

UDC

Descriptors

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English Version
Health Informatics
Electronic Healthcare Record Communication - Messages for the exchange of information

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This document is a proposed First Working Document (FWD)

It was drafted by CEN/TC 251/PT29

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REVISION A - contains some minor correction

**Proposed for adoption as First Working Document
at CEN TC251/WGI meeting 19-21 October 1998
Changes agreed at that meeting will be made before
"Red Cover" distribution for wider comment.**

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Please note that comments received up to 27 September have
been taken into account (published deadline was 15 September)

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Notes on the actions taken and outstanding issues are
indicated in the disposition of comments already circulated.

CEN

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European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung
Central Secretariat: Rue de Stassart 36, B-1050 Brussels, Belgium

DRAFT FIRST WORKING DOCUMENT FOREWORD

- 5 This proposed FIRST WORKING DOCUMENT has been prepared under the direction of the European Committee for Standardisation (CEN) and is being submitted for comment by members of CEN/TC 251 WI "Medical Informatics - Models and Communication" and other interested parties.

The preparation of this European Prestandard is being undertaken by Project Team 29 of CEN TC251 supported by the European Commission and European Free Trade Association under voucher BC/CEN.97/23.1.1.

- 10 This draft is being submitted to CEN TC251 WGI for approval as a First Working Document (FWD), at its meeting on 19-21 October 1998. It takes account of the corrections and agreed changes identified in the disposition of comments circulated earlier. If this document is accepted as an FWD, the Project Team will make further agreed modifications and will then submit the document for wider comment under the "Red Cover" procedure of CEN TC251. The agreed modifications will be limited to changes based on agreement on issues noted in the disposition of
- 15 comments on the Second Interim Report (INR2). Unless otherwise decided by resolution of CEN TC251 WGI such agreement will be determined in accordance with the "status" indicated in the disposition of comments by:

- the Working Group itself (status "W");
- liaison with the other relevant CEN TC51 WG I Project Teams (status indicators "M", "26", "27" or "28");
- by further discussion in the Project Team (status indicator "T").

- 20 The version of the document that is circulated for wider comment under the "Red Cover" procedure will clearly identify in its forward any issues in the disposition of comments that have yet to be resolved in the manner indicated.

- Please note that, in accordance with the agreement at the May meeting of CEN TC251 WGI, it is assumed that the majority of Working Group members have aired their views on all the core issues during the INR2 commenting period. The comment period later this year is intended as a forum for wider comment on a document which by then
- 25 should have achieved a good measure of consensus within the Working Group.

The document includes extensive hypertext links (particularly in Clause 6). These are intended to aid review of the complex inter-relations between various elements of information. These links are currently only supported in the Word 97 version. To avoid distortion of the printed copy, the usual underlines associated with hyperlinks have been removed from this version. Links can be accessed from blue italic text and from visible cross-references in the text.

30 **REVISION A**

This contains some corrections from the draft FWD document released on 1998-10-07.

Page 37: Corrected Figure 13 to show "structured coded element".

Page 38: Corrected heading numbering (affects "Reject request for EHCR message" 6.11.? become 6.12.?)

Page 40: Corrected heading numbering (affects "Accept EHCR message" 6.12.? become 6.13.?)

- 35 Page 73: data item element type value list corrected.

Page 77-78: 7.8.14 Plain text block now has data type "string" rather than "text blocks with heading". This removes confusion as any heading information is expected to appear in the "component name" of the "item" or its containing "complex".

- 40 Page 84: 7.10.3 EHCR component revision link reference type has been removed as this is not relevant since the link always points to the preceding version as now defined.

Various references to B.1.1 corrected to B.1.2 and B.1.3 according to context.

CHANGE NOTES

These notes briefly outline the more significant changes. Most of the changes are in direct response to formal comments or liaison discussions with other project teams. Typographical and other presentation corrections have been made as documented in the disposition of comments. Various other changes are also documented in the disposition of comments. A fuller change notice will be issued with the next release.

Various naming changes in line with the EHCR Extended Architecture proposals agreed in liaison with CEN TC251 PT26:

1. The class “EHCR root” has been renamed as “EHCR extract” to denote the fact that it may not be the entire EHCR.
2. “EHCR component” becomes “EHCR message component” (indicates that this is a variant of the “EHCR architecture component” class modified to meet the needs of a messaging environment).
3. “original record item complex” becomes “original component complex” (denoting the fact that it can contain other complexes – i.e. it is not restricted to containing items).
4. “view record item complex” becomes “selected component complex” (denoting the fact that it contains or forms a focus for links from a selected set of components – these may represent a view of the record).
5. “Record item” becomes “item” with three variants “data item”, “link item” (based on the “Link RIE” from the previous version), “comment item” (this is new and comes from the EHCR Architecture work).
6. “Record item element” becomes “data item element” shortened to “element” when used to refer to particular types of element.

Further convergence with CEN TC251 PT28 EHCR Distribution rules

7. Addition of a class to convey “distribution rules” as well as the existing facility for references to distribution rules. Note that to avoid inconsistencies the “distribution rules” class is not defined in this document but refers to the formal definition in the CEN TC251 PT28 draft.
8. The “demographic details element” and healthcare “administrative element” have been split into several separate smaller elements for “name”, “address”, etc.

Further convergence with CEN TC251 PT31 Prescription messages

9. “Medication element” now incorporates structured drug identification and dosage instructions based on the current draft proposals from CEN TC251 PT29.

Alignment with various messaging teams

10. Further proposals for more effective modelling of healthcare parties. Incorporation of proposals agreed with other PTs (PT31 and PT33) on options for either or both of the following approaches:

a) References to healthcare parties without conveying additional information for each such instance. Appropriate in messages (such as the EHCR message) that potentially include many such references.

b) Inclusion of full instantiations of healthcare parties as used. Appropriate in messages (such as the prescription message) that usually contain only two or three instances of healthcare parties.

Provision for references to indicate relationships between healthcare parties whether these are continuing or related only to a particular event or procedure. These reference are usable whether approach a) or b) is taken.

11. Further refinements to attribute table formats in line with changes made or suggested by other messaging PTs.

PT29 specific changes

12. “Specification of EHCR information” has been changed from a sub-class into a full class represented in the domain model. It now includes a text attribute to allow a note of any relevant
13. Addition of “related dates” to components. These allow various dates and times to be related to or included within a particular component.
14. Clearer explanation of EHCR intermediary roles at the end of Clause 4.
15. Other changes as documented in the comment disposition.

Commenting on this document

The Project Team welcome comments on all aspects of this document.

HOWEVER please note that this document will be superseded following the October meeting by a document for wider circulation. There will be no detailed disposition of comments on this draft. Therefore it is suggested that any comments on this document should be restricted to discussion of issues noted in the disposition of comments on INR2.

Comments on this document should be sent to the Project Team leader:

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Comments may be sent in any format, but comments in electronic form as a plain text E-mail or in Microsoft Word (any version) are preferred. Comments in electronic form may be sent attached to e-mail or on diskette.

Please include the following information with your comments:

Title: "Comments on CEN TC251/PT29 - Draft FWD"

State your name, address, phone number, fax number and e-mail for response and possible clarification.

State whether the comments represent the view of a named organisation or a personal view.

Classify each comment as one of the following categories:

MAJOR	Serious disagreement with the approach taken or the terms of this European Prestandard.
MINOR	Minor disagreement with the approach taken or the terms of this European Prestandard. This indicates something which one feels needs discussion.
SUGGEST	Suggestion for improvement, which does not arise from any disagreement with the approach.
QUERY	Uncertain of meaning or lack of clarity.
TYPO	Technical, grammatical or typographical errors.

Comments should be separated and numbered and preferably grouped by topic or clauses.

Comments must arrive by fax or email before 18:00 on 1998-10-15 or may be presented on paper or floppy disk in person to the PT leader at the start of the WGI meeting before 09:00 on 1998-10-19. Those intending to comment after this date should note that a new version will be produced for further commenting within two weeks of the WGI meeting.

The next version of this document for widespread circulation will be available in early November 1998. Interim updates and other related material may be available for viewing and/or downloading from the web; please check the following URL for the latest information:

www.clinical-info.co.uk

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INTRODUCTION

This European Prestandard provides a set of messages that enable the electronic transfer of healthcare record information between heterogeneous systems. These messages address the needs and capabilities of current healthcare record systems. They also take account of the more sophisticated requirements of future systems.

5 A combination of the following factors provide the motivation for this European Prestandard:

- Many hospitals, clinics and doctors now store the healthcare records or their patients in an electronic form.

Current electronic healthcare record systems are heterogeneous in nature. They store information in a variety of structures that differ in their levels of detail and sophistication. Some differences are idiosyncratic but others reflect variations in user requirements determined by organisational structures or clinical specialties.

- 10 • Timely availability of healthcare records is essential to the safe delivery of high quality healthcare.

Healthcare professionals need access to a patient's healthcare record to inform their decisions. If necessary information is not available, this leads to errors, delays or repetition of procedures. The end results of missing information include health risks, inconvenience for the patient and expense for the service provider.

- During their lifetime patients are cared for by more than one healthcare professional.

- 15 Patients may see a different healthcare profession when they move home, travel or require care out of the normal working hours of their usual physician. Patients may receive continuing care from a team of professionals or from a combination of specialists relevant.

- Timely availability of healthcare records requires communication between different healthcare professionals who care for the same patient.

- 20 Since the professionals involved will often have different electronic healthcare record systems, these communications usually involve paper reports or unstructured electronic exchanges. The relative inaccessibility of information received in these forms detracts from the quality, completeness and usability of the electronic healthcare record.

Implementation of the messages specified by this European Prestandard will:

- 25 a) facilitate the transfer of electronic healthcare records or parts of these records;
 b) enable the communication of requests for transfer of electronic healthcare records;
 c) reduce the need for human intervention to manually duplicate entries in different healthcare record systems;
 d) minimise the time and effort required for the introduction of information interchange agreements that support the exchange of electronic healthcare record information;
 30 e) reduce the development effort required by suppliers to allow their systems to communicate with a wide range of other electronic healthcare record systems;
 f) reduce the cost of information interchange between clinical information systems.

- 35 When implementing information exchange based on this European Prestandard, data security services including confidentiality provisions will need to comply with the laws in force in the different CEN member countries. Other European Prestandards currently under development address technical issues relating to meeting this need.

This European Prestandard has been developed following the methods recommended in the CEN Report on "Medical informatics - Methodology for the development of healthcare messages" (CR 12587 :1996). However, in accord with the decisions of CEN TC251 WGI, a different modelling technique has been used. This is a subset of the Unified Modelling Language (UML) as documented in Annex A.

- 40 This European Prestandard specifies messages in a syntax independent form. Its requirements for conformance define the minimum acceptable content and structure for these messages. Compliant messages can be developed in a variety of implementation syntaxes and these syntax specific implementations may be the subject of future Standards.

- 45 This European Prestandard is directly relevant to suppliers of computer systems for use in hospitals, general practices, clinical departments and specialist clinics. Its provisions are also relevant to those planning, specifying, procuring or implementing information systems for use in departments, hospitals, general practices, clinical departments and specialist clinics.

1. Scope

This European Prestandard specifies messages that enable exchange of electronic healthcare record information between healthcare parties responsible for the provision of clinical care to an individual patient. These messages allow information from an electronic healthcare record held by one health professional to be sent to another health professional.

The messages specified by this European Prestandard can be used to convey:

- a complete copy of a patient's record as stored in one information system;
- parts of a patient's record that form a logically sound extract or summary of that record;
- parts of a patient's record used for updating a parallel record on another system.

The primary purpose of these messages is to support the provision of care to individual patients. The availability of consistent, continuing clinical care, when and where it is needed, requires appropriate and unambiguous communication between clinical professionals. The messages specified by this European Prestandard are designed to meet this requirement by enabling users of different clinical information systems to exchange electronic healthcare record information. Implementation of these messages will therefore assist the maintenance of timely and appropriate patient records.

This European Prestandard considers two distinct properties of electronic health record communication.

a) Readability

Communication of information in a form that can be rendered human-readable by the receiving system. If the exchange of electronic healthcare record information is to support individual patient care, clinicians using the receiving system need to be able to read and understand the transferred information.

b) Processability

Communication of information that can be incorporated into a record held by the receiving system in a way that enables it to be processed and retrieved as an integral part of that record. The benefits of electronic healthcare records include retrieval and processing for decision support, audit and research. If these benefits are to be fully realised, systems need to be able to process received information in ways that, while recognising the source of that information, are otherwise consistent with the processing of locally recorded information.

The European Prestandard specifies messages that permit exchange of electronic health record information with different levels of structure. The least structured level is sufficient to enable any receiving system to render the information in a human-readable form. The more structured levels enable information to be transferred in a manner that facilitates subsequent retrieval and processing.

The ability of communicating systems to achieve a particular level of interoperability by using these messages depends on:

- the compatibility of the structures in which the systems store patient records;
- the mappability of different forms of representation used by those systems (e.g. languages, terminologies and coding schemes);
- the level of trust between the communicating parties.

These factors will therefore determine how the messages specified by this European Prestandard are used.

This European Prestandard takes account of the following issues related to the confidentiality, source and status of the transferred information.

- *Distribution* – The messages include provisions for referencing distribution rules (in the manner specified in the current draft of CEN TC251/PT28). These distribution rules are intended to govern subsequent distribution of information. These rules may be applied to the entire message or to individual components within the message. This European Prestandard does not mandate a particular mechanism for the enforcement of distribution rules.
- *Attribution* – The messages support communication of attribution details regarding the originator and time of origin of information. Attribution information, including digital signatures, may be applied to the entire message or to individual components within the message. This European Prestandard does not mandate a particular mechanism for secure verification of digital attribution information. However, the algorithm specified in ENV12388 should be used, unless the communicating parties agree to use an alternative European Prestandard.

- *Integration* – The messages support the communication of information in a way that allows receiving systems to distinguish new information from information that they have already received.

Specific security requirements and the mechanisms to be used to meet these requirements are outside the scope of this European Prestandard. Implementers of the messages specified by this European Prestandard should ensure that the security mechanisms used satisfy national and international legislation, user requirements and ethical guidance.

The messages specified by this European Prestandard are general in nature. They meet the requirements for transferring electronic health care record information in a manner appropriate to a wide-variety of situations covering all clinical professions and specialties. However, to maximise the processability of communicated information for particular purposes, a specific profile of the messages specified in this European Prestandard may be required. A profile may restrict the degrees of freedom inherent in the general message and may specify additional types of data item that can be used within a communicating community.

The development of this European Prestandard has been based on the principles stated in the European Prestandard on Electronic Healthcare Record Architecture (ENV 12265). This does not preclude the use of this message for communications between systems that do not conform to that European Prestandard. The message applies the architectural principles in a way that facilitates clinically safe communication even between systems with widely different record structures. However, the faithfulness of communication of the structural richness of an electronic record will be greater in the case of systems that comply with or are closely aligned with European Prestandards on Electronic Healthcare Record Architecture.

The messages specified by this European Prestandard are primarily aimed at conveying character-based information between systems. The messages also provide for references to binary objects, which may form part of an EHCR. However, the European Prestandard does not specify the format of such binary objects, nor does it specify the methods by which they shall be communicated or made available to a receiving system.

Communication of EHCR information is often associated with specific requests for intervention by or advice from the recipient of this information. The response from the recipient of EHCR information may similarly be accompanied by a specific report that they have undertaken (or have accepted responsibility for undertaking) a requested service. The messages specified in this European Prestandard are not designed for communication of these requests or reports, as these are standardised by previous European Prestandards¹. However, if such communications require the exchange of detailed EHCR information the messages or components defined in this European Prestandard may be used for that purpose. To facilitate this, the "EHCR extract" class specified in this European Prestandard may be used in place of the "Clinical Information" class in messages specified in previous European Prestandards for healthcare messages.

The messages specified by this European Prestandard are not designed for communication with intermittently connected devices such as patient data cards. However, due account has been taken of the relevant European Prestandard covering this domain (ENV12018).

These messages are not validated for the exchange of EHCR information for other purposes such as administration, resource allocation, research or quality monitoring.

¹ ENV1613 "Medical informatics - Messages for exchange of laboratory information", ENV 12538 "Medical informatics - Messages for patient referral and discharge" and ENV 12539 "Medical informatics - Request and report messages for diagnostic service departments".

2. Normative References

This European Prestandard incorporates by dated or undated references, provisions from other publications. These normative references are cited in the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments and revisions of any of these publications apply to this European Prestandard only when they are incorporated in it by amendment and revision. For undated references the latest edition of the publication referred to, applies.

	ISO 639:1988	Symbols for languages, geographical areas and authorities
	ISO 2382-4:1987	Information processing - Vocabulary Part 4: Organisation of data
	ISO 5281:1977	Information interchange - Representation of human sexes
10	ISO/IEC 7826-1	Information technology – General structure for the interchange of code values – Part 1: Identification of coding schemes
	ISO/IEC 7826-2	Information technology – General structure for the interchange of code values – Part 2: Registration of coding schemes
	ENV 1613:1995	Medical informatics - Messages for exchange of laboratory information
15	ENV 12018:1997	Medical informatics - Identification, administrative and common clinical data structure for Intermittently Connected Devices used in healthcare (including machine readable cards)
	ENV 12265	Medical informatics - Electronic healthcare record architecture
	ENV 12381:1996	Medical informatics - Time standards for healthcare specific problems
	ENV 12388:1996	Medical informatics - Algorithm for Digital Signature Services in Health Care
20	ENV 12435	Medical informatics - Expression of the results of measurements in health sciences
	ENV 12537-1:1997	Medical informatics - Registration of information objects used for EDI in healthcare - Part 1: The Register
	ENV 2537-2:1997	Medical informatics - Registration of information objects used for EDI in healthcare - Part 2: Procedures for the registration of information objects used for electronic data interchange (EDI) in healthcare
25	ENV 12538:1997	Medical informatics - Messages for patient referral and discharge
	ENV 12539:1997	Medical informatics - Request and report messages for diagnostic service departments
	CR 12587:1996	CEN Report: Medical informatics - Methodology for the development of healthcare messages
30	ENV 12612:1997	Medical informatics - Messages for the exchange of healthcare administrative information

3. Definitions

For the purpose of this European Prestandard, the following definitions apply:

3.1 **clinical information** : Information about a patient, relevant to the health or treatment of that patient, that is recorded by or on behalf of a healthcare professional.

5 NOTE: Clinical information about a patient may include information about the patient's environment or about related people or animals where this is relevant.

3.2 **code meaning** : Element within a coded set.

EXAMPLE : "Paris Charles-De-Gaulle" which is mapped on to the three-letter abbreviation "CDG" by the coding scheme for three-letter abbreviations of airport names.

10 3.3 **code value** : Result of applying a coding scheme to a code meaning.

EXAMPLE : "CDG" as the representation of "Paris Charles-De-Gaulle" in the coding scheme for three-letter representations of airport names.

3.4 **coding scheme** : Collection of rules that maps the elements of one set on to the elements of a second set.

15 3.5 **communicating community** : A geographically or organisationally defined grouping of healthcare parties that agree to communicate subject to an agreed set of constraints or guidelines.

3.6 **distribution rule** : Logical concept or rule intended to convey and govern distribution.

NOTE: The form of representation of EHCR distribution rules in the subject of another European Prestandard developed in parallel with the drafting of this European Prestandard.

20 3.7 **domain information model; DIM** : Conceptual model describing common concepts and their relationships for communication parties required to facilitate exchange of information between these parties within a specific domain of healthcare.

3.8 **EHCR ; electronic health care record** : Health care record in computer readable format.

3.9 **EHCR extract** : EHCR message component representing the entirety of a patient's electronic health care record or that part of the record contained within a particular instance of an EHCR message.

25 3.10 **EHCR data item; data item** : Record component containing a single data item element.

3.11 **EHCR data item element; data item element ; element** : Unit of information that cannot be subdivided without losing its meaning.

NOTE 1: A data item element is only meaningful when linked to the patient as part of an EHCR data item.

30 NOTE 2: The normative provisions of this European Prestandard specify six types of data item elements. Four further types, are suggested in Informative Annex B. Communicating parties may also specify and use additional data item element types.

3.12 **EHCR message component** : Part of an electronic health care record contained within an EHCR message in a form that renders it identifiable for the purposes of referencing and revision.

35 NOTE: This European Prestandard specifies two types of EHCR message component. These are the "EHCR extract" and the "record component".

3.13 **EHCR system**: Computer system for recording, retrieving and manipulating information in electronic healthcare records.

3.14 **general message description ; GMD** : Subset of a domain information model prescribing the information content and semantic structure of a message used to meet one or more identified information interchange requirements.

NOTE 1: General message descriptions are independent of the syntax used for constructing an actual message. They provide statement of the information interchange requirements in a form that can be implemented using different syntaxes.

3.15 **healthcare organisation** : Organisation responsible for the direct or indirect provision of healthcare services to a subject, or involved in the provision of healthcare related services such as environmental measurement results.

NOTE: A healthcare organisation may be used stand-alone or as a superstructure containing departments and sub-departments.

3.16 **healthcare party** : Organisation or person responsible for the direct or indirect provision of healthcare to an individual, or involved in the provision of healthcare-related services such as environmental measurement results.

3.17 **healthcare professional** : Person who is entrusted with the direct or indirect provision of defined healthcare services to a subject or population of subjects.

EXAMPLES: Primary care physician, dentist, nurse, social worker, veterinary surgeon.

3.18 **health care record** : Repository of information regarding the health of a subject of care.

3.19 **health care record architecture** : Principles on which the logical structure of healthcare records are based.

3.20 **health care service** : Service provided with the intention of directly or indirectly improving the health of the people, populations or animals to whom it is provided.

3.21 **implementable message specification ; IMS** : Specification of a general message description in a particular message syntax.

3.22 **interchange format** : Specification of a message type according to a given message syntax, covering the identification of the message type components, their arrangement, representation and interrelationships.

3.23 **International Coding Scheme Identifier** : Unique permanent identifier of a coding scheme as defined by ISO 7826-1.

3.24 **message profile** : Specification derived from an implementable message specification by selecting its optional elements, appropriate to the specific business requirements of the communicating parties.

3.25 **message syntax** : System of rules and definitions specifying the basic component types of messages, their interrelationships and their arrangement.

3.26 **message type** : An identified, named and structured set of functionally related information which fulfils a specific business purpose.

3.27 **multiplicity** : An expression of the number of instances of one class that may be part of or associated with another class.

NOTE 1: The term cardinality has been used in earlier related European Prestandards. However, following the decision to use UML as the modelling notation the term multiplicity is more appropriate. In UML "cardinality" refers to the actual number of members of a set of relations. The term "multiplicity" is used to refer to the "allowable cardinalities" and this is the sense in which this concept is represented in this Prestandard.

3.28 **organisation** : Unique framework of authority within which a person or persons act, or are designated to act towards some purpose.

NOTE: Groupings or subdivisions of an organisation may also be considered as organisations where there is need to identify them for information interchange.

- 5 3.29 **original component complex** : Record component representing an aggregation of other record components that is determined by the time and situation in which they were originally added to the EHCR.

3.30 **record component ; component** : Part of an electronic health care record that is identifiable for the purposes of referencing and revision.

- 10 3.31 **selected component complex** : Record component representing an aggregation of other record components that is *not* determined by the time or situation in which they were originally added to the EHCR.

NOTE: Selected component complexes are used to provide alternative view or groupings of records. They can represent the record as viewed at a particular time or they can represent groupings of clinically or logically associated record components.

3.32 Abbreviations

- 15 The following abbreviations are used for the terms defined in this European Prestandard.

	DIM	Domain Information Model
	EHCR	Electronic Health Care Record
	GMD	General Message Description
	GP	General Practitioner
20	HCP	Healthcare Party
	HGMD	Hierarchical General Message Description
	ICSI	International Coding Scheme Identifier
	IMS	Implementable Message Specification
	MIG	Message Implementation Guide
25	UML	Unified Modelling Language

4. Communication roles

4.1 General

- 5 This clause defines the communication roles compliant to the specifications of this European Prestandard when exchanging electronic healthcare record. It establishes the relationships between the communication roles and the General Message Descriptions (GMDs), as well as the relationships between the messages defined by the GMDs.

4.2 Communication roles

- 10 The following messages are defined in this European Prestandard:

- *request EHCR message*;
- *provide EHCR message*;
- *reject request for EHCR message*;
- *accept EHCR message*;

- 15 For each of these messages there are two primary communication roles:

- The message originator role (the sender)
- The message destination role (the intended recipient)

During a series of exchanges relating to a single EHCR transfer, the same healthcare party may be both a sender and recipient of messages. For example, the originator of a request will be the recipient of a response to that request.

- 20 Rather than considering the role in respect of a particular message, this European Prestandard refers to healthcare parties according to the roles played in a sequence of messages related to one EHCR transfer. These roles are:

- The *EHCR source* – the current holder of EHCR information that is requested, transferred or acknowledged.
- The *EHCR destination* – the requester or recipient of the EHCR.

- 25 The same healthcare party may act as an *EHCR source* and an *EHCR destination* in respect of different messages. For example, the *EHCR destination* for one *provide EHCR message* may be the *EHCR source* for another *provide EHCR message*.

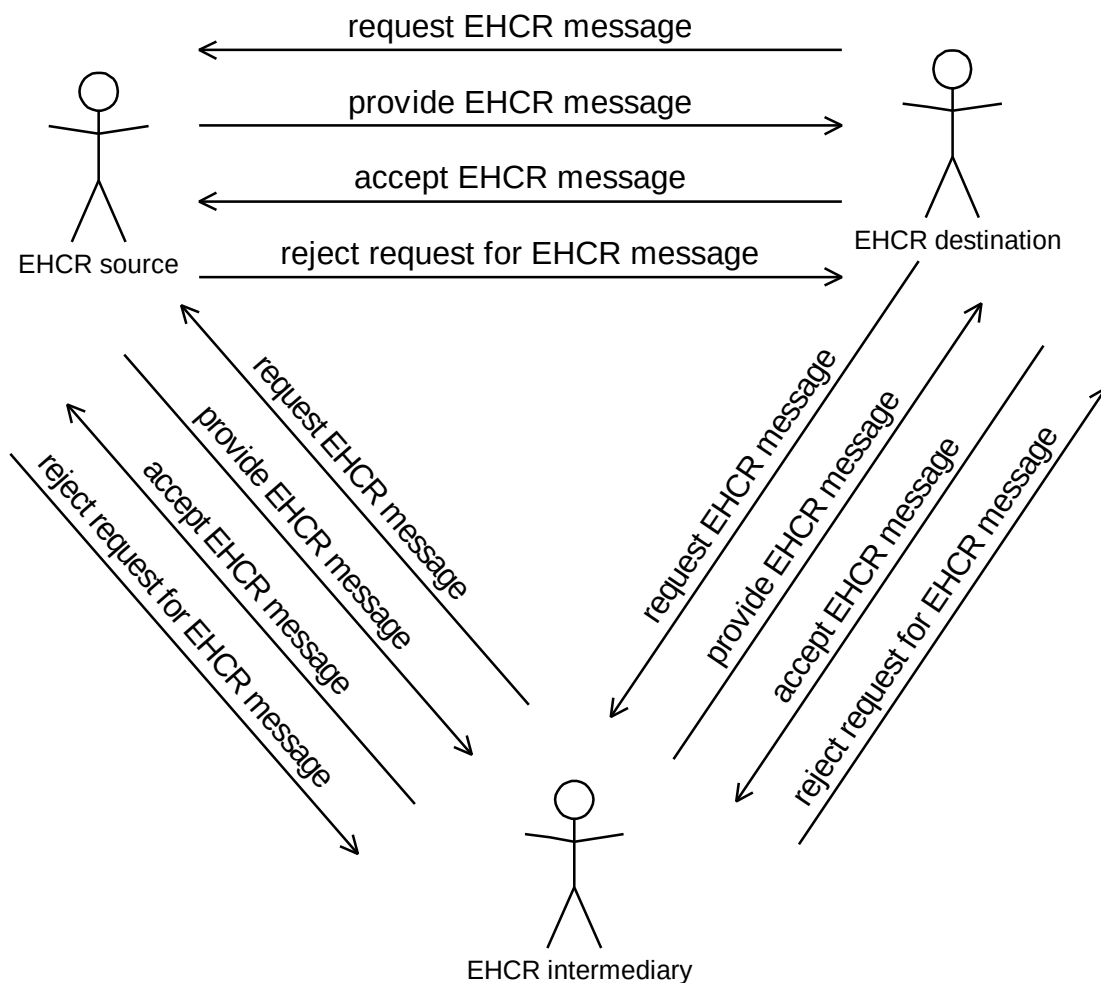
Other healthcare parties may play secondary roles in the communication of the EHCR. Examples of these roles include:

- 30
- Acting as a clearinghouse or forwarding agent.
 - Validating the source of the EHCR message.
 - Confirming the right of the EHCR destination to receive the EHCR for a patient.

- 35 Healthcare parties undertaking these roles are referred to in this European Prestandard as *EHCR intermediaries*. The involvement of *EHCR intermediaries* depends on the procedures agreed for exchanging EHCR messages within a communicating community. This European Prestandard enables but does not require the involvement of *EHCR intermediaries* and it does not specify the details of the roles an *EHCR intermediary* may play.

Table 1: Associations between Communicating parties, Communicating party roles and messages

Communicating party (actor no.)	Originating role	Destination role	Messages	To actor no.	From actor no.
1. Healthcare party acting as EHCR source	X		<i>provide EHCR message</i> <i>reject request for EHCR message</i>	2,3	
		X	<i>request EHCR message</i> <i>accept EHCR message</i>		2,3
2. Healthcare party acting as EHCR destination	X		<i>request EHCR message</i> <i>accept EHCR message</i>	1,3	
		X	<i>provide EHCR message</i> <i>reject request for EHCR message</i>		1,3
3. Healthcare party acting as EHCR intermediary (clearing house or forwarding agent)	X		<i>provide EHCR message</i> <i>reject request for EHCR message</i>	2	
	X		<i>request EHCR message</i> <i>accept EHCR message</i>	1	
		X	<i>provide EHCR message</i> <i>reject request for EHCR message</i>		1
		X	<i>request EHCR message</i> <i>accept EHCR message</i>		2

**Figure 1. Illustration of EHCR message communications and communication roles**

5. Communication Requirements and Scenarios

5.1 Introduction

This clause outlines the communication requirements supported by use of these messages.

- 5 The requirements are identified as part of several general scenarios outlined in this clause. However, these scenarios do not form an exhaustive list of circumstances in which these messages are applicable.

The clause outlines each scenario in a general manner followed by illustrative examples and a summary of the main communication requirements arising from the scenario. Each communication requirement is related to an instance of a specific message. The messages referred to are specified by this European Prestandard or have already been adopted as part of previously published European Prestandards.

- 10 Each scenario involves the transfer of EHCR related information in one or more directions between two or more healthcare parties. Figure 2 shows the general sequence of use of the messages. However, some scenarios use only one or two of the messages shown in this figure. Also, as noted in Clause 4, the communicating parties may have different roles at different stages in a communication scenario. For this reason many of the illustrations in this clause refer to the communicating parties as Party A and Party B rather than using the role name.

- 15 The diagrams in this section follow the general notation of Unified Modelling Language sequence diagrams. Time is represented by the vertical axis. The parties are represented by dotted lifeline. While a party has a role in relations to the patient the lifeline is overlaid by a hollow rectangle. Lines between the parties indicate the flow of messages.

