

Technical HL7 Conformance Profile

ENTERPRISE IMAGING

INBOUND ADT_A04

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Corporate address:

AGFA HealthCare

SIV Connectivity

Septestraat 27

2640 Mortsel

Belgium

+32 3 444 7588

<https://www.agfahealthcare.com/>

email : connectivity@agfa.com

Message Profile

About this Conformance

Remarks:

Segments present in the message structure, but marked as -not supported- are allowed to be present in the message, but are not processed. The same counts for fields, components, subcomponents marked as not supported.

Conformance parameters

Message Profile

- HL7 Version: 2.3, 2.3.1, 2.4, 2.5
- Profile Type: Constrainable

Encoding Method

ER7

Interaction 1

Dynamic Definition

- Accept Acknowledgement: NE
- Application Acknowledgement: AL
- Acknowledgement Mode: Deferred

Static Definition

- Event Description: ADT/ACK - Register a patient
- Message Type: ADT
- Trigger Event: A04
- Message Structure: ADT_A01

Message structure

MSH EVN PID [PD1] [PV1] {[OBX]} {[AL1]}

MSH - Message Header

- Usage: Required
- Cardinality:1..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Field Separator	R	1..1	ST		
2	Encoding Characters	R	1..1	ST		
3	Sending Application	O	0..1	HD	HL70361	
3.1	namespace ID	R	1..1	IS	HL70363	
4	Sending Facility	O	0..1	HD	HL70362	
4.1	namespace ID	R	1..1	IS	HL70363	
5	Receiving Application	O	0..1	HD	HL70361	
5.1	namespace ID	R	1..1	IS	HL70363	
6	Receiving Facility	O	0..1	HD	HL70362	
6.1	namespace ID	R	1..1	IS	HL70363	
7	Date/Time Of Message	O	0..1	TS		
7.1	Date/Time	R	1..1	NM		
9	Message Type	R	1..1	CM_MSC	HL70076	
9.1	message type	R	1..1	ID	HL70076	e.g. ADT
9.2	trigger event	R	1..1	ID	HL70003	e.g. A04
9.3	message structure	O	0..	ID	HL70354	e.g. ADT_A01
10	Message Control ID	R	1..1	ST		
11	Processing ID	O	0..1	PT		
11.1	processing ID	R	1..1	ID	HL70103	
12	Version ID	R	1..1	VID	HL70104	
12.1	version ID	R	1..1	ID	HL70104	e.g. 2.4
18	Character Set	O	0..1	ID	HL70211	

1. Field Separator**2. Encoding Characters****3. Sending Application****4. Sending Facility****5. Receiving Application****6. Receiving Facility****7. Date/Time Of Message****7.1. Date/Time**

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present, it is taken into account for all date/time fields in the message.

If timezone information is present also in other datetime fields, it overrules the timezone information in this field.

9. Message Type**10. Message Control ID****11. Processing ID****12. Version ID**

Supported versions: 2.3 - 2.3.1 - 2.4 - 2.5.

18. Character Set**EVN - Event Type**

- Usage: Required

- Cardinality:1..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
2	Recorded Date/Time	R	1..1	TS		
2.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600

2. Recorded Date/Time**2.1. Date/Time**

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

PID - Patient identification

- Usage: Required
- Cardinality:1..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
3	Patient Identifier List	R	1..*	CX		
3.1	ID	R	1..1	ST		
3.4	assigning authority	O	0..	HD		
3.4.1	namespace ID	R	1..1	IS	HL70363	
3.4.2	universal ID	O	0..	ST		
3.4.3	universal ID type	O	0..	ID	HL70301	
3.5	identifier type code (ID)	O	0..	ID	HL70203	
5	Patient Name	R	1..*	XPN		
5.1	family name	R	1..1	FN		
5.1.1	surname	R	1..1	ST		
5.1.2	own surname prefix	O	0..	ST		
5.1.3	own surname	O	0..	ST		
5.2	given name	O	0..	ST		
5.3	second and further given names or initials thereof	O	0..	ST		
5.4	suffix (e.g., JR or III)	O	0..	ST		
5.5	prefix (e.g., DR)	O	0..	ST		
5.7	name type code	O	0..	ID	HL70200	
5.8	Name Representation code	O	0..	ID	HL70465	
7	Date/Time Of Birth	O	0..1	TS		
7.1	Date/Time	R	1..1	NM		
8	Administrative Sex	O	0..1	IS	HL70001	
11	Patient Address	O	0..*	XAD		
11.1	street address (SAD)	O	0..	SAD		
11.1.1	street or mailing address	O	0..	ST		
11.1.2	street name	O	0..	ST		
11.1.3	dwelling number	O	0..	ST		
11.2	other designation	O	0..	ST		
11.3	city	O	0..	ST		
11.4	state or province	O	0..	ST		
11.5	zip or postal code	O	0..	ST		
11.6	country	O	0..	ID	HL70399	
11.7	address type	O	0..	ID	HL70190	
11.8	other geographic designation	O	0..	ST		
11.9	county/parish code	O	0..	IS	HL70289	

