResponseCode code="NF"/>
    </ns1:queryAck>
    <ns1:queryByParameter>
      <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      root="1.3.6.1.4.1.21367.13.10.218" extension="1461858589205"/>
      <ns1:statusCode code="new"/>
      <ns1:responsePriorityCode code="I"/>
      <ns1:parameterList>
        <ns1:dataSource>

```

```

    <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
    root="1.3.6.1.4.1.21367.13.20.2000"/>
    <ns1:semanticsText>DataSource.id</ns1:semanticsText>
  </ns1:dataSource>
  <ns1:patientIdentifier>
    <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
    root="1.3.6.1.4.1.21367.3000.1.6" extension="IHEFACILITY-998"/>
    <ns1:semanticsText>Patient.id</ns1:semanticsText>
  </ns1:patientIdentifier>
</ns1:parameterList>
</ns1:queryByParameter>
</ns1:controlActProcess>
</ns1:PRPA_IN201310UV02>

```

## 3.7 Query Patients

### 3.7.1 Query Patients -- HL7v2

The difference between the transactions **Query Patient IDs** (Section 3.6) and **Query Patients** is that the focus of **Query Patients** is to find entire patient records. The client generates the query message whenever it needs to select from a list of patients whose information matches a minimal set of demographic data. To provide the option of retrieving a big amount it is possible to segment the responses by defining the maximum amount of patients returned per response, and by repeating the query having a continuation pointer set one can retrieve the next set of patients.

#### 3.7.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Query Patients**.

##### ■ The Query

The Patient Demographics Query is conducted by the QBP Q22 message (see Table 63).

**Table 61:** Message Segment Overview.

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be QBP
MSH-9-2	The TriggerEvent must be Q22
QPD	Query Parameter Definition
RCP	Response Control Parameter
DSC	Continuation Pointer

##### ■ Message Header

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

##### ■ Query Parameter Definition

echo the QPD Segment value that was sent in the QBP Q23 message.

⋮ Response Control Parameter

The RCP Segment must only have the first element populated with an "I", indicating that this message must be processed immediately.

⋮ Continuation Pointer

If the PIX/PDQ holds more patients to this query, the DSC-1 is filled with the Continuation Pointer, which can be used to retrieve the next patients.

⋮ The Response

The response message is a RSP K22 message (see [Table 62](#)):

**Table 62:** Patient Query Responses

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be RSP
MSH-9-2	The TriggerEvent must be K22
MSA	Message Acknowledgement
ERR	Error
QAK	Query Acknowledgement
QPD	QPD Segment
PID	PID Segment
DSC	Continuation Pointers

⋮ Message Header

The HL7 MSH segment is present in every HL7 message type and defines the message's source, purpose, destination, and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

⋮ Message Acknowledgement

displaying the success of the message.

⋮ Error

If an error occurred this segment is populated with the details

⋮ Query Acknowledgement

The Query Acknowledgement repeats the Query Tag (send by the client in the QPD-2 field) and a query status.

⋮ QPD Segment

echo the QPD Segment value that was sent in the QBP Q23 message. in the QPD-2 field) and a query status.

⋮ PID Segment

If the corresponding patients were found, a fully filled PID segment per found patient is provided.

⋮ Continuation Pointer

if the PIX/PDQ holds more patients to this query, the DSC-1 is filled with the Continuation Pointer, which can be used to retrieve the next patients.

### 3.7.1.2 Field Overview

The data required for the MSH segment can be seen in [Table 2](#), those for the PID segment are listed in [Table 4](#). These are the relevant fields of the other segments:

An error has occurred An error has occurred An error has occurred

|| EVN-2

Recorded Date/Time: Time at which the notification has been recorded in the system.

|| EVN-5

Operator ID: Identifies the individual that triggered the visit notification (used for logging purposes). In patient admissions, the treating physician should be entered here. Note that the field is mandatory in an ELGA environment (Austria only). Repetitions cannot be processed by eHealth Solutions.

|| EVN-7

Event Facility (only supported for Version 2.4 and higher): This field is only processed when PID-34 is empty.

|| IN1-1

Set ID: The sequential number of this segment.

|| IN1-2

Insurance Plan ID: The unique ID for the Insurance Plan. The maximum length for values in this field is 255 characters.

|| IN1-3

Insurance Company ID: The identifier of the insurance company that has issued the Insurance Plan. Repetitions of this field are ignored by eHealth Solutions.

|| IN1-4

Insurance Company Name: Repetitions of this field are ignored by eHealth Solutions. Furthermore, only IN1-4.1 *Organization Name* is processed.

|| PV1-2

Patient Class: Determines the type of patient visit. This field is not case sensitive, it identifies the type of the patient visit. Accepted values are **B** for obstetrics, **C** for commercial account, **E** for emergency, **I** for inpatient, **N** for not applicable, **O** for outpatient, **P** for pre-admit, **R** for recurring patient.

|| QPD-1

Query Parameter Definition: This is a constant value and must be „IHE PDQ Query“ (defined by the IHE)

|| QPD-2

Query Tag: Name for the query. This value will be returned to find matching responses to queries.

|| QPD-3

Demographics Field: A list of Key-Value pairs defining the Query parameter.

|| QPD-8

What Domains Returned: List of all Patient IDs. (Instead of querying all patient IDs, the requesting system is also able to query only a selected number of patient IDs. It does so by populating QPD-4-What Domains Returned with as many repetitions as needed. The number of repetitions equals the number of domains from which the patient IDs are supposed to come from.)

|| RCP-1

Query Priority: This is a constant value and must be “I” to force an immediate response.

|| RCP-2

Quantity Limited Request: Specifies the amount of patient records returned per result page.

|| DSC-1

Continuation Pointer: To request additional increments of data, DSC-1 (Continuation Pointer) shall echo the value from RSP ^K22 DSC-1.

## DSC-2

Continuation Style: This is a constant value and must be "1" to force the following responses to be immediate as well.

**Table 63:** List of data set in the QPD segment to query patients.

HL7-Path	Name	Repeatable	Presence
EVN-2	Recorded Date/Time	No	Required
EVN-5	Operator ID	Yes, but without effect	Conditionally Required
EVN-7	Event Facility	No	Optional
IN1-1	Set ID	No	Conditionally Required
IN1-2	Insurance Plan ID	No	Conditionally Required
IN1-3	Insurance Company ID	Yes, but without effect	Conditionally Required
IN1-4	Insurance Company Name	Yes, but without effect	Optional
PV1-2	Patient Class	No	Required
QPD-1	Query Parameter Definition	Required	No
QPD-2	Query Tag	Required	No
QPD-3	Demographics Field	Required	Yes
QPD-8	What Domains Returned	Optional	Yes
RCP-1	Query Priority	Required	No
RCP-2	Quantity Limited Request	Optional	No
DSC-1	Continuation Pointer	Optional	No
DSC-2	Continuation Style	Optional	No



### Note

In this transaction the RCP segment is responsible to set the quantity of returned patients.



### Note

The DSC Segment must be set, when the "next" result of an forked response (whenever the total response is bigger than the requested amount of patients in RCP-2).

Field **QPD-3**-Demographics Fields consists of one or more repetitions, each of which contains two components that together contain the name and value of a distinct parameter to the query. These parameters are values of the PID-segment:

*@<seg>.<field no>.<component no>.<subcomponent no>*

### <seg>

represents a 3-character segment ID from the HL7 Standard. Since only PID parameters are allowed, this must be PID

### <field no>

is the number of a field within the segment as shown in the SEQ column of the segment attribute table for the segment selected.

### <component no>

for fields whose data types contain multiple components, shall contain the cardinal number of the component being valued. For fields whose data types do not contain multiple components, <component no> shall not be valued and its preceding period shall not appear.

### **<subcomponent no>**

for components whose data types contain multiple subcomponents, shall contain the cardinal number of the subcomponent being valued. For components whose data types do not contain multiple subcomponents, <subcomponent no> shall not be valued and its preceding period shall not appear.

#### **Example 69:**

##### **Submission:**

```
MSH|^~\&|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2.1^ISO|QUAD^1.1.1^ISO|QUAD^1.1.1^ISO|20141001115903||
  QBP^Q22^QBP_Q21|1412200743762.1|P|2.5|||AL
QPD|IHE PDQ Query|QRY1412200743832|@PID.5.1.1^Mar*~@PID.8^F
RCP|I|10^RD
```

##### **Response:**