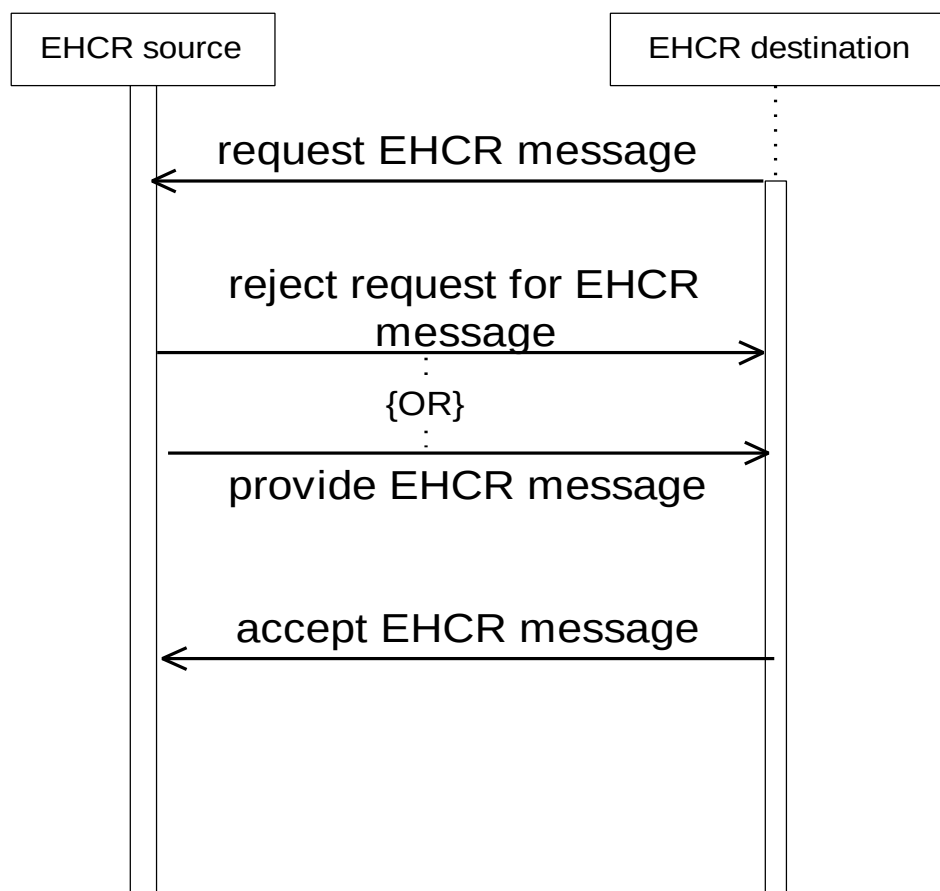


Figure 2. General sequence of messages

5.2 Transfer initiated by an EHCR source

5.2.1 Scenario outline

Party A becomes aware that for some reason a patient will in future seek the healthcare services previously provided by **Party A** from **Party B**.

- 5 • **Party A** hands over their clinical responsibility for the patient to **Party B**.
- **Party A** does not expect to have continuing clinical responsibility for the care of the patient.
- **Party B** assumes a continuing responsibility for the care of the patient.

Examples

- 10 • A patient informs their GP that they are moving to another area. The GP hands over care of a patient to a colleague in the area to which the patient is moving.
- A specialist is retiring or leaving a clinic and makes arrangements for the future care of his patients.
- A patient chooses to change the healthcare professional that they consult for a particular service. The patient informs their current provider that they wish care to be transferred. The current provider transfers the EHCR to the new provider.

15 5.2.2 Communication requirements and use of messages

Party A provides **Party B** with complete or summarised EHCR information about the patient and indicates that they wish **Party B** to take over responsibility for the patient.

- **Party A** (an *EHCR source*) sends a *provide EHCR message* to **Party B** (an *EHCR destination*).

20 **Party B** may respond to the by informing **Party A** that they have received the information provided and have either accepted or rejected responsibility for the care of the patient.

- **Party B** (an *EHCR destination*) sends an *accept EHCR message* to **Party A** (an *EHCR source*).

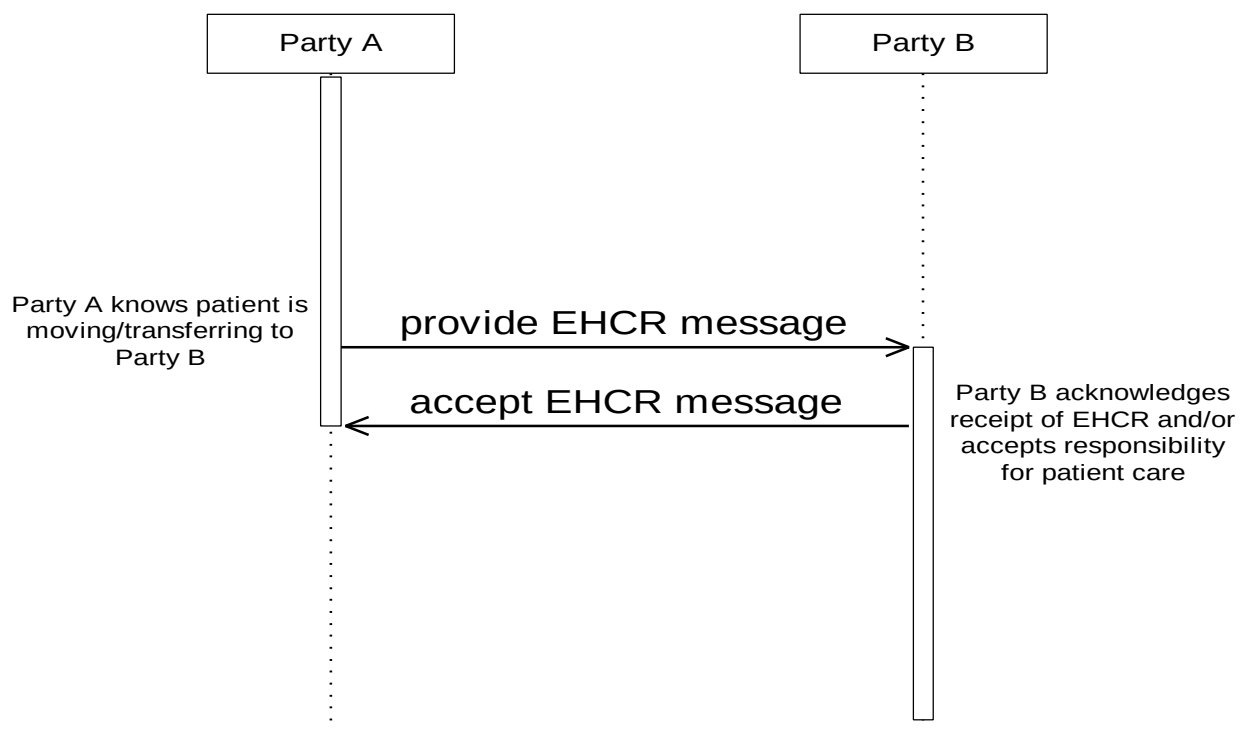


Figure 3. Patient transfer initiated by an EHCR source

5.3 Transfer of care initiated by an EHCR destination

5.3.1 Scenario outline

A patient, currently cared for by **Party A**, requests **Party B** to provide a continuing healthcare service.

- **Party B** takes over clinical responsibility for the patient from **Party A**.
- **Party A** does not have continuing clinical responsibility for the care of the patient.
- **Party B** assumes a continuing responsibility for the care of the patient.

Examples

- A patient consults or registers with a new GP after moving to another area.
- A patient chooses to change the specialist or clinic that they attend.

5.3.2 Communication requirements and use of messages

Party B requests **Party A** to provide a complete or summarised EHCR for the patient.

- **Party B** (an *EHCR destination*) sends a *request EHCR message* to **Party A** (an *EHCR source*).

Party A may accept or reject the request for the EHCR.

If the request is accepted, **Party A** provides **Party B** with complete or summarised EHCR information about the patient.

- **Party A** (an *EHCR source*) sends a *provide EHCR message* to **Party B** (an *EHCR destination*).

If the request is rejected, **Party A** informs **Party B** of this decision.

- **Party A** (an *EHCR source*) sends a *reject request for EHCR message* to **Party B** (an *EHCR destination*).

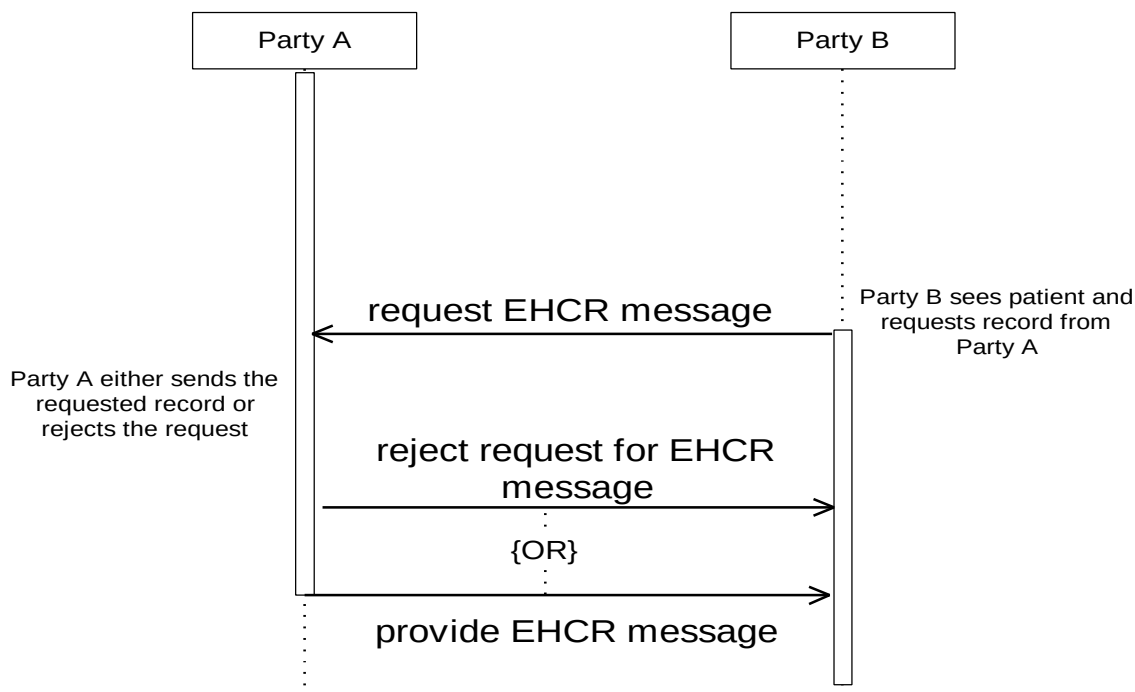


Figure 4. Transfer of care initiated by an EHCR destination

5.4 Provision of a temporary service without a request from the EHCR source

5.4.1 Scenario outline

A patient, usually cared for by **Party A**, requests **Party B** to provide a service of limited duration.

- **Party B** performs the service for the patient.
- **Party A** resumes clinical responsibility for the care of the patient.
- **Party B** does not expect to play a further role in the future care of the patient.

Examples

- A patient attends an Accident Emergency department at a hospital.
- A patient self-refers to a particular specialist in accordance with the normal practice in a particular country or region.
- A patient requires healthcare services while out of their home area.
- A patient requires urgent healthcare services out of the normal office hours of their doctor.
- A patient consults another GP (in countries where patients may see more than one GP).

5.4.2 Communication requirements and use of messages

Party B may decide that they need EHCR information from **Party A** in order to perform the service. In this case, **Party B** requests **Party A** to provide a complete or summarised EHCR for the patient.

- **Party B** (an *EHCR destination*) sends a *request EHCR message* to **Party A** (an *EHCR source*).

Party A may accept or reject the request for the EHCR.

If the request is accepted, **Party A** provides **Party B** with complete or summarised EHCR information about the patient.

- **Party A** (an *EHCR source*) sends a *provide EHCR message* to **Party B** (an *EHCR destination*).

If the request is rejected, **Party A** informs **Party B** of this decision.

- **Party A** (an *EHCR source*) sends a *reject request for EHCR message* to **Party B** (an *EHCR destination*).

When the service has been performed **Party B** may send the EHCR information recorded while performing the service to **Party A**. The communication roles of the parties are now reversed.

- **Party B** (an *EHCR source*) sends a *provide EHCR message* to **Party A** (an *EHCR destination*).

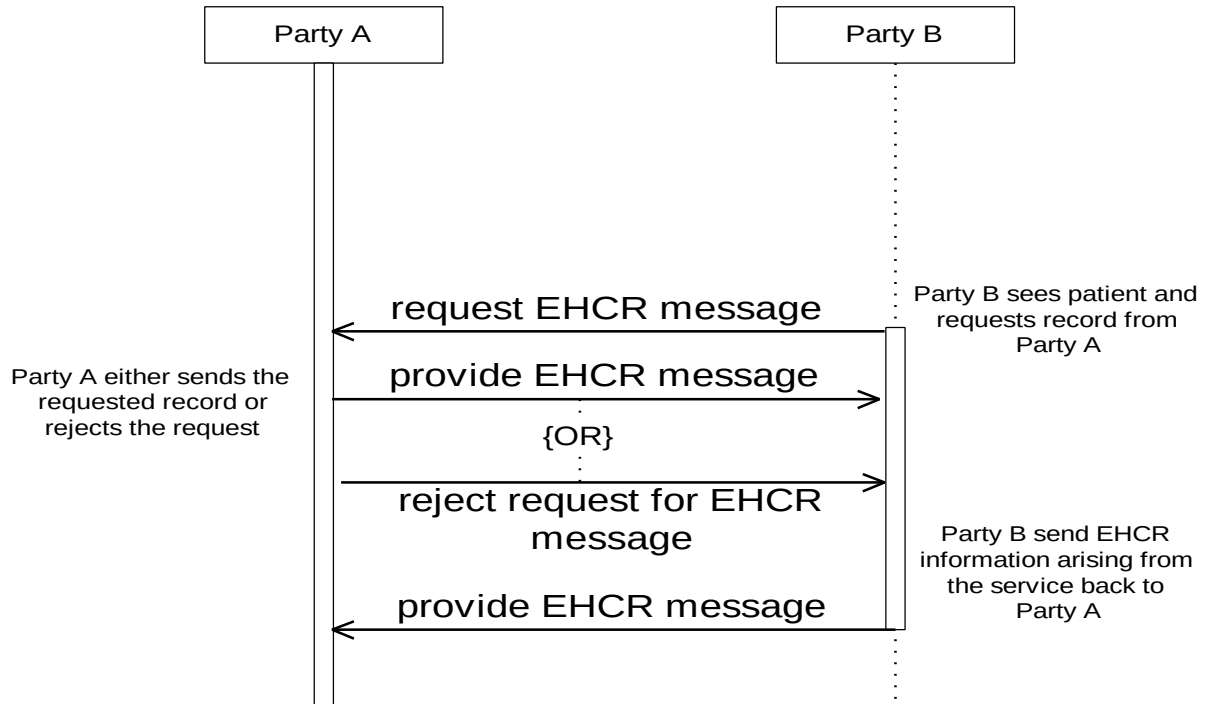


Figure 5. Service provision without a request

5.5 Provision of a temporary service following a request from the EHCR source

5.5.1 Scenario outline

A patient, usually cared for by **Party A**, receives a service of limited duration from **Party B** at the request of **Party A**.

- **Party A** requests the service from **Party B**.
- **Party B** performs the service for the patient.
- **Party A** resumes or retains clinical responsibility for the care of the patient.
- **Party B** does not expect to play a further role in the future care of the patient.

Examples

- A GP refers a patient to a specialist.
- A specialist involves a therapist in a particular aspect of a patient's care.

5.5.2 Communication requirements and use of messages

Party A requests **Party B** to provide a service and may provide a copy or summary of the EHCR as part of this request. This may be done using the *specialist service request message* specified by ENV 12538 or using the *provide EHCR message*.

- **Party A** (an *EHCR source*) sends a *provide EHCR message* to **Party B** (an *EHCR destination*).

When the service has been performed **Party B** may send the EHCR information recorded while performing the service to **Party A**. This may be done using the *specialist service report message* specified by ENV 12538 or using the *provide EHCR message*. If the *provide EHCR message* is used, the communication roles are reversed.

- **Party B** (an *EHCR source*) sends a *provide EHCR message* to **Party A** (an *EHCR destination*).

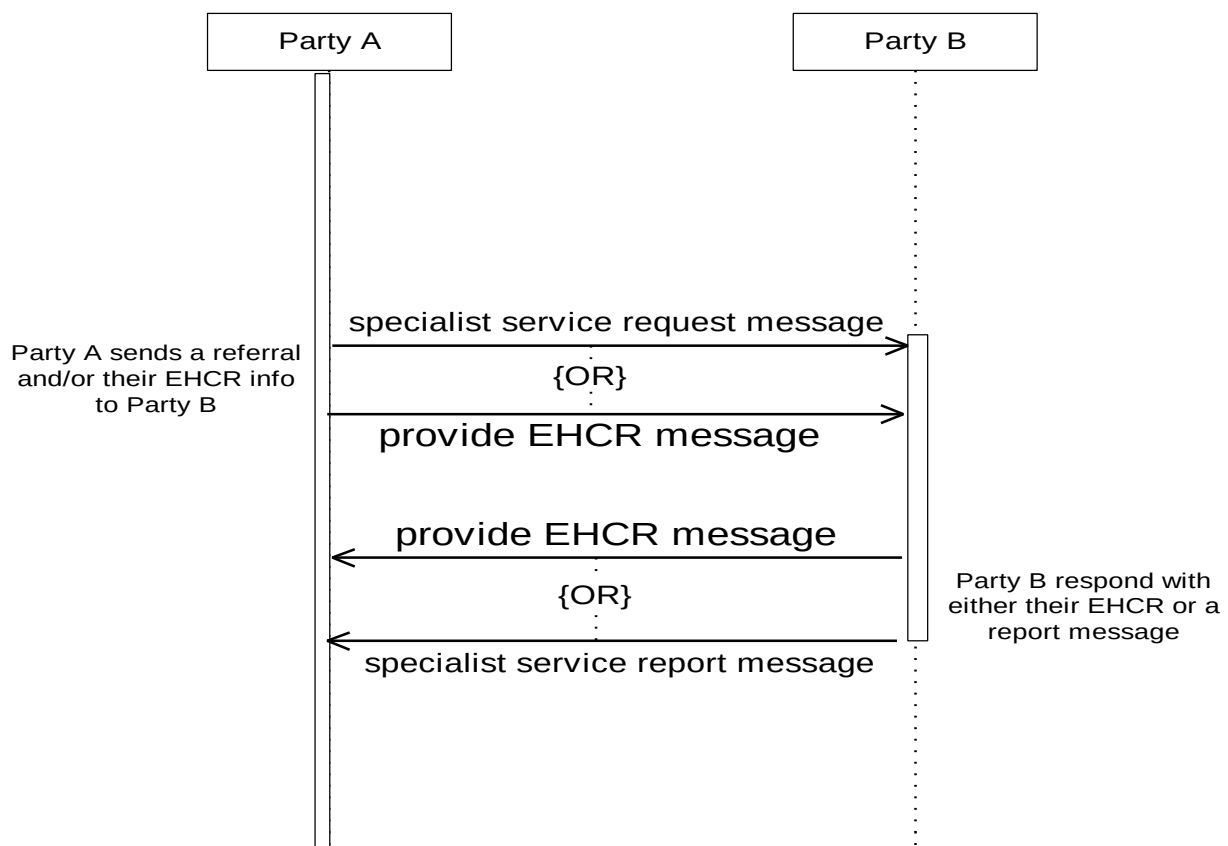


Figure 6. Service provision following a request

5.6 Provision of continuing care by two or more parties

5.6.1 Scenario outline

- **Party A** is providing care to a patient and requests **Party B** to become involved in providing for a particular aspect of that patient's care.
- **Party A's** general responsibility for the care of the patient continues. However, a specific part of that responsibility is shared with **Party B** while a series of services are provided.
- **Party B** usually sees the patient two or more times while providing the requested service.
- During the period during which **Party B** is sharing responsibility, **Party A** may also see the patient one or more times.

Examples

- GP and diabetic specialist providing care to a diabetic patient.
- GP and Midwife and/or Obstetrician providing antenatal care.

5.6.2 Communication requirements and use of messages

Party A requests **Party B** to provide a service and may provide a copy or summary of the EHCR as part of this request. This may be done using the *specialist service request message* specified by ENV 12538 or using the *provide EHCR message*.

- **Party A** (an *EHCR source*) sends a *provide EHCR message* to **Party B** (an *EHCR destination*).

After the initial contact with the patient, **Party B** may send the EHCR information recorded during that contact to **Party A**.

- **Party B** (an *EHCR source*) sends a *provide EHCR message* to **Party A** (an *EHCR destination*).

After each subsequent consultation, or other interaction with the EHCR, **Party A** sends an update of the EHCR information recorded during that contact to **Party B**.

- **Party A** (an *EHCR source*) sends a *provide EHCR message* to **Party B** (an *EHCR destination*).

After each subsequent consultation, or other interaction with the EHCR, **Party B** sends an update of the EHCR information recorded during that contact to **Party A**.

- **Party B** (an *EHCR source*) sends a *provide EHCR message* to **Party A** (an *EHCR destination*).

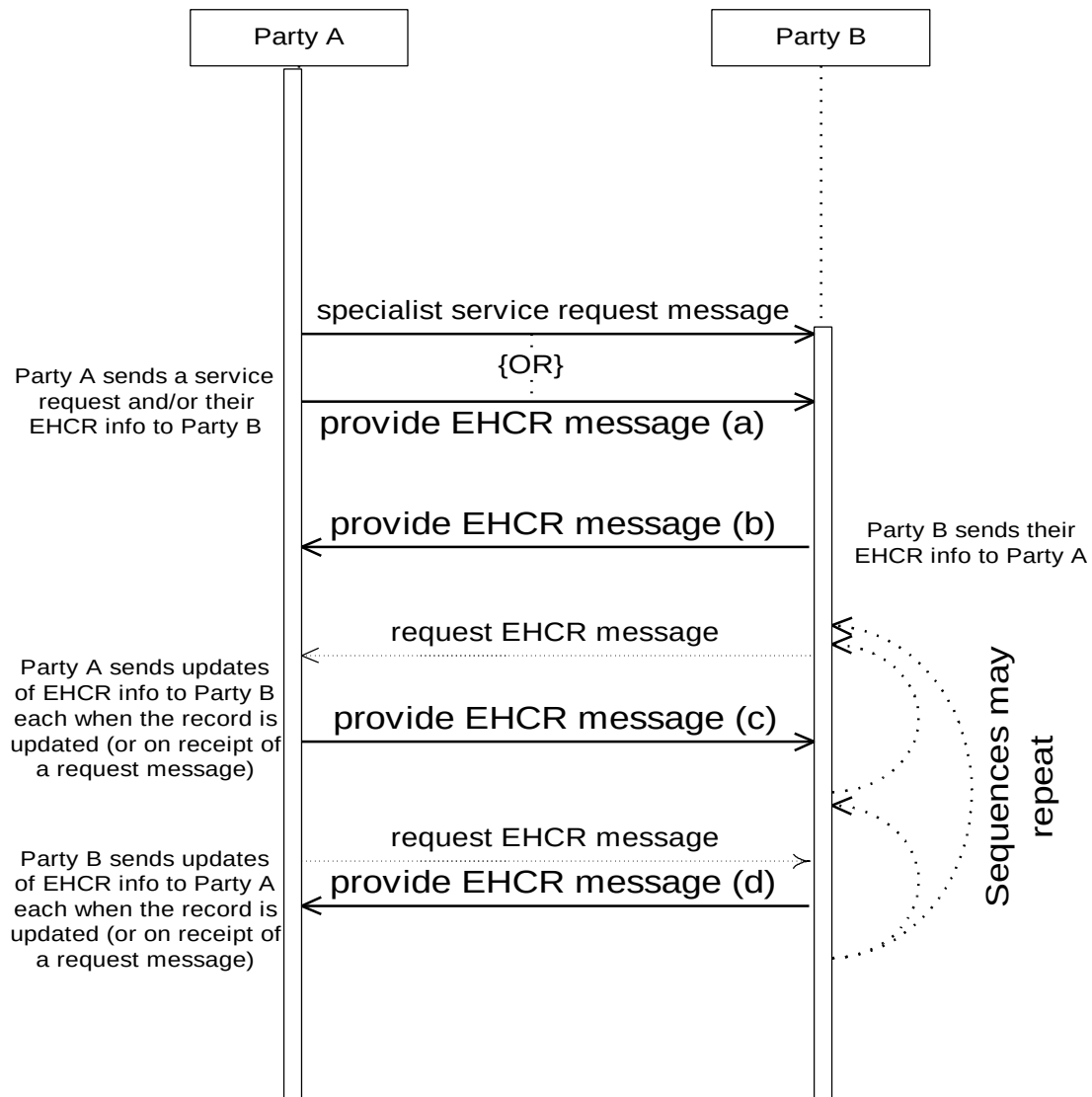
An alternative to the unsolicited transfers of updates described here is for the update to be explicitly requested.

If an update is required by **Party A**.

- **Party A** (an *EHCR destination*) sends a *request EHCR message* to **Party B** (an *EHCR source*).
- **Party B** (an *EHCR source*) responds by sending a *provide EHCR message* to **Party A** (an *EHCR destination*).

If an update is required by **Party B**.

- **Party B** (an *EHCR destination*) sends a *request EHCR message* to **Party A** (an *EHCR source*).
- **Party A** (an *EHCR source*) responds by sending a *provide EHCR message* to **Party B** (an *EHCR destination*).

**Figure 7. Continuing care by two parties**

5.7 Scenarios involving a third party

5.7.1 Description

Some scenarios may involve a third party (**Party C**). **Party C** may act as a clearing-house where parties are not sure to whom they should send requests (see 5.7.2) or EHCR information (see 5.7.3). **Party C** may also act as a Trusted Third Party either confirming that a requester is authorised to receive EHCR information (see 5.7.4) or authenticating the source of the EHCR information (see 5.7.5).

5.7.2 Indirect communication initiated by the recipient

Case

- **Party B** wishes to receive EHCR information but does not know who holds this information

Action

- **Party B** sends the *request EHCR message* to **Party C**.
- **Party C** establishes the location of a party who holds relevant EHCR information.
- **Party C** forwards the *request EHCR message* to **Party A**.
- **Party A** responds by sending a *provide EHCR message* or a *reject request for EHCR message* either directly to **Party B** or to **Party C** as an intermediary.
- If **Party C** is used as an intermediary then the message received from **Party A** is forwarded by **Party C** to **Party B**.

5.7.3 Indirect communication initiated by the sender

Case

- **Party A** is aware that another party will require EHCR information but is not aware of the identity of that party.
- **Party C** acts as a clearing-house.

Action

- **Party A** sends a *provide EHCR message* to **Party C**.
- **Party C** retains the record acting as a clearing-house.
- **Party B** sends a *request EHCR message* to **Party C**.
- **Party C** checks whether the relevant *provide EHCR message* has been received and also checks that **Party B** is authorised to receive this message.
- **Party C** either forwards the *provide EHCR message* to **Party B** or generates and sends an appropriate *reject request for EHCR message* to **Party B**.

The second part of this scenario is superficially similar to the more general request scenario (see 5.3). However, there are two important differences in requirements. The first is that the *provide EHCR message* must identify its origin (**Party A**) as well as the intermediary. The second is that the intermediary may need to be aware of the distribution rules applied at the point of origin in order to determine whether **Party B** is authorised to receive the *provide EHCR message*. The messages specified allow this information to be conveyed but the security mechanisms for enforcing these provisions are outside the scope of this European Prestandard.

5.7.4 Confirming the entitlement of a requester to EHCR Information

If the *request EHCR message* is used between two parties with an existing relationship of trust, it may be sufficient for the request message to confirm its source and authenticity (for example using a digital signature). However, in the case of transfers within a wider community, the holder of the EHCR (**Party A**) may need to check the status of the requester (**Party B**) before responding to a request. This check may be done using various mechanisms that are outside the scope of this European Prestandard. However, some of the possible mechanisms impose additional requirements on the message.

- The *request EHCR message* may need to convey a reference to a third party (**Party C**) recognised by **Party A** as being authorised to vouch for the status of **Party B**.

- The *request EHCR message* may need to convey information that allows it to be routed via a third party (**Party C**) responsible for logging and checking the validity of requests before forwarding valid requests to **Party A**.
- The *request EHCR message* may need to convey a password or key provided by the patient to **Party B**, which is recognised by **Party A** as indicating authorisation by that patient for the EHCR to be provided.
- 5 • The *provide EHCR message* may need to be capable of being sent without recognisable identification information. This "unidentified" EHCR may then be recombined with the appropriate identification information provided by a recognised third party who is able to provide a link between the information in this message and the appropriate patient.

5.7.5 Authenticity of origin of EHCR Information

10 If the *provide EHCR message* is used between two parties with an existing relationship of trust it may be sufficient for the message to confirm its source and authenticity (for example using a digital signature). However, in the case of transfers within a wider community, the recipient (**Party B**) may need to check the status of the sender (**Party A**) before accepting the validity of the EHCR information provided. This check may be done using various mechanisms that are outside the scope of this European Prestandard. However, some of the possible mechanisms impose additional
15 requirements on the message.

- The *provide EHCR message* may need to convey a reference to a third party (**Party C**) recognised by **Party B** as being authorised to vouch for the status of **Party A**.
- The *provide EHCR message* may need to convey information that allows it to be routed via a third party (**Party C**). **Party C** only forwards the message if it recognises the status of **Party A**.

6. Requirements and General Message Descriptions

6.1 Introduction to the GMDs

6.1.1. This clause specifies the normative requirements for messages that comply with this European Prestandard. These requirements are expressed as General Message Descriptions (GMDs) specified in textual descriptions supported by hierarchical diagrams. Clause 7 describes the composition of all classes and attributes required to support these GMDs. These class descriptions are illustrated with diagrams of the domain information model on which the messages are based. Messages which comply with this European Prestandard shall support the structures and relationships illustrated by the GMD diagrams in this clause. In respect of each of the classes referred to in this clause, compliant messages shall also support the detailed content of the class as described in Clause 7.

6.1.2. The requirements expressed in the textual descriptions incorporate by reference the relevant class descriptions in Clause 7. A reference to a class description implies a requirement to fully support the listed attributes of that class, including those that are further decomposed by references to further class and sub-class descriptions.

6.1.3. Messages that comply with this European Prestandard need not support relationships shown in the domain model diagrams in Clause 7 except those that are specified either in the GMD or as listed attributes for a class referenced by the GMD.

6.1.4. The diagrammatic representation of the GMDs shows the hierarchical decomposition of each message into its main classes. The depth of the hierarchy shown in the diagrams has been limited to highlight the main points. Therefore, as with the textual descriptions, the detailed content of each of the classes shown is incorporated by reference to the relevant description in Clause 7. However, wherever a branch of the hierarchy is shown in an expanded form all its direct descendants are included. Thus some of the boxes in these diagrams represent attributes rather than classes.

6.1.5. The text descriptions in this clause include phrases such as "*the ... message shall contain an optional instance of ...*". This means that practical implementation of messages that comply with this European Prestandard shall include appropriate provision for the specified information. However, this European Prestandard does not require the user of such a message to send an instance of this class in each instance of the message. In practice, the use of some of these optional attributes may be constrained by rules agreed with communicating communities while others may depend on a variety of factors including availability of relevant information, capabilities of communicating applications and the needs or preferences of users.

6.1.6. The text descriptions in this clause include phrases such as "*the ... message shall contain one mandatory instance of ...*". This means that practical implementation of messages that comply with this European Prestandard shall include appropriate provision for the specified information. Furthermore, this European Prestandard requires that the message shall oblige the sender of such a message to send an instance of this classes in each instance of the message.

6.2 Request EHCR Message Requirements

6.2.1. The *request EHCR message* (7.3.8) should be used to request all or part of the EHCR for a single specified patient. Its structure is described below and illustrated in Figure 8.

6.2.2. The *request EHCR message* shall include the general attributes of a *healthcare message* (7.4.3).

- 5 6.2.3. The general attributes of a *healthcare message* (7.4.3) that are mandatory in all instances of this message are *identification of message by originator*, *issue date and time of message*, *urgency of message*, *patient matching information* (7.7.7) and *message receipt acknowledgement request*. The general attributes of a *healthcare message* that are optional in all instances of this message are *originator's comment on message*, *message language* and the details of any number of *healthcare parties* (7.9.2).

- 10 NOTE: The details of a *healthcare party* may be included here if they are referred to elsewhere in the message. However, references may also be made within the message to *healthcare parties* in a shared, national, regional or international registry.