Seq.	Name	Opt.	Card.	Type	Table	Contents
13	Phone Number - Home	O	0..1	XTN		
13.1	Telephone Number	O	0..	TN		
13.2	telecommunication use code	R	1..1	ID	HL70201	
13.3	telecommunication equipment type (ID)	R	1..1	ID	HL70202	
13.4	Email address	O	0..	ST		
14	Phone Number - Business	O	0..1	XTN		
14.1	Telephone Number	O	0..	TN		
14.2	telecommunication use code	R	1..1	ID	HL70201	
14.3	telecommunication equipment type (ID)	R	1..1	ID	HL70202	
14.4	Email address	O	0..	ST		
19	SSN Number - Patient	O	0..1	ST		
23	Birth Place	O	0..1	ST		
29	Patient Death Date and Time	C	0..1	TS		
29.1	Date/Time	R	1..1	NM		
30	Patient Death Indicator	O	0..1	ID	HL70136	

3. Patient Identifier List

3.1. ID

Identification number or code for the patient.

3.4. assigning authority

The "Assigning authority" aka "Issuer of Patient ID" can consist of the following three parts:

- Namespace ID // Issuer of Patient ID
- Universal ID // Universal Entity ID
- Universal ID Type // Universal Entity ID Type

Namespace ID, or combination of Universal ID and Universal ID Type, unique define the issuer. Either only Namespace is specified, or only Universal ID and Universal ID Type are specified, or all three components are specified.

The combination of "Namespace ID" - "Universal ID" - "Universal ID Type" must be unique in EI! Though the component is not required, it is strongly advised to provide a value.

3.4.1. namespace ID

Identifier of the Assigning Authority that issued the patient id.

If not available a unique internal assigning authority will be used

3.4.2. universal ID

Universal Entity ID.

This ID must be unique in EI and must be in the correct format, i.e. containing only digits and dots.

3.4.3. universal ID type

Universal Entity ID Type.

Only supported value :

-ISO

3.5. identifier type code (ID)

Supported values:

- PI = Patient Primary Identifier,

- SS = Social Security number

* If empty: PI will be used by default

5. Patient Name**5.1. family name**

When representation code = alphabetic or Name type code indicates maiden name is specified following rule applies:

if Surname (PID.5.1.1) is empty, Own Surname Prefix (PID.5.1.2) and Own Surname (PID.5.1.3) are concatenated as last name.

5.1.1. surname

Patient's lastname

5.2. given name

Patient's firstname

5.3. second and further given names or initials thereof

Patient Middle Name

5.4. suffix (e.g., JR or III)

Patient's suffix

5.5. prefix (e.g., DR)

Patient's prefix

5.7. name type code

M = maiden name, only support storing last name for maiden name.

5.8. Name Representation code

Supported are :

- A = Alphabetic

- I = Ideographic

- P = Phonetic

7. Date/Time Of Birth

7.1. Date/Time

YYYYMMDD[HH[MM[SS]]]

8. Administrative Sex

11. Patient Address

11.1. street address (SAD)

This component specifies the street or mailing address of a person or institution.