```
MSH|^~\&|QUAD^1.1.1^ISO|QUAD^1.1.1^ISO|ITEH^1.1.2.1.1^ISO|ITEH^1.1.2.1^ISO|20141001235904||
  RSP^K22^RSP_K21|141220074423143501|P|2.5
MSA|AA|1412200743762.1
QAK|QRY1412200743832|OK|IHE PDQ Query|1
QPD|IHE PDQ Query|QRY1412200743832|@PID.5.1.1^Mar*~@PID.8^F
PID|||1409917720110^^^Example Hospital&1.1.1.3&ISO^PI~719332451557239827^^^OTHER NATIONAL
SOCIAL SECURITY ASSOCIATION&1.3.6.1.4.1.9784.999200.2.1&ISO^SS~4d0d4212~d626~4894~984b~297
c5ca2ac10^^^XDS
Affinity Domain 1&1.1.1&ISO^GPI||MARKLEY^Julie^^^^L~MARKLEY^Julie^^^^L||20120518|F
```

## **3.7.2 Query Patients -- HL7v3**

#### **Example 70: HL7v3 Query Patients Root Element**

interactionId's extension field: PRPA\_IN201305UV02

```
<ns1:PRPA_IN201305UV02 xmlns:ns1="urn:h17-org:v3" ITSVersion="XML_1.0">
  INSERT MESSAGE HEADER
  INSERT PAYLOAD
</ns1:PRPA_IN201305UV02>
```

### **3.7.2.1 Inbound Message Structure**

The following elements are required in this specific order:

1. controlActProcess
2. controlActProcess.code
3. controlActProcess.queryByParameter
4. controlActProcess.queryByParameter.queryId
5. controlActProcess.queryByParameter.statusCode
6. controlActProcess.queryByParameter.statusCoderesponseModalityCode
7. controlActProcess.queryByParameter.responsePriorityCode
8. controlActProcess.queryByParameter.initialQuantity
9. controlActProcess.queryByParameter.initialQuantityCode
10. controlActProcess.queryByParameter.parameterList
11. controlActProcess.queryByParameter.parameterList.id
12. controlActProcess.queryByParameter.parameterList.livingSubjectAdministrativeGender
13. controlActProcess.queryByParameter.parameterList.livingSubjectName
14. controlActProcess.queryByParameter.parameterList.livingSubjectName.value
15. controlActProcess.queryByParameter.parameterList.livingSubjectName.value.given
16. controlActProcess.queryByParameter.parameterList.livingSubjectName.value.family



## 17. controlActProcess.queryByParameter.parameterList.semanticsText

### Example 71: HL7v3 Query Patients Payload (Results in multiple pages)

```
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
  PRPA_TE201305UV02"/>
  <ns1:queryByParameter>
    <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
    root="1.3.6.1.4.1.21367.13.10.218" extension="1461930384492"/>
    <ns1:statusCode code="new"/>
    <ns1:responseModalityCode code="R"/>
    <ns1:responsePriorityCode code="I"/>
    <ns1:initialQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1
    :INT" value="3"/>
    <ns1:initialQuantityCode code="RD"/>
    <ns1:parameterList>
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="2.16.840.1.113883.1.6.1" extension="1461930382073"/>
      <ns1:livingSubjectAdministrativeGender>
        <ns1:value code="F"/>
        <ns1:semanticsText>LivingSubject.administrativeGender</ns1:semanticsText>
      </ns1:livingSubjectAdministrativeGender>
      <ns1:livingSubjectName>
        <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:PN"
        use="SRCH">
          <ns1:given>ine</ns1:given>
          <ns1:family>Bir</ns1:family>
        </ns1:value>
        <ns1:semanticsText>LivingSubject.name</ns1:semanticsText>
      </ns1:livingSubjectName>
    </ns1:parameterList>
  </ns1:queryByParameter>
</ns1:controlActProcess>
```

### 3.7.2.2 Outbound Message Structure

### Example 72: HL7v3 Query Patients Response (Results in multiple pages)

```
<ns1:PRPA_IN201306UV02 xmlns:ns1="urn:h17-org:v3" ITSVersion="XML_1.0">
  <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
  ="1.2.3.4.5" extension="30"/>
  <ns1:creationTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:TS"
  value="20160429134624"/>
  <ns1:versionCode code="V3PR1"/>
  <ns1:interactionId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
  root="2.16.840.1.113883" extension="PRPA_IN201306UV02"/>
  <ns1:processingCode code="P"/>
  <ns1:processingModeCode code="T"/>
  <ns1:acceptAckCode code="NE"/>
  <ns1:receiver typeCode="RCV">
    <ns1:device classCode="DEV" determinerCode="INSTANCE">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
    </ns1:device>
  </ns1:receiver>
  <ns1:sender typeCode="SND">
    <ns1:device classCode="DEV" determinerCode="INSTANCE">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="1.2.3.4.5.1000"/>
    </ns1:device>
  </ns1:sender>
```

```

<ns1:acknowledgement>
  <ns1:typeCode code="AA"/>
  <ns1:targetMessage>
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
      ="2.16.840.1.113883.1.6.1" extension="1461930382073"/>
  </ns1:targetMessage>
</ns1:acknowledgement>
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
  PRPA_TE201306UV02"/>
  <ns1:subject typeCode="SUBJ" contextConductionInd="false">
    <ns1:registrationEvent classCode="REG" moodCode="EVN">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      nullFlavor="NA"/>
      <ns1:statusCode code="active"/>
      <ns1:subject1 typeCode="SBJ">
        <ns1:patient classCode="PAT">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
          root="1.1.1.1.1" extension="23043655300181" assigningAuthorityName="Example Hospital"/>
          <ns1:statusCode code="active"/>
          <ns1:patientPerson classCode="PSN" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
            PN">
              <ns1:given>Joe</ns1:given>
              <ns1:family>Shmoe</ns1:family>
            </ns1:name>
            <ns1:administrativeGenderCode code="F"/>
            <ns1:birthTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type
            ="ns1:TS" value="19760615"/>
            <ns1:addr xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
            AD">
              <ns1:city>Example City</ns1:city>
              <ns1:state>Example State</ns1:state>
              <ns1:postalCode>00000</ns1:postalCode>
              <ns1:streetAddressLine>Street 00</ns1:streetAddressLine>
            </ns1:addr>
            <ns1:asOtherIDs classCode="PAT">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
              II" root="1.3.6.1.4.1.9784.999200.2.1.1" extension="3931150676" assigningAuthorityName="
              NATIONAL SOCIAL SECURITY ASSOCIATION"/>
              <ns1:statusCode code="active"/>
              <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
                <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
                ns1:II" root="1.3.6.1.4.1.9784.999200.2.1.1"/>
              </ns1:scopingOrganization>
            </ns1:asOtherIDs>
            <ns1:asOtherIDs classCode="PAT">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
              II" root="1.2.3.3.3.1.3" extension="74113"/>
              <ns1:statusCode code="active"/>
              <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
                <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
                ns1:II" root="1.2.3.3.3.1.3"/>
              </ns1:scopingOrganization>
            </ns1:asOtherIDs>
            <ns1:asOtherIDs classCode="PAT">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
              II" root="1.2.3.3.3.2.1" extension="576c1266f33a4c9687d6dc636d29efd4"/>
              <ns1:statusCode code="active"/>
              <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
                <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
                ns1:II" root="1.2.3.3.3.2.1"/>
              </ns1:scopingOrganization>
            </ns1:asOtherIDs>
            <ns1:asOtherIDs classCode="PAT">

```

```

        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.2.3.3.3.2.2" extension="84113"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.2.3.3.3.2.2"/>
        </ns1:scopingOrganization>
      </ns1:asOtherIDs>
      <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.2.3.3.3.1.2" extension="94a33cb9-7526-4a3b-a7ef-524e263fae26"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.2.3.3.3.1.2"/>
        </ns1:scopingOrganization>
      </ns1:asOtherIDs>
      <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.2.3.3.3.1.1" extension="23043655300181"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.2.3.3.3.1.1"/>
        </ns1:scopingOrganization>
      </ns1:asOtherIDs>
      <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.1.1.1.3" extension="74113" assigningAuthorityName="NeuGötzner
Schönheitsklinik"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.1.1.1.3"/>
        </ns1:scopingOrganization>
      </ns1:asOtherIDs>
      <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.1.1" extension="8056dfc9-22cc-4199-838a-c89486c23fdf"
assigningAuthorityName="XDS Affinity Domain 1"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.1.1"/>
        </ns1:scopingOrganization>
      </ns1:asOtherIDs>
    </ns1:patientPerson>
    <ns1:providerOrganization classCode="ORG" determinerCode="INSTANCE">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II
" root="1.3.6.1.4.1.21367.13.20.2000"/>
      <ns1:contactParty classCode="CON"/>
    </ns1:providerOrganization>
    <ns1:subjectOf1>
      <ns1:queryMatchObservation classCode="COND" moodCode="EVN">
        <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:CD" code="IHE_PDQ"/>
        <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:INT" value="100"/>
      </ns1:queryMatchObservation>
    </ns1:subjectOf1>
  </ns1:patient>
</ns1:subject1>
<ns1:custodian typeCode="CST">
  <ns1:assignedEntity classCode="ASSIGNED">

```