- 15 6.2.4. The *patient matching information* (7.7.7) included in the message shall contain optional instances of *patient identifiers*, *patient name*, *alternative person name*, *date and time of birth*, *patient administrative sex*, *patient addresses* and *patient matching comment*. At least one of these optional components shall be present in any instance of the message. Communicating communities may specify precise combinations of these attributes required to safely match a message to a patient.

6.2.5. The *request EHCR message* shall include one mandatory instance of *EHCR destination* (7.2.1). This is used to identify the sender of the message.

- 20 6.2.6. The *request EHCR message* shall include one mandatory instance of *EHCR source* (7.2.3). This is used to identify the intended recipient of the message.

6.2.7. The *request EHCR message* shall include multiple optional instances of *EHCR intermediary* (7.2.2). Each of these may be used to identify a communicating party (other than the sender and recipient) and to indicate their role in the communication of this message or the intended response to this message.

- 25 6.2.8. The *request EHCR message* shall include one mandatory instance of *specification of EHCR information* (7.3.9).

- 30 NOTE: The *specification of EHCR information* contains an indication of whether the EHCR request is for the entire record, a specified subset of the record or a date limited update of the record. The specification may also indicate the language in which the EHCR is requested and the nature of the enterprise environment of the requester. Identification of the EHCR enterprise may enable the *EHCR source* to determine the types of *EHCR enterprise item* (7.7.4) that the *EHCR destination* is able to process.

6.2.9. The *request EHCR message* shall include one optional instance of the attribute *reason for request* to inform the *EHCR source* about the nature of the request.

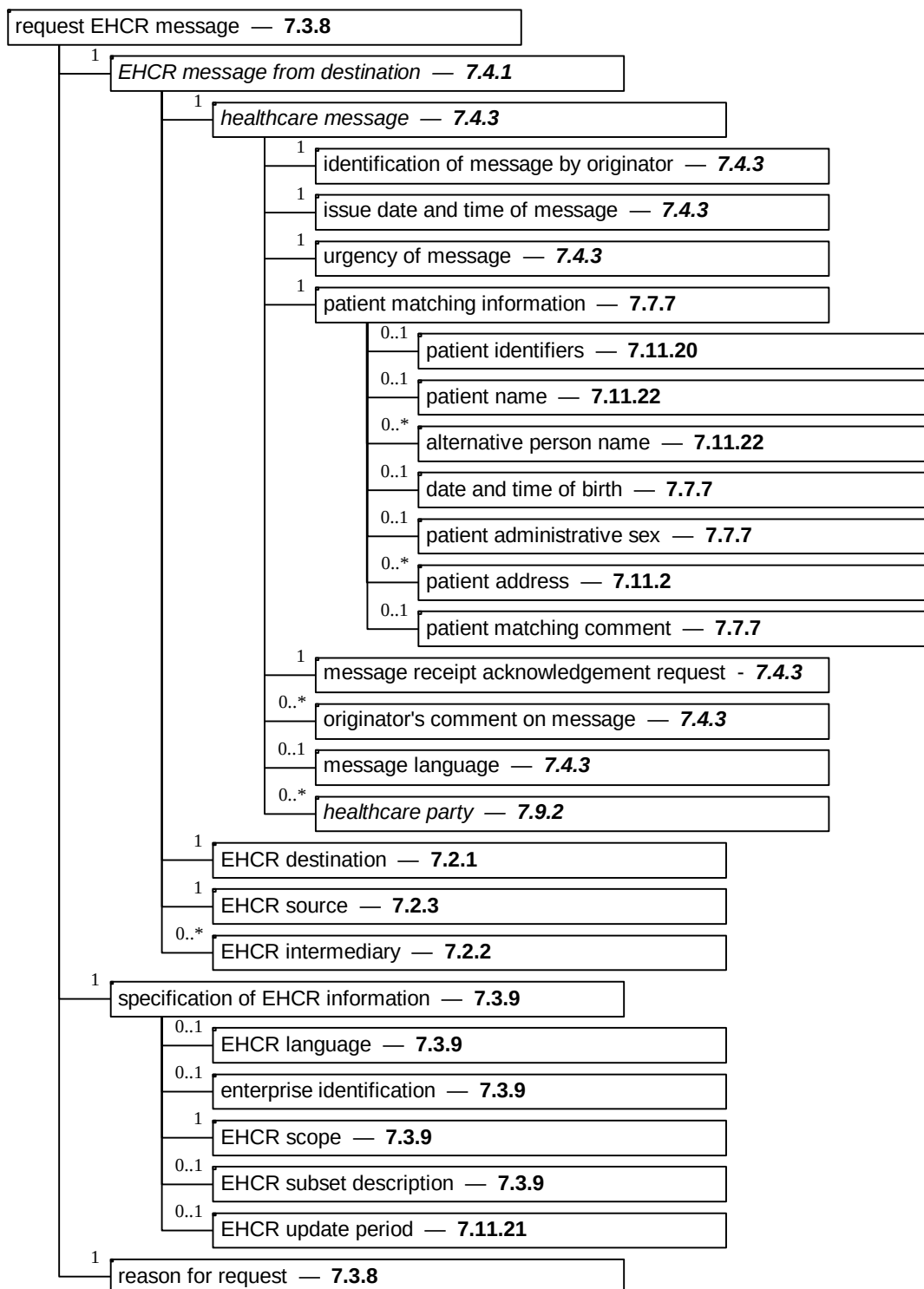


Figure 8. GMD request EHCR message

6.3 Provide EHCR Message

6.3.1. The *provide EHCR message* (7.3.4) may be used to communicate all or part of a single patient's EHCR:

- In response to:
 - a *request EHCR message* (7.3.8);
 - a request conveyed by other means (i.e. a verbal or written request).
- Without a specific preceding request:
 - as part of the regular sharing of information between healthcare parties caring for the same patient;
 - when the *EHCR source* is aware of a likely future requirement for another healthcare party to have access to a particular patient record;
 - as part of the process of transferring a patient to the care of another healthcare party.

The structure of this message is described below. Figure 9 illustrates the overall structure of the message and subsequent figures in this clause show further details of the structure of the EHCR conveyed in the message.

6.3.2. The *provide EHCR message* shall include the general attributes of a *healthcare message* (7.4.3).

6.3.3. The general attributes of a *healthcare message* (7.4.3) that are mandatory in all instances of this message are *identification of message by originator*, *issue date and time of message*, *urgency of message*, *patient matching information* (7.7.7) and *message receipt acknowledgement request*. The general attributes of a *healthcare message* that are optional in all instances of this message are *originator's comment on message*, *message language* and the details of any number of *healthcare parties* (7.9.2).

NOTE: The details of a *healthcare party* may be included here if they are referred to elsewhere in the message. However, references may also be made within the message to *healthcare parties* in a shared, national, regional or international registry.

6.3.4. The *patient matching information* (7.7.7) included in the message shall contain optional instances of *patient identifiers*, *patient name*, *alternative person name*, *date and time of birth*, *patient administrative sex*, *patient addresses* and *patient matching comment*. At least one of these optional components shall be present in any instance of the message. Communicating communities may specify precise combinations of these attributes required to safely match a message to a patient.

6.3.5. The *provide EHCR message* shall include one mandatory instance of *EHCR destination* (7.2.1). This is used to identify the intended recipient of the message.

6.3.6. The *provide EHCR message* shall include one mandatory instance of *EHCR source* (7.2.3). This is used to identify the sender of the message.

6.3.7. The *provide EHCR message* shall include multiple optional instances of *EHCR intermediary* (7.2.2). Each of these may be used to identify a communicating party (other than the sender and recipient) and to indicate their role in the communication of this message.

6.3.8. The *provide EHCR message* shall include one optional instance of *reference to request EHCR message*. This is an instance of *message reference* (7.3.2). It refers to the *request EHCR message* (7.3.8) to which this message is a response.

6.3.9. The *provide EHCR message* shall include one mandatory instance of *specification of EHCR information* (7.3.9).

NOTE: The *specification of EHCR information* contains an indication of whether the EHCR information provided is the entirety of the record held by the *EHCR source*, a specified subset of the record or a date limited update of the record. The specification may also indicate the language in which the EHCR is requested and the nature of the enterprise environment of the requester. This may enable the *EHCR source* to determine the types of *EHCR enterprise item* (7.7.4) that the *EHCR destination* is able to process.

6.3.10. The *provide EHCR message* shall include one mandatory instance of *EHCR extract* (7.7.3). This shall contain the EHCR information conveyed by the message in the structure specified in 6.5.

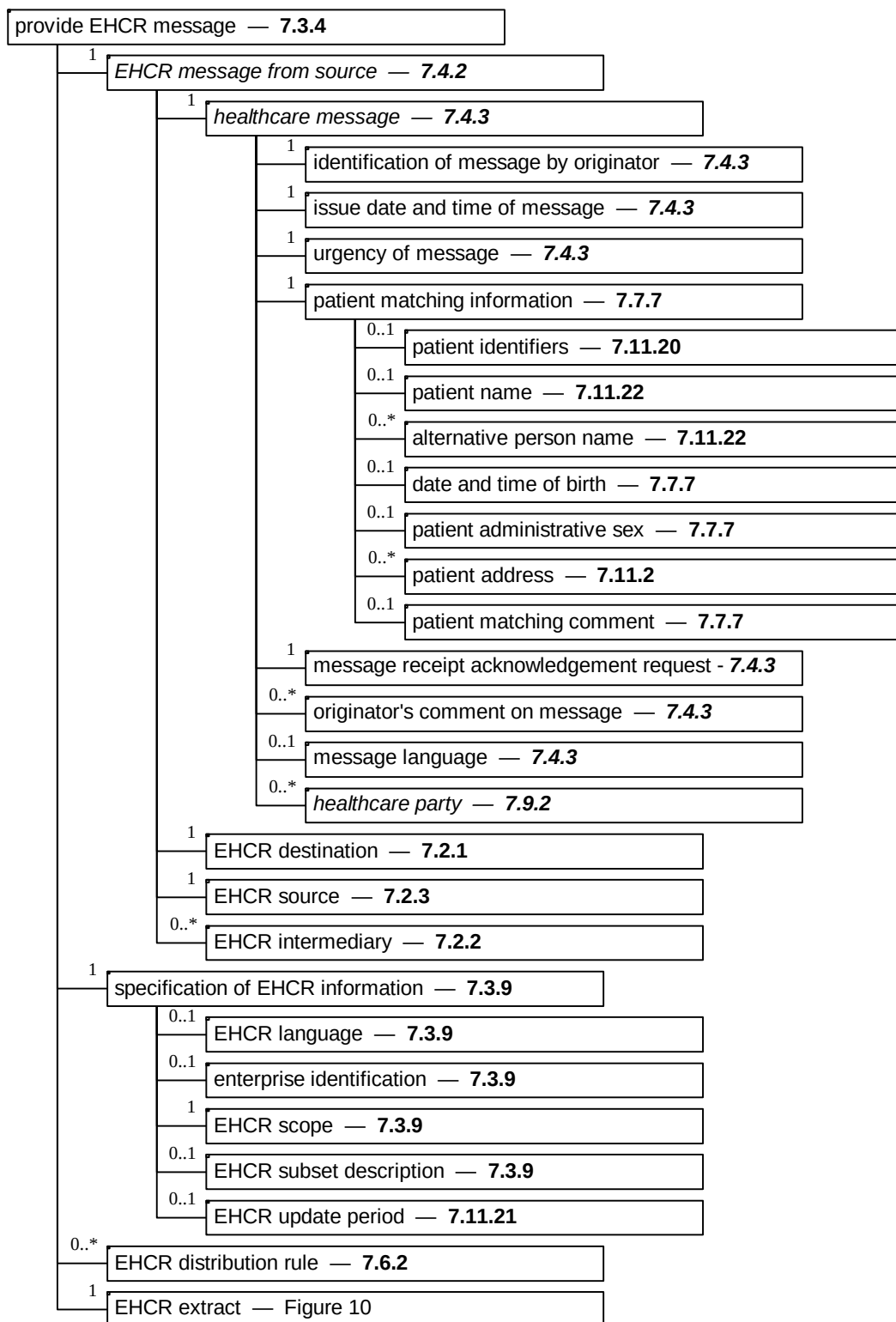


Figure 9. GMD provide EHCR message

6.4 Description of the EHCR message components within the message

6.4.1. EHCR information in the *provide EHCR message* is represented by several of types of components that share a common generalised structure. The abstract class *EHCR message component* (7.5.3) defines these common structural elements.

6.4.2. Each *EHCR message component* shall contain one mandatory instance of *component identification* (7.5.1). This provides a unique identification of the component within a specified scope.

6.4.3. Each *EHCR message component* shall contain one mandatory instance of the attribute *EHCR component status* that indicates whether the component is current or has been replaced by a subsequent revision.

6.4.4. Each *EHCR message component* shall contain an optional instance of *component revision link* (7.10.3). This link is used to refer to an earlier version, which is revised by this component.

6.4.5. Each *EHCR message component* shall contain one optional instance of the attribute *component name*, which may be used to indicate the nature of the component and/or to provide a heading for the collection of components that are its hierarchical descendants.

6.4.6. Each *EHCR message component* shall contain one optional instance of *component origin* (7.5.2). This identifies the author of the information and the date and time of recording. If the *component origin* is absent from an *EHCR message component*, the origin is inherited from the *EHCR message component* of which the component is a part.

6.4.7. Each *EHCR message component* shall contain several optional instances of *related healthcare party* (7.5.6). These may be used to identify other healthcare parties related to or referenced by the information within the component.

6.4.8. Each *EHCR message component* shall contain several optional instances of *distribution rule reference* (7.6.1).

NOTE 1: A *distribution rule reference* refers to distribution rules that the *EHCR source* (or the *component origin*) has applied to constrain further distribution of or access to this information. The *distribution rule reference* maps directly to the DRLinkReference attribute specified in the {current draft} European Prestandard on EHCR - Distribution Rules (CEN TC251 PT28).

NOTE 2: A *distribution rule reference* may refer to a member of a common set of Distribution Rules held by both communicating parties or to a Distribution Rules communicated as part of the *provide EHCR message*.

6.5 Description of the EHCR extract within the message

6.5.1. The *EHCR extract* (7.7.3) represents the entirety of the EHCR information within the message. Thus it acts as the root of the hierarchical structure of *EHCR message components*. However, it is not necessarily synonymous with the EHCR root or root folder in the specified in the EHCR Extended Architecture. If the message contains a selected subset or an update of EHCR information the *EHCR extract* may represent only a small part of the EHCR. Its structure is illustrated in Figure 10.

6.5.2. The *EHCR extract* is a specialisation of the abstract class *EHCR message component* (7.5.3). Therefore each instance of *EHCR extract* shall include instances of the attributes of *EHCR message component* as specified in 6.4.

6.5.3. The *EHCR extract* shall include one or more optional instances of *record components* (6.4).

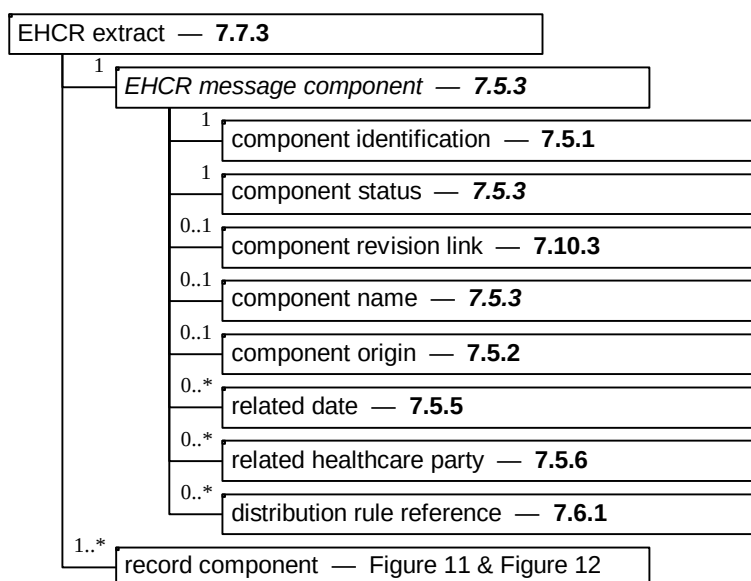


Figure 10. GMD EHCR extract

6.6 Description of the record component within the message

6.6.1. The term *record component* (7.7.8) means any *EHCR message component* (7.5.3) apart from the *EHCR extract* (7.7.3).

6.6.2. Each *record component* shall contain one mandatory *component role* attribute. This specifies the role that the content plays in relation to an *original component complex*. There are three possible roles:

- Structured content – EHCR message components that represent the content of part of the EHCR.
- Context for content – EHCR message components that provide contextual information that applies to all other members of this *original component complex*.
- Narrative text view of content – A *data item* (7.7.5) containing plain text representing the combined meaning of all the other members of this *original component complex*.

NOTE: Narrative text is used to enable receiving systems to produce a human-readable rendering of the information received even if they are unable to process more detailed structural components

6.6.3. Each *record component* shall contain one optional *component order* attribute. This attribute may be used to specify the order of *record components* within an *original component complex*.

6.6.4. Each *record component* may contain one optional *EHCR enterprise item* (7.7.4). Sub-types of this class that may be defined by an enterprise to convey information in structures that are not supported by the standard components of the *provide EHCR message*.

6.6.5. Each *record component* is either a *complex* (7.7.2) that contains or refers to other components or as an *item* (7.7.5) that holds the elementary data within the record. In the case of a revision that marks a previous version of that *record component* as deleted, a *record component* can exist without one of its specialisations.

6.6.6. Each instance of a *complex* (7.7.2) in the message shall be further specialised as either:

- An *original component complex* – part of the primary hierarchical structure of the EHCR (see 6.7).
- A *selected component complex* – a point of reference for alternative grouping or views of the EHCR (see 6.8).

6.6.7. Each instance of an *item* (7.7.5) in the message shall be further specialised as either:

- A *data item* (7.8.3) – a *record component* holding the primary data content of the EHCR.
- A *link item* – a *record component* that links two or more other *record components* (see 7.10.4).
- A *comment item* – a *record component* that contains a text comment on another *record component* (see 7.7.1).

6.7 Description of the original component complex within the message

6.7.1. The structure of an *original component complex* (7.7.6) is illustrated by Figure 11.

6.7.2. An *original component complex* (7.7.6) is a specialisation of the class *record component* (7.7.8). Therefore, each instance of *original component complex* shall include instances of the attributes of *EHCR message component* and *record component* as specified in 6.4 and 6.4.

6.7.3. Each *original component complex* shall contain one optional instance of each of the following *subject of information modifier*, *knowing mode modifier* and *certainty modifier*.

NOTE: Each of these modifiers supports a limited list of values that apply safety critical contextual modifiers to all members of the *original component complex*. The purpose of this restricted set of modifiers is to ensure that safety critical information is not lost when mapping between heterogeneous coding schemes and structures. These modifiers can be supplemented by other means of specifying context using *record components*.

6.7.4. Each *original component complex* shall contain one or more instances of *record component* (see 6.4). Because some or all of these *record components* may *original component complexes* and the message shall be capable of supporting recursive nesting of these *record components*.

6.8 Description of the selected component complex within the message

6.8.1. A *selected component complex* (7.7.9) is a specialisation of the class *record component* (7.7.8). Therefore, each instance of *selected component complex* shall include instances of the attributes of *EHCR message component* as specified in 6.4.

6.8.2. The representation of a *selected component complex* within the *provide EHCR message* contains no additional attributes other than those inherited from the *EHCR message component* class.

6.8.3. The nature of the view shall be indicated by the *EHCR component name* attribute.

6.8.4. In the message *record components* that are part of a view or logical grouping shall be linked to the appropriate *selected component complex* by a *link item* (7.10.4).

NOTE: The *link item* includes a pointer to a *selected component complex* and one or more pointers to other *record components*. The *EHCR link type* attribute of the *link item* indicates whether these *record component* are to be added to or removed from the specified view. This mechanism allows the addition and removal or individual *record component* from/to a view to be attributed an originator rather than assigning the entire view to one originator. This approach is compatible with various other ways of representing views in an EHCR system.

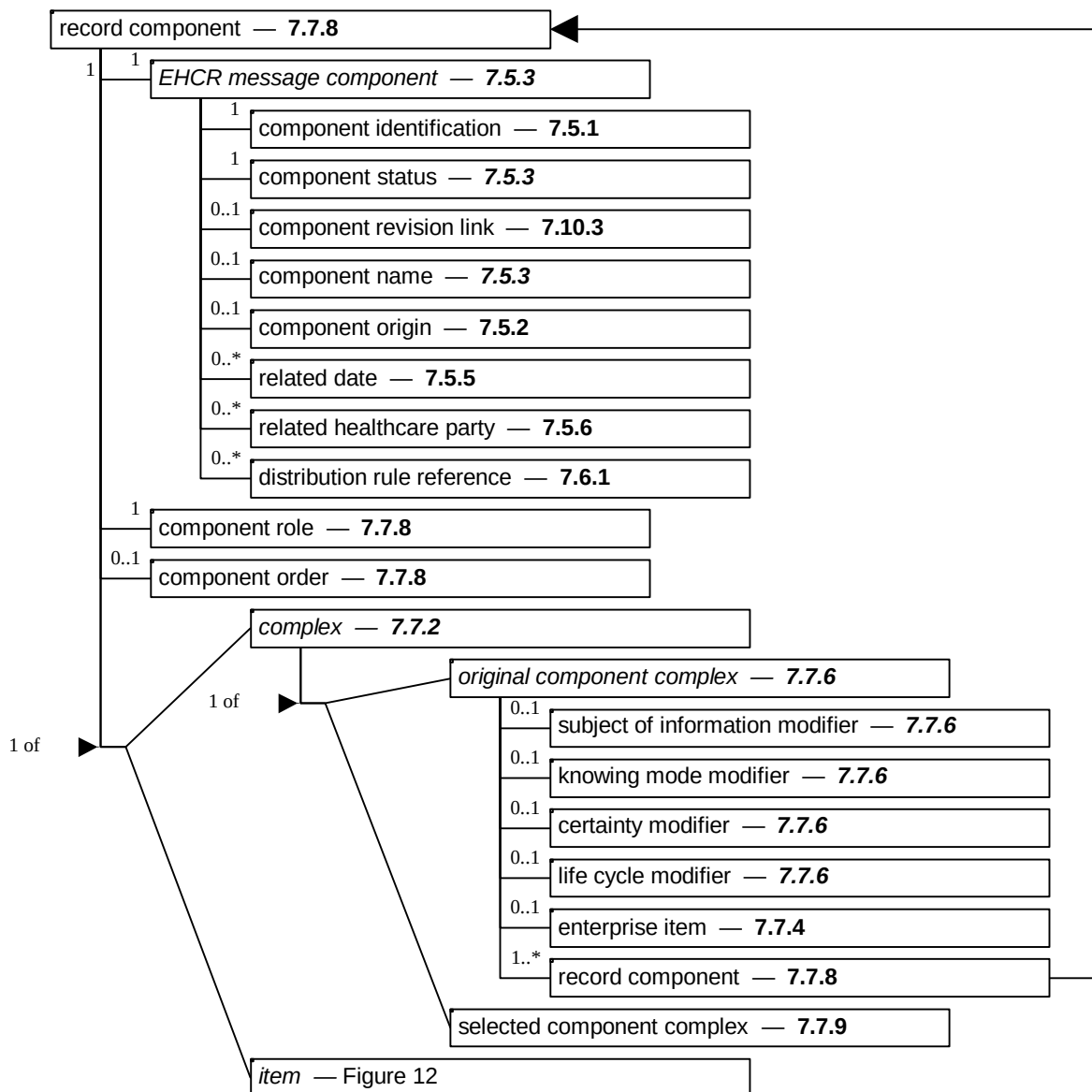


Figure 11. GMD record component - complex

6.9 Description of the data item within the message

6.9.1. The structure of a *data item* (7.8.3) is illustrated by Figure 12.

6.9.2. A *data item* is a specialisation of the class *record component* (7.7.8). Therefore, each instance of *data item* shall include instances of the attributes of *EHCR message component* and *record component* as specified in 6.4 and 6.4.

6.9.3. Each *data item* shall contain a mandatory instance of *data item safety context* (7.8.5). This contain modifiers indicating whether the information contained within the *data item* is expressed in the negative, as a statement of uncertainty or as a statement of something that should be avoided.

NOTE: Each of these modifiers supports a limited list of values that apply safety critical context to the content of *data item*. The purpose of this restricted set of modifiers is to ensure that safety critical information is not lost or misinterpreted when mapping between heterogeneous coding schemes and structures. These modifiers may be supplemented by other means of specifying context at the *original component complex* level.

6.9.4. Each *data item* shall include a mandatory instance of the *data item element type* attribute and an optional instance of the *record element type reference* attribute. These shall be set in a manner that indicates the type of *data item element* (7.8.4) that forms the content of the *data item*. The permissible values of *data item element type* are defined in 7.7.5 and these cover the *data item element* types defined in this European Prestandard. The *record element type reference* attribute is used to refer to additional types of *data item element* defined within a communicating community.

6.9.5. Each *data item* shall include one mandatory instance of a *data item element* of one of the types illustrated in Figure 13 and specified in Clause 7.8.

6.9.6. All implementations of the messages specified by this European Prestandard shall support the following mandatory types of *data item element* as specified in the referenced normative clauses:

- *address element* (7.8.1)
- *date of birth element* (7.8.6)
- *external data reference element* (7.8.7)
- *language element* (B.1.3)
- *patient related party element* (7.8.8)
- *person identifier element* (7.8.9)
- *person name element* (7.8.10)
- *person sex element* (7.8.11)
- *physical entity reference element* (7.8.12)
- *plain text element* (7.8.13)
- *quantifiable observation element* (7.8.14)
- *structured coded element* (7.8.15)
- *telecom element* (7.8.16)

6.9.7. When implementing the messages specified by this European Prestandard consideration should be given to supporting the following additional types of *data item element* as specified in the referenced clauses of Informative Annex B:

- *event element* (B.1.2)
- *medication element* (B.1.4)
- *date of death element* (B.1.1)

6.9.8. Those involved in implementing the messages specified by this European Prestandard may specify additional *community defined elements* (7.8.2) for use within a communicating community. These additional types of *data item element* should be defined using the sub-classes and data types specified in this European Prestandard. To facilitate future extension of communicating communities the specification of *community defined elements* should follow a documentary form similar to that used in this European Prestandard.

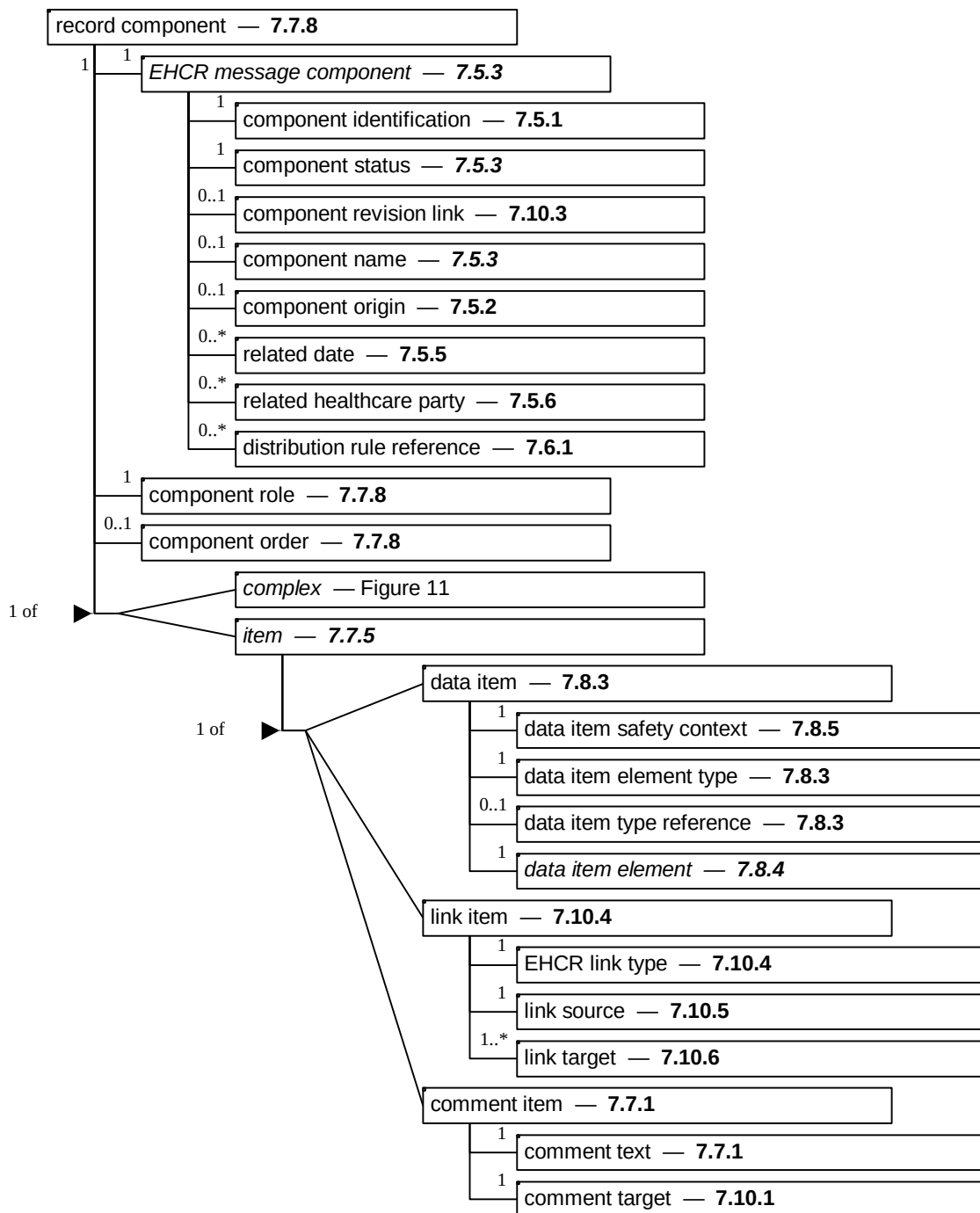


Figure 12. GMD record component - item

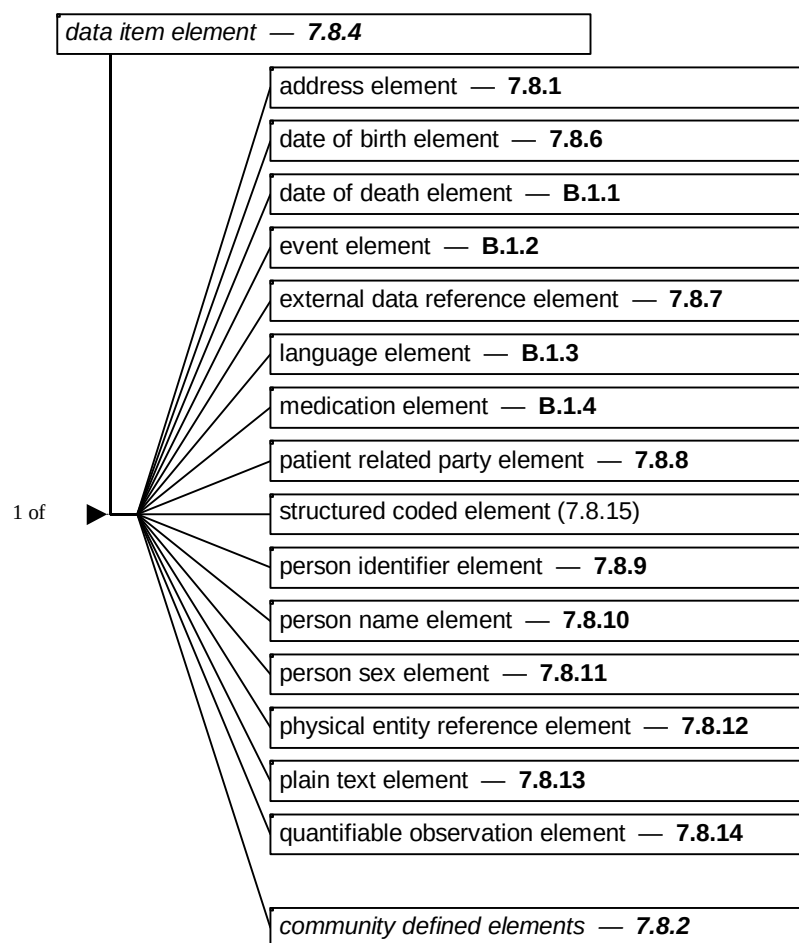


Figure 13. GMD data item element

6.10 Description of the link item within the message

6.10.1. A *link item* (7.10.4) is a specialisation of the class *record component* (7.7.8). Therefore, each instance of *link item* shall include instances of the attributes of *EHCR message component* and *record component* as specified in 6.4 and 6.4.