11.1.1. street or mailing address

communication_channel.Street (if PID-11.1.2 is empty)

11.1.2. street name

communication_channel.Street

11.1.3. dwelling number

communication_channel.Streetnr

11.2. other designation

communication_channel.Address_Line1

11.3. city

municipality.name (if empty: Unknown is used)

11.4. state or province

communication_channel.Address_Line3

11.5. zip or postal code

municipality.zip (if empty: code UKW is used - mapping to name = Unknown)

11.6. country

communication_channel.country (3-digit code, if empty: code UKW - mapping to name = Unknown)

11.7. address type

communication_channel.communication_type (H - for home address / O - for office address / L maps to O / other codes map to H)

11.8. other geographic designation

communication_channel.Address_Line2

11.9. county/parish code

communication_channel.Address_Line4

13. Phone Number - Home

Segment is used for all home communication.

First one is the primary home communication channel

13.1. Telephone Number

In case of telephone number/fax number/cellular number, the phone number is put in this field
[(999)] 999-9999 [X99999][C any text]

13.2. telecommunication use code

Required. If this is empty the communication cannot be registered.

Supported are:

- Primary Residence Number (PRN)
- Work Number (WPN)
- Network (email) Address (NET)

13.3. telecommunication equipment type (ID)

Required. If this is empty the communication cannot be registered.

Supported are:

- Telephone (PH)
- Fax (FX)
- Cellular Phone (CP)
- Internet Address (Internet)

13.4. Email address

In case of Network Email Address, this needs to be filled in.

14. Phone Number - Business

Segment is used for all business communication.

First one is the primary home business channel

14.1. Telephone Number

In case of telephone number/fax number/cellular number, the phone number is put in this field
[(999)] 999-9999 [X99999][C any text]

14.2. telecommunication use code

Required. If this is empty the communication cannot be registered.

Supported are:

- Primary Residence Number (PRN)
- Work Number (WPN)
- Other Residence Number (ORN)
- Network (email) Address (NET)

14.3. telecommunication equipment type (ID)

Required. If this is empty the communication cannot be registered.

Supported are:

- Telephone (PH)

- Fax (FX)
- Cellular Phone(CP)
- Internet Address (Internet)

14.4. Email address

In case of Network Email Address, this needs to be filled in.

19. SSN Number - Patient

Social security number of the patient.

23. Birth Place

29. Patient Death Date and Time

Condition Predicate:

If Patient Death Indicator (PID.30) has value Y, this field also needs a value.

29.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

30. Patient Death Indicator

Y or N

PD1 - Patient Additional Demographic

- Usage: Optional
- Cardinality:0..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
4	Patient Primary Care Provider Name & ID No.	O	0..1	XCN		
4.1	ID number (ST)	R	1..1	ST		
4.2	family name	O	0..	FN		
4.2.1	surname	O	0..	ST		
4.3	given name	O	0..	ST		
4.9	assigning authority	O	0..	HD		
4.9.1	namespace ID	R	1..1	IS	HL70363	

4. Patient Primary Care Provider Name & ID No.

4.1. ID number (ST)

Primary Care Physician code.

4.2. family name

Physician Family Name

4.3. given name

Physician Given Name

4.9. assigning authority

Assigning Authority of physician code.

4.9.1. namespace ID

Identifier of the Assigning Authority that issued the physicians code. If empty, the default assigning authority will be taken.

PV1 - Patient visit

- Usage: Optional

- Cardinality:0..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Set ID - PV1	O	0..1	SI		
2	Patient Class	R	1..1	IS	HL70004	
3	Assigned Patient Location	O	0..1	PL		
3.1	point of care	O	0..	IS	HL70302	
3.2	room	O	0..	IS	HL70303	
3.3	bed	O	0..	IS	HL70304	
3.4	facility (HD)	O	0..	HD		
3.4.1	namespace ID	R	1..1	IS	HL70300	
3.11	assigning authority for location	O	0..	HD		
3.11.1	namespace ID	R	1..1	IS	HL70300	
4	Admission Type	O	0..1	IS	HL70007	
7	Attending Doctor	O	0..*	XCN	HL70010	
7.1	ID number (ST)	R	1..1	ST		
7.2	family name	O	0..	FN		
7.2.1	surname	O	0..	ST		
7.3	given name	O	0..	ST		
7.4	second and further given names or initials thereof	O	0..	ST		
7.5	suffix (e.g., JR or III)	O	0..	ST		
7.6	prefix (e.g., DR)	O	0..	ST		
7.9	assigning authority	O	0..	HD		
7.9.1	namespace ID	R	1..1	IS	HL70363	
8	Referring Doctor	O	0..*	XCN	HL70010	
8.1	ID number (ST)	R	1..1	ST		
8.2	family name	O	0..	FN		
8.2.1	surname	O	0..	ST		