```

    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.2010.1.2.600"/>
    <ns1:assignedOrganization classCode="ORG" determinerCode="INSTANCE">
      <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
EN">
        <ns1:given>org</ns1:given>
      </ns1:name>
    </ns1:assignedOrganization>
  </ns1:assignedEntity>
</ns1:custodian>
</ns1:registrationEvent>
</ns1:subject>
<ns1:subject typeCode="SUBJ" contextConductionInd="false">
  <ns1:registrationEvent classCode="REG" moodCode="EVN">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
nullFlavor="NA"/>
    <ns1:statusCode code="active"/>
    <ns1:subject1 typeCode="SBJ">
      <ns1:patient classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.2.3.3.3.2.1" extension="910bee683aa7456fbec15cf0e6783f2f"/>
        <ns1:statusCode code="active"/>
        <ns1:patientPerson classCode="PSN" determinerCode="INSTANCE">
          <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
PN">
            <ns1:given>Joe</ns1:given>
            <ns1:family>Shmoe</ns1:family>
          </ns1:name>
          <ns1:administrativeGenderCode code="F"/>
          <ns1:birthTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type
="ns1:TS" value="19710520"/>
          <ns1:addr xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
AD">
            <ns1:city>Example City</ns1:city>
            <ns1:state>Example State</ns1:state>
            <ns1:postalCode>00000</ns1:postalCode>
            <ns1:streetAddressLine>Spanheimerstrasse 57</ns1:streetAddressLine>
          </ns1:addr>
          <ns1:asOtherIDs classCode="PAT">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.2.3.3.3.2.2" extension="84118"/>
            <ns1:statusCode code="active"/>
            <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.2.3.3.3.2.2"/>
            </ns1:scopingOrganization>
          </ns1:asOtherIDs>
          <ns1:asOtherIDs classCode="PAT">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.1.1" extension="e7249f3c-29af-4d16-8fe8-72a453639bf3"
assigningAuthorityName="XDS Affinity Domain 1"/>
            <ns1:statusCode code="active"/>
            <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.1.1"/>
            </ns1:scopingOrganization>
          </ns1:asOtherIDs>
          <ns1:asOtherIDs classCode="PAT">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.1.1.2.1" extension="910bee683aa7456fbec15cf0e6783f2f" assigningAuthorityName
="Linzer Schnittenspital"/>
            <ns1:statusCode code="active"/>
            <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.1.1.2.1"/>

```

```

        </ns1:scopingOrganization>
    </ns1:asOtherIDs>
    <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.2.3.3.3.1.3" extension="74118"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.2.3.3.3.1.3"/>
        </ns1:scopingOrganization>
    </ns1:asOtherIDs>
    <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.2.3.3.3.1.2" extension="bcc49584-2094-44f8-acd7-9274c2e82a26"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.2.3.3.3.1.2"/>
        </ns1:scopingOrganization>
    </ns1:asOtherIDs>
    <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.2.3.3.3.1.1" extension="23043660004680"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.2.3.3.3.1.1"/>
        </ns1:scopingOrganization>
    </ns1:asOtherIDs>
    <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.3.6.1.4.1.9784.999200.2.1.1" extension="7704200571" assigningAuthorityName="
NATIONAL SOCIAL SECURITY ASSOCIATION"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.3.6.1.4.1.9784.999200.2.1.1"/>
        </ns1:scopingOrganization>
    </ns1:asOtherIDs>
    <ns1:asOtherIDs classCode="PAT">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
II" root="1.1.1.1.1" extension="23043660004680" assigningAuthorityName="Example Hospital
"/>
        <ns1:statusCode code="active"/>
        <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:II" root="1.1.1.1.1"/>
        </ns1:scopingOrganization>
    </ns1:asOtherIDs>
</ns1:patientPerson>
<ns1:providerOrganization classCode="ORG" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II
" root="1.3.6.1.4.1.21367.13.20.2000"/>
    <ns1:contactParty classCode="CON"/>
</ns1:providerOrganization>
<ns1:subjectOf1>
    <ns1:queryMatchObservation classCode="COND" moodCode="EVN">
        <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:CD" code="IHE_PDQ"/>
        <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:INT" value="100"/>
    </ns1:queryMatchObservation>
</ns1:subjectOf1>
</ns1:patient>
</ns1:subject1>

```

```

    <ns1:custodian typeCode="CST">
      <ns1:assignedEntity classCode="ASSIGNED">
        <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.2010.1.2.600"/>
        <ns1:assignedOrganization classCode="ORG" determinerCode="INSTANCE">
          <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
EN">
            <ns1:given>org</ns1:given>
          </ns1:name>
        </ns1:assignedOrganization>
      </ns1:assignedEntity>
    </ns1:custodian>
  </ns1:registrationEvent>
</ns1:subject>
<ns1:queryAck>
  <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.10.218" extension="1461930384492"/>
  <ns1:statusCode code="deliveredResponse"/>
  <ns1:queryResponseCode code="OK"/>
  <ns1:resultTotalQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:
type="ns1:INT" value="2"/>
  <ns1:resultCurrentQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:
type="ns1:INT" value="2"/>
  <ns1:resultRemainingQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi
:type="ns1:INT" value="0"/>
</ns1:queryAck>
<ns1:queryByParameter>
  <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.10.218" extension="1461930384492"/>
  <ns1:statusCode code="new"/>
  <ns1:responseModalityCode code="R"/>
  <ns1:responsePriorityCode code="I"/>
  <ns1:initialQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:INT" value="3"/>
  <ns1:initialQuantityCode code="RD"/>
  <ns1:parameterList>
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
="2.16.840.1.113883.1.6.1" extension="1461930382073"/>
    <ns1:livingSubjectAdministrativeGender>
      <ns1:value code="F"/>
      <ns1:semanticsText>LivingSubject.administrativeGender</ns1:semanticsText>
    </ns1:livingSubjectAdministrativeGender>
    <ns1:livingSubjectName>
      <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:PN"
use="SRCH">
        <ns1:given>ine</ns1:given>
        <ns1:family>Bir</ns1:family>
      </ns1:value>
      <ns1:semanticsText>LivingSubject.name</ns1:semanticsText>
    </ns1:livingSubjectName>
  </ns1:parameterList>
</ns1:queryByParameter>
</ns1:controlActProcess>
</ns1:PRPA_IN201306UV02>

```

### Example 73: HL7v3 Query Patients Response with one Result

```

<ns1:PRPA_IN201306UV02 xmlns:ns1="urn:hl7-org:v3" ITSVersion="XML_1.0">
  <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
="1.2.3.4.5" extension="30"/>
  <ns1:creationTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:TS"
value="20160429132958"/>
  <ns1:versionCode code="V3PR1"/>
  <ns1:interactionId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"

```

```

    root="2.16.840.1.113883" extension="PRPA_IN201306UV02"/>
<ns1:processingCode code="P"/>
<ns1:processingModeCode code="T"/>
<ns1:acceptAckCode code="NE"/>
<ns1:receiver typeCode="RCV">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
    ="1.2.3.4.5.1000"/>
  </ns1:device>
</ns1:receiver>
<ns1:sender typeCode="SND">
  <ns1:device classCode="DEV" determinerCode="INSTANCE">
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
    ="1.2.3.4.5.1000"/>
  </ns1:device>
</ns1:sender>
<ns1:acknowledgement>
  <ns1:typeCode code="AA"/>
  <ns1:targetMessage>
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
    ="2.16.840.1.113883.1.6.1" extension="1461929395451"/>
  </ns1:targetMessage>
</ns1:acknowledgement>
<ns1:controlActProcess classCode="CACT" moodCode="EVN">
  <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:CD" code="
  PRPA_TE201306UV02"/>
  <ns1:subject typeCode="SUBJ" contextConductionInd="false">
    <ns1:registrationEvent classCode="REG" moodCode="EVN">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
      nullFlavor="NA"/>
      <ns1:statusCode code="active"/>
      <ns1:subject1 typeCode="SBJ">
        <ns1:patient classCode="PAT">
          <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
          root="1.1.1.1.1" extension="12272436094084" assigningAuthorityName="Example Hospital"/>
          <ns1:statusCode code="active"/>
          <ns1:patientPerson classCode="PSN" determinerCode="INSTANCE">
            <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
            PN">
              <ns1:given>Joe</ns1:given>
              <ns1:family>Shmoe</ns1:family>
            </ns1:name>
            <ns1:administrativeGenderCode code="F"/>
            <ns1:birthTime xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type
            ="ns1:TS" value="19491206"/>
            <ns1:addr xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
            AD">
              <ns1:city>Example City</ns1:city>
              <ns1:state>Example State</ns1:state>
              <ns1:postalCode>00000</ns1:postalCode>
              <ns1:streetAddressLine>Salzburgerstrasse 37</ns1:streetAddressLine>
            </ns1:addr>
            <ns1:asOtherIDs classCode="PAT">
              <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
              II" root="1.1.1" extension="13ea7dcc-59e2-40de-87a9-439c68418d0f"
              assigningAuthorityName="XDS Affinity Domain 1"/>
              <ns1:statusCode code="active"/>
              <ns1:scopingOrganization classCode="ORG" determinerCode="INSTANCE">
                <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
                ns1:II" root="1.1.1"/>
              </ns1:scopingOrganization>
            </ns1:asOtherIDs>
          </ns1:patientPerson>
          <ns1:providerOrganization classCode="ORG" determinerCode="INSTANCE">
            <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II

```