6.10.2. The *link item* shall also include a single mandatory instance of the *link source* (7.10.5) and *link type* (7.10.4) attributes and one or more instances of the *link target* (7.10.6) attribute.

6.11 Description of the comment item within the message

6.11.1. A *comment item* (7.7.1) is a specialisation of the class *record component* (7.7.8). Therefore, each instance of *comment item* shall include instances of the attributes of *EHCR message component* and *record component* as specified in 6.4 and 6.4.

6.11.2. The *comment item* shall also include a single mandatory instance of both the *comment text* (7.10.4) attribute and the *comment target* (7.10.1) attribute.

6.12 Reject Request for EHCR Message

6.12.1. The *reject request for EHCR message* (7.3.7) should be used to respond to a *request EHCR message* (7.3.8) if the *EHCR source* is unwilling or unable to provide the requested EHCR information. Its structure is described below and illustrated in Figure 14.

6.12.2. The *reject request for EHCR message* shall include the general attributes of a *healthcare message* (7.4.3).

6.12.3. The general attributes of a *healthcare message* (7.4.3) that are mandatory in all instances of this message are *identification of message by originator*, *issue date and time of message*, *urgency of message*, *patient matching information* (7.7.7) and *message receipt acknowledgement request*. The general attributes of a *healthcare message* that are optional in all instances of this message are *originator's comment on message*, *message language* and the details of any number of *healthcare parties* (7.9.2).

NOTE: The details of a *healthcare party* may be included here if they are referred to elsewhere in the message. However, references may also be made within the message to *healthcare parties* in a shared, national, regional or international registry.

6.12.4. The *patient matching information* (7.7.7) included in the message shall contain optional instances of *patient identifiers*, *patient name*, *alternative person name*, *date and time of birth*, *patient administrative sex*, *patient addresses* and *patient matching comment*. At least one of these optional components shall be present in any instance of the message. Communicating communities may specify precise combinations of these attributes required to safely match a message to a patient.

6.12.5. The *reject request for EHCR message* shall include one mandatory instance of *EHCR destination* (7.2.1). This is used to identify the intended recipient of the message.

6.12.6. The *reject request for EHCR message* shall include one mandatory instance of *EHCR source* (7.2.3). This is used to identify the sender of the message.

6.12.7. The *reject request for EHCR message* shall include multiple optional instances of *EHCR intermediary* (7.2.2). Each of these may be used to identify a communicating party (other than the sender and recipient) and to indicate their role in the communication of this message.

6.12.8. The *reject request for EHCR message* shall include one optional instance of *reference to request EHCR message*. This is an instance of *message reference* (7.3.2). It refers to the *request EHCR message* (7.3.8) to which this message is a response.

6.12.9. The *reject request for EHCR message* shall include one mandatory instance of the attribute *reason for rejection of request* to inform the *EHCR destination* about the reason for rejection of their request.

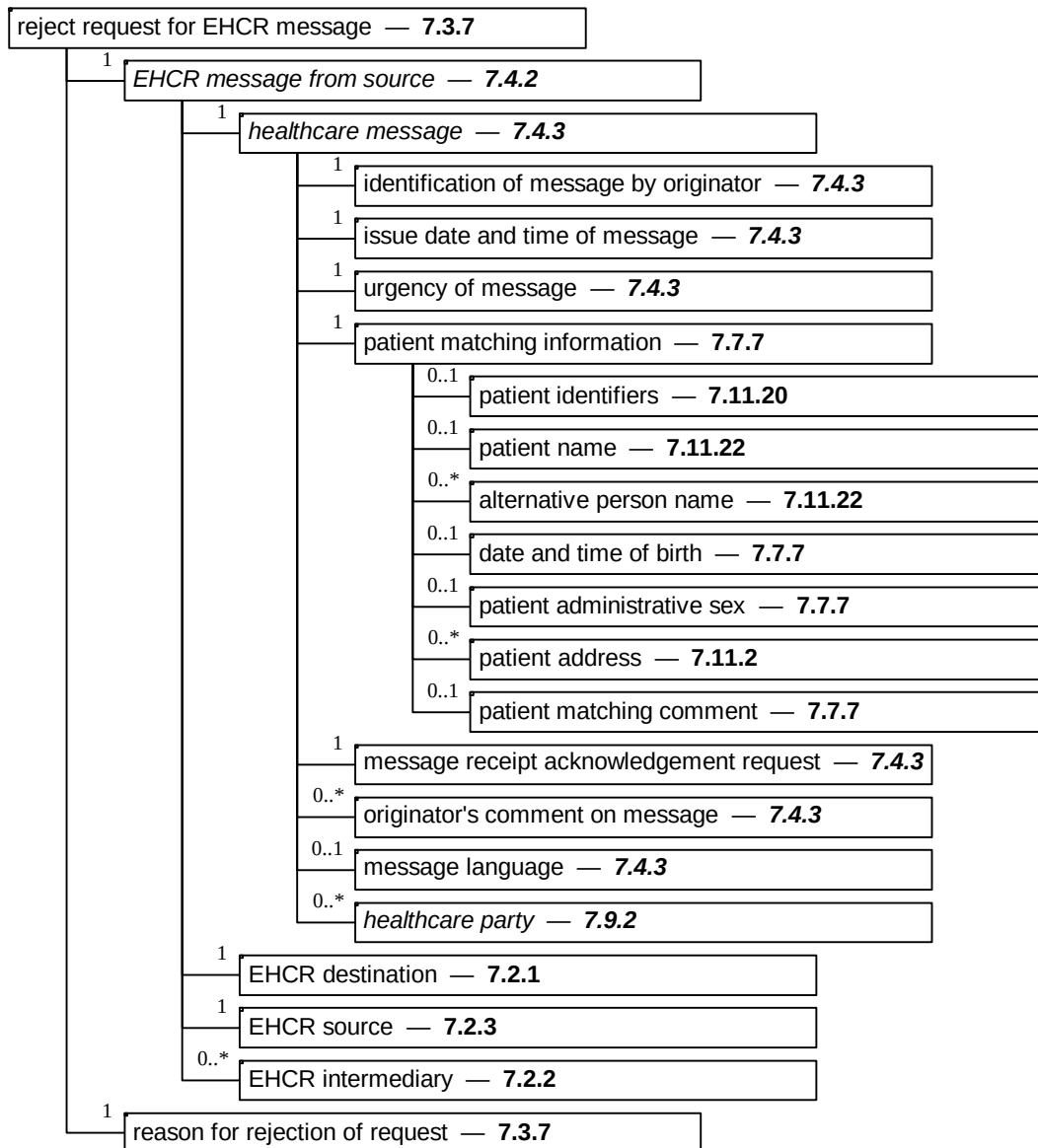


Figure 14. GMD reject request for EHCR message

6.13 Accept EHCR Message

6.13.1. The *accept EHCR message* (7.3.1) should be used to respond to a *provide EHCR message* (7.3.4) if the *EHCR source* requires confirmation of acceptance of the EHCR information. Its structure is described below and illustrated in Figure 15.

6.13.2. The *accept EHCR message* shall include the general attributes of a *healthcare message* (7.4.3).

6.13.3. The general attributes of a *healthcare message* (7.4.3) that are mandatory in all instances of this message are *identification of message by originator*, *issue date and time of message*, *urgency of message*, *patient matching information* (7.7.7) and *message receipt acknowledgement request*. The general attributes of a *healthcare message* that are optional in all instances of this message are *originator's comment on message*, *message language* and the details of any number of *healthcare parties* (7.9.2).

NOTE: The details of a *healthcare party* may be included here if they are referred to elsewhere in the message. However, references may also be made within the message to *healthcare parties* in a shared, national, regional or international registry.

6.13.4. The *patient matching information* (7.7.7) included in the message shall contain optional instances of *patient identifiers*, *patient name*, *alternative person name*, *date and time of birth*, *patient administrative sex*, *patient addresses* and *patient matching comment*. At least one of these optional components shall be present in any instance of the message. Communicating communities may specify precise combinations of these attributes required to safely match a message to a patient..

6.13.5. The *accept EHCR message* shall include one mandatory instance of *EHCR destination* (7.2.1). This is used to identify the sender of the message.

6.13.6. The *accept EHCR message* shall include one mandatory instance of *EHCR source* (7.2.3). This is used to identify the intended recipient of the message.

6.13.7. The *accept EHCR message* shall include multiple optional instances of *EHCR intermediary* (7.2.2). Each of these may be used to identify a communicating party (other than the sender and recipient) and to indicate their role in the communication of this message.

6.13.8. The *accept EHCR message* shall include one optional instance of the attribute *acceptance status* to inform the *EHCR source* about the receipt and acceptance of the EHCR information.

6.13.9. The *accept EHCR message* shall include one optional instance of *reference to provide EHCR message*. This is an instance of *message reference* (7.3.2). It refers to the *provide EHCR message* (7.3.4) to which this message is a response.

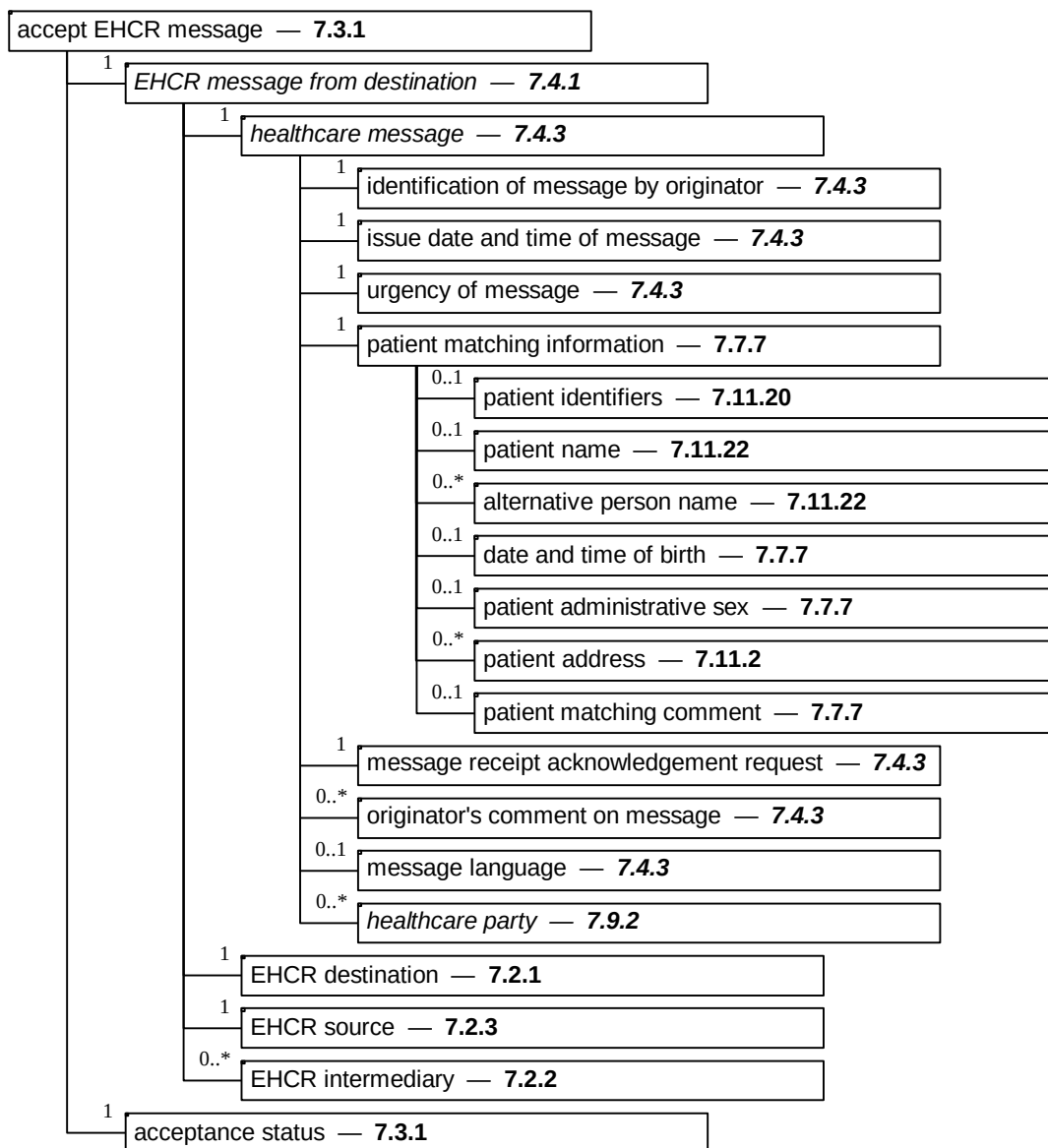


Figure 15. GMD accept EHCR message

7. Domain Information Model and Attribute Descriptions

7.1 Introduction and Top Level Model

7.1.1. This clause contains formal textual specifications of the classes used in the messages in Clause 6. These specifications form part of the normative elements of this European Prestandard. However, the diagrams that
5 accompany them are for illustrative purposes only. While conformance with the entire DIM may facilitate implementation of the messages, this is not a requirement for conformance.

7.1.2. The modelling method used is based on the Unified Modelling Language (UML). Informative Annex A provides a brief summary of the elements of UML used in the diagrams and this should be adequate to enable these illustrations to be understood.

10 7.1.3. The description of the Domain Information Model (DIM) is divided into seven subsystems. These divisions and the relationships between them are illustrated in Figure 16. The divisions made between subsystems are to some extent arbitrary. These divisions are made mainly to aid the clarity and organisation of the documentation and in particular the diagrammatic representations of the DIM.

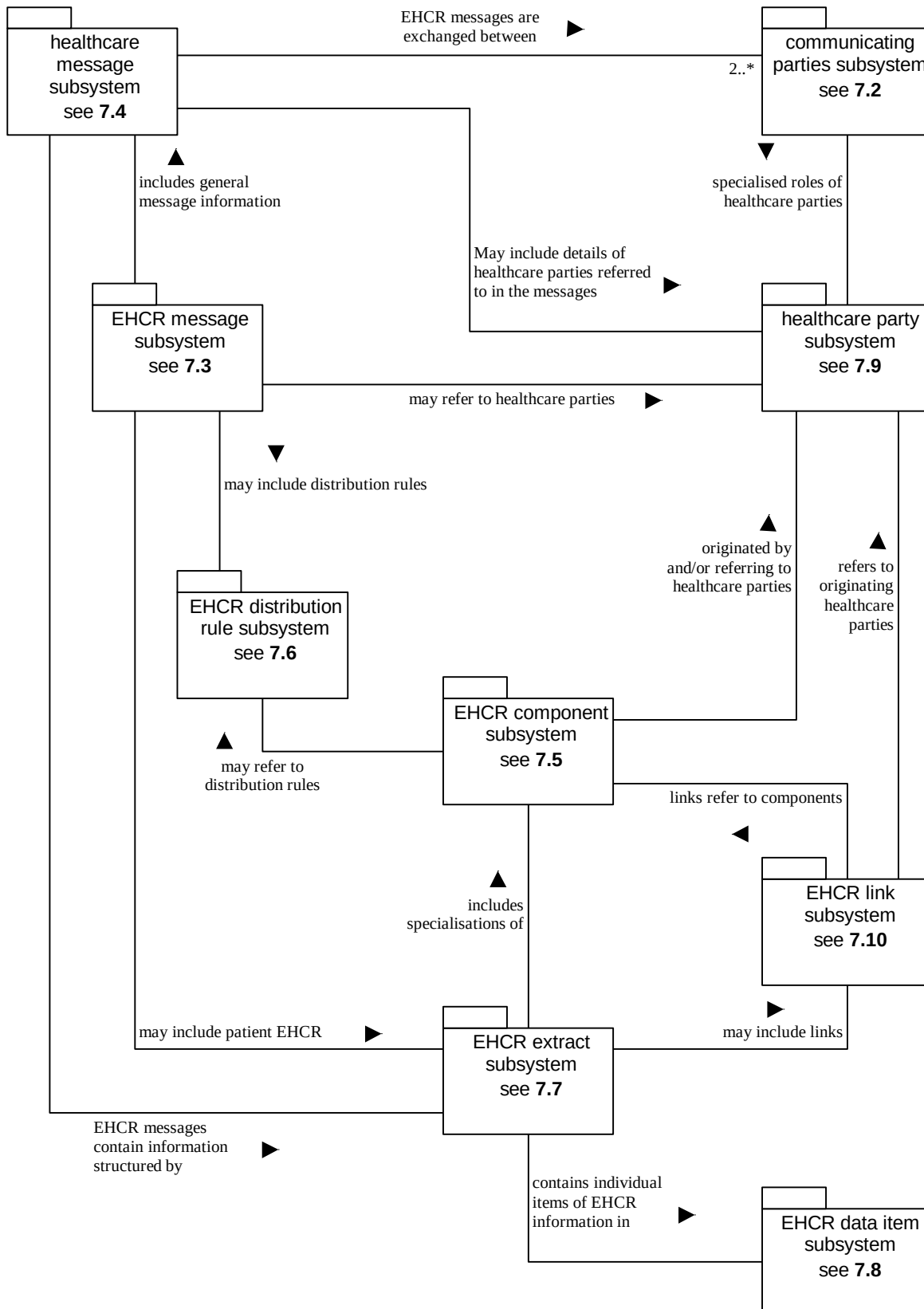


Figure 16. Domain Model - EHCR Message Top Level

7.2 communicating parties subsystem

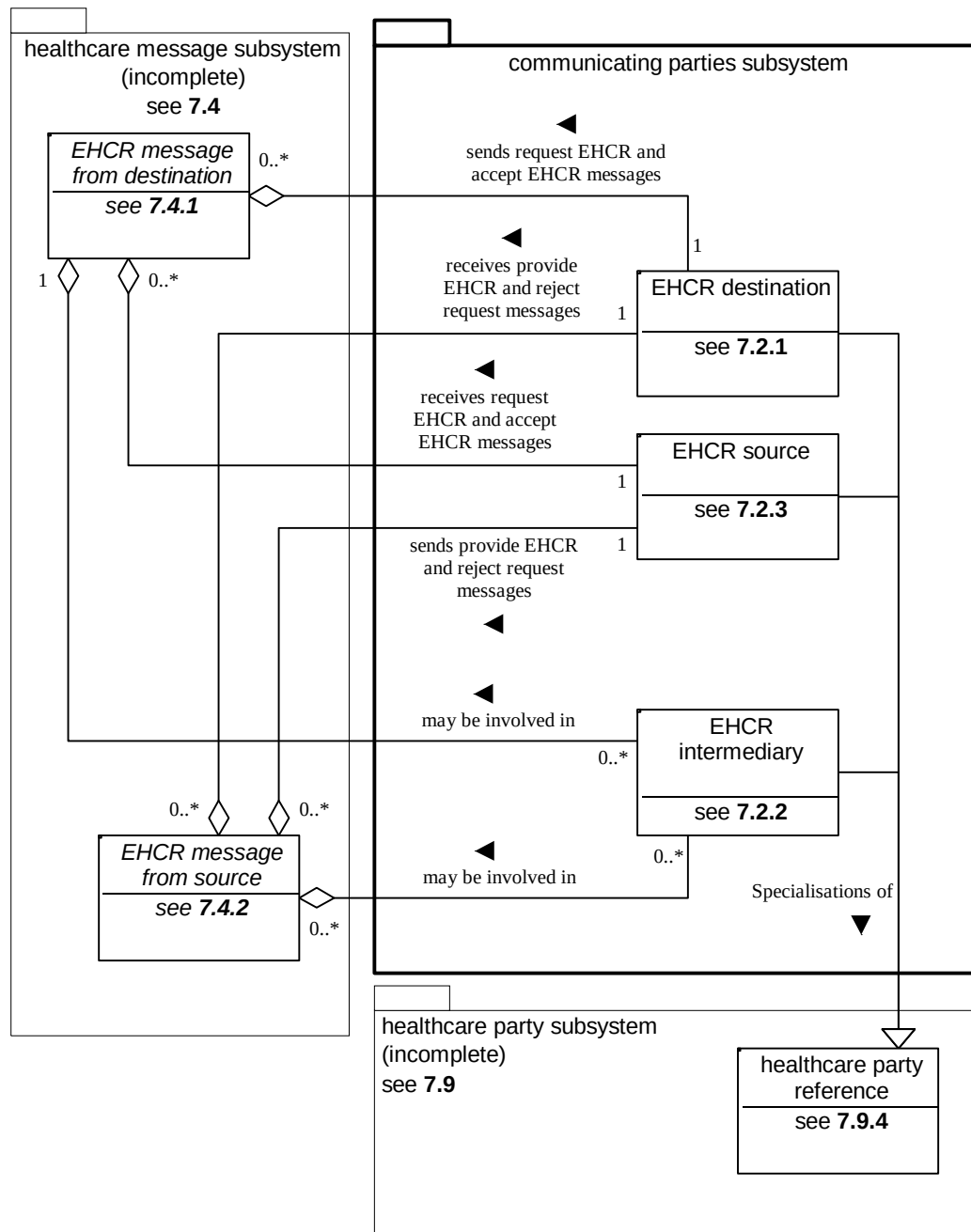


Figure 17. Domain Model - Communicating Parties Subsystem

7.2.1 EHCR destination

Type: class		
Specialisation of: healthcare party reference (7.9.4)		
Description: A <i>healthcare party</i> (7.9.2) that requests or receives EHCR information from another <i>healthcare party</i> (7.9.2) (an <i>EHCR source</i> (7.2.3)).		
Usage An <i>EHCR destination</i> sends any number of <i>EHCR messages from destination</i> (7.4.1). An <i>EHCR destination</i> receives any number of <i>EHCR messages from source</i> (7.4.2).		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	

7.2.2 EHCR intermediary

Type: class		
Specialisation of: healthcare party reference (7.9.4)		
Description: A <i>healthcare party</i> (7.9.2) other than the <i>EHCR source</i> (7.2.3) or <i>EHCR destination</i> (7.2.1) that is involved in the communication of EHCR information.		
Note: An <i>EHCR intermediary</i> may act as a forwarding agent for messages that request or provide EHCR information. An <i>EHCR intermediary</i> may be a Trusted Third Party which confirms that: - the <i>EHCR destination</i> (7.2.1) is entitled to receive a particular EHCR information regarding a particular patient; - the <i>EHCR source</i> (7.2.3) is qualified and/or registered to provide EHCR information.		
Usage An <i>EHCR intermediary</i> may have a role in communication of any number of <i>EHCR messages from source</i> (7.4.2). An <i>EHCR intermediary</i> is part of an <i>EHCR message from destination</i> (7.4.1).		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	
EHCR intermediary role	Type: E [Enumerated]	1
Description: The role of the <i>EHCR intermediary</i> in relation to the current message. Note: In some cases the <i>EHCR intermediary role</i> may apply to a response to the current message or to preceding request message. Values: 0. Clearing-house or routing agent conveying a <i>request EHCR message</i> (7.3.8) to an <i>EHCR source</i> (7.2.3). 1. Clearing-house or routing agent conveying a <i>provide EHCR message</i> (7.3.4) from an <i>EHCR source</i> (7.2.3) to an <i>EHCR destination</i> (7.2.1) or nominated in a <i>request EHCR message</i> (7.3.8) to convey the requested <i>provide EHCR message</i> (7.3.4). 2. Authorising body or TTP able to verify that the <i>EHCR destination</i> (7.2.1) is entitled to receive a <i>provide EHCR message</i> (7.3.4). 3. Authorising body or TTP able to verify that the <i>EHCR source</i> (7.2.3) is qualified or registered to send a <i>provide EHCR message</i> (7.3.4). 4. A party able to provide supporting information to identify the patient to who an anonymous <i>provide EHCR message</i> (7.3.4) refers. 5+. Other roles specified by agreement between communicating parties.		

7.2.3 EHCR source

Type: class		
Specialisation of: healthcare party reference (7.9.4)		
Description: A <i>healthcare party</i> (7.9.2) to whom a request for EHCR information is submitted or from whom EHCR information is received.		
Usage		
An <i>EHCR source</i> sends any number of <i>EHCR messages from source</i> (7.4.2).		
An <i>EHCR source</i> receives any number of <i>EHCR messages from destination</i> (7.4.1).		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	

7.3 EHCR message subsystem

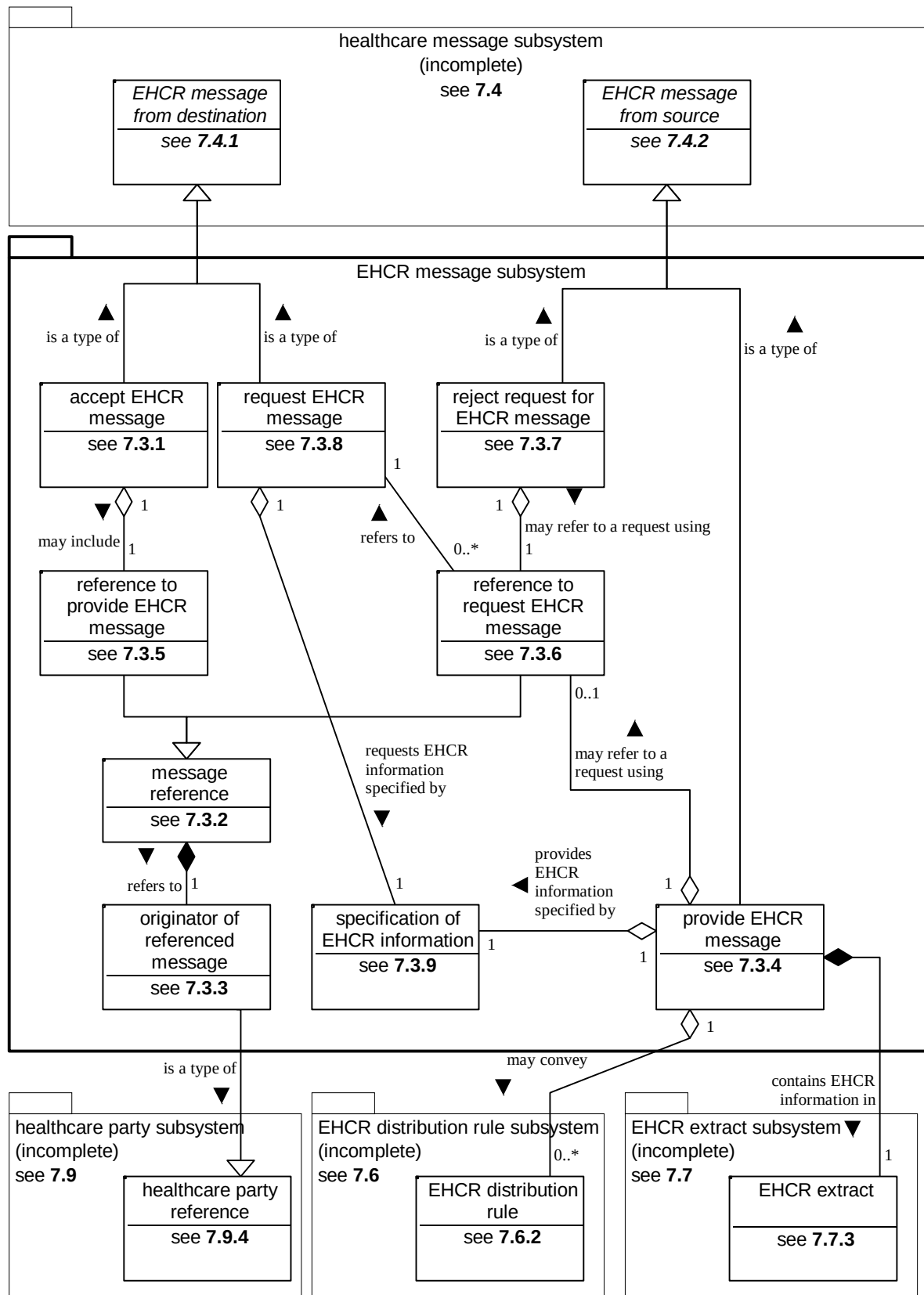


Figure 18. Domain Model - EHCR Message Subsystem

7.3.1 accept EHCR message

Type: message		
Specialisation of: EHCR message from destination (7.4.1)		
Description: A message used to indicate that a <i>healthcare party</i> (7.9.2) has received a <i>provide EHCR message</i> (7.3.4). Note: According to the way in which communicating parties interact, the <i>EHCR destination</i> (7.2.1) may use the <i>accept EHCR message</i> to notify the <i>EHCR source</i> (7.2.3) of an action they have taken or a responsibility they have accepted following receipt of the <i>provide EHCR message</i> (7.3.4). However, this message is not intended to undertake or replace any administrative or contractual exchange required to support transfer of care or referral. The primary purpose of this message is to notify that the EHCR has been received by a clinical application and seen by a duly authorised <i>healthcare professional</i> (7.9.5).		
Components An <i>accept EHCR message</i> may include a <i>reference to provide EHCR message</i> (7.3.5).		
Attributes		
Attributes of generalisation	EHCR message from destination (7.4.1)	
acceptance status	Type: C/S [Code or String] (7.12.2)	1
<i>Description:</i> Indication of whether the <i>EHCR destination</i> (7.2.1) has accepted the <i>provide EHCR message</i> (7.3.4).		
reference to provide EHCR message (7.3.5)	Type: class	1
<i>Description:</i> A <i>message reference</i> (7.3.2) identifying the <i>provide EHCR message</i> (7.3.4) accepted by this message.		

7.3.2 message reference

Type: class		
Description: A reference to an identified message from within another message.		
Specialisations A <i>message reference</i> is specialised as a <i>reference to request EHCR message</i> (7.3.6) or a <i>reference to provide EHCR message</i> (7.3.5).		
Components A <i>message reference</i> refers to an <i>originator of referenced message</i> (7.3.3).		
Attributes		
originator of referenced message (7.3.3)	Type: class	1
<i>Description:</i> A class containing a <i>healthcare party reference</i> (7.9.4) that identifies the originator or another message referred to in the current message. This information is required to enable a message to be uniquely identified.		
identification of referenced message by its originator	Type: S [String]	1
<i>Description:</i> A unique identifier of a message assigned by its originator. The identifier should be unique across the full range of healthcare messages sent by the originator.		
identification of referenced message by originator of current message	Type: S [String]	0 or 1
<i>Description:</i> This identifier may be assigned to a message by a recipient to provide an alternative mechanism by which they can refer to it in subsequent communications. <i>Note:</i> The preferred means of identifying a message is by a unique identifier assigned to the message by its originator combined with the identification of the originating <i>healthcare party</i> (7.9.2).		

issue date and time of message	Type: TOCD [Time+Date]	0 or 1
<i>Description:</i> Date and time at which a message is issued by the sending application. <i>Note:</i> This need not be the same as the date/time at which the message is dispatched to the message handling service or network service provider.		