Seq.	Name	Opt.	Card.	Type	Table	Contents
8.3	given name	O	0..	ST		
8.4	second and further given names or initials thereof	O	0..	ST		
8.5	suffix (e.g., JR or III)	O	0..	ST		
8.6	prefix (e.g., DR)	O	0..	ST		
8.9	assigning authority	O	0..	HD		
8.9.1	namespace ID	R	1..1	IS	HL70363	
15	Ambulatory Status	O	0..*	IS	HL70009	
16	VIP Indicator	O	0..1	IS	HL70099	
17	Admitting Doctor	O	0..*	XCN	HL70010	
17.1	ID number (ST)	R	1..1	ST		
17.2	family name	O	0..	FN		
17.2.1	surname	O	0..	ST		
17.3	given name	O	0..	ST		
17.4	second and further given names or initials thereof	O	0..	ST		
17.5	suffix (e.g., JR or III)	O	0..	ST		
17.6	prefix (e.g., DR)	O	0..	ST		
17.9	assigning authority	O	0..	HD		
17.9.1	namespace ID	R	1..1	IS	HL70363	
18	Patient Type	O	0..1	IS	HL70018	
19	Visit Number	R	1..1	CX		
19.1	ID	R	1..1	ST		
19.4	assigning authority	O	0..	HD		
19.4.1	namespace ID	R	1..1	IS	HL70363	
44	Admit Date/Time	O	0..1	TS		
44.1	Date/Time	R	1..1	NM		
45	Discharge Date/Time	O	0..*	TS		
45.1	Date/Time	R	1..1	NM		

1. Set ID - PV1

2. Patient Class

Patient Class

3.1. point of care

Patient

3.2. room

Room in the department

3.3. bed

Bed in the room

3.4. facility (HD)

Location facility.

3.4.1. namespace ID

Patients location facility code. When an unexisting facility code is used, the facility will be autocreated.

3.11. assigning authority for location

Assigning authority of the location.

3.11.1. namespace ID

Identifier of the Assigning Authority that issued the department/facility code.
If empty, the default assigning authority will be taken.

4. Admission Type

Type of admission, the circumstances under which the patient was or will be admitted.

7. Attending Doctor

Attending physician information.

7.1. ID number (ST)

physician identifier.

7.2.1. surname

Family name of the physician.

7.3. given name

Given name of the physician.

7.4. second and further given names or initials thereof

Middle name of the physician.

7.5. suffix (e.g., JR or III)

Name suffix, like SR

7.6. prefix (e.g., DR)

Name prefix, like Prof

7.9. assigning authority

Assigning Authority of attending physician code.

7.9.1. namespace ID

Identifier of the Assigning Authority that issued the attending physician code. If empty, the default assigning authority will be taken.

8. Referring Doctor

Referring physician information (see detailed component description in PV1-7)

8.9. assigning authority

Assigning Authority of referring physician code.

8.9.1. namespace ID

Identifier of the Assigning Authority that issued the referring physician code. If empty, the default assigning authority will be taken.

15. Ambulatory Status

Code indicating any permanent or transient handicapped conditions.

16. VIP Indicator

This field identifies the type of VIP.

- 1 set VIP or personnel as yes
- 0 set as no

17. Admitting Doctor

Admitting physician information (see detailed component description in PV1-7)

17.9. assigning authority

Assigning Authority of admitting physician code.

17.9.1. namespace ID

Identifier of the Assigning Authority that issued the admitting physician code. If empty, the default assigning authority will be taken.

18. Patient Type

Site-specific values that identify the patient type.

19. Visit Number**19.1. ID**

Unique number identifying the admission.

19.4.1. namespace ID

Identifier of the Assigning Authority that issued the admission number.
If empty, the default assigning authority will be taken.

44. Admit Date/Time

When no admit date/time is present in the message, a fallback is done to EVN-2.