```

" root="1.3.6.1.4.1.21367.13.20.2000"/>
  <ns1:contactParty classCode="CON"/>
</ns1:providerOrganization>
  <ns1:subjectOf1>
    <ns1:queryMatchObservation classCode="COND" moodCode="EVN">
      <ns1:code xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:CD" code="IHE_PDQ"/>
      <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:INT" value="100"/>
    </ns1:queryMatchObservation>
  </ns1:subjectOf1>
</ns1:patient>
</ns1:subject1>
  <ns1:custodian typeCode="CST">
    <ns1:assignedEntity classCode="ASSIGNED">
      <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.2010.1.2.600"/>
      <ns1:assignedOrganization classCode="ORG" determinerCode="INSTANCE">
        <ns1:name xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
EN">
          <ns1:given>org</ns1:given>
        </ns1:name>
      </ns1:assignedOrganization>
    </ns1:assignedEntity>
  </ns1:custodian>
</ns1:registrationEvent>
</ns1:subject>
<ns1:queryAck>
  <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.10.218" extension="1461929398022"/>
  <ns1:statusCode code="deliveredResponse"/>
  <ns1:queryResponseCode code="OK"/>
  <ns1:resultTotalQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:
type="ns1:INT" value="1"/>
  <ns1:resultCurrentQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:
type="ns1:INT" value="1"/>
  <ns1:resultRemainingQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi
:type="ns1:INT" value="0"/>
</ns1:queryAck>
<ns1:queryByParameter>
  <ns1:queryId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II"
root="1.3.6.1.4.1.21367.13.10.218" extension="1461929398022"/>
  <ns1:statusCode code="new"/>
  <ns1:responseModalityCode code="R"/>
  <ns1:responsePriorityCode code="I"/>
  <ns1:initialQuantity xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="
ns1:INT" value="30"/>
  <ns1:initialQuantityCode code="RD"/>
  <ns1:parameterList>
    <ns1:id xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:II" root
="2.16.840.1.113883.1.6.1" extension="1461929395451"/>
    <ns1:livingSubjectAdministrativeGender>
      <ns1:value code="F"/>
      <ns1:semanticsText>LivingSubject.administrativeGender</ns1:semanticsText>
    </ns1:livingSubjectAdministrativeGender>
    <ns1:livingSubjectBirthTime>
      <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:
IVL_TS" value="19491206"/>
      <ns1:semanticsText>LivingSubject.BirthTime</ns1:semanticsText>
    </ns1:livingSubjectBirthTime>
    <ns1:livingSubjectName>
      <ns1:value xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="ns1:PN
">
        <ns1:given>Karin</ns1:given>
        <ns1:family>Thalberg</ns1:family>

```