7.3.3 originator of referenced message

Type: class Specialisation of: healthcare party reference (7.9.4)		
Description: A class containing a <i>healthcare party reference</i> (7.9.4) that identifies the originator or another message referred to in the current message. This information is required to enable a message to be uniquely identified.		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	

7.3.4 provide EHCR message

Type: message Specialisation of: EHCR message from source (7.4.2)		
Description: A message used to convey all or part of the information in an EHCR for a specified patient from one <i>healthcare party</i> (7.9.2) to another <i>healthcare party</i> (7.9.2).		
Components <i>A provide EHCR message</i> provides EHCR information specified by <i>specification of EHCR information</i> (7.3.9). <i>A provide EHCR message</i> may refer to a request using a <i>reference to request EHCR message</i> (7.3.6). <i>A provide EHCR message</i> may convey any number of <i>EHCR distribution rules</i> (7.6.2). <i>A provide EHCR message</i> contains EHCR information in an <i>EHCR extract</i> (7.7.3).		
Attributes		
Attributes of generalisation	EHCR message from source (7.4.2)	
specification of EHCR information (7.3.9)	Type: class	1
<i>Description:</i> A specification of the language and completeness of content of the EHCR information requested or provided. The specification may also include an identification of the nature of the enterprise environment of the party sending the message.		
reference to request EHCR message (7.3.6)	Type: class	0 or 1
<i>Description:</i> A <i>message reference</i> (7.3.2) identifying the <i>request EHCR message</i> (7.3.8) to which this message is a response.		
EHCR distribution rule (7.6.2)	Type: class	0 or many
<i>Description:</i> This class is to be represented in the manner specified in the proposed European Prestandard on EHCR Distribution Rules (## current work of CEN TC251 PT28 ##).		
EHCR extract (7.7.3)	Type: class	1
<i>Description:</i> An <i>EHCR message component</i> (7.5.3) that represents the entire EHCR content of the message. If the message contains the entire EHCR for the patient the <i>EHCR extract</i> is synonymous with the EHCR root class in the European Prestandard for EHCR Extended Architecture (## current work of CEN TC251 PT26 ##).		

7.3.5 reference to provide EHCR message

Type: class		
Specialisation of: message reference (7.3.2)		
Description: A message reference (7.3.2) identifying the provide EHCR message (7.3.4) accepted by this message.		
Usage A reference to provide EHCR message may be part of an accept EHCR message (7.3.1) .		
Attributes		
Attributes of generalisation	message reference (7.3.2)	

7.3.6 reference to request EHCR message

Type: class		
Specialisation of: message reference (7.3.2)		
Description: A message reference (7.3.2) identifying the request EHCR message (7.3.8) to which this message is a response.		
Usage A reference to request EHCR message is part of a provide EHCR message (7.3.4) . A reference to request EHCR message is part of a reject request for EHCR message (7.3.7) .		
Associations A reference to request EHCR message refers to a request EHCR message (7.3.8) .		
Attributes		
Attributes of generalisation	message reference (7.3.2)	

7.3.7 reject request for EHCR message

Type: message		
Specialisation of: EHCR message from source (7.4.2)		
Description: A message that indicates that the sender is declining to send all or part of an EHCR in response to a request EHCR message (7.3.8) .		
Note: A request may be rejected for various different reasons. These include the following: - the party from whom the record was requested does not hold an EHCR for the specified patient. - the EHCR does not hold the information requested. - the EHCR or the requested information cannot be divulged due to confidentiality constraints imposed by the patient, by legislation or by ethical guidelines.		
Components A reject request for EHCR message may refer to a request using a reference to request EHCR message (7.3.6) .		
Attributes		
Attributes of generalisation	EHCR message from source (7.4.2)	
reason for rejection of request	Type: C/S [Code or String] (7.12.2)	1
<i>Description:</i> An indication of the reason for rejecting a request for the EHCR.		
reference to request EHCR message (7.3.6)	Type: class	1
<i>Description:</i> A message reference (7.3.2) identifying the request EHCR message (7.3.8) to which this message is a response.		

7.3.8 request EHCR message

Type: message		
Specialisation of: EHCR message from destination (7.4.1)		
Description: A message used by one <i>healthcare party</i> (7.9.2) to request another <i>healthcare party</i> (7.9.2) to provide them with all or part of the EHCR that they hold for a specified patient.		
Associations A <i>request EHCR message</i> may be referred to by any number of <i>reference to request EHCR messages</i> (7.3.6).		
Components A <i>request EHCR message</i> requests EHCR information specified by <i>specification of EHCR information</i> (7.3.9).		
Attributes		
Attributes of generalisation	EHCR message from destination (7.4.1)	
specification of EHCR information (7.3.9)	Type: class	1
<i>Description:</i> A specification of the language and completeness of content of the EHCR information requested or provided. The specification may also include an identification of the nature of the enterprise environment of the party sending the message.		
reason for request	Type: C+S [Code+String] (7.12.3)	1
<i>Description:</i> An indication of the reason for requesting the EHCR.		

7.3.9 specification of EHCR information

Type: class		
Description: A specification of the language and completeness of content of the EHCR information requested or provided. The specification may also include an identification of the nature of the enterprise environment of the party sending the message.		
Usage <i>specification of EHCR information</i> specifies the EHCR information requested by a <i>request EHCR message</i> (7.3.8). <i>specification of EHCR information</i> specifies the EHCR information provided by a <i>provide EHCR message</i> (7.3.4).		
Attributes		
EHCR language	Type: V [Code Value] (7.12.5)	0 or 1
<i>Description:</i> The language in which the EHCR is requested or provided. <i>Note:</i> Represented by the abbreviations specified in ISO 639.		
enterprise identification	Type: C [Coded] (7.12.1)	0 or 1
<i>Description:</i> An indication of the enterprise environment applicable to an EHCR message or to an <i>enterprise item</i> (7.7.4) within a message. <i>Note:</i> When used in a <i>provide EHCR message</i> (7.3.4) the <i>enterprise identification</i> indicates the source of reference for <i>enterprise items</i> (7.7.4) in the message. When used in a <i>request EHCR message</i> (7.3.8) the <i>enterprise identification</i> indicates the enterprise capabilities of the <i>EHCR destination</i> (7.2.1).		

EHCR scope	Type: E [Enumerated]	1
<i>Description:</i> An indication of whether the EHCR information contained in (or requested by) the message is complete, a selected subset or an update of changes during a specified <i>EHCR update period</i>. <i>Note:</i> The message does not provide a mechanism for constructing and submitting detailed selection criteria for subset of the EHCR. However, the scope of the EHCR information provided may be a subset of the record selected by a healthcare professional (7.9.5) acting as the EHCR source (7.2.3). When the message is used to convey a subset of the message the EHCR subset description may be used to describe the nature of the subset. <i>Values:</i> 0. Complete 1. Subset 2. Update determined by <i>EHCR update period</i>		
EHCR subset description	Type: S [String]	0 or 1
<i>Description:</i> A description the nature of a subset of the EHCR included a provide EHCR message (7.3.4) or requested by a request EHCR message (7.3.8). <i>Note:</i> A subset of the EHCR may be a general purpose summary or may be created to provide a particular view of the patient. The <i>EHCR subset description</i> provides a free text label to indicate the nature of the subset. It is not intended to be used for automated selection. This attribute should only be used if the <i>EHCR scope</i> attribute is set as "subset". <i>Example(s):</i> General summary, nursing care records, summary from diabetic specialist for ophthalmologist.		
EHCR update period	Type: period (7.11.21)	0 or 1
<i>Description:</i> <i>EHCR update period</i> the period of time to which the requested or provided parts of the EHCR applies. <i>Note:</i> Unless otherwise agreed between the communicating parties, the period applies to the date and time or origin of the relevant EHCR message components (7.5.3).		

7.4 healthcare message subsystem

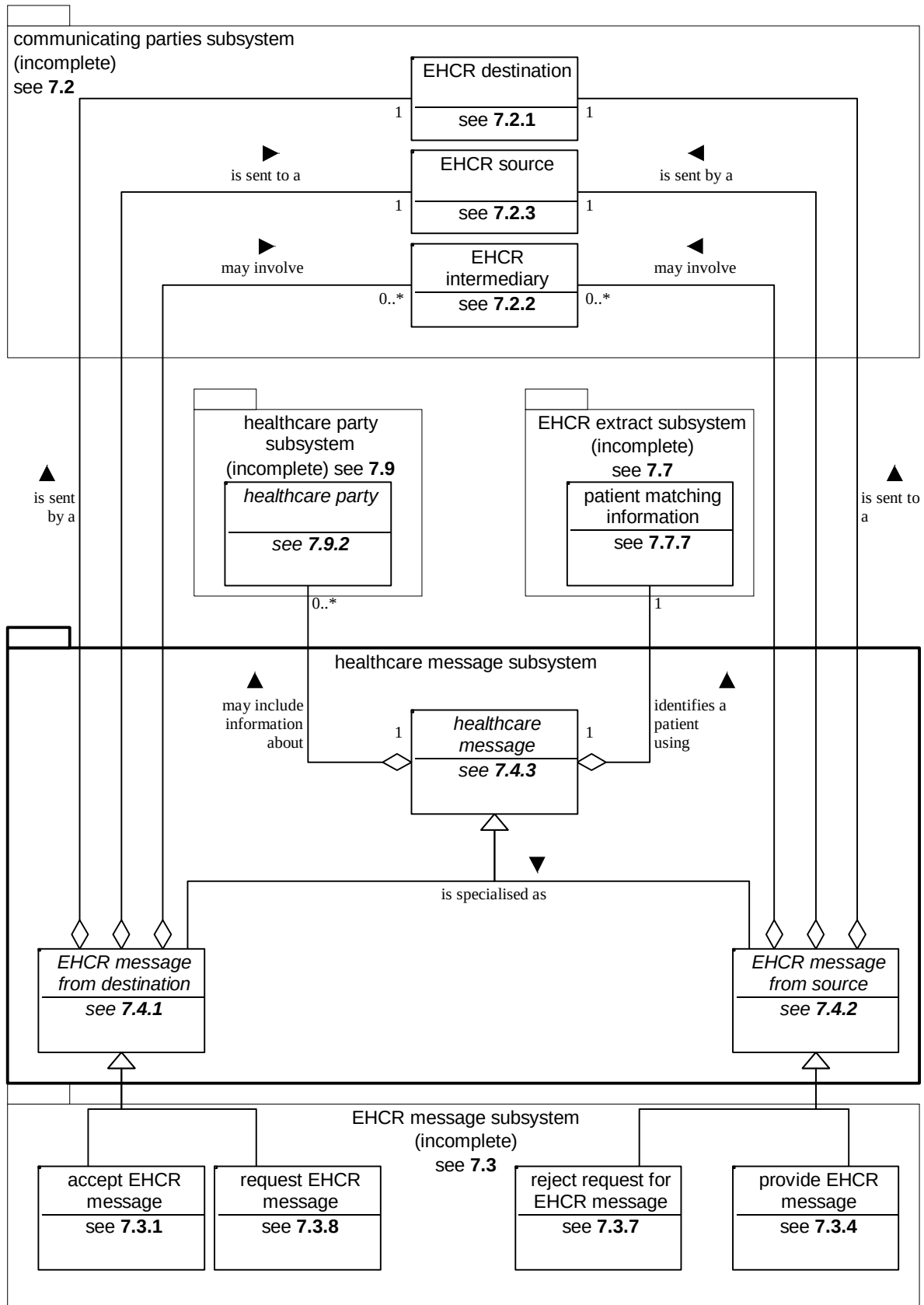


Figure 19. Domain Model - Healthcare Message Subsystem

7.4.1 EHCR message from destination

Type: class		
Specialisation of: healthcare message (7.4.3)		
Description: An abstract class representing the attributes and relationships common to all messages sent by an <i>EHCR destination</i> (7.2.1) to an <i>EHCR source</i> (7.2.3).		
Note: This is an abstract class. It is only instantiated as instances of one of its specialisations.		
Specialisations An <i>EHCR message from destination</i> is specialised as a <i>request EHCR message</i> (7.3.8) or an <i>accept EHCR message</i> (7.3.1).		
Attributes		
Attributes of generalisation	healthcare message (7.4.3)	
EHCR destination (7.2.1)	Type: class	1
<i>Description:</i> A <i>healthcare party</i> (7.9.2) that requests or receives EHCR information from another <i>healthcare party</i> (7.9.2) (an <i>EHCR source</i> (7.2.3)).		
EHCR source (7.2.3)	Type: class	1
<i>Description:</i> A <i>healthcare party</i> (7.9.2) to whom a request for EHCR information is submitted or from whom EHCR information is received.		
EHCR intermediary (7.2.2)	Type: class	0 or many
<i>Description:</i> A <i>healthcare party</i> (7.9.2) other than the <i>EHCR source</i> (7.2.3) or <i>EHCR destination</i> (7.2.1) that is involved in the communication of EHCR information.		

7.4.2 EHCR message from source

Type: class		
Specialisation of: healthcare message (7.4.3)		
Description: An abstract class representing the attributes and relationships common to all messages sent by an <i>EHCR source</i> (7.2.3) to an <i>EHCR destination</i> (7.2.1).		
Note: This is an abstract class. It is only instantiated as instances of one of its specialisations.		
Specialisations An <i>EHCR message from source</i> is specialised as a <i>provide EHCR message</i> (7.3.4) or a <i>reject request for EHCR message</i> (7.3.7).		
Attributes		
Attributes of generalisation	healthcare message (7.4.3)	
EHCR destination (7.2.1)	Type: class	1
<i>Description:</i> A <i>healthcare party</i> (7.9.2) that requests or receives EHCR information from another <i>healthcare party</i> (7.9.2) (an <i>EHCR source</i> (7.2.3)).		
EHCR source (7.2.3)	Type: class	1
<i>Description:</i> A <i>healthcare party</i> (7.9.2) to whom a request for EHCR information is submitted or from whom EHCR information is received.		
EHCR intermediary (7.2.2)	Type: class	0 or many
<i>Description:</i> A <i>healthcare party</i> (7.9.2) other than the <i>EHCR source</i> (7.2.3) or <i>EHCR destination</i> (7.2.1) that is involved in the communication of EHCR information.		

7.4.3 healthcare message

Type: class		
Description: Information applicable to all messages.		
Note: Includes urgency of the message, request for acknowledgement, comments and language.		
Specialisations A healthcare message is specialised as an <i>EHCR message from source</i> (7.4.2) or an <i>EHCR message from destination</i> (7.4.1). A healthcare message may be specialised as any number of <i>EHCR messages from destination</i> (7.4.1).		
Components A healthcare message identifies a patient using <i>patient matching information</i> (7.7.7). A healthcare message may include information about any number of <i>healthcare parties</i> (7.9.2).		
Attributes		
identification of message by originator	Type: S [String]	1
<i>Description:</i> Identifier assigned by the originator of a message. <i>Note:</i> This <i>identifier</i> (7.11.8) must be globally unique across all messages originating from a particular healthcare party. The originator shall not assign the same <i>identifier</i> (7.11.8) to any other message that conforms with a European Standard or European Prestandard promulgated by CEN Technical Committee 251 Healthcare Informatics.		
issue date and time of message	Type: TOCD [Time+Date]	1
<i>Description:</i> Date and time at which a message is issued by the sending application. <i>Note:</i> This need not be the same as the date/time at which the message is dispatched to the message handling service or network service provider.		
urgency of message	Type: E [Enumerated]	1
<i>Description:</i> Indication by sender of the urgency with which the receiver should deal with the request. <i>Note:</i> This attribute allows a receiving system to draw the attention of users to urgent messages. <i>Values:</i> 0. Low 1. Medium 2. High		
patient matching information (7.7.7)	Type: class	1
<i>Description:</i> Information provided for the purpose of matching an EHCR related message to a uniquely identified individual patient.		
message receipt acknowledgement request	Type: B [Boolean]	1
<i>Description:</i> Indication of whether or not the issuer of a message requests an acknowledgement of receipts by the recipient.		
originator's comment on message	Type: C/S [Code or String] (7.12.2)	0 or many
<i>Description:</i> A comment from the sender of the message. <i>Note:</i> The comment should only be used to convey information that cannot be represented in other attributes of the <i>healthcare message</i> class.		
message language	Type: V [Code Value] (7.12.5)	0 or 1
<i>Description:</i> The language in which the message contents are expressed. <i>Note:</i> Represented by the abbreviations specified in ISO 639.		
healthcare party (7.9.2)	Type: class	0 or many
<i>Description:</i> Information about an organisation or person responsible for the direct or indirect provision of healthcare services, or involved in the provision of healthcare related services.		

7.5 EHCR component subsystem

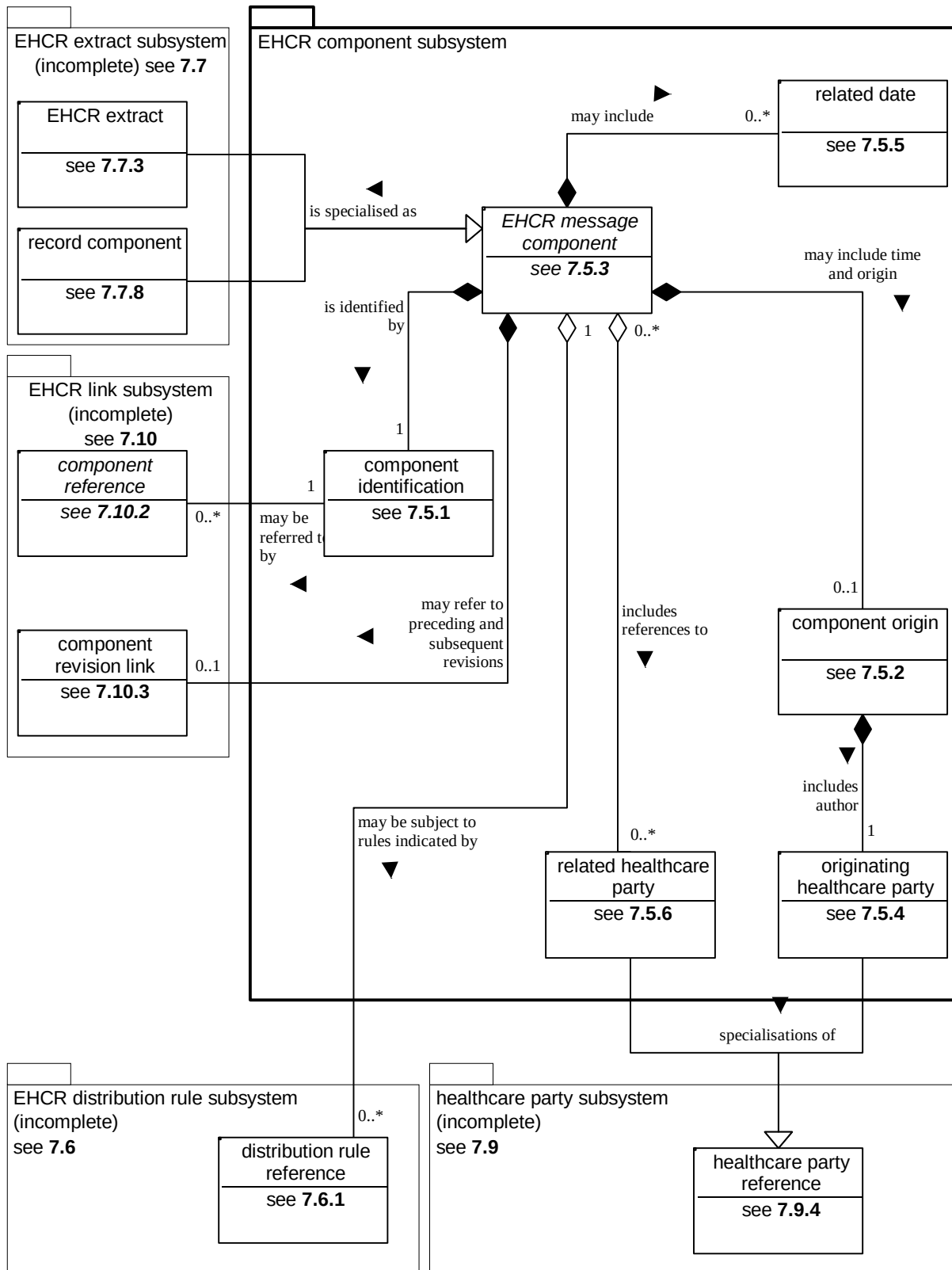


Figure 20. Domain Model - EHCR Component Subsystem

7.5.1 component identification

Type: class		
Description: A unique identification of an <i>EHCR message component</i> (7.5.3).		
Note: The <i>component identification</i> includes <i>scope of EHCR component identifier</i> attribute that allows the <i>EHCR source</i> (7.2.3) to indicate that the identifier is unique within a particular scope.		
Usage A <i>component identification</i> identifies an <i>EHCR message component</i> (7.5.3).		
Associations A <i>component identification</i> may be referred to by any number of <i>component references</i> (7.10.2).		
Attributes		
EHCR component identifier	Type: S [String]	1
<i>Description:</i> This identification shall uniquely identify an instance of an <i>EHCR message component</i> (7.5.3) from all other instances belonging to the same EHCR. The scope within which this identification is unique may be limited as indicated by the attribute <i>scope of EHCR component identifier</i> .		
scope of EHCR component identifier	Type: E [Enumerated]	1
<i>Description:</i> An indication of whether the identifier is unique within this message or a globally unique identifier within the EHCR held by its originator.		
<i>Note:</i> The identifier should be unique within the scope of the EHCR held by the <i>EHCR source</i> (7.2.3). However, systems that do not support unique internal identification of record components may use this attribute to indicate that the identifier is unique within a more limited scope.		
<i>Values:</i>		
0. Unique within message.		
1. Unique within originator's EHCR for this patient.		
2. Unique within originator's system.		

7.5.2 component origin

Type: class		
Description: Identifies the origin of an <i>EHCR message component</i> (7.5.3). This includes the <i>healthcare party</i> (7.9.2) responsible for adding this <i>EHCR message component</i> (7.5.3) to the EHCR system on which it originated and the date and time at which this was done.		
Usage A <i>component origin</i> is part of an <i>EHCR message component</i> (7.5.3).		
Components A <i>component origin</i> includes the author as an <i>originating healthcare party</i> (7.5.4).		
Attributes		
originating healthcare party (7.5.4)	Type: class	1
<i>Description:</i> A reference to the <i>healthcare party</i> (7.9.2) responsible for adding the <i>EHCR message component</i> (7.5.3) to the record.		
recording date and time	Type: TOCD [Time+Date]	1
<i>Description:</i> Date and time on which the <i>EHCR message component</i> (7.5.3) was added to the EHCR system on which it originated.		
<i>Note:</i> The time should be specified as using hours, minutes and where possible seconds. However, the message should permit systems that do not time stamp individual components at this level of details to apply less a less accurate timestamp, if this is considered acceptable by a communicating community.		

7.5.3 EHCR message component

Type: class		
Description: The <i>EHCR message component</i> is abstract class representing the attributes and relationships common to the all parts of an electronic health care record contained within an EHCR message. Each <i>EHCR message component</i> contains sufficient information to render it identifiable for the purposes of referencing and revision. Note: The <i>EHCR message component</i> is an abstract class. Therefore it is only exists as instances of one of its two specialisations. These are the <i>EHCR extract</i> (7.7.3) which represents the top-level of the EHCR hierarchy within the message and the <i>record component</i> (7.7.8) which represents the subdivision of the EHCR within the message. Conceptually the <i>EHCR message component</i> is similar to the "EHCR architectural component" in specified in the EHCR Extended Architecture (## current work of CEN TC251 PT26 ##) but it incorporates some modifications specific to the requirements of messaging.		
Specialisations An <i>EHCR message component</i> is specialised as an <i>EHCR extract</i> (7.7.3) or a <i>record component</i> (7.7.8).		
Components An <i>EHCR message component</i> is identified by a <i>component identification</i> (7.5.1). An <i>EHCR message component</i> may refer to the preceding version using a <i>component revision link</i> (7.10.3). An <i>EHCR message component</i> refers to its author and time of origin using a <i>component origin</i> (7.5.2). An <i>EHCR message component</i> may include any number of <i>related dates</i> (7.5.5). An <i>EHCR message component</i> includes references to any number of <i>related healthcare parties</i> (7.5.6). An <i>EHCR message component</i> may be subject to rules indicated by any number of <i>distribution rule references</i> (7.6.1).		
Attributes		
component identification (7.5.1)	Type: class	1
<i>Description:</i> A unique identification of an <i>EHCR message component</i> .		
component status	Type: E [Enumerated]	1
<i>Description:</i> Indication of whether the <i>EHCR message component</i> is the current valid version, has been superseded or is an empty component that deletes a previous component. <i>Note:</i> A "current" <i>EHCR message component</i> may later be superseded by another component that refers to it using the <i>component revision link</i> (7.10.3). A "superseded" <i>EHCR message component</i> may be conveyed in a message to provide a record of previous versions of component. A "void" <i>EHCR message component</i> is used to delete a previous component. If the status is "void" the component is an unspecialised instance of the class <i>record component</i> (7.7.8). <i>Values:</i> 0. Current 1. Superseded		
component revision link (7.10.3)	Type: class	0 or 1
<i>Description:</i> A link to the <i>EHCR message component</i> that contains the immediately preceding version of this <i>component revision link</i> .		
component name	Type: C [Coded] (7.12.1)	0 or 1
<i>Description:</i> The name of the EHCR component. This identifies the role of the component. <i>Note:</i> Equivalent to ENV12265 Clause 4.6.3 Name.		

component origin (7.5.2)	Type: class	0 or 1
<i>Description:</i> Identifies the origin of an <i>EHCR message component</i> . This includes the <i>healthcare party (7.9.2)</i> responsible for adding this <i>EHCR message component</i> to the EHCR system on which it originated and the date and time at which this was done.		
related date (7.5.5)	Type: class	0 or many
<i>Description:</i> A date related to an <i>EHCR message component</i> .		
related healthcare party (7.5.6)	Type: class	0 or many
<i>Description:</i> Information about a <i>healthcare party (7.9.2)</i> that has a role in relation to an <i>EHCR message component</i> other than as the originator of that <i>EHCR message component</i> .		
distribution rule reference (7.6.1)	Type: class	0 or many
<i>Description:</i> A <i>distribution rule reference</i> applies a referenced <i>EHCR distribution rule (7.6.2)</i> to an <i>EHCR message component</i> .		

7.5.4 **originating healthcare party**

Type: class		
Specialisation of: healthcare party reference (7.9.4)		
Description: A reference to the <i>healthcare party (7.9.2)</i> responsible for adding the <i>EHCR message component (7.5.3)</i> to the record.		
Note: Other parties associated with the component are represented as <i>related healthcare parties (7.5.6)</i>		
Usage An <i>originating healthcare party</i> is part of a <i>component origin (7.5.2)</i> .		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	

7.5.5 **related date**

Type: class		
Description: A date related to an <i>EHCR message component (7.5.3)</i> .		
Note: The meaning of the date is determined by the related date role. The system timestamp representing the creation or modification of a component shall not be expressed as a <i>related date</i> . The recording date and time attribute of the <i>component origin (7.5.2)</i> class shall be used for this purpose.		
Example(s): The date of a past event, the start and end dates (or dates and times) of a procedure, a planned or scheduled future date, etc.		
Usage A <i>related date</i> specifies a date applicable to an <i>EHCR message component (7.5.3)</i> .		
Attributes		
date	Type: TOCD [Time+Date]	1
<i>Description:</i> A date associated with an <i>EHCR message component (7.5.3)</i> . <i>Note:</i> The date may be expressed at any valid level of precision. (e.g. Year only, year + month, year + month + day, year + month + day + hour, year + month + day + hour + minutes, year + month + day + hour + minutes + seconds).		

related date role	Type: E [Enumerated]	1
<i>Description:</i> The role or relationship of a date to an <i>EHCR message component</i> (7.5.3) <i>Values:</i> 0. Began or was commenced on. 1. Ended or completed on. 2. Diagnosed on. 3. Scheduled to start on. 4. Scheduled to end on. 4. Schedule planned on. 5. Stated record date (If information is being entered from a paper record or another source this may differ from the system generated time stamp for the recording date and time)..		
related date accuracy	Type: E [Enumerated]	0 or 1
<i>Description:</i> The accuracy of a date. <i>Note:</i> It is possible to express a date using different levels of precision. This attribute is used to indicate whether the date is accurate or approximate to the level of detail stated. <i>Example(s):</i> If the date of a historical event is stated as 1975 this may mean it occurred sometime in 1975 or it may mean that the patient indicated that it occurred at sometime in the mid 1970's. In the latter case this can be indicated with the value "Approximate". Similarly even when an apparently complete time is given it may mean that event occurred at that time (accurate) or around about that time (approximate). <i>Values:</i> 0. Accurate 1. Approximate		

7.5.6 related healthcare party

Type: class		
Specialisation of: healthcare party reference (7.9.4)		
Description: Information about a <i>healthcare party</i> (7.9.2) that has a role in relation to an <i>EHCR message component</i> (7.5.3) other than as the originator of that <i>EHCR message component</i> (7.5.3). Note: A <i>related healthcare party</i> has a role in relation to the information recorded in an <i>EHCR message component</i> (7.5.3). The originator of the component is recorded separately within the <i>component origin</i> (7.5.2) class. However, this Example(s): Carried out procedure, assisted with the procedure, reported the recorded information, authorised a report, responsible for a period of care, provided a service, source of a request or referral, destination of a request or referral, originator of the information (i.e. if information from another source is entered from a paper form).		
Usage A <i>related healthcare party</i> may be referred to by any number of <i>EHCR message components</i> (7.5.3).		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	
role of related healthcare party	Type: V [Code Value] (7.12.5)	1
<i>Description:</i> Indication of the relationship between an <i>EHCR message component</i> (7.5.3) and the <i>related healthcare party</i>. <i>Example(s):</i> Carried out procedure, assisted with the procedure, reported the recorded information, authorised a report, responsible for a period of care, provided a service, source of a request or referral, destination of a request or referral, originator of the information (i.e. if information from another source is entered from a paper form).		

7.6 EHCR distribution rule subsystem

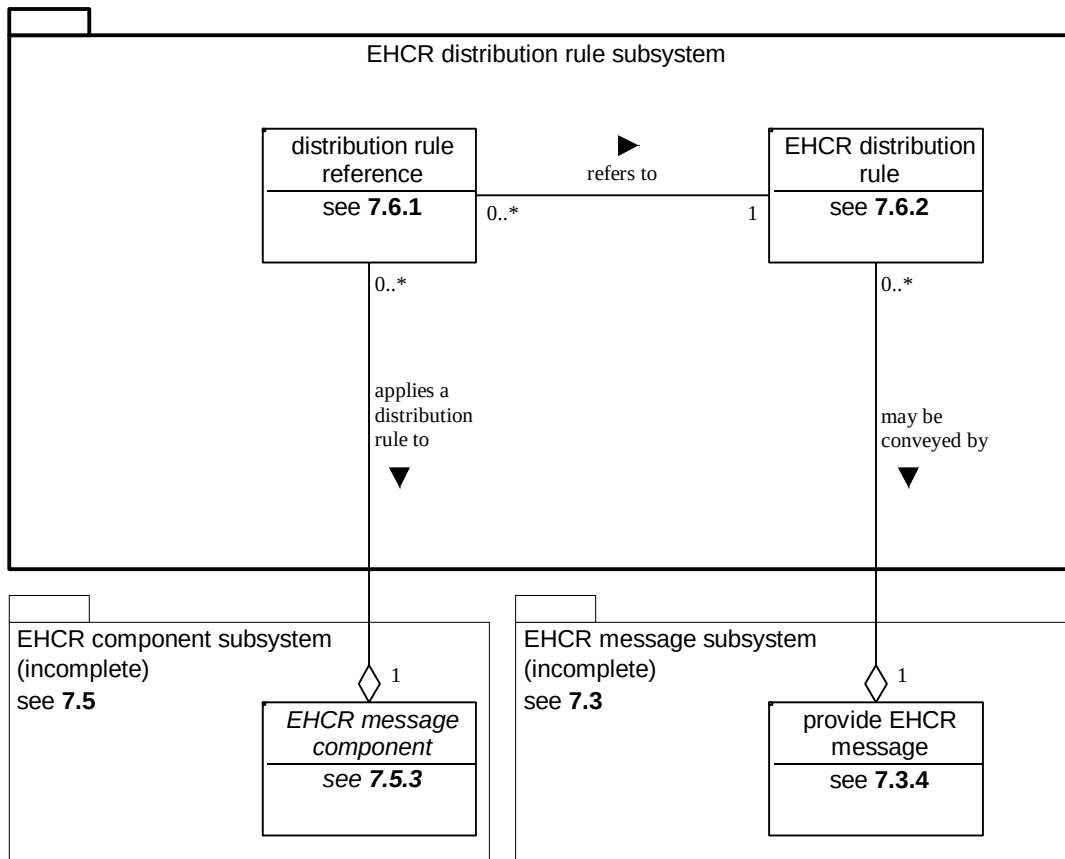


Figure 21. Domain Model - EHCR Distribution Rules

7.6.1 distribution rule reference

Type: class		
Description: A <i>distribution rule reference</i> applies a referenced <i>EHCR distribution rule</i> (7.6.2) to an <i>EHCR message component</i> (7.5.3).		
Note: A <i>distribution rule reference</i> may refer to an <i>EHCR distribution rule</i> (7.6.2) conveyed in the message or to an <i>EHCR distribution rule</i> (7.6.2) held in a shared directory of commonly applied rules. The restrictions imposed by an <i>EHCR distribution rule</i> (7.6.2) apply to any hierarchical descendants of the <i>EHCR message component</i> (7.5.3) from which that rule is referenced. Therefore if an <i>EHCR distribution rule</i> (7.6.2) is referenced by the <i>EHCR extract</i> (7.7.3), the restrictions apply to all EHCR information in that message. The <i>distribution rule reference</i> is defined with the "DR Link Reference" specified by the proposed European Prestandard on EHCR Distribution Rules (## current work of CEN TC251 PT28 ##).		
Usage A <i>distribution rule reference</i> applies a distribution rule to an <i>EHCR message component</i> (7.5.3).		
Associations A <i>distribution rule reference</i> refers to an <i>EHCR distribution rule</i> (7.6.2).		
Attributes		
distribution rule link reference	Type: S [String]	1
<i>Description:</i> A reference to a distribution rule using the format specified in the proposed European Prestandard on "Health Informatics - Electronic Healthcare Record Communication - Distribution Rules" (CEN TC251 PT28). <i>Note:</i> This attribute is based on the attribute "DRLinkReference" in draft 0.9 of the PT28 document dated 1998-06-27.		