44.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

45. Discharge Date/Time

45.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

OBX - Observation/Result

- Usage: Optional

- Cardinality:0..*

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Set ID - OBX	O	0..1	SI		
2	Value Type	R	1..1	ID	HL70125	
3	Observation Identifier	R	1..1	CE		
3.1	identifier	R	1..1	ST		
4	Observation Sub-Id	C	0..1	ST		
5	Observation Value	R	1..1	*		
13	User Defined Access Checks	O	0..*	ST		
14	Date/Time of the Observation	O	0..1	TS		
14.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
16	Responsible Observer	O	0..*	XCN		
16.1	ID number (ST)	R	1..1	ST		
16.2	family name	O	0..	FN		
16.2.1	surname	O	0..	ST		
16.3	given name	O	0..	ST		
16.9	assigning authority	R	1..1	HD		
16.9.1	namespace ID	R	1..1	IS	HL70363	

1. Set ID - OBX

2. Value Type

Supported values:

- TX (For Single value- or Message board 'Text' Attachment, 'Keyword' Attachment or 'Pregnancy information')
- FT (For Single value- or Message board 'Text' Attachment, 'Keyword' Attachment)

3. Observation Identifier

3.1. identifier

(1) OBX segment holding Attachment information: Value of this field must correspond with a 'Patient level'-attachment code as defined in the Administrator desktop.

Remark :

If the attachment code is not setup as a 'Patient level'-attachment in the Administrator Desktop, the attachment will not be processed.

Handling of multiple attachments with the same attachment code OBX-3.1:

- Single value 'Text' attachment: Concatenate the multiple texts with newline separation.
- Message board 'Text' attachment: Each attachment gets added as a separate message board item.
- 'Keyword' Attachment: When the attachment is setup as a single-select keyword category, these attachments are considered as 'not processable'. When the attachment is setup as a multi-select keyword category, each keyword is properly added to the list of keywords for that attachment.

(2) OBX segment holding 'Pregnancy information': The value PREGNANT indicates that OBX-5 holds pregnancy information.

4. Observation Sub-Id

5. Observation Value

(1) OBX segment holding Attachment information:

- For Single value- or Message board 'Text' Attachment: plain text
- For 'Keyword' Attachment: Text that matches a pre-configured keyword value for the corresponding keyword attachment code OBX-3.1 If the value doesn't exist, a new keyword value is created and set inactive and searchable.

Remarks:

An attachment can be deleted when the content of OBX-5 contains two double quotes (“”), except for message board 'Text' attachments where only the HL7-created ones will be deleted.

If the 'Text' attachments contain the formatting command .br surrounded by the escape character specified in the HL7 message, a new line (carriage return + line feed) must replace that string when this data is being updated or inserted.

(2) OBX segment holding Pregnancy information: YES/NO/UNKNOWN

13. User Defined Access Checks

Used to mark the message board text attachment as 'public' (PUB) or 'private' (PRV) (optional).

Supported values:

- PUB
- PRV

When empty: PUB is assumed.

14. Date/Time of the Observation

The creation date (YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]) of the message board item or the date of the last menstrual period (YYYYMMDD)

14.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

For message board text attachments: Date/time of the creation of the message board item (format: YYYYMMDD[HH[MM[SS]]][+/-ZZZZ] (optional) When empty or contains an invalid date/time, the date/time value present in MSH-7 is used.

16. Responsible Observer

For message board text attachments:

The user that added the message board text attachment item (optional). When empty or the user is not known in EI, the 'System Administrator' user is used.

AL1 - Patient allergy information

- Usage: Optional

- Cardinality:0..*

Seq.	Name	Opt.	Card.	Type	Table	Contents
3	Allergen Code/Mnemonic/Description	R	1..1	CE		
3.1	identifier	R	1..1	ST		
4	Allergy Severity Code	O	0..1	CE	HL70128	
4.1	identifier	R	1..1	ST		
5	Allergy Reaction Code	O	0..*	ST		
6	Identification Date	O	0..1	DT		

3. Allergen Code/Mnemonic/Description

Allergy code, name

4. Allergy Severity Code

Severity code, supported values : SV - Severe, MO - Moderate, MI - Mild, U - Unknown.

5. Allergy Reaction Code

Reaction code

6. Identification Date

The start date when the allergy was identified. Format: YYYYMMDD