```
</ns1:value>  
  <ns1:semanticsText>LivingSubject.name</ns1:semanticsText>  
  </ns1:livingSubjectName>  
</ns1:parameterList>  
</ns1:queryByParameter>  
</ns1:controlActProcess>  
</ns1:PRPA_IN201306UV02>
```

## 4 Document Administration

The IHE defines how documents are submitted within the XDS infrastructure in *ITI-41 Provide and Register Document Set-b*. The client submits a document to the Document Repository by first “providing” it to the Document Repository and consequently “registering” it in the Document Registry. According to the IHE, this transaction is based on ebXML, not HL7. eHealth Solutions provides a **Document Administration** interface based on the HL7v2 MDM messages to enable systems which already have a working MDM interface to submit documents within the XDS infrastructure. [Table 64](#) shows all supported transactions for administrating documents.

The **Medical Records** application supports importing documents using HL7 MDM to a local system e.g. archive. To ensure that documents will be assigned to the correct patient, the identifiers SVNR and XAD PID (global identifier) are used. It is possible to replace the XAD PID with the local patient ID, however, the following rule applies: If the local patient ID and the patient assigning authority are transmitted within the integration call-up such as a URL call or over SAML, the MDM must include these parameters instead of the global identifier (XAD PID).

**Table 64:** Document Administration Supported Transactions.

Message Type	Description
MDM ^T02	Submit new Document.
MDM ^T06	Append a Document to an existing one.
MDM ^T08	Submit a Transformation of an existing Document
MDM ^T10	Submit a Replacement of an existing Document
MDM ^T11	Deprecate a document.

### 4.1 Submit Document

#### 4.1.1 Submit Document -- HL7v2

The following HL7 message can be received and processed in order to submit a new document to the XDS infrastructure:

➤ **MDM T02** – Submit Document.



**Note**

Additionally, the HL7 message **Submit Document** updates documents if the unique ID of the document is already known.

##### 4.1.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Submit Document**.

**Table 65: Message Structure Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be <b>MDM</b>
MSH-9-2	The TriggerEvent must be <b>T02</b>
EVN	Event Information
PID	Patient Information
PV1	Case Information
OBR	Observation Information
TXA	Document Header
OBX	Document
ZRI	Document Reference ID List

#### 4.1.1.2 Field Overview

The mapping from the MDM ^T02 to the XDS datastructure is shown in the following tables:

⌵ SessionInfo

Containing information about the current Session (Table 66).

⌵ SubmissionInfo

Containing information about the current submission (Table 67).

⌵ DocumentMetadata

Metadata describing the document (Table 68).

⌵ Document

The document itself (Table 69).

⌵ MSH-3-1

sendingApplication.name: Name of the sending application.

⌵ MSH-3-2

sendingApplication.oid: OID of the sending application.

⌵ MSH-4-1

sendingFacility.name: Name of the sending facility.

⌵ MSH-4-2

sendingFacility.oid: OID of the sending facility

⌵ EVN-5

userName: Name of the user who triggered the submission.

⌵ EVN-5

userID: Name of the user who triggered the submission.

⌵ MSH-10

sessionID: Unique identifier of this session.

Table 66: Mapping from HL7 MDM message to XDS Data - SessionInfo. 

HL7-Path	Name	Repeatable	Presence
<b>Table 66: Mapping from HL7 MDM message to XDS Data - SessionInfo.</b>			
HL7-Path	Name	Repeatable	Presence
MSH-3-1	sendingApplication.name	Required	-
MSH-3-2	sendingApplication.oid	Required	-
MSH-4-1	sendingFacility.name	Required	-
MSH-4-2	sendingFacility.oid	Required	-
EVN-5	userName	Required	-
EVN-5	userID	Required	-
MSH-10	sessionID	Required	-

■ MSH-4-2

submissionSetUniqueID: Unique ID of the submission. This value is generated using the pattern: MSH-4-2 + . + Thead-ID + . + currentMillis.

■ PV1-3-4-1

institution.name: Name of the institution where the document originates from.

■ PV1-3-4-2

institution.oid: OID of the institution where the document originates from.

■ OBR-31-1

contentTypeCode.value: Content Type of the Submission: Value.

■ OBR-31-2

contentTypeCode.displayName: Content Type of the Submission: human readable display name.

■ OBR-31-3

contentTypeCode.codingScheme: Content Type of the Submission: Coding Scheme.

■ TXA-9-2

author.lastName: Given name of the author of the submission. This is the same as the author of the document.

■ TXA-9-3

author.firstName: Family name of the author of the submission. This is the same as the author of the document.

■ TXA-16

title: Title of the submission. This is the title of the document.

**Table 67: Mapping from HL7 MDM message to XDS Data - SubmissionInfo.**

HL7-Path	Name	Repeatable	Presence
MSH-4-2	submissionSetUniqueID	Required	-
PV1-3-4-1	institution.name	Required	-
PV1-3-4-2	institution.oid	Required	-
OBR-31-1	contentTypeCode.value	Required	-
OBR-31-2	contentTypeCode.displayName	Required	-

Table 67: Mapping from HL7 MDM message to XDS Data - SubmissionInfo. 

HL7-Path	Name	Repeatable	Presence
OBR-31-3	contentTypeCode.codingScher	Required	-
TXA-9-2	author.lastName	Required	-
TXA-9-3	author.firstName	Required	-
TXA-16	title	Required	-

■ MSH-6-2

homeCommunityID: OID of the affinity domain where the document will be stored.

■ MSH-19

languageCode: Specifies the human language of the document. Format according RFC-3066.

■ PID-3

patientInfo.socialSecurityNumber: Social security number of the patient. Important: The social security number will be identified within the list of patient identifiers (PID-3) by the OID of the social security association.

■ PID-3

patientInfo.sourcePatientID: Patient identifier of the local CIS/RIS/PACS...Important: The Patient Identifier will be identified within the list of patient identifiers (PID-3) by the identifier type code PI.

■ PID-5-1

patientInfo.familyName: Family name of the patient.

■ PID-5-2

patientInfo.givenName: Given name of the patient.

■ PID-5-3

patientInfo.secondAndFurtherNames[0]: Second and further names of the patient

■ PID-5-4

patientInfo.suffix: Name suffix of the patient.

■ PID-5-5

patientInfo.prefix: Name prefix of the patient.

■ PID-7

patientInfo.birthdate: Birth date of the patient, who has the document assigned.

■ PID-8

patientInfo.gender: Gender of the patient.

■ PID-11-1

patientInfo.address.street: Address of the patient: streetline with dwelling number.

■ PID-11-3

patientInfo.address.city: Address of the patient: city.

■ PID-11-5

patientInfo.address.postalCode: Address of the patient: postal code.

■ PID-11-6

patientInfo.address.country: Address of the patient: country.

■ PV1-2-1

eventCodes[0].value: Event Codes contain additional information to the document. Part 1: Observation Type. (inpatient, outpatient,...): typecode.

- PV1-2-2  
 eventCodes[0].displayName: Event Codes contain additional information to the document. Part 1: Observation Type. (inpatient, outpatient,...): display name.
- PV1-2-3  
 eventCodes[0].codingScheme: Event Codes contain additional information to the document. Part 1: Observation Type. (inpatient, outpatient,...): coding scheme.
- PV1-3-4-1  
 institution.name: Name of the institution where the document originates from.
- PV1-3-4-2  
 institution.oid
- PV1-3-4-2 + TXA-12-1  
 sourceDocumentID: Globally unique identifier of the document. To achieve to be globally unique the OID of the institution (PV1-3-4-2) will be concatenated with the local document identifier (TXA-12-1).
- PV1-3-7-2  
 department: Name of the Department where the document originates from.
- PV1-3-7-3  
 subDepartment: Name of the Sub-department where the document originates from.
- PV1-3-10-1  
 practiceSettingCode.value: Specifies the speciality of the department where the document originates from: value.
- PV1-3-10-2  
 practiceSettingCode.displayName: Specifies the speciality of the department where the document originates from: human readable display name.
- PV1-3-10-3  
 practiceSettingCode.codingScheme: Specifies the speciality of the department where the document originates from: coding scheme.
- PV1-10-1  
 healthcareFacilityTypeCode.value: Specifies the type of the facility where the document originates from: value.
- PV1-10-2  
 healthcareFacilityTypeCode.displayName: Specifies the type of the facility where the document originates from: human readable display name.
- PV1-10-3  
 healthcareFacilityTypeCode.codingScheme: Specifies the type of the facility where the document originates from: coding scheme.
- OBR-7  
 serviceStartTime: Start time of the medical service.
- OBR-8  
 serviceStopTime: End time of the medical service.
- OBR-31  
 eventCodes: Additional EventCodes: listed values are possible.
- TXA-2-1  
 typeCode.value: Code specifying the particular type of the document: value. Note that the field classCode.value will be directly mapped to this value.

- :TXA-2-2  
 typeCode.displayName.value: Code specifying the particular type of the document: Human readable display name.
- :TXA-2-2  
 classCode.displayName: Code specifying the particular type of the document: Human readable display name.
- :TXA-2-3  
 classCode.codingScheme: Code specifying the particular type of the document: Coding scheme.
- :TXA-2-3  
 typeCode.codingScheme: Code specifying the particular type of the document: Coding scheme.
- :TXA-3-1  
 mimeType: Mime type of the document.
- :TXA-3-2  
 formatCode.value: This code identifies the format of the document (e.g. "ScanPDF/IHE 1.0"): value
- :TXA-3-3  
 formatCode.displayName: This code identifies the format of the document (e.g. "ScanPDF/IHE 1.0"): human readable display name.
- :TXA-3-4  
 formatCode.codingScheme: This code identifies the format of the document (e.g. "ScanPDF/IHE 1.0"): coding scheme.
- :TXA-6  
 creationTime: Time when the Author created the document.
- :TXA-9-2  
 author.lastName: Family Name of the author.
- :TXA-9-3  
 author.firstName: Given Name of the author.
- :TXA-10-2  
 legalAuthenticator.lastName: Family name of the authenticator of the document.
- :TXA-10-3  
 legalAuthenticator.firstName: Given name of the authenticator of the document.
- :TXA-16  
 title: Title of the document.
- :TXA-18  
 confidentialityCodes[0].value: This code is used to specify the level of confidentiality: value.
- :TXA-18-2  
 confidentialityCodes[0].codingScheme: This code is used to specify the level of confidentiality: coding scheme.
- :TXA-19  
 availabilityStatus: Availability status of the document. Possible values are: F if the document is final and should be stored/updated. D if the document is deprecated and should be deleted.
- :ZRI-1  
 set-id.uniqueId: Unique numeric HL7 Segment ID (required field).
- :ZRI-2  
 cx.referenceId: The Reference ID with Assigning Authority (required field).

ZRI-3

cwe.identifierTypeCode: The Identifier Type Code of the Reference ID (required field)  
 e.g. for a case visit ID, see [urn:sense:2015:caselId](#)

**Table 68:** Mapping from HL7 MDM message to XDS Data - DocumentMetadata.

HL7-Path	Name	Repeatable	Presence
MSH-6-2	homeCommunityID	Required	-
MSH-19	languageCode	Required	-
PID-3	patientInfo.socialSecurityNuml	Required	-
PID-3	patientInfo.sourcePatientID	Required	-
PID-5-1	patientInfo.familyName	Required	-
PID-5-2	patientInfo.givenName	Required	-
PID-5-3	patientInfo.secondAndFurtherl	Optional	-
PID-5-4	patientInfo.suffix	Optional	-
PID-5-5	patientInfo.prefix	Optional	-
PID-7	patientInfo.birthdate	Required	-
PID-8	patientInfo.gender	Required	-
PID-11-1	patientInfo.address.street	R*	-
PID-11-3	patientInfo.address.city	R*	-
PID-11-5	patientInfo.address.postalCode	R*	-
PID-11-6	patientInfo.address.country	R*	-
PV1-2-1	eventCodes[0].value	Required	-
PV1-2-2	eventCodes[0].displayName	Required	-
PV1-2-3	eventCodes[0].codingScheme	Required	-
PV1-3-4-1	institution.name	Required	-
PV1-3-4-2	institution.oid: OID of the institution where the document originates from.	Required	-
PV1-3-4-2 + TXA-12-1	sourceDocumentID	Required	-
PV1-3-7-2	department	Optional	-
PV1-3-7-3	subDepartment	Optional	-
PV1-3-10-1	practiceSettingCode.value	Required	-
PV1-3-10-2	practiceSettingCode.displayName	Required	-
PV1-3-10-3	practiceSettingCode.codingSch	Required	-
PV1-10-1	healthcareFacilityTypeCode.val	Required	-
PV1-10-2	healthcareFacilityTypeCode.dis	Required	-
PV1-10-3	healthcareFacilityTypeCode.co	Required	-
OBR-7	serviceStartTime	Required	-
OBR-8	serviceStopTime	Required	-
OBR-31	eventCodes	Optional	-
TXA-2-1	typeCode.value	Required	-
TXA-2-2	typeCode.displayName.value	Required	-
TXA-2-2	classCode.displayName	Required	-
TXA-2-3	classCode.codingScheme	Required	-
TXA-2-3	typeCode.codingScheme	Required	-
TXA-3-1	contentType	Required	-
TXA-3-2	formatCode.value	Required	-
TXA-3-3	formatCode.displayName	Required	-
TXA-3-4	formatCode.codingScheme	Required	-
TXA-6	creationTime	Required	-

Table 68: Mapping from HL7 MDM message to XDS Data - DocumentMetadata.





Table 68: Mapping from HL7 MDM message to XDS Data - DocumentMetadata. 

HL7-Path	Name	Repeatable	Presence
TXA-9-2	author.lastName	Required	-
TXA-9-3	author.firstName	Required	-
TXA-10-2	legalAuthenticator.lastName	Required	-
TXA-10-3	legalAuthenticator.firstName	Required	-
TXA-16	title	Required	-
TXA-18	confidentialityCodes[0].value	Required	-
TXA-18-2	confidentialityCodes[0].coding	Required	-
TXA-19	availabilityStatus	Required	-
ZRI-1	set-id.uniqueId	Optional	-
ZRI-2	cx.referenceId	Optional	-
ZRI-3	cwe.identifierTypeCode	Presence	-

**Table Legend:** R/O = Required/Optional, R = Required, O = Optional, RO = Required if known, Rep# = Repetition, R\* = Required only in MDM messages, Y = entry can be taken from the list, N = Individual Values, Number = Maximum length of the list

OBX-2

Document submission type: This represents how the document is submitted. In this case the value must be set to ED (Embedded Document) to signalize that the binary content can be found in OBX-5.

OBX-5

Binary Content: The binary content Base64 encoded.

Table 69: Mapping from HL7 MDM message to XDS Data - Document.

HL7-Path	Name	Repeatable	Presence
OBX-2	Document submission type	Required	-
OBX-5	Binary Content	Required	-

**Example 74: Submitting Documents**