7.6.2 EHCR distribution rule

Type: class		
Description: This class is to be represented in the manner specified in the proposed European Prestandard on EHCR Distribution Rules (## current work of CEN TC251 PT28 ##).		
Note: <i>EHCR distribution rules</i> may be applied to individual <i>EHCR message components</i> (7.5.3) by using the <i>distribution rule reference</i> (7.6.1) attribute.		
Example(s): Limited access to a named list of <i>healthcare professional</i> (7.9.5)s. Limit access to a particular professional group, specialty or organisation.		
Usage An <i>EHCR distribution rule</i> may be conveyed by a <i>provide EHCR message</i> (7.3.4).		
Associations An <i>EHCR distribution rule</i> referred to by any number of <i>distribution rule references</i> (7.6.1).		

7.7 EHCR extract subsystem

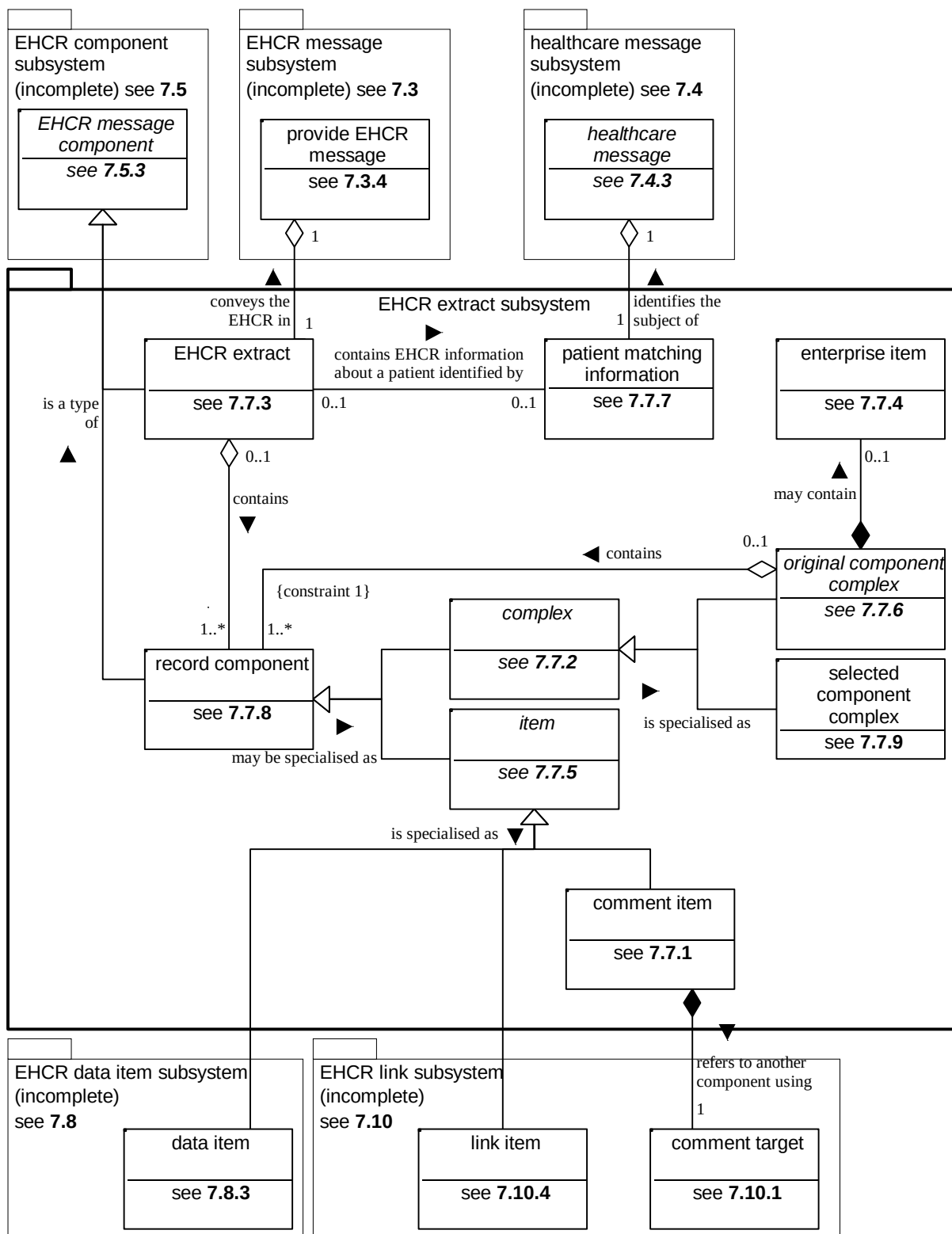


Figure 22. Domain Model - EHCR Extract Subsystem

Constraint 1: Each record component is part of one and only one EHCR extract or original component complex. It cannot be part of both an EHCR extract and an original component complex.

7.7.1 comment item

Type: class		
Specialisation of: item (7.7.5)		
Description: An <i>item</i> (7.7.5) containing a textual comment linked to another <i>record component</i> (7.7.8).		
Note: The <i>comment item</i> provides an efficient way of adding human-readable comments to existing information in the EHCR without modifying the information to which the comment applies.		
Attributes		
comment text	Type: S [String]	1
<i>Description:</i> A plain text comment appended to other information in the message.		
comment target (7.10.1)	Type: class	1
<i>Description:</i> A link that associates a <i>comment item</i> with an existing <i>record component</i> (7.7.8) to which the comment relates.		

7.7.2 complex

Type: class		
Specialisation of: record component (7.7.8)		
Description: The <i>complex</i> is a class of <i>record component</i> (7.7.8) that may contain other <i>record components</i> (7.7.8) thus providing the structure of the EHCR. In contrast, <i>items</i> (7.7.5) are the <i>record components</i> (7.7.8) that contain the data content of the EHCR.		
Note: A <i>complex</i> is an abstract class that exists either as an <i>original component complex</i> (7.7.6) or as a <i>selected component complex</i> (7.7.9). This class contains no specific attributes and is included to maintain alignment with the proposed European Prestandard for an EHCR Extended Architecture (## current work CEN TC251 PT26 ##)		
Specialisations A <i>complex</i> is a specialisation of an <i>original component complex</i> (7.7.6) or a <i>selected component complex</i> (7.7.9).		

7.7.3 EHCR extract

Type: class		
Specialisation of: EHCR message component (7.5.3)		
Description: An <i>EHCR message component</i> (7.5.3) that represents the entire EHCR content of the message. If the message contains the entire EHCR for the patient the <i>EHCR extract</i> is synonymous with the EHCR root class in the European Prestandard for EHCR Extended Architecture (## current work of CEN TC251 PT26 ##).		
Note: A <i>provide EHCR message</i> (7.3.4) contains one and only one <i>EHCR extract</i> whether it contains the entire EHCR, a summary of the EHCR or an update to a previously communicated EHCR. The simplest instance of a message based on this standard consists of an <i>EHCR extract</i> class containing one <i>original component complex</i> (7.7.6) which itself contains a single component with the <i>component role</i> "Narrative Text". In this simplistic version of the message the <i>item</i> (7.7.5) within that component contains a plain text version of all the EHCR information to be communicated.		
Usage An <i>EHCR extract</i> conveys the EHCR in a <i>provide EHCR message</i> (7.3.4).		
Associations An <i>EHCR extract</i> contains EHCR information about a patient identified by <i>patient matching information</i> (7.7.7).		
Components An <i>EHCR extract</i> contains one or more <i>record components</i> (7.7.8).		

Attributes		
Attributes of generalisation	EHCR message component (7.5.3)	
record component (7.7.8)	Type: class	1 or many
<i>Description:</i> A record component is an EHCR message component (7.5.3) that contains a part of an EHCR. A record component may be either a complex (7.7.2) or an item (7.7.5). In the case of a record component that is used to indicate the deletion of a previous linked record component, the record component exists as an unspecialised instance. Each record component contains an indication of its role, and optionally its order, within the original component complex (7.7.6). The role of a record component determines whether it is the structured content of the original component complex (7.7.6), contextual qualification to the structured content of the original component complex (7.7.6) or a narrative text substitute for the entire content of the original component complex (7.7.6).		

7.7.4 enterprise item

Type: class		
Description: A class containing data in a format defined by the identified enterprise. The data content may replace or supplement the standard content of a record component (7.7.8). Note: The enterprise environment is defined by an organisation recognised by a communicating community as having a legitimate requirement to define extensions to the standard structure of this message. The enterprise may define rules about the manner in which particular types of enterprise data are identified and structured. The enterprise may also define whether a particular type of enterprise data replaces or supplements the standard content of the record component (7.7.8). Example(s): A data structure for representing a particular procedure used by an specialist EHCR system supplier. A data structure used by clinicians in a particular specialty to exchange specialty specific sets of information.		
Usage An enterprise item is part of an original component complex (7.7.6).		
Attributes		
enterprise identification	Type: C [Coded] (7.12.1)	1
<i>Description:</i> An indication of the enterprise environment applicable to an EHCR message or to an enterprise item within a message. <i>Note:</i> When used in a provide EHCR message (7.3.4) the enterprise identification indicates the source of reference for enterprise items in the message. When used in a request EHCR message (7.3.8) the enterprise identification indicates the enterprise capabilities of the EHCR destination (7.2.1).		
enterprise item type	Type: V [Code Value] (7.12.5)	1
<i>Description:</i> An indication of the type or structure of the enterprise data. <i>Note:</i> The coding used to represent different data structures may be specific to the enterprise indicated by enterprise identification.		
enterprise data	Type: [defined by enterprise] (7.13.1)	1
<i>Description:</i> Data in a format defined by the identified enterprise. <i>Note:</i> The enterprise may define rules about the manner in which particular types of enterprise data are identified and structured. Where appropriate components and elements defined within this European Prestandard should be used as the building blocks for enterprise extensions.		

7.7.5 item**Type:** class**Specialisation of:** record component (7.7.8)

Description: An *item* is a class of *record component* (7.7.8) which contains the data content of the EHCR. In contrast, *complexes* (7.7.2) are *record components* (7.7.8) that provide the structure that interrelates this content.

Note:

An *item* is an abstract class that exists either as a *data item* (7.8.3), a *link item* (7.10.4) or a *comment item* (7.7.1).

This class contains no specific attributes and is included to maintain alignment with the proposed European Prestandard for an EHCR Extended Architecture (## current work CEN TC251 PT26 ##).

Specialisations

An *item* is specialised as a *data item* (7.8.3), a *link item* (7.10.4) or a *comment item* (7.7.1).

7.7.6 original component complex**Type:** class**Specialisation of:** complex (7.7.2)

Description: The *original component complex* is a *record component* (7.7.8) representing an aggregation of other components arranged in a manner not determined by the time and situation in which they were originally added to the EHCR.

Note:

The *original component complexes* in a *provide EHCR message* (7.3.4) form a hierarchy with a single axis linking each *EHCR message component* (7.5.3) to the *EHCR extract* (7.7.3).

If the attributes of an *original component complex* are omitted the values of the parent are inherited by that *original component complex*. Thus most attributes are optional within any instance but attributes values should be specified explicitly at a levels in the hierarchical tree where the appropriate values change.

If an *original component complex* contains *record components* (7.7.8) with the *component role* set as "Context for content", the context values are also inherited by lower levels in the hierarchy.

Components

An *original component complex* may contain an *enterprise item* (7.7.4).

An *original component complex* contains one or more *record components* (7.7.8).

Attributes**subject of information modifier****Type:** E [Enumerated]**0 or 1**

Description: An indication of whether information in the *original component complex* applies directly to the patient or to someone else such as a member of their family, a contact of or another related person.

Note: More details about the person to whom the information applies can be adding a *data item* (7.8.3) containing a *patient related party element* (7.8.8). This is added to the *original component complex* with the *component role* value "context for content".

Example(s): Family history of diabetes. Recent contact with meningitis.

Values:

0. Patient
1. Relative
2. Fetus (or neonate).
3. Other

knowing mode modifier	Type: E [Enumerated]	0 or 1
<i>Description:</i> An indication of whether the information was derived from direct observation by the person recording it, or is based on an assessment of available evidence, or is based on information provided by the patient, a family member or another third party. <i>Note:</i> More details about the person to whom the information applies can be provided including an instance of related healthcare party (7.5.6) in the component and by adding other contextual information to the <i>original component complex</i>. <i>Example(s):</i> Patient reports that they suffer from a stomach ulcer but the person recording this is not aware of any direct clinical evidence for this. <i>Values:</i> 0. Observation or action by author 1. Assessment or opinion of author 2. Reported by another healthcare professional 3. Reported by patient 4. Other		
certainty modifier	Type: E [Enumerated]	0 or 1
<i>Description:</i> Indication of the degree of certainty that the author of the record has asserted about a particular piece of information. <i>Note:</i> This modifier is not intended as a substitute for more detailed representation of degrees of certainty. It is included to limit the risk of serious misinterpretation following communication between heterogeneous systems. <i>Example(s):</i> Possible inferior myocardial infarction. <i>Values:</i> 0. Certain 1. Uncertain		
life cycle modifier	Type: E [Enumerated]	0 or 1
<i>Description:</i> Indication of whether the content of the complex refers to observations that refer to the past, the present or the future. <i>Note:</i> This modifier is not intended as a substitute for more detailed representation of the progress of planned activities. It is included to limit the risk of serious misinterpretation following communication between heterogeneous systems. This is of particular importance in distinguishing things that have happened or have been observed from plans or targets. More detailed information about future plans can be added using the related date (7.5.5) attribute or by adding other contextual components to the <i>original component complex</i>. <i>Example(s):</i> Planned hip replacement, Target blood pressure, Need for meals on meals. <i>Values:</i> 0. Past 1. Current 2. Future		
enterprise item (7.7.4)	Type: class	0 or 1
<i>Description:</i> A class containing data in a format defined by the identified enterprise. The data content may replace or supplement the standard content of a record component (7.7.8).		

record component (7.7.8)	Type: class	1 or many
<i>Description:</i> A record component is an EHCR message component (7.5.3) that contains a part of an EHCR. A record component may be either a complex (7.7.2) or an item (7.7.5). In the case of a record component that is used to indicate the deletion of a previous linked record component, the record component exists as an unspecialised instance. Each record component contains an indication of its role, and optionally its order, within the original component complex. The role of a record component determines whether it is the structured content of the original component complex, contextual qualification to the structured content of the original component complex or a narrative text substitute for the entire content of the original component complex.		

7.7.7 patient matching information

Type: class		
Description: Information provided for the purpose of matching an EHCR related message to a uniquely identified individual patient. Note: This class includes patient identifiers, names and other supporting information. All the attributes are optional but at least one element shall be included in any instance of this class. This class is not intended for providing or updating administrative or demographic information about the patient. For this purpose the relevant data item elements (7.8.4) should be used within the structure of the EHCR.		
Usage <i>patient matching information</i> identifies the subject of a healthcare message (7.4.3).		
Associations <i>patient matching information</i> identifies the subject of an EHCR extract (7.7.3).		
Attributes		
patient identifiers	Type: party identifiers (7.11.20)	0 or 1
<i>Description:</i> A set of one or more party identifiers (7.11.20) used to identify the patient. <i>Note:</i> Each identifier (7.11.8) is qualified to indicate the identification scheme from which it is derived.		
patient name	Type: person name details (7.11.22)	0 or 1
<i>Description:</i> The structured or unstructured name of a person. <i>Note:</i> This includes the type of name and period of validity as well as an option for use of either structured or unstructured names.		
alternative person name	Type: person name details (7.11.22)	0 or many
<i>Description:</i> An alternative name by which the person is, or has been, known.		
date and time of birth	Type: TOCD [Time+Date]	0 or 1
<i>Note:</i> In case the exact date and time is unknown, year only or year + month or year + month + day are sufficient.		
patient administrative sex	Type: V [Code Value] (7.12.5)	0 or 1
<i>Description:</i> The gender of the patient as recognised by the organisation responsible for administration of healthcare services. <i>Note:</i> In rare cases this may differ from genetic or anatomical gender which may be recorded as clinical information. Represented by the abbreviations specified in ISO 5281.		

patient address	Type: address (7.11.2)	0 or many
<i>Description:</i> The address or address of a patient. Each address contains an address type and a period of validity. These attributes can be used to specify former addresses, temporary addresses and to distinguish between home and work addresses.		
patient matching comment	Type: S [String]	0 or 1
<i>Description:</i> Comments or other information that the sender believes may assist the intended recipient to match the message to a particular patient.		

7.7.8 record component

Type: class		
Specialisation of: EHCR message component (7.5.3)		
Description: A <i>record component</i> is an <i>EHCR message component</i> (7.5.3) that contains a part of an EHCR. A <i>record component</i> may be either a <i>complex</i> (7.7.2) or an <i>item</i> (7.7.5). In the case of a <i>record component</i> that is used to indicate the deletion of a previous linked <i>record component</i> , the <i>record component</i> exists as an unspecialised instance. Each <i>record component</i> contains an indication of its role, and optionally its order, within the <i>original component complex</i> (7.7.6). The role of a <i>record component</i> determines whether it is the structured content of the <i>original component complex</i> (7.7.6), contextual qualification to the structured content of the <i>original component complex</i> (7.7.6) or a narrative text substitute for the entire content of the <i>original component complex</i> (7.7.6).		
Specialisations A <i>record component</i> may be specialised as a <i>complex</i> (7.7.2) or an <i>item</i> (7.7.5).		
Usage A <i>record component</i> may be part of an <i>original component complex</i> (7.7.6). A <i>record component</i> may be part of an <i>EHCR extract</i> (7.7.3).		
Attributes		
Attributes of generalisation	EHCR message component (7.5.3)	
component role	Type: E [Enumerated]	1
<i>Description:</i> The role of the <i>record component</i> within its <i>original component complex</i> (7.7.6). <i>Note:</i> Specific rules apply to each member role value. 0. Structured content - the member shall be an ORIC, RI or VRIC that contains information conforming to this European Prestandard. Structured content members may be ordered but are otherwise treated as having equivalent status to one another. 1. Context for content - the member shall be an <i>item</i> (7.7.5) specialised as a <i>data item</i> (7.8.3) containing a <i>data item element</i> (7.8.4) conforming to this Standard. The content of the member shall be information that sets the context of the information contained by all content members of the containing <i>original component complex</i> (7.7.6). 2. Narrative text - the member shall be an <i>item</i> (7.7.5) that contain a single instance of the <i>plain text element</i> (7.8.13). The <i>plain text element</i> (7.8.13) shall be a textual rendering of the content of the <i>original component complex</i> (7.7.6) which is human-readable. There may only be one Narrative Text member in an <i>original component complex</i> (7.7.6). The objective of Narrative Text members is to provide a readable account of the <i>original component complex</i> (7.7.6) contents for users of systems unable to process the more detailed structural layer. Narrative text members shall not be used to add to or qualify other information within the <i>original component complex</i> (7.7.6). <i>Values:</i> 0. Structured content.. 1. Context for content. 2. Narrative text view of content.		

component order	Type: I [Integer]	0 or 1
<i>Description:</i> A number representing the order of a <i>record component</i> within its <i>original component complex</i> (7.7.6). <i>Note:</i> The <i>component order</i> should be specified if reordering <i>record components</i> within the <i>original component complex</i> (7.7.6) could lead to loss of pertinent information. For example, if the <i>record components</i> within the <i>original component complex</i> (7.7.6) describe a logical sequence of events.		

7.7.9 selected component complex

Type: class Specialisation of: complex (7.7.2)
Description: The <i>selected component complex</i> is a <i>record component</i> (7.7.8) representing an aggregation of other components arranged in a manner not determined by the time and situation in which they were originally added to the EHCR. Note: The use of <i>selected component complexes</i> enables alternative views of the EHCR to be represented in the message. They can represent the record as viewed at a particular time or they can represent groupings of clinically or logically associated record components. Within the message the members of a <i>selected component complex</i> are communicated using <i>link items</i> (7.10.4) that associate the member of a view or grouping to the <i>selected component complex</i>. Therefore the <i>selected component complex</i> acts only as a node to which members are attached and has no specialised attributes of its own. This mechanism allows components to be added to a view without changing the components themselves or the <i>selected component complex</i>. Each <i>link item</i> (7.10.4) is a <i>record component</i> (7.7.8) in its own right. Therefore, attribution of origin and modification of changes to views is taken care of by the general provisions for <i>record components</i> (7.7.8).

7.8 EHCR data item subsystem

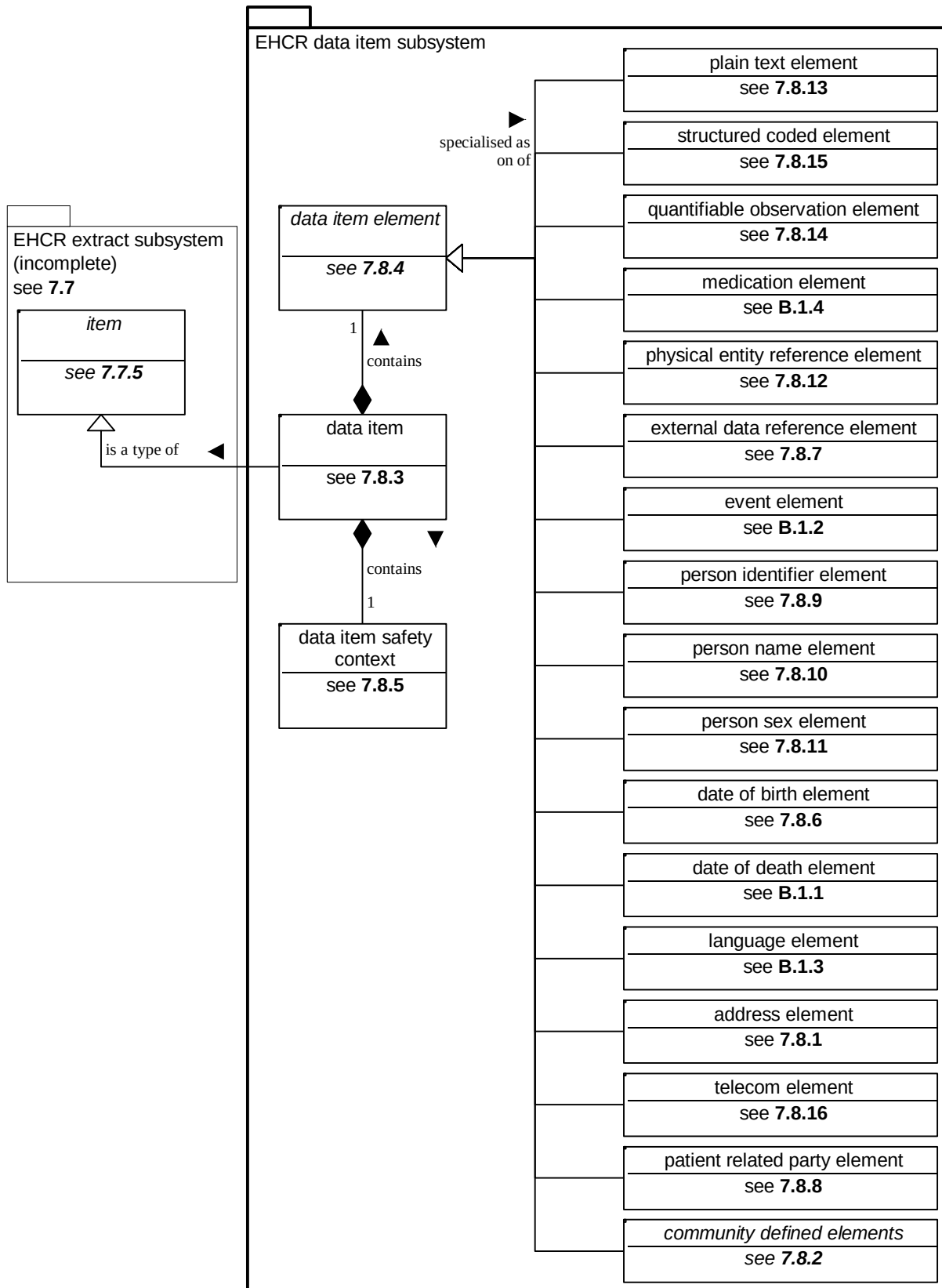


Figure 23. Domain Model - EHCR Data Item Subsystem

7.8.1 address element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: The address of the patient.		
Note: May also be used for alternative addresses specified using the <i>address type</i> attribute.		
Attributes		
address (7.11.2)	Type: sub class	1
<i>Description:</i> An address expressed in a structured or unstructured form.		

7.8.2 community defined elements

Type: class		
Specialisation of: data item element (7.8.4)		
Description: This abstract class is represents the optional extension of the EHCR message with <i>data item elements (7.8.4)</i> defined for use between members of a particular communicating community.		

7.8.3 data item

Type: class		
Specialisation of: item (7.7.5)		
Description: A <i>data item</i> is the <i>EHCR message component (7.5.3)</i> that represents the smallest structural unit into which the content of the EHCR can be broken down without losing its meaning. A <i>data item</i> may be an aggregate information that cannot be safely disaggregated.		
Note:		
The <i>data item</i> is a type of <i>record component (7.7.8)</i> and is thus part of an <i>original component complex (7.7.6)</i> . It inherits, from the <i>original component complex (7.7.6)</i> hierarchy, values for any of the <i>EHCR message component (7.5.3)</i> attributes that are not explicitly present in the <i>item (7.7.5)</i> . Thus while attributes are optional within any instance all values should be specified explicitly at one or more levels in the hierarchical tree.		
Additional contextual information relevant to an <i>item (7.7.5)</i> is also derived from the <i>original component complex (7.7.6)</i> hierarchy within which the <i>item (7.7.5)</i> is located if the higher level of the hierarchy contains <i>record components (7.7.8)</i> with the role "Context for Content".		
Attributes		
data item safety context (7.8.5)	Type: class	1
<i>Description:</i> Simple modifiers that are included to minimise the risk of serious misinterpretation following communication between heterogeneous systems.		

data item element type	Type: E [Enumerated]	1
<i>Description:</i> The type or role of this data item element (7.8.4). <i>Note:</i> Several types of data item element (7.8.4) are defined in normative provisions of this European Prestandard. Additional composite types are proposed in Informative Annex ##. Other data item element (7.8.4) types may be defined by agreement within communicating communities. <i>Values:</i> 0. community defined elements (7.8.2) 1. address element (7.8.1) 2. date of birth element (7.8.6) 3. date of death element (B.1.1) 4. event element (B.1.2) 5. external data reference element (7.8.7) 6. language element (B.1.3) 7. medication element (B.1.4) 8. patient related party element (7.8.8) 9. person identifier element (7.8.9) 10. person name element (7.8.10) 11. person sex element (7.8.11) 12. physical entity reference element (7.8.12) 13. plain text element (7.8.13) 14. quantifiable observation element (7.8.14) 15. structured coded element (7.8.15) 16. telecom element (7.8.16)		
data item type reference	Type: V [Code Value] (7.12.5)	0 or 1
<i>Description:</i> A reference to one of an agreed set of element types. <i>Note:</i> The <i>data item type reference</i> may be used with the <i>data item element type</i> "community defined elements" to refer to either an element type defined in Informative Annex B or to an element type defined at a National, Regional or enterprise level. New data item element (7.8.4) types should be defined using combinations of data types and sub-classes defined in the Normative parts of this European Prestandard. The <i>data item type reference</i> may also be used with one of the defined <i>data item element types</i> to specify an extension to one of the <i>data item element type</i> types defined in this European Prestandard.		
data item element (7.8.4)	Type: class	1
<i>Description:</i> A <i>data item element</i> is the unit of data of contained by an item (7.7.5) .		

7.8.4 data item element

Type: class
Description: A <i>data item element</i> is the unit of data of contained by an item (7.7.5). Note: This is an abstract class. Specialised <i>data item elements</i> exist to represent the most frequently used compound types of information found within the EHCR. Other compound types can be produced by aggregation of <i>data item elements</i> within an item (7.7.5).
Specialisations A <i>data item element</i> is specialised as an address element (7.8.1), a community defined elements (7.8.2), a date of birth element (7.8.6), a date of death element (B.1.1), an event element (B.1.2), an external data reference element (7.8.7), a language element (B.1.3), a medication element (B.1.4), a patient related party element (7.8.8), a person identifier element (7.8.9), a person name element (7.8.10), a person sex element (7.8.11), a physical entity reference element (7.8.12), a plain text element (7.8.13), a quantifiable observation element (7.8.14), a structured coded element (7.8.15) or a telecom element (7.8.16).

7.8.5 data item safety context

Type: class		
Description: Simple modifiers that are included to minimise the risk of serious misinterpretation following communication between heterogeneous systems.		
Attributes		
certainty modifier	Type: E [Enumerated]	1
<i>Description:</i> Indication of the degree of certainty that the author of the record has asserted about a particular piece of information. <i>Note:</i> This modifier is not intended as a substitute for more detailed representation of degrees of certainty. It is included to limit the risk of serious misinterpretation following communication between heterogeneous systems. <i>Example(s):</i> Possible inferior myocardial infarction. <i>Values:</i> 0. Certain 1. Uncertain		
negation modifier	Type: E [Enumerated]	1
<i>Description:</i> An indication that the information states the absence of, rather than the presence of a particular observation or diagnosis. <i>Note:</i> This is used to enable a warning to be communicated to avoid misinterpretation of a negative statement. This is important if a code (or a text string) that may be used to make positive statement, is qualified by another code or text string which indicates the converse. This modifier is not intended as a substitute for appropriate coding and unambiguous structuring of negative statements. It is included to limit the risk of serious misinterpretation following communication between heterogeneous systems.. <i>Example(s):</i> No evidence of ischaemic heart disease. <i>Values:</i> 0. Affirmative statement 1. Negative statement		
warning to avoid modifier	Type: E [Enumerated]	1
<i>Description:</i> An indication that the information record is a warning to avoid a particular treatment rather than a record of or plan for that treatment. <i>Note:</i> This modifier is not intended as a substitute for clear and unambiguous representation of warning. It is included to limit the risk of serious misinterpretation following communication between heterogeneous systems. <i>Example(s):</i> Distinction between Allergy to penicillin and prescription for penicillin in circumstances where the code or text used to represent "penicillin" is the same or similar. <i>Values:</i> 0. Not a warning to avoid 1. Warning to avoid.		

7.8.6 date of birth element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: The date of birth of the patient.		
Attributes		
date and time of birth	Type: TOCD [Time+Date]	1
<i>Note:</i> In case the exact date and time is unknown, year only or year + month or year + month + day are sufficient.		

7.8.7 external data reference element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: External reference to information stored in a digital form. Note: A digital representation of an image such as an X-ray or a signal such as an electrocardiograph may be stored on or transferred between computer systems in a manner that makes it accessible to the sender and recipient of a message. The reference pointer attribute group allows a message to refer to information of this type. The message has no internal knowledge of the format of the digital information and use of the reference pointers requires that the sender and recipient of the message have a shared understanding of the information types referred to.		
Attributes		
EHCR external information identifier	Type: identifier (7.11.8)	1
<i>Description:</i> A unique identifier applied to an item or collection externally referenced digital information..		
external reference information type	Type: C/S [Code or String] (7.12.2)	1
<i>Description:</i> A code or text representation of the type of information or object referred to. <i>Note:</i> The coding scheme should include appropriate imaging and signal standards and should be extended to include commonly used proprietary formats and new standards as they emerge. <i>Example(s):</i> X-ray image, electrocardiograph signal etc.		
external reference pointer	Type: S [String]	1
<i>Description:</i> Unique identifier for the referenced information as assigned by the system/application that stores the data. <i>Note:</i> The precise form of expression is determined by the <i>external reference application</i> attribute. <i>Example(s):</i> A directory path-name and file-name, a database and a uniquely identified record within that database, a uniquely identified instance of an object.		
external reference application	Type: S [String]	0 or 1
<i>Description:</i> Unique identifier of a system and/or application in or through which the externally referenced information is accessible to the recipient of a message. <i>Note:</i> The <i>identifier</i> (7.11.8) must be understood unambiguously by the communicating parties.		
external reference indirect pointer	Type: S [String]	0 or 1
<i>Description:</i> A reference to an internal pointer or marker within an external referenced source of information. <i>Note:</i> This attribute can only be used if the information type referenced contains an internal referencing system for annotations. The form of expression depends on the information type referenced. <i>Example(s):</i> A reference to an annotation or marked area of an X-ray film.		

7.8.8 patient related party element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: Information about a person or organisation who has a role in the care of a patient other than as a <i>healthcare party</i> (7.9.2). Note: If a message needs to refer to any person other than a <i>healthcare professional</i> (7.9.5) or the patient these may be represented as a <i>patient related party element</i> . An instance of <i>patient related party element</i> can also be used to convey information about a patient's next of kin or a person who should be contacted in the event of a serious medical emergency.		

Attributes		
identification of patient related party	Type: party identifiers (7.11.20)	0 or 1
<i>Description:</i> Identification of a <i>patient related party element</i> assigned by a national healthcare authority.		
relationship type of patient related party	Type: V [Code Value] (7.12.5)	1
<i>Description:</i> Relationship of the patient person in connection with the patient. <i>Example(s):</i> Next of kin, wife, carer, father, guardian, prison officer, friend.		
relationship period	Type: period (7.11.21)	0 or 1
<i>Description:</i> <i>period</i> (7.11.21) during which when <i>healthcare party</i> (7.9.2) performed the specified role in the care of the patient.		
name of patient related person	Type: person name details (7.11.22)	0 or 1
organisation name details	Type: S [String]	0 or 1
address of patient related party	Type: address (7.11.2)	0 or many
<i>Description:</i> An address expressed in a structured or unstructured form.		
telecommunication of patient related party	Type: telecommunication (7.11.28)	0 or many
<i>Description:</i> Telephone, facsimile and other telecommunication numbers in a structured or unstructured form.		
patient related party sex	Type: V [Code Value] (7.12.5)	0 or 1
<i>Note:</i> Represented by the abbreviations specified in ISO 5281.		
patient related party occupation	Type: C/S [Code or String] (7.12.2)	0 or 1
language details of patient related party	Type: language details (7.11.9)	0 or many

7.8.9 person identifier element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: Demographic Information about a person. Includes name, date of birth, sex, address, telecommunication.		
Attributes		
identifier (7.11.8)	Type: sub class	1
<i>Description:</i> A general purpose identifier that can be qualified by the identification scheme from which the identifier is derived.		

7.8.10 person name element

Type: class		
Description: The name of the patient.		
Note: May also be used for alternative names specified using the <i>person name type</i> attribute.		
Attributes		
person name details (7.11.22)	Type: sub class	1
<i>Description:</i> The structured or unstructured name of a person.		

7.8.11 person sex element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: The sex of the patient.		
Attributes		
patient administrative sex	Type: V [Code Value] (7.12.5)	1
<i>Description:</i> The gender of the patient as recognised by the organisation responsible for administration of healthcare services. <i>Note:</i> In rare cases this may differ from genetic or anatomical gender which may be recorded as clinical information. Represented by the abbreviations specified in ISO 5281.		

7.8.12 physical entity reference element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: A reference to a physical entity such as a paper file, a sample, a film or tracing.		
Attributes		
EHCR physical entity identifier	Type: identifier (7.11.8)	0 or 1
<i>Description:</i> A general purpose identifier that can be qualified by the identification scheme from which the identifier is derived.		
EHCR physical entity nature	Type: C/S [Code or String] (7.12.2)	1
<i>Description:</i> The nature of the referenced physical entity. <i>Example(s):</i> A sample, paper record, etc		
EHCR physical entity location	Type: location details (7.11.10)	0 or 1
<i>Description:</i> The current location of the referenced physical entity.		
external reference information type	Type: C/S [Code or String] (7.12.2)	0 or 1
<i>Description:</i> A code or text representation of the type of information or object referred to. <i>Note:</i> The coding scheme should include appropriate imaging and signal standards and should be extended to include commonly used proprietary formats and new standards as they emerge. <i>Example(s):</i> X-ray image, electrocardiograph signal etc.		

7.8.13 plain text element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: A <i>data item element</i> (7.8.4) that consists of plain text. The text may optionally be preceded by a separately specified text heading.		
Note: The main difference between this and the <i>plain text element</i> is that the information in a the <i>plain text element</i> is only suitable for human interpretation and should not be subject to automated processing. In contrast, <i>structured coded element</i> (7.8.15) is suitable for structured searches and retrieval of data. Where necessary a <i>plain text element</i> may be used to provide narrative text describing the content of an <i>original component complex</i> (7.7.6) which may contain structured information which cannot be fully interpreted by the receiving system.		

Attributes		
plain text block	Type S [String]	1 or many
<i>Description:</i> Blocks of text with a related text or coded heading.		

7.8.14 quantifiable observation element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: Result of a single clinical measurement or laboratory investigation.		
Note: A <i>quantifiable observation element</i> comprises one numeric, textual or coded representation of a result, together with the units of measurement and/or a designation of the coding scheme from which code values in the result item are derived.		
Attributes		
measured property	Type: measurable quantity (7.11.13)	1
<i>Description:</i> The property observed or measured.		
<i>Note:</i> This may be expressed either as a single coded attribute or using the formal measurable quantity structure recommended by IFCC/IUPAC.		
<i>Example(s):</i> A measurement of "haemoglobin concentration in blood" can be expressed as a single code encapsulating the full meaning or as using the systematic approach it can be described as (System = venous blood) + (Component = haemoglobin) + (Kind of quantity = substance concentration).		
Choice of		
1		
	numerical result of observation	Type: measurement with comparator (7.11.17)
<i>Description:</i> A measurement expressed as a numeric value and <i>unit of measurement</i> with an optional mathematical comparator		
	numerical range result of observation	Type: measurement range (7.11.16)
<i>Description:</i> A measurement expressed a range between two numeric values qualified by an <i>unit of measurement</i> .		
	date value of observation	Type: TOCD [Time+Date]
<i>Description:</i> An observation or investigation result expressed as a date.		
<i>Example(s):</i> Estimated date of obstetric delivery.		
	text value of EHCR investigation result item	Type: LC/S [List of Codes or Strings] (7.12.4)
<i>Description:</i> An observation or investigation result expressed using text or codes.		

7.8.15 structured coded element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: Clinical information presented in a coded and textual structure.		
Note: The main difference between this and the <i>plain text element</i> (7.8.13) is that the information in a <i>structured coded element</i> is suitable for structured searches and retrieval of data as well as human-readability. In contrast, the <i>plain text element</i> (7.8.13) is only suitable for human interpretation and should not be subject to automated processing.		
Example(s): Family history (e.g. father diabetic), symptoms (e.g. headache), signs (e.g. hepatomegaly), problems (e.g. weight loss or loss of body mass), diagnoses (e.g. thyrotoxicosis, both known and tentative), operative procedures (e.g. pancreatectomy), information given to the patient or relative.		

Attributes		
original code	Type: composite code (7.11.4)	1
<i>Description:</i> Coded information represented as one or more code values from within the coding scheme in which this information was originally recorded. <i>Note:</i> More than one code value may be used to construct a single clinical concept. For example, when using a compositional coding scheme such as SNOMED or a scheme that incorporates qualifiers such as the UK NHS Clinical Terms. However, multiple code values in the same <i>data item element</i> (7.8.4) should only be used to convey a single relevant concept.		
alternative or mapped code	Type: composite code (7.11.4)	0 or 1
<i>Description:</i> Coded information represented as one or more code values from within a coding scheme to which this information has been mapped or translated for the purposes of communication.		
additional related text	Type: S [String]	0 or many
<i>Description:</i> Text that adds to the content expressed by the code values in this <i>structured coded element</i> .		

7.8.16 telecom element

Type: class		
Description: A telecommunication number associated with the patient.		
Note: Various telecommunication numbers can be specified using the <i>telecommunication type</i> attribute.		
Attributes		
telecommunication (7.11.28)	Type: sub class	1
<i>Description:</i> Telephone, facsimile and other <i>telecommunication</i> numbers in a structured or unstructured form.		

7.9 healthcare party subsystem

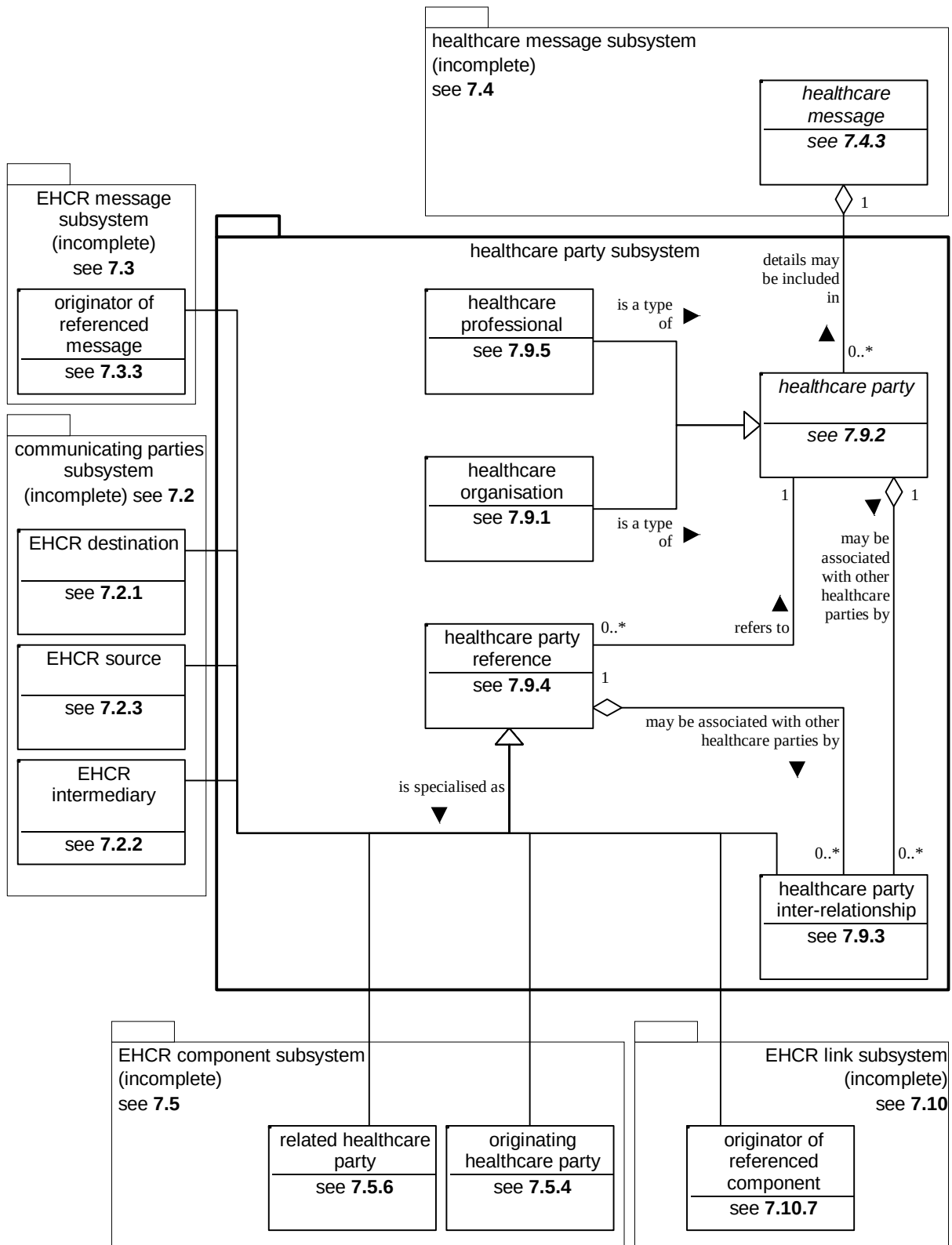


Figure 24. Domain Model - Healthcare Parties Subsystem

7.9.1 healthcare organisation

Type: class		
Specialisation of: healthcare party (7.9.2)		
Description: Information about an organisation responsible for the direct or indirect provision of healthcare services, or involved in the provision of healthcare related services.		
Note: A <i>healthcare organisation</i> may be used stand-alone or as a superstructure containing departments and sub-departments.		
Attributes		
name of healthcare organisation	Type: S [String]	0 or 1
type of organisation	Type: V [Code Value] (7.12.5)	0 or 1
<i>Example(s):</i> University hospital, private clinic, laboratory service provider.		

7.9.2 healthcare party

Type: class		
Description: Information about an organisation or person responsible for the direct or indirect provision of healthcare services, or involved in the provision of healthcare related services.		
Note: This may be a healthcare sub-department, department, organisation or person.		
Specialisations A <i>healthcare party</i> is specialised as a healthcare organisation (7.9.1) or a healthcare professional (7.9.5) .		
Usage A <i>healthcare party</i> details may be included in a healthcare message (7.4.3) .		
Associations A <i>healthcare party</i> may be referenced by any number of healthcare party references (7.9.4) .		
Components A <i>healthcare party</i> may be associated with other healthcare parties by any number of healthcare party inter-relationships (7.9.3) .		
Attributes		
Identification of healthcare party	Type: party identifiers (7.11.20)	1
<i>Description:</i> A set of one or more party identifiers (7.11.20) used to identify the a person or organisation.		
address of healthcare party	Type: address (7.11.2)	0 or many
<i>Description:</i> An address expressed in a structured or unstructured form.		
telecommunication of healthcare party	Type: telecommunication (7.11.28)	0 or many
<i>Description:</i> Telephone, facsimile and other telecommunication numbers or electronic addresses in a structured or unstructured form. <i>Note:</i> Email and web site addresses are specified using the <i>unstructured telecommunication number</i> with the appropriate <i>telecommunication type</i> .		
language details of healthcare party	Type: language details (7.11.9)	0 or many
<i>Description:</i> Information about the ability of a person to communicate in a particular language.		
medical specialty of healthcare party	Type: C/S [Code or String] (7.12.2)	0 or many
<i>Description:</i> Particular subject area or branch of medical science, offered by a <i>healthcare party</i> .		

healthcare party inter-relationship (7.9.3)	Type: class	0 or many
<i>Description:</i> A <i>healthcare party inter-relationship</i> specifies an association with another healthcare party.		

7.9.3 **healthcare party inter-relationship**

Type: class		
Specialisation of: healthcare party reference (7.9.4)		
Description: A <i>healthcare party inter-relationship</i> specifies an association with another healthcare party.		
Usage A <i>healthcare party inter-relationship</i> represents an association with a <i>healthcare party (7.9.2)</i> . A <i>healthcare party inter-relationship</i> represents an association with a <i>healthcare party reference (7.9.4)</i> .		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	
healthcare party link type	Type: V [Code Value] (7.12.5)	1
<i>Description:</i> The nature of the association between two linked healthcare parties. <i>Example(s):</i> Employer of, responsible for, employee of, responsible to, sub-division of, parent organisation of, etc.		

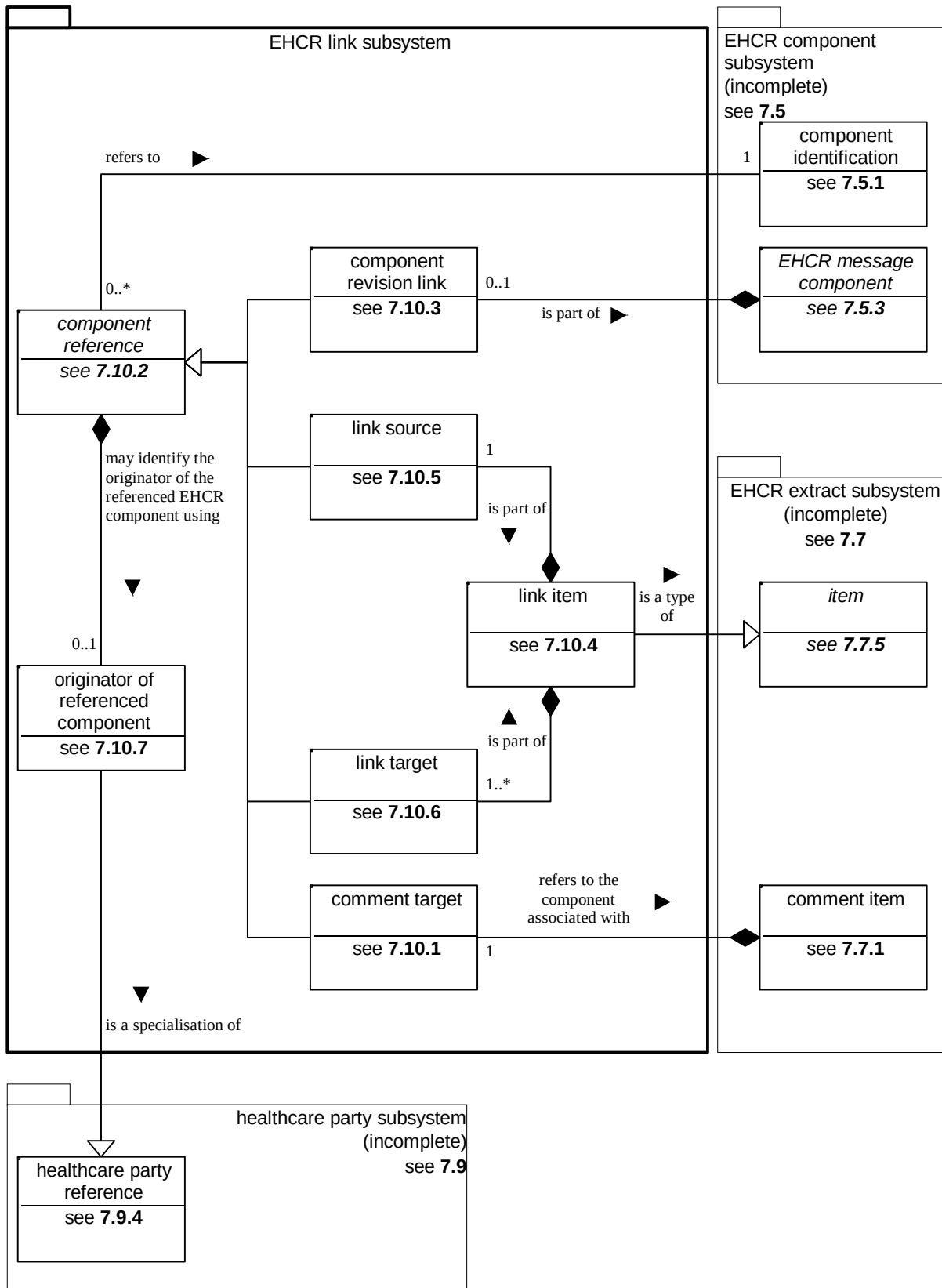
7.9.4 **healthcare party reference**

Type: class		
Description: A reference to a <i>healthcare party (7.9.2)</i> . The reference includes a name and an identifier. The identifier may refer to a <i>healthcare party (7.9.2)</i> listed in a shared directory or to a <i>healthcare party (7.9.2)</i> for whom details are provided in the message. Note: Detailed information about the <i>healthcare parties (7.9.2)</i> referred to in a message may be held in a directory shared by the communicating parties or may be conveyed in the message as part of the <i>healthcare message (7.4.3)</i> class.		
Specialisations A <i>healthcare party reference</i> is specialised as an <i>EHCR source (7.2.3)</i> , an <i>originator of referenced message (7.3.3)</i> , a <i>related healthcare party (7.5.6)</i> , an <i>originator of referenced component (7.10.7)</i> , an <i>originating healthcare party (7.5.4)</i> , an <i>EHCR destination (7.2.1)</i> , an <i>EHCR intermediary (7.2.2)</i> .		
Associations A <i>healthcare party reference</i> refers to a <i>healthcare party (7.9.2)</i> .		
Components A <i>healthcare party reference</i> may be associated with other healthcare parties by any number of <i>healthcare party inter-relationships (7.9.3)</i> .		
Attributes		
healthcare party name	Type: S [String]	1
healthcare party identifier	Type: identifier (7.11.8)	1
<i>Description:</i> A single identifier referring to a <i>healthcare party (7.9.2)</i> . If additional identifiers or other details are required, these may be included in an instance of the <i>healthcare parties (7.9.2)</i> class referred to by this attribute.		

healthcare party inter-relationship (7.9.3)	Type: class	0 or many
<i>Description:</i> A <i>healthcare party inter-relationship</i> specifies an association with another healthcare party.		

7.9.5 healthcare professional

Type: class		
Specialisation of: healthcare party (7.9.2)		
Description: Information about a person who is entrusted with the direct or indirect provision of defined healthcare services to a patient or population of patients.		
Example(s): Primary care physician, dentist, nurse, social worker.		
Attributes		
type of healthcare professional	Type: V [Code Value] (7.12.5)	0 or 1
<i>Example(s):</i> Medical doctor, nurse, pharmacist, diagnostic service worker.		
name of healthcare professional	Type: person name details (7.11.22)	0 or 1
position of healthcare professional	Type: C/S [Code or String] (7.12.2)	0 or 1
<i>Example(s):</i> Head of department, trainee GP, hospital consultant.		
qualification of healthcare professional	Type: C/S [Code or String] (7.12.2)	0 or many
<i>Note:</i> This information is provided as supplied by the <i>healthcare professional</i> or the organisation within which they work and is not proof of qualification to undertake healthcare services.		
<i>Example(s):</i> MD, M.Sc.		
military rank of healthcare professional	Type: C/S [Code or String] (7.12.2)	0 or 1
<i>Example(s):</i> Captain, Major.		

7.10 EHCR link subsystem**Figure 25. Domain Model - EHCR Link Subsystem**

7.10.1 comment target

Type: class		
Specialisation of: component reference (7.10.2)		
Description: A link that associates a <i>comment item</i> (7.7.1) with an existing <i>record component</i> (7.7.8) to which the comment relates.		
Usage A <i>comment target</i> refers to the component associated with a <i>comment item</i> (7.7.1).		
Attributes		
Attributes of generalisation	component reference (7.10.2)	

7.10.2 component reference

Type: class		
Description: An abstract class containing a reference to an <i>EHCR message component</i> (7.5.3).		
Specialisations A <i>component reference</i> may be specialised as any number of <i>comment targets</i> (7.10.1). A <i>component reference</i> is specialised as a <i>component revision link</i> (7.10.3). A <i>component reference</i> is specialised as a <i>link target</i> (7.10.6). A <i>component reference</i> is specialised as a <i>link source</i> (7.10.5).		
Associations A <i>component reference</i> refers to a <i>component identification</i> (7.5.1).		
Attributes		
identifier of referenced component	Type: S [String]	1
<i>Description:</i> The identifier assigned to a previous revision of this component by the originator <i>healthcare party</i> (7.9.2) of the component.		
recording date and time of referenced component	Type: TOCD [Time+Date]	0 or 1
<i>Description:</i> The date and time of origin of the EHCR component that is to be superseded. <i>Note:</i> This attribute may be required by some communicating parties to support unique identification of EHCR components when communicating between systems that have different record structures and which as a result may not use a common scheme of EHCR component identifiers.		
referenced component order	Type: I [Integer]	0 or 1
<i>Description:</i> A number indicating the position of a referenced <i>EHCR message component</i> (7.5.3) where several references of the same type exist. <i>Note:</i> Two or more referenced components may share the same <i>referenced component order</i> . In this case the order of these referenced components in relation to one another is arbitrary.		
originator of referenced component (7.10.7)	Type: class	0 or 1
<i>Description:</i> The identification of the originator of a referenced <i>EHCR message component</i> (7.5.3).		

7.10.3 component revision link

Type: class		
Specialisation of: component reference (7.10.2)		
Description: A link to the <i>EHCR message component</i> (7.5.3) that contains the immediately preceding version of this <i>component revision link</i> .		
Note: A system may also support explicit forward links from a superseded version to later revisions. However, in the message these links are not conveyed explicitly. This fully supports the communication requirement while reducing the risk of duplicated or conflicting links that could result from different implementation of a bi-directional approach.		

Usage A component revision link is part of an <i>EHCR message component</i> (7.5.3).		
Attributes		
Attributes of generalisation	component reference (7.10.2)	

7.10.4 link item

Type: class Specialisation of: item (7.7.5)		
Description: A <i>data item</i> (7.8.3) that links together two other <i>EHCR message components</i> (7.5.3). Note: The <i>link item</i> contains references to the two <i>EHCR message components</i> (7.5.3) to be linked and an indication of the type of link. A <i>link item</i> is a type of <i>record component</i> (7.7.8) and is thus part of an <i>original component complex</i> (7.7.6). It inherits from the <i>original component complex</i> (7.7.6) hierarchy values for any of the <i>EHCR message component</i> (7.5.3) attributes which are not explicitly present in the <i>item</i> (7.7.5). Thus while attributes are optional within any instance all values should be specified explicitly at one or more levels in the hierarchical tree.		
Components A <i>link item</i> contains a <i>link source</i> (7.10.5). A <i>link item</i> contains one or more <i>link targets</i> (7.10.6).		
Attributes		
EHCR link type	Type: V [Code Value] (7.12.5)	1
<i>Description:</i> The type of link to the referenced EHCR component. <i>Note:</i> The link type may be directional. (## may be changed from coded to Enumerated data type following further discussion ##). <i>Values:</i> 0. Addition to a view (link from refers to the view and target refers to members of the view). 1. Suggested deletion from a view. 2. Cause of (link from component is cause of target component(s)) 3. Result of 4. Treatment or management for condition (i.e. prescribed for) 5. Outcome of treatment or management. 6. Before 7. During 8. After ... (## to be extended and refined in consultation with CEN TC251 PT27 EHCR Communication Term List ##).		
link source (7.10.5)	Type: class	1
<i>Description:</i> A reference to the <i>EHCR message component</i> (7.5.3) from which the link is to be made.		
link target (7.10.6)	Type: class	1 or many
<i>Description:</i> A reference to the <i>EHCR message component</i> (7.5.3)(s) to which the link applies.		

7.10.5 link source

Type: class Specialisation of: component reference (7.10.2)		
Description: A reference to the <i>EHCR message component</i> (7.5.3) from which the link is to be made.		
Usage A <i>link source</i> is part of a <i>link item</i> (7.10.4).		

Attributes		
Attributes of generalisation	component reference (7.10.2)	

7.10.6 link target

Type: class		
Specialisation of: component reference (7.10.2)		
Description: A reference to the <i>EHCR message component</i> (7.5.3)(s) to which the link applies.		
Usage A link target is part of a <i>link item</i> (7.10.4).		
Attributes		
Attributes of generalisation	component reference (7.10.2)	

7.10.7 originator of referenced component

Type: class		
Specialisation of: healthcare party reference (7.9.4)		
Description: The identification of the originator of a referenced <i>EHCR message component</i> (7.5.3).		
Note: This attribute is required unless the EHCR component identifiers are unique to both the <i>EHCR source</i> (7.2.3) and <i>EHCR destination</i> (7.2.1).		
Usage An <i>originator of referenced component</i> may be part of any number of <i>component references</i> (7.10.2).		
Attributes		
Attributes of generalisation	healthcare party reference (7.9.4)	

7.11 Common subclasses

7.11.1 actual event details

Type: sub class		
Description: Information about an <i>event element</i> (B.1.2) that has already taken place.		
Attributes		
occurrence outcome of actual action event	Type: occurrence outcome (7.11.18)	0 or 1
<i>Description:</i> Whether an event has occurred and optionally a <i>reason for non-occurrence</i> .		

7.11.2 address

Type: sub class		
Description: An <i>address</i> expressed in a structured or unstructured form.		
Attributes		
address type	Type: V [Code Value] (7.12.5)	0 or 1
<i>Values:</i> 0. Home 1. Work 2. Vacation 3. Other 4. Unspecified		
period of address validity	Type: period (7.11.21)	0 or 1
<i>Description:</i> The period during which the associated address is applicable to the associated person or organisation.		
postal code	Type: S [String]	0 or 1
area of country / county	Type: C/S [Code or String] (7.12.2)	0 or 1
Choice of		
1		
	structured address (7.11.24)	Type: sub class
	unstructured address (7.11.31)	Type: sub class

7.11.3 bed location

Type: sub class		
Description: A location expressed as a combination of a bed, a room and ward.		
Attributes		
ward	Type: C/S [Code or String] (7.12.2)	0 or 1
<i>Description:</i> Separate division in a hospital.		
room	Type: S [String]	0 or 1
bed	Type: S [String]	0 or 1
<i>Description:</i> An identification or description of a particular bed within a ward.		

7.11.4 composite code

Type: sub class		
Components A <i>composite code</i> includes one or more <i>composite code elements</i> (7.11.5).		
Attributes		
ICSI	Type: S [String]	1
<i>Description:</i> International Coding Scheme Identifier. This is usually part of a message that includes a coded value taken from the identified coding scheme. <i>Note:</i> ICSIs are issued in accordance with ISO 7826 to registered coding schemes. The ISO7826 provides ranges of values for unregistered local schemes.		
composite code element (7.11.5)	Type: sub class	1 or many
composite code meaning	Type: S [String]	0 or 1
<i>Description:</i> A textual description associated with a composite of one or more codes. <i>Note:</i> Individual codes within a composite may have their own textual descriptions. The <i>composite code meaning</i> should only be used where there is a human-readable representation of the composite. <i>Example(s):</i> If the composite includes a code for "neck of the femur", a code for "fracture" and another code for "left". A composite including these codes might be represented by the <i>composite code meaning</i> "fracture of the neck of the left femur".		

7.11.5 composite code element

Type: sub class		
Usage A <i>composite code element</i> is part of a <i>composite code</i> (7.11.4).		
Attributes		
ICSI	Type: S [String]	0 or 1
<i>Description:</i> International Coding Scheme Identifier. This is usually part of a message that includes a coded value taken from the identified coding scheme. <i>Note:</i> ICSIs are issued in accordance with ISO 7826 to registered coding schemes. The ISO7826 provides ranges of values for unregistered local schemes.		
coding axis	Type: S [String]	0 or 1
<i>Description:</i> If multiple codes are used to represent a single clinical concept, the <i>coding axis</i> may be used to distinguish between different coding axes.		
code value	Type: S [String]	1
<i>Description:</i> A string that contains a coded value. This is usually part of a sub-class in which contains an instance of <i>ICSI</i> which identifies the coding scheme from which the value is taken,		
code meaning	Type: S [String]	0 or 1

7.11.6 duration

Type: sub class		
Description: A period of time expressed as a time interval, date range or textual description.		