```
MSH|^~\&|SendingApplicationName^1.2.3.4.5^ISO|SendingFacilityName^1.1.1.2.98^ISO||^1.1.1.1^
ISO||MDM^T02|||||
EVN||||^UserFamilyName^UserGivenName
PID|||1231451^^^NATIONAL SOCIAL SECURITY ASSOCIATION&2.1.414.1.4.14&ISO^SS~pat1125^^^
LocalAssigningAuthority&1.2.3.4.6&ISO||PatientFamilyName^PatientGivenName
||20110706094842|M||Address^^City^^Postal Code
PV1||^^^SendingFacilityName&1.2.3.4.6&ISO^^^Department&SubDepartment^^^419192003&Internal
Medicine&SNOMED_CT|||||ETU^Trauma Unit^2.16.840.1.113883.5.11
OBR|||||20110706094842|20110706094842|||||ABC1^DEF^1.3.4.2|Counseling^
Konsil^eHealth_contentTypeCodes|ABC3^DEF^1.3.4.2
TXA||11490-0^Discharge Letter^LOINC|application/pdf^ScanPDF/IHE 1.x^ScanPDF/IHE 1.x^
eHealth_formatCodes|||20110706094842||^AuthorFamilyName^AuthorGivenName|^
LegalAuthenticatorFamilyName^LegalAuthenticatorGivenName||docID1309938522620|||HL7v2
TestDocument||N^2.16.840.1.113883.5.25|F
OBX|1|ED|^DOCBLOCK|0|
JVBERi0xLjQKJc0kw7zDts0fCjIgmCBVYmoKPDwvTGvUz3RoIDMgMCBSL0ZpbHRlcj9GbGF0ZURlY29kZT4+
CnN0cmVhbQp4n0Uby40kufHeX5HnAdcpJSUCYuhqqvL+Nj2gD9g7V1jpm1mL/v71jJDocgIRVX32GYnyzAzSK1
...i0kLuI|||||F|
OBX|2|ED|^DOCBLOCK|1|bpJEw+
Mfu5XSQYsU7VByhF1eDumARDRBk1JkG1wuDN1a9nY7pDTpxIKmGMHg31bSacSM7fJg6K+//u0xmHT+bw5o1+
h4Kds2Q8RK2VYPe+lyp3MSyS+JrhdwRfuFXkVAR4hjonREzBEdbz3CREdJZ2niLu5UMv/dKRRVILZSOBK....+
```

```

A75Tv|||||F|
OBX|3|ED|^DOCBLOCK|2|tE/hm2CElItbsmHJySwssAQvaQn6atqrN1Qz1fcvJid+YEyZI/
t6HDmHfNH7SeIVUToQKCykidLaiNCOD30oS1mY979lavhhZjtlWmmOZEoE+wi35r8VmJVyDl5B3WaM/
ncLI7WApXI05h/wzf3iizLzjX1nP/KDP/CX5/qnsX...VPRgo=|||||F|
ZRI|1|1.3.6.1.4.101^^^&1.2.3.4&ISO|urn:sense:2016:studyInstanceUID
ZRI|2|1.2.7.8.1.1^^^&1.2.7.3.2&ISO|urn:ihe:iti:xds:2013:accession
ZRI|3|1.2.7.8.1.2^^^&1.2.7.3.2&ISO|urn:ihe:iti:xds:2013:accession

```

## 4.2 Append Document

### 4.2.1 Append Document -- HL7v2

The following HL7 message can be received and processed in order to append a document:

➤ **MDM T06** – Append Document.

The submission of an addendum document creates a linkage between an existing document and the addendum document. The append relationship leaves the original document with its availabilityStatus unchanged (Approved).



#### Note

An appended document might be any document that is associated with the initial document but differs in content.

#### 4.2.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Append Document**.

**Table 70:** Append Document Segments

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be <b>MDM</b>
MSH-9-2	The TriggerEvent must be <b>T06</b>
EVN	Event Information
PID	Patient Information
PV1	Case Information
OBR	Observation Information
TXA	Document Header
OBX	Document

#### 4.2.1.2 Field Overview

The message syntax does not differ from the syntax of submitting a document (see [Table 66](#), [Table 67](#), [Table 68](#), [Table 69](#)), but one exception: Within the document metadata the document ID of the initial document (which gets the addendum) must be set as shown in [Table 71](#).

## TXA-13

document.parentDocumentID: Document ID of the Parent document.

**Table 71:** Mapping from HL7 MDM message to XDS Data for Document Addendum.

HL7-Path	Name	Repeatable	Presence
TXA-13	document.parentDocumentID	Required	-

### Example 75:

```
MSH|^~\&|SendingApplicationName^1.2.3.4.5^ISO|SendingFacilityName^1.1.1.2.98^ISO||^1.1.1.1^
ISO|||MDM^T06|||||
EVN||||^UserFamilyName^UserGivenName
PID|||1231451^^^NATIONAL SOCIAL SECURITY ASSOCIATION&2.1.414.1.4.14&ISO^SS~pat1125^^^
LocalAssigningAuthority&1.2.3.4.6&ISO||PatientFamilyName^PatientGivenName
||20110706094842|M||Address^^City^^Postal Code
PV1||^1.1.1.2.98^SendingFacilityName&1.2.3.4.6&ISO^^^&Department&SubDepartment^^^419192003&Internal
Medicine&SNOMED_CT|||||ETU^Trauma Unit^2.16.840.1.113883.5.11
OBR|||||20110706094842|20110706094842|||||ABC1^DEF^1.3.4.2|Counseling^
Konsil^eHealth_contentTypeCodes|ABC3^DEF^1.3.4.2
TXA||11490-0^Discharge Letter^LOINC|application/pdf^ScanPDF/IHE 1.x^ScanPDF/IHE 1.x^
eHealth_formatCodes|||20110706094842||^AuthorFamilyName^AuthorGivenName|^
LegalAuthenticatorFamilyName^LegalAuthenticatorGivenName|docID1309938522620|
parentDocID1309938522620||HL7v2 TestDocument||N^2.16.840.1.113883.5.25|F
OBX|1|ED|^DOCBLOCK|0|
JVBERi0xLjQkCj0kw7zDtsOfCjIgmCBvYmoKPDwvTGluZ3R0IDMgMCSL0ZpbHRlci9GbGF0ZUR1Y29kZT4+
CnN0cmVhbQp4n0Uby4okufHex5HnAdcqpJSUCYuhqVl+Nj2gD9g7V1jpm1mL/v71jJDocgIRVX32GYNyzAzSK1
...i0kluI|||||F|
OBX|2|ED|^DOCBLOCK|1|bpJEw+
Mfu5XSQYsU7VByhF1eDumARDRBk1JkG1wuDN1a9nY7pDtpxIKmGMHg31bSacSM7fJg6K+//u0xmHT+bw5o1+
h4Kds2Q8RK2VYPe+lyp3MsyS+JrhdwRfuFXkVAr4hjonREzBEdbz3CREdJZ2niLu5UMv/dKKRvILZSOBK...+
A75Tv|||||F|
OBX|3|ED|^DOCBLOCK|2|tE/hm2CElitbsmHJySwssAQvaQn6atqrN1Qz1fcvJid+YEyZI/
t6HDmHfNH7SeIVUtoQKCykidLaiNCOD30oS1mY979lavhhZjtlWmm0ZEoE+wi35r8VmJVyD15B3WaM/
ncLI7WApXI05h/wzf3iizLzjX1nP/KDP/CX5/qnsX...VPRgo=|||||F|
```

## 4.3 Transform Document

### 4.3.1 Transform Document -- HL7v2

The following HL7 message can be received and processed in order to transform a document:

➤ **MDM T08** – Transform Document.

The submission of a transformation document creates a linkage between an existing document and the transformation document. The transform relationship leaves the original document with its availability status unchanged (Approved).



#### Note

A transformation document might be a translation or different representation (PDF and plain-text) version of the initial document.

### 4.3.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Transform Document**.

**Table 72:** Transform Document Segments

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be <b>MDM</b>
MSH-9-2	The TriggerEvent must be <b>T08</b>
EVN	Event Information
PID	Patient Information
PV1	Case Information
OBR	Observation Information
TXA	Document Header
OBX	Document

### 4.3.1.2 Field Overview

The message syntax does not differ from the syntax of submitting a document (see [Table 66](#), [Table 67](#), [Table 68](#), [Table 69](#)), but one exception: The document ID of the initial document (which gets the transformation) must be set as shown in [Table 73](#).

#### TXA-13

document.parentDocumentID: Document ID of the Parent document.

**Table 73:** Mapping from HL7 MDM message to XDS Data for Document Transform.

HL7-Path	Name	Repeatable	Presence
TXA-13	document.parentDocumentID	Required	-

#### Example 76:

```
MSH|^~\&|SendingApplicationName^1.2.3.4.5^ISO|SendingFacilityName^1.1.1.2.98^ISO||^1.1.1.1^
ISO|||MDM^T08|||||
EVN||||^UserFamilyName^UserGivenName
PID|||1231451^^^NATIONAL SOCIAL SECURITY ASSOCIATION&2.1.414.1.4.14&ISO^SS~pat1125^^^
LocalAssigningAuthority&1.2.3.4.6&ISO||PatientFamilyName^PatientGivenName
||20110706094842|M||Address^^City^^Postal Code
PV1||^SendingFacilityName&1.2.3.4.6&ISO^^^Department&SubDepartment^^^419192003&Internal
Medicine&SNOMED_CT|||||ETU^Trauma Unit^2.16.840.1.113883.5.11
OBR|||||20110706094842|20110706094842|||||ABC1^DEF^1.3.4.2|Counseling^
Konsil^eHealth_contentTypeCodes|ABC3^DEF^1.3.4.2
TXA||11490-0^Discharge Letter^LOINC|application/pdf^ScanPDF/IHE 1.x^ScanPDF/IHE 1.x^
eHealth_formatCodes|||20110706094842||^AuthorFamilyName^AuthorGivenName|^
LegalAuthenticatorFamilyName^LegalAuthenticatorGivenName||docID1309938522620|
parentDocID1309938522620||HL7v2 TestDocument||N^2.16.840.1.113883.5.25|F
OBX|1|ED|^DOCBLOCK|0|
JVBERi0xLjQKJc0kw7zDtsOfCjIgmCBVYmoKPDwvTGvUz3RoIDMgMCBSL0ZpbHRlci9GbGF0ZURlY29kZT4+
CnN0cmVhbQp4n0Uby4okufHex5HnAdcqjSUCYuhqqvL+Nj2gD9g7V1jpm1mL/v71jJDocgIRVX32GYnyzAzSKL
...i0kluI||||F|
OBX|2|ED|^DOCBLOCK|1|bpJEw+
Mfu5XSQysU7VByhF1eDUmARDRBk1JkG1wuDN1a9nY7pDTpxIKmGMHg31bSacSM7fJg6K+//u0xmHT+bw5o1+
```

```

h4Kds2Q8RK2VYPe+1yp3MsyS+JrhdwRfuFXkVAr4hjonREzBEdbz3CREdJZ2niLu5UMv/dKKRViLZSOBK...+
A75Tv|||||F|
OBX|3|ED|^D0CBLOCK|2|tE/hm2CE1ItbsmHJySwssAQvaQn6atqrN1Qz1fcvJid+YEyZI/
t6HDmHfNH7SeIVUToQKCykidLaiNCOD30oS1mY979lavhhZjtlWwmm0ZEoE+wi35r8VmJVyD15B3WaM/
ncLI7WApXI05h/wzf3iizLzjX1nP/KDP/CX5/qnsX...VPRgo=|||||F|

```

## 4.4 Replace Document

### 4.4.1 Replace Document -- HL7v2

The following HL7 message can be received and processed in order to replace a document:

➤ **MDM T10** – Replace Document.

The submission of an replacement document creates a linkage between an existing document and the replacement document. The availabilityStatus of the initial document will be changed to “deprecated” and the newly created replacement document is set to “approved”.

#### 4.4.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Replace Document**.

**Table 74:** Replace Document Segments

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be <b>MDM</b>
MSH-9-2	The TriggerEvent must be <b>T10</b>
EVN	Event Information
PID	Patient Information
PV1	Case Information
OBR	Observation Information
TXA	Document Header
OBX	Document

#### 4.4.1.2 Field Overview

The message syntax does not differ from the syntax of submitting a document (see [Table 66](#), [Table 67](#), [Table 68](#), [Table 69](#)), but one exception: The document ID of the initial document (which gets the replacement) must be set as shown in [Table 75](#).

#### TXA-13

document.parentDocumentID: Document ID of the Parent document.

**Table 75:** Mapping from HL7 MDM message to XDS Data for Document Replacement.

HL7-Path	Name	Repeatable	Presence
TXA-13	document.parentDocumentID	Required	-

**Example 77:**

```
MSH|^~\&|SendingApplicationName^1.2.3.4.5^ISO|SendingFacilityName^1.1.1.2.98^ISO||^1.1.1.1^
ISO|||MDM^T10|||
EVN|||^UserFamilyName^UserGivenName
PID|||1231451^^^NATIONAL SOCIAL SECURITY ASSOCIATION&2.1.414.1.4.14&ISO^SS~pat1125^^^
LocalAssigningAuthority&1.2.3.4.6&ISO||PatientFamilyName^PatientGivenName
||20110706094842|M||Address^^City^^Postal Code
PV1||^SendingFacilityName&1.2.3.4.6&ISO^^^&Department&SubDepartment^^^419192003&Internal
Medicine&SNOMED_CT|||ETU^Trauma Unit^2.16.840.1.113883.5.11
OBR|||20110706094842|20110706094842|||ABC1^DEF^1.3.4.2|Counseling^
Konsil^eHealth_contentTypeCodes|ABC3^DEF^1.3.4.2
TXA||11490-0^Discharge Letter^LOINC|application/pdf^ScanPDF/IHE 1.x^ScanPDF/IHE 1.x^
eHealth_formatCodes||20110706094842||^AuthorFamilyName^AuthorGivenName|^
LegalAuthenticatorFamilyName^LegalAuthenticatorGivenName|docID1309938522620|
parentDocID1309938522620||HL7v2 TestDocument||N^2.16.840.1.113883.5.25|F
OBX|1|ED|^DOCBLOCK|0|
JVBERi0xLjQKJc0kw7zDtsOfCjIgmCBvYmoKPdWvTGVuZ3RoIDMgMCSL0ZpbHRlci9GbGF0ZURlY29kZT4+
CnN0cmVhbQp4n0Uby4okufHeX5HnAdcqJJSUCYuhqqvL+Nj2gD9g7V1jpm1mL/v71jJDocgIRVX32GYNyzAzSK1
...i0kluI|||F|
OBX|2|ED|^DOCBLOCK|1|bpJEw+
Mfu5XSQysU7VByhF1eDumARDRBk1JkG1wuDN1a9nY7pDTpxIKmGMHg31bSacSM7fJg6K+//u0xmHT+bw5o1+
h4Kds2Q8RK2VYPe+lyp3Mys+JrhdwRfuFXkVAr4hjonREzBEdbz3CREdJZ2niLu5UMv/dKKRvILZSOBK...+
A75Tv|||F|
OBX|3|ED|^DOCBLOCK|2|tE/hm2CE1ItbsmHJySwssAQvaQn6atqrN1Qz1fvcvJid+YEyZI/
t6HDmHfNH7SeIVUtoQKCykidLaiNCOD30oS1mY979lavhhZjtlWmm0ZEoE+wi35r8VmJVyD15B3WaM/
ncLI7WApXI05h/wzf3iizLzjX1nP/KDP/CX5/qnsX...VPRgo=|||F|
```

## 4.5 Deprecate Document

### 4.5.1 Deprecate Document -- HL7v2

The following HL7 message can be received and processed in order to deprecate a document:

➤ **MDM T11** – Deprecate Document.

This method is used to deprecate a document. The deprecated document is not removed from the infrastructure but set from the document status **approved** to **deprecated**.



**Note**

Setting a document to the status “deprecated” does still display the document in the default result set. Nevertheless, the document is clearly recognisable as “deprecated” since it is crossed out in the **Medical Records** application.

#### 4.5.1.1 Message Structure

This section provides an overview and description of the message structure of the transaction **Reprecate Document**.

**Table 76: Deprecate Document Segments**

Segment	Description
MSH	Message Header
MSH-9-1	The Message Type must be MDM
MSH-9-2	The TriggerEvent must be T11
EVN	Event Information
PID	Patient Information
PV1	Case Information
OBR	Observation Information
TXA	Document Header

#### 4.5.1.2 Field Overview

The message syntax differs only little from the syntax of submitting a document (see Table 66, Table 67, Table 68): it entirely misses the binary document itself (the OBX segment is missing).

#### Example 78:

```
MSH|^~\&|SendingApplicationName^1.2.3.4.5^ISO|SendingFacilityName^1.1.1.2.98^ISO||^1.1.1.1^
ISO|||MDM^T11|||
EVN|||^UserFamilyName^UserGivenName
PID|||1231451^^^NATIONAL SOCIAL SECURITY ASSOCIATION&2.1.414.1.4.14&ISO^SS~pat1125^^^
LocalAssigningAuthority&1.2.3.4.6&ISO||PatientFamilyName^PatientGivenName
||20110706094842|M||Address^^City^^Postal Code
PV1||^ ^^SendingFacilityName&1.2.3.4.6&ISO^^^&Department&SubDepartment^^^419192003&Internal
Medicine&SNOMED_CT|||ETU^Trauma Unit^2.16.840.1.113883.5.11
OBR|||20110706094842|20110706094842|||ABC1^DEF^1.3.4.2|Counseling^
Konsil^eHealth_contentTypeCodes|ABC3^DEF^1.3.4.2
TXA||11490-0^Discharge Letter^LOINC|application/pdf^ScanPDF/IHE 1.x^ScanPDF/IHE 1.x^
eHealth_formatCodes||20110706094842||^AuthorFamilyName^AuthorGivenName|^
LegalAuthenticatorFamilyName^LegalAuthenticatorGivenName|docID1309938522620||HL7v2
TestDocument|N^2.16.840.1.113883.5.25|F
```

# 5 Observations

eHealth Solutions offers an interface for the transmission of ORU messages on its DocumentProcessor. ORU messages are used to submit medical observations, in particular laboratory findings.

## 5.1 Unsolicited transmission of an observation message

### 5.1.1 HL7v2 Unsolicited transmission of an observation message

#### 5.1.1.1 Message Structure

The segments relevant for **ORU R01** messages are the following:

Table 77: ORU Message Segments Overview

Segment	Description
MSH	Message Header
PID	Patient Information
PV1	Patient Visit Information
OBR	Observation Request
OBX	Observations
NTE	Comments

#### Message Header

The HL7 MSH segment is present in all HL7 message types and defines the message's source, purpose, destination and certain syntax specifics like delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

#### PID Segment

The PID segment contains all relevant patient data.

#### PV1 Segment

The PV1 segment is used by Registration/ADT applications to communicate information on a patient visit-specific basis.

#### OBR Segment

The OBR segment contains information on the examination context.

#### OBX Segment

The OBX segment includes the observation data. It can be present multiple times as each occurrence represents one single finding.

#### NTE Segment

The NTE segment serves as a space for comments. When placed directly after the **OBR** segment, the textual description is relevant for all results of the message. NTE segments after an **OBX** segment only refer to the preceding OBX segment.

#### 5.1.1.2 Field Overview



- ⋮ OBR-4  
Universal Service Identifier:
- ⋮ OBR-7  
Observation Date: This is the time when the observation has taken place.
- ⋮ OBR-14  
Specimen Received Date/Time: This is the time when the sample has arrived in the laboratory.
- ⋮ OBR-32  
Principal Result Interpreter: This is the person responsible for the interpretation of the finding.
- ⋮ OBX-2  
Value Type: Indicates the data type transmitted in the segment, for instance a group header for further OBX segments (FT) or the actual values of a finding (CL)
- ⋮ OBX-3  
Observation Identifier: This is a code containing the IDs of the laboratory and the measured value, followed by a textual description of the value.
- ⋮ OBX-6  
Units: Indicates the unit of the measured value
- ⋮ OBX-11  
Observation Result Status: Indicates the status of the observation.

**Table 78:** Processable Observation Information in an ORU R01 Message.

HL7-Path	Name	Repeatable	Presence
OBR-4	Universal Service Identifier	Required	No
OBR-7	Observation Date	Optional	No
OBR-14	Specimen Received Date/Time	Optional	No
OBR-32	Principal Result Interpreter	Optional	No
OBX-2	Value Type	Required	No
OBX-3	Observation Identifier	Required	No
OBX-6	Value Type	Optional	No
OBX-11	Observation Result Status	Required	No

**Example 79:**

```
MSH|^~\&|PG-MLS|ZLAB|CLOVER|COMM|20180108081000|XRC|ORU^R01|Test1|P|2.2
PID|||2011810074||Einstein^Albert||19050910|M
PV1|||||012302|||||3007421698|||||LK
OBR||99741|08154711|1380137013012830|||20180108080500|||20180108080400|||||F
||012302||LAB_ZL_R||Peter Willi
OBX|1|FT|0|1|Harnanalytik
OBX|2|FT|0|2|HARNSTATUS (Harnstix, semiquantitativ)
OBX|3|CE|ZIMCL10205^Leukozyten(-esterase)^ZLAB^LEUKO_U|1|25|Zahl/u|0-10|H-8||N|F
OBX|4|CE|ZIMCL10081^Nitrit^ZLAB^NIT|1|negativ||N||F
OBX|5|CE|ZIMCL10106^pH^ZLAB^PH_U|1|6||5-7|~5||N|F
OBX|6|CE|ZIMCL10209^Protein^ZLAB^PROT_U|1|250|mg/l|0-120|H-8||N|F
OBX|7|CE|ZIMCL10210^Glukose^ZLAB^GLU_U|1|normal|mg/dl|6-20|N||N|F
OBX|8|CE|ZIMCL10207^Ketonkörper^ZLAB^KET|1|negativ|mg/dl|0-2|N||N|F
OBX|9|CE|ZIMCL10213^Urobilinogen^ZLAB^UBG|1|normal|mg/dl|0-1|N||N|F
OBX|10|CE|ZIMCL10212^Bilirubin^ZLAB^BILI_U|1|negativ|mg/dl|0-0|N||N|F
OBX|11|CE|ZIMCL10206^Erythrozyten/Hb^ZLAB^ERY_U|1|50|Zahl/u|0-5|H-8||N|F
OBX|12|CE|ZIMCL10211^Relative Dichte^ZLAB^SPEZ_G|1|1.015||1.005-1.030|~5||N|F
NTE||L|Die Ergebnisse des Harnstreifentests sind semi-quantitativ und entsprechen
```

NTE||L|überlappenden Wertebereichen. Ergebnisse, die im Referenzbereich liegen,  
NTE||L|werden zu 100% als "normal" oder "negativ" identifiziert. Ergebnisse, die  
NTE||L|zwischen dem oberen Referenzwert und der analytischen Sensitivität für den  
NTE||L|jeweiligen Analyten liegen, werden entweder im negativen (NEG, NORM) oder im  
NTE||L|untersten positiven Wertebereich detektiert. Das bedeutet, dass in diesem  
NTE||L|Graubereich in einem sehr geringen Ausmaß falsch negative Werte auftreten  
NTE||L|können. Oberhalb der analytischen Sensitivität liegende Ergebnisse werden zu  
NTE||L|> 90% als positiv identifiziert. Weitere Details, analytische Sensitivitäten  
NTE||L|sowie Störfaktoren des Streifentests entnehmen Sie bitte unserer Homepage  
NTE||L|unter <http://zimcl.tirol-kliniken.at>. Zur Umrechnung von uL-->  
NTE||L|HPF bzw. LPF empfehlen  
NTE||L|wir die folgenden Näherungsformeln: Zahl pro  $\mu\text{l}/5.555 = \text{Zahl pro HPF}$ ; Zahl  
NTE||L|pro  $\mu\text{l} \times 2.9 = \text{Zahl pro LPF}$

# 6 User-defined Tables

## 6.1 MDM Tables

### 6.1.1 Reference ID Type Codes

- ⋮ `urn:ihe:iti:xds:2013:uniqueId`  
Unique ID
- ⋮ `urn:ihe:iti:xds:2013:accession`  
Accession Number
- ⋮ `urn:ihe:iti:xds:2013:referral`  
Referral Number
- ⋮ `urn:ihe:iti:xds:2013:order`  
Order Number
- ⋮ `urn:ihe:iti:xdw:2013:workflowId`  
XDW Workflow ID
- ⋮ `urn:sense:2015:caseId`  
Visit Number/Case ID
- ⋮ `urn:sense:2016:studyInstanceUID`  
DICOM Study Instance UID

**Table 79:** Reference ID type codes in MDM tables

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