Attributes		
Choice of		
1		
	duration as time interval	Type: time interval (7.11.30)
Description: An interval of time expressed a number and a unit of time. Note: This sub-class consists of a numerical value and unit of duration.		
	duration as date range	Type: period (7.11.21)
	duration as text description	Type: S [String]

7.11.7 expected delay

Type: sub class		
Description: The <i>time interval</i> (7.11.30) of, and reason for, a delay.		
Attributes		
duration of expected delay	Type: time interval (7.11.30)	1
comments to expected delay	Type: S [String]	0 or 1

7.11.8 identifier

Type: sub class		
Description: A general purpose identifier that can be qualified by the identification scheme from which the identifier is derived.		
Usage		
An <i>identifier</i> is part of a <i>healthcare party reference</i> (7.9.4).		
Attributes		
identification scheme	Type: V [Code Value] (7.12.5)	0 or 1
Description: The identification scheme from which an associated identifier is derived. Note: This may be omitted where there is appropriate agreement between communicating parties which include partner agreed identifiers for the party or object identified by the associated <i>identifier</i> .		
identifier value	Type: S [String]	1

7.11.9 language details

Type: sub class		
Description: language(s) in which a person is willing and able to converse for the purposes of providing or receiving healthcare services.		
Attributes		
language	Type: V [Code Value] (7.12.5)	1
Note: Represented by the abbreviations specified in ISO 639.		
ability in language	Type: V [Code Value] (7.12.5)	0 or 1
Example(s): First language, preferred, fluent, fair, poor, none.		

7.11.10 location details

Type: sub class		
Description: Information about a geographical location or type of location, expressed without a formal postal address (7.11.2) . Example(s): In the patient's home, in hospital, on a <i>ward</i> , in a diagnostic department, on a particular <i>ward</i> , in a particular <i>room</i> within a department.		
Attributes		
location type	Type: C [Coded] (7.12.1)	0 or 1
<i>Example(s):</i> Hospital ward, patient's residence, outpatient clinic, accident & emergency department, prison, nursing home, diagnostic department.		
location identification	Type: S [String]	0 or 1
<i>Description:</i> A partner agreed identification of the location. <i>Note:</i> The <i>location identification</i> may if necessary be specified as a concatenation of the identifier (7.11.8) of a general location and a sub-location (e.g. a hospital identification followed by a ward identification within that hospital). Communicating parties need to agree the format of these combined identifiers.		
location description	Type: S [String]	0 or 1
<i>Description:</i> A textual description of the location.		

7.11.11 location related information

Type: sub class		
Description: Information about a <i>location</i> including associated information. Note: Associated information may include period (7.11.21) of time at a <i>location</i> , the address (7.11.2) , telecommunication (7.11.28) and healthcare organisation (7.9.1) responsible for a <i>location</i> .		
Attributes		
location role	Type: V [Code Value] (7.12.5)	0 or 1
<i>Description:</i> Role of location where the patient has received or is to receive care. or where the patient was located immediately prior to or immediately after receiving care. <i>Example(s):</i> location at which diagnostic service was performed, intended location of diagnostic service, location prior to diagnostic service, location after completion of diagnostic service.		
period at location	Type: period (7.11.21)	0 or 1
<i>Note:</i> If the location is a hospital or ward this is the date of admission or transfer to that location.		
location	Type: location details (7.11.10)	0 or 1
<i>Description:</i> Information about a geographical location or type of location, expressed without a formal postal address (7.11.2) .		
bed location (7.11.3)	Type: sub class	0 or 1
<i>Description:</i> A location expressed as a combination of a bed, a room and ward.		
address of location	Type: address (7.11.2)	0 or 1
<i>Description:</i> An address expressed in a structured or unstructured form.		
telecommunication of location	Type: telecommunication (7.11.28)	0 or many
<i>Description:</i> Telephone, facsimile and other telecommunication (7.11.28) numbers in a structured or unstructured form.		
organisation at location	Type: organisation reference (7.11.19)	0 or 1
<i>Description:</i> A healthcare organisation (7.9.1) responsible provision of services at a specified location.		

7.11.12 manufactured medicinal product identification

Type: sub class		
Description: Information about a medicinal product supplied in accordance with a specification furnished for use by a prescriber and/or as dispensed by the Dispensing agent, giving it a unique identification.		
Attributes		
medicinal product name	Type: S [String]	0 or 1
<i>Description:</i> Medicinal product designation in the form of a name <i>Note:</i> A synonym is a non-proprietary name. The short term "generic" is frequently used for this kind of medicinal product. In some countries e.g. the UK a medicinal product can be identified by "Approved names", the so-called "British Approved Names" (BAN), which are considered as a special instance of the "generic name" type of designation. Official medicinal product name: e.g. Sodium Bicarbonate Tablets, Compound, BP (BP = British Pharmacopoeia). Definition given in Directive 92/27EEC: ("the name given to a medicinal product, which may be either an invented name or a common name or scientific name, together with a trade mark or the name of the manufacturer; the invented name shall not cause confusion with the common name"). <i>Example(s):</i> • Trade name: proprietary medicinal product name given for marketing purposes. Other terms used to label a trade medicinal product are: • brand name; • proprietary product name; • pharmaceutical specialty product name; • medicinal specialty product name. • Recommended International Non-proprietary Name (rINN) Proprietary medicinal product: as defined in Directive 65/65/EEC ("any ready-prepared product placed on the market under a special name and in a special pack"). Generic name: medicinal product name based on the active ingredient (generic) name(s).		
medicinal product identification type	Type: V [Code Value] (7.12.5)	0 or 1
identification of medicinal product	Type: C [Coded] (7.12.1)	0 or 1
<i>Description:</i> Code for the medicinal product (proprietary name or generic) or medicinal product package <i>Note:</i> The source of data and responsibility for that source shall always be included. A coding scheme within this Draft European Prestandard should be identified either by its designation or preferably by its ICSI (International Coding Scheme Identifier) allocated in accordance with ISO 7826. When a coding scheme designation is used, the version or year of issue, if relevant, should be stated as a part of the designation. <i>Example(s):</i> WHO Drug Directory, NHS Clinical Terms Version 3. ATC1992.		
supplementary identifying information	Type: S [String]	0 or 1
<i>Description:</i> Free text description which aids in the identification of the medicinal product		

pharmaceutical dosage form/route of administration	Type: LC/S [List of Codes or Strings] (7.12.4)	0 or 1
<i>Description:</i> Information that, together with the medicinal product name, provides a full specification of the medicinal product. <i>Note:</i> Here, route of administration means one or more potential routes of administration. It is not the actual route of administration even if identical May include one or more of: • form of presentation (e.g. tablets, powder for inhalation); • auxiliary device (e.g. inhaler, syringe, medium for dissolving); • immediate container (e.g. plastic ampoule, single dose container, syringe); • route of administration (e.g. oral, sublingual, topical, intravenous injection).		
Choice of		
1		
	structured pharmaceutical strength	Type: measurement (7.11.15)
	unstructured pharmaceutical strength	Type: S [String]
manufacturer of medicinal product	Type: C/S [Code or String] (7.12.2)	0 or 1
<i>Description:</i> The name of the manufacturer of the medicinal product. May also be the supplier.		
supplier of medicinal product	Type: C/S [Code or String] (7.12.2)	0 or 1
<i>Description:</i> The name of the supplier of the medicinal product. Only used when different from the manufacturer		
comment to medicinal product	Type: S [String]	0 or 1
<i>Description:</i> To convey any unstructured comment about the medicinal product for the purpose of unambiguous identification of the medicinal product		

7.11.13 measurable quantity

Type: sub class		
Description: A representation of a phenomenon, body or substance that may be distinguished qualitatively and determined quantitatively. Example(s): Foetal biparietal diameter in systematic notation: Foetus ; head ; diameter ; measured by ultra sound ; biparietal diameter.		
Attributes		
Choice of		
1		
	measurable quantity attribute	Type: C/S [Code or String] (7.12.2)
<i>Description:</i> The property observed or measured expressed as a single coded attribute.		
	measurable quantity structure (7.11.14)	Type: sub class
<i>Description:</i> A measurable quantity expressed using three distinct axes as recommended by IFCC/IUPAC.		

7.11.14 measurable quantity structure

Type: sub class		
Description: A measurable quantity expressed using three distinct axes as recommended by IFCC/IUPAC.		
Attributes		
system	Type: C/S [Code or String] (7.12.2)	1
<i>Description:</i> Demarcated arrangement of a set of components and a set of relationships between these components. <i>Note:</i> See ENV1614. The component parts of a system and therefore the system itself may be subjected to a study or measurement. A system that contains other systems (sub-systems) may be referred to as a "super-system" of those systems. <i>Example(s):</i> Examples of systems: a man, an anatomical structure, a biopsy sample, an anatomic pathological section, an electrocardiograph tracing, an X-ray image.		
component	Type: C/S [Code or String] (7.12.2)	1
<i>Description:</i> Definable part of a system. <i>Note:</i> See ENV1614. <i>Example(s):</i> Pathological cells in a biopsy from an organ, the shape of the T-wave in a part of an ECG, bone density in part of an X-ray image.		
kind of quantity	Type: C/S [Code or String] (7.12.2)	1
<i>Description:</i> The type of measurement (7.11.15). <i>Example(s):</i> Length, height, weight, volume.		

7.11.15 measurement

Type: sub class		
Description: A <i>measurement</i> expressed as a numeric value and <i>unit of measurement</i> .		
Attributes		
numerical value	Type: R [Real]	1
<i>Example(s):</i> "140" when a result is 140 mmol/l.		
unit of measurement	Type: V [Code Value] (7.12.5)	1

7.11.16 measurement range

Type: sub class		
Description: A <i>measurement range</i> expressed as two numeric values and <i>unit of measurement</i> .		
Attributes		
lower limit value	Type: R [Real]	0 or 1
upper limit value	Type: R [Real]	0 or 1
unit of measurement	Type: V [Code Value] (7.12.5)	1

7.11.17 measurement with comparator

Type: sub class		
Description: A <i>measurement</i> (7.11.15) expressed as a numeric value and <i>unit of measurement</i> with an optional mathematical comparator		
Note: Used where it is rational for a <i>measurement</i> (7.11.15) to be expressed as greater than or less than a specified value.		
Attributes		
numerical value	Type: R [Real]	1
<i>Example(s):</i> "140" when a result is 140 mmol/l.		
unit of measurement	Type: V [Code Value] (7.12.5)	1
arithmetic comparator	Type: V [Code Value] (7.12.5)	0 or 1
<i>Example(s):</i> >, >=, =, <=, <.		

7.11.18 occurrence outcome

Type: sub class		
Description: Whether an event has occurred and optionally a <i>reason for non-occurrence</i> .		
Attributes		
occurrence status	Type: V [Code Value] (7.12.5)	1
<i>Description:</i> Describes whether a planned event such as a patient contact actually occurred or not. <i>Example(s):</i> event occurred, originator initiated cancellation, cancelled by patient without notification, cancelled by requester.		
reason for non-occurrence	Type: S [String]	0 or 1

7.11.19 organisation reference

Type: sub class		
Description: A <i>healthcare organisation</i> (7.9.1) responsible provision of services at a specified <i>location</i> .		
Attributes		
Identification of organisation at location	Type: party identifiers (7.11.20)	0 or 1
name of organisation at location	Type: S [String]	0 or 1
type of organisation	Type: V [Code Value] (7.12.5)	0 or 1
<i>Example(s):</i> University hospital, private clinic, laboratory service provider.		

7.11.20 party identifiers

Type: sub class		
Description: A set of one or more <i>party identifiers</i> used to identify the a person or organisation.		
Note: Each <i>identifier</i> (7.11.8) is qualified to indicate the identification scheme from which it is derived.		
Attributes		
identifier (7.11.8)	Type: sub class	1 or many
<i>Description:</i> A general purpose identifier that can be qualified by the identification scheme from which the identifier is derived.		

7.11.21 period

Type: sub class		
Description: A <i>period</i> expressed as a start and end date.		
Attributes		
start date and time	Type: TOCD [Time+Date]	0 or 1
<i>Description:</i> Date and time of the start of the specified period.		
end date and time	Type: TOCD [Time+Date]	0 or 1
<i>Description:</i> Date and time of the end of the specified period.		

7.11.22 person name details

Type: sub class		
Description: The structured or unstructured name of a person.		
Attributes		
person name type	Type: V [Code Value] (7.12.5)	0 or 1
<i>Example(s):</i> Alias name of patient (artificial or assumed name by which a patient has been or is known; any code may serve as an alias, sometimes temporarily because proper identity is unknown or to preserve anonymity; a given person may have more than one alias), maiden name of patient (when female patients change their family name - e.g. upon marriage - this item carries their previous family name), former name of patient, mother's maiden name of patient (may be required to distinguish between patients with the same birth date and family name when registry files are very large and when no other means of unique patient identifiers by name is available), preferred name.		
period of name validity	Type: period (7.11.21)	0 or 1
<i>Description:</i> The period during which this name is or was valid.		
<i>Note:</i> This may be used to refer to previous names for the same person.		
Choice of		
1		
	structured person name (7.11.26)	Type: sub class
<i>Description:</i> A person name composed of separately identifiable elements.		
	unstructured name	Type: S [String]
<i>Description:</i> A person name represented as a plain string of text without decomposition into separate name elements.		
<i>Note:</i> Used instead of structured names when communication parties do not support structured names. In some cases it may be impossible to distinguish which parts or a name should be placed in which name elements.		
<i>Example(s):</i> "Adelin Albert", "Alexandre le Grand", "Lord George Christopher"		

7.11.23 planned event details

Type: sub class		
Description: Information about an <i>event element</i> (B.1.2) that is planned.		
Attributes		
planning stage	Type: C [Coded] (7.12.1)	0 or 1
<i>Description:</i> The stage that has been reached in planning the delivery of this event. <i>Example(s):</i> Accepted, proposed, scheduled, completed, rejected, postponed, cancelled.		
status of plan	Type: V [Code Value] (7.12.5)	0 or 1
<i>Note:</i> Scheduled dates and dates of planning are represented as <i>related dates</i> (7.5.5) in the containing <i>EHCR message component</i> (7.5.3). <i>Example(s):</i> Interim, confirmed.		
expected delay before event	Type: expected delay (7.11.7)	0 or 1
<i>Description:</i> The <i>time interval</i> (7.11.30) of, and reason for, a delay.		
expected duration of event	Type: time interval (7.11.30)	0 or 1
<i>Description:</i> An interval of time expressed a number and a unit of time.		

7.11.24 structured address

Type: sub class		
Attributes		
street name	Type: S [String]	1
number or name of house	Type: S [String]	0 or 1
apartment number	Type: S [String]	0 or 1
PO box number	Type: S [String]	0 or 1
<i>Note:</i> PO is post office.		
city district	Type: S [String]	0 or 1
<i>Description:</i> Part of a city.		
city or town	Type: S [String]	0 or 1

7.11.25 structured dosage administration

Type: sub class		
Attributes		
route of administration	Type: V [Code Value] (7.12.5)	0 or 1
<i>Example(s):</i> oral, topical, intravenous injection		
single dose	Type: measurement (7.11.15)	0 or 1
<i>Description:</i> The quantity of medicinal product administered to the patient at one event of administration of medicine. <i>Example(s):</i> 2 tablets, 2.5 ml, 3 puffs		
dosage pattern	Type: C/S [Code or String] (7.12.2)	0 or 1
<i>Description:</i> Semi-structured way of describing dosage administration.. <i>Example(s):</i> one tablet three times a day, two puffs two to four times daily.		

maximum daily dose	Type: measurement (7.11.15)	0 or 1
infusion rate	Type: measurement (7.11.15)	0 or 1
trigger for administration	Type: C/S [Code or String] (7.12.2)	0 or many
<i>Description:</i> The event or condition that should initiate or terminate the treatment or elicit the administration of a single dose. <i>Example(s):</i> by heartburn, when blood glucose lower than 2 mmol/l, by meals, when needed		
duration of drug treatment	Type: duration (7.11.6)	0 or 1
associated equipment/devices	Type: C/S [Code or String] (7.12.2)	0 or 1
time of administration	Type: TOCD [Time+Date]	0 or many

7.11.26 structured person name

Type: sub class		
Description: A person name composed of separately identifiable elements.		
Attributes		
family name	Type: S [String]	1
<i>Note:</i> "last name" is ambiguous, especially in the case of persons of Far Eastern extraction.		
first given name	Type: S [String]	0 or 1
<i>Note:</i> "first name" is ambiguous, especially in the case of persons of Far Eastern extraction; "Christian name" may cause offence.		
middle name	Type: S [String]	0 or 1
<i>Note:</i> If the complete name consists of more than one name besides <i>family name</i> and given name, initials of the other names may be substituted for the <i>middle name</i> .		
title	Type: S [String]	0 or 1
<i>Example(s):</i> Mr, Mrs, Sir, Lord, Dr, Ms, Miss, Rev.		
generation qualifier	Type: S [String]	0 or 1
<i>Note:</i> Usage of this name component is common in the United States of America. <i>Example(s):</i> Jnr, Snr, II, III, IV.		

7.11.27 structured telecommunication number

Type: sub class		
Attributes		
telecommunication country code	Type: S [String]	0 or 1
telecommunication area code	Type: S [String]	1
telecommunication number	Type: S [String]	1
telecommunication extension number	Type: S [String]	0 or 1

7.11.28 telecommunication

Type: sub class		
Description: Telephone, facsimile and other <i>telecommunication</i> numbers in a structured or unstructured form.		
Attributes		
telecommunication type	Type: V [Code Value] (7.12.5)	0 or 1
Values: 0. Voice 1. Mobile 2. Pager 3. Facsimile 4. E-mail 5. Web-site 6. Other		
address type of telecommunication	Type: E [Enumerated]	0 or 1
Description: Relates a telecommunication number to a particular address or location specified using an associated instance of the address class. Values: 0. Home 1. Work 2. Vacation 3. Other 4. Unspecified 5. Mobile		
period of telecommunication number validity	Type: period (7.11.21)	0 or 1
Choice of		
1		
	structured telecommunication number (7.11.27)	Type: sub class
	unstructured telecommunication number	Type: S [String]
Note: Used instead of structured number when communication parties do not support structured <i>telecommunication</i> numbers or when the structure of the number does not match the components available in the <i>telecommunication</i> common attribute group. Example(s): X.400 address.		

7.11.29 text blocks with heading**Type: sub class**

(not used and will be deleted in next version. Retained in the FWD-1a for reference number integrity with previous revision. Will be removed from next draft.

7.11.30 time interval**Type: sub class**

Description: An interval of time expressed a number and a unit of time.

Attributes

numerical value of time interval

Type: R [Real]

1

Description: Number of the value for the *time interval*

unit of time interval

Type: V [Code Value] (7.12.5)

1

Description: The unit of time in which the value of the *time interval* is expressed

7.11.31 unstructured address**Type: sub class****Attributes**

unstructured address line

Type: S [String]

**1 or
many**

Note: Used instead of *structured address* (7.11.24) when communication parties do not support structured addresses

7.12 Compound data types

7.12.1 C [Coded]

Type: sub class		
Description: Code with text description.		
Attributes		
ICSI	Type: S [String]	1
<i>Description:</i> International Coding Scheme Identifier. This is usually part of a message that includes a coded value taken from the identified coding scheme. <i>Note:</i> ICSIs are issued in accordance with ISO 7826 to registered coding schemes. The ISO7826 provides ranges of values for unregistered local schemes.		
code value	Type: S [String]	1
<i>Description:</i> A string that contains a coded value. This is usually part of a sub-class in which contains an instance of <i>ICSI</i> which identifies the coding scheme from which the value is taken,		
code meaning	Type: S [String]	1

7.12.2 C/S [Code or String]

Type: sub class		
Description: Code (with text description) or uncoded text string.		
Attributes		
Choice of		
1		
	coded element	Type: C [Coded] (7.12.1)
	text description	Type: S [String]

7.12.3 C+S [Code+String]

Type: sub class		
Description: Code (with text description) and optional textual qualification		
Attributes		
coded element	Type: C [Coded] (7.12.1)	1
text qualifier to coded information	Type: S [String]	1

5 7.12.4 LC/S [List of Codes or Strings]

Type: sub class		
Description: List of codes (with text descriptions) or uncoded text strings.		
Attributes		
code or string	Type: C/S [Code or String]	1 or many

7.12.5 V [Code Value]

Type: sub class		
Description: Code without description		

Attributes		
ICSI	Type: S [String]	1
<i>Description:</i> International Coding Scheme Identifier. This is usually part of a message that includes a coded value taken from the identified coding scheme. <i>Note:</i> ICSIs are issued in accordance with ISO 7826 to registered coding schemes. The ISO7826 provides ranges of values for unregistered local schemes.		
code value	Type: S [String]	1
<i>Description:</i> A string that contains a coded value. This is usually part of a sub-class in which contains an instance of <i>ICSI</i> which identifies the coding scheme from which the value is taken,		

7.13 Simple data types

7.13.1 [defined by enterprise]

Type: Undefined

7.13.2 B [Boolean]

Type: Data Type

Description: Boolean

5

7.13.3 E [Enumerated]

Type: Data Type

Description: Enumerated list

7.13.4 I [Integer]

Type: Data Type

Description: Integer

10

7.13.5 R [Real]

Type: Data Type

Description: Real

7.13.6 S [String]

Type: Data Type

Description: String

7.13.7 TOCD [Time+Date]

Type: Data Type

Description: Time and date

Note:

The precise representation of the TOCD data type is not specified by this Prestandard and is dependent on the implementation syntax. However, the following points should be taken into account when mapping the attributes of data type TOCD into an implementable message.

It shall be possible to include the date, time and optionally the time zone.

It shall be possible to omit the time unless otherwise specified for a specific attribute.

If the time is specified, it shall be possible to include the time including seconds but it should also be possible to omit the seconds element.

For certain attributes of the type TOCD the message permits the date to be expressed imprecisely as year only or as year and month. The message shall be capable of representing these imprecise dates.

15

Annex A. How to read the models (informative)

A.1 Introduction

The modelling technique and the definition of terms in the models follow the conventions described within the Unified Modelling Language (UML).

- 5 This annex contains a brief overview of the modelling conventions used in this document. However, modelling is used in this European Prestandard only to demonstrate consistency and to illustrate the domain. It is not the intention of this European Prestandard, or this Annex to present this modelling method, or its implementation, as a general method for modelling healthcare information for other purposes.

A.2 Classes and Packages

10 A.2.1 Classes

A **class** is the descriptor for a set of objects with similar structure, behaviour, and relationships. This document provides a graphical notation for the relationships between instances of the classes where this adds to the clarity of the description of the domain. All classes are described textually. Note: an instance of a class may be called ‘an object’.

- 15 Within UML, a Class is shown as a solid-outline rectangle with 3 compartments separated by horizontal lines. The upper *name* compartment holds the class name; the middle compartment holds a list of *attributes*; the bottom list compartment holds a list of *operations*.

In the DIM diagrams in Clause 7, the representation of a class includes only two compartments, the *name* compartment and the *attribute* compartment, the latter indicating the sub-clause within the document where the attributes are described.



- 20 In the GMD diagrams in Clause 6 document, where a class is included in a diagrammatic representation of the structure within a subsystem, only the *name* compartment is shown and reference to the sub-clause follows the class name.

Figure 26. Representation of classes in diagrams

A.2.2 Packages

- 25 A **package** is a grouping of model elements. Packages themselves may be nested within other packages. All kinds of UML model elements and diagrams can be organised into package.

A package is shown as a large rectangle with a small rectangle (a “tab”) attached on one corner. If the contents of the package are not shown, then the name is placed within the large rectangle.

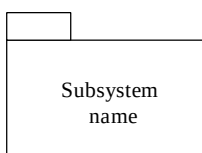


Figure 27. Representation of packages in diagrams

A.3 Relationships

A.3.1 Generalisation/Specialisation

A generalisation/specialisation relationship between classes implies that the specialisation is a kind or subtype of the generalised class. For example a dog is a specialisation of animal.

- 5 A solid line between classes with a hollow triangle at the generalisation end indicates as generalisation/specification relationship.

The lines from several classes may converge on and connect to the generalisation through a single hollow triangle. This indicates that a single instance can only be one of the specialisations shown. Other specialisations may be able to coexist in the same instance. For example "cat" and "female animal" are both specialisations of "animal" and a female cat is a single instance that has the characteristics of both these specialisations.

10

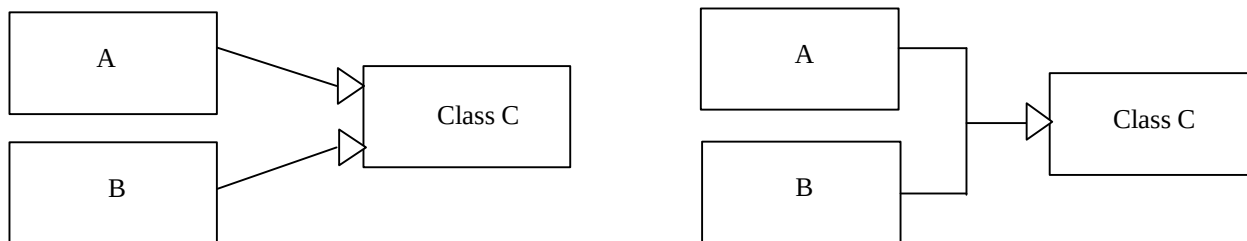


Figure 28. Illustrations of classes A and B as specialisations of Class C

Specialisation classes inherit all attributes, relationships and services from their generalisation class(es). A generalisation may be an *abstract* class. In this case, no instances of the generalised class exist except as instances of one of the specialisations. The names of abstract classes are italicised in the diagrammatic representations of the model.

15

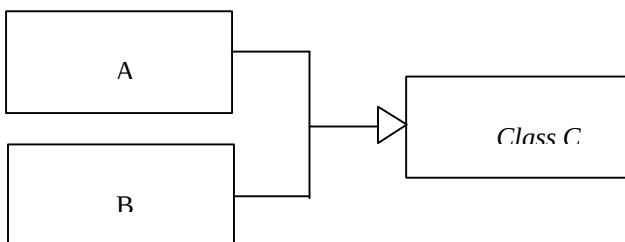


Figure 29. Illustrations of classes A and B as specialisations of the abstract Class C

In messages specified by this European Prestandard the generalisation/specialisation relationship may be encountered in either or the following ways:

20

- A generalised class may be explicitly included in the structure of a message. This usually implies the inclusion of an instance of one of the specialisations of that generalisation (if the generalisation is an abstract class then this is always the case).

EXAMPLE 1: If a message includes the generalised class "animal" then it may include an instance of an available specialisation such as "cat" or "dog".

25

- A specialisation may be explicitly included in the structure of a message. In this case, the specialisation includes an instance of the generalisation and all its attributes. However, it does not follow that a further specialisation instance is included.

EXAMPLE 2: If a message includes "dog" then attributes of the general class "animal" are included. However, this instance of animal does not lead to a further instance of "dog" (or "cat").

A.3.2 Aggregation

Aggregation refers to relationship in which one class is a "a part of" another class.

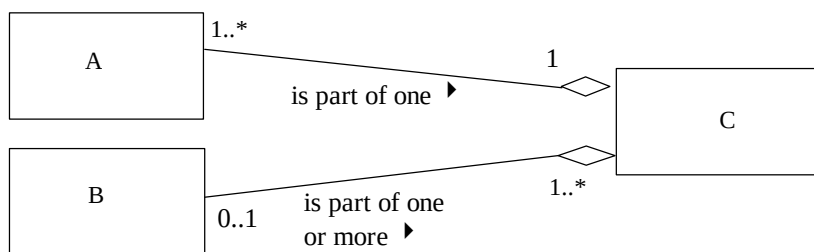
Unlike a composition relationship the parts of an aggregate have an existence even if the aggregate is deleted. For instance a healthcare professional may be part of a healthcare organisation but the same healthcare professional may be referred to outside the context of that organisation.

A solid line between two classes with a hollow diamond at one end represents an aggregation. The diamond is attached to the aggregate class.

The line is labelled with an indication of the nature of the association and with a triangular arrowhead indicating the direction of association

The ends of the line may be labelled with the multiplicities of the association (that is the numbers of instances of one class that may be part of the same instance of the aggregate or the number of aggregation of which the other class may be a part).

Figure 30. Illustration of aggregation relationships



A.3.3 Composition

Composition is a type of aggregation relationship in which the aggregate owns the parts. Deletion of the aggregate also deletes all its constituent parts.

A solid line between two classes with a solid diamond at one end represents a composition. The diamond is attached to the composite class.

The line may be labelled with an indication of the nature of the association and with a triangular arrowhead indicating the direction of association

The part end of the line may be labelled with the multiplicities of the association (that is the numbers of instances of one class that may be part of the same instance of the composite). The multiplicity at the end represented by the solid diamond is implicitly "1" since a part only exists within the composite.

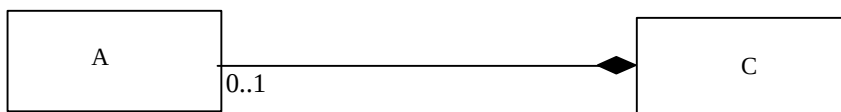


Figure 31. Illustration of a composition relationship

A.3.4 Associations between classes

An association is any relationship between classes other than the Generalisation/Specialisation and Aggregation and Composition relationships described earlier in this annex.

A solid line between two class symbols illustrates an association between those classes.

- 5 The line is labelled with an indication of the nature of the association and with a triangular arrowhead indicating the direction of association

The ends of the line are labelled with the multiplicities of the association (that is the numbers of instances of one class that may be associated with a single instance of the associated class).

- 10 Associations between classes in this European Prestandard are usually supported in the messages by one or more reference attributes within one or both of the classes which point to or identify one or more instances of the other class.

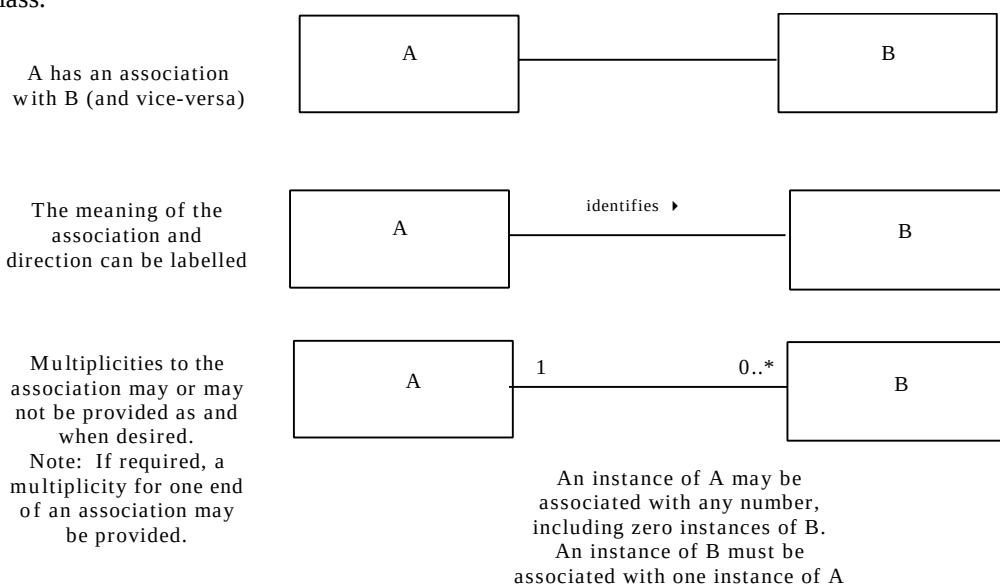


Figure 32. Illustration of associations between classes

A.3.5 Associations between packages

The only types of association shown between packages in this European Prestandard are association.

- 15 There is an association between two packages if any of the classes within one package are related to classes within the other package.

A dashed line between the package symbols illustrates an association between those packages.

The line is labelled with an indication of the nature of the association and with a triangular arrowhead indicating the direction of association.

- 20 Associations between packages are provided for illustrative purposes only and have no impact on the content of the messages specified in this European Prestandard.

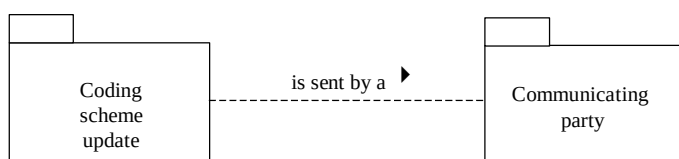


Figure 33. Illustration of associations between packages

A.3.6 Constraints on relationships

A constraint may be attached to any type of relationship including association, aggregation, composition or specialisation.

A dashed line crossing the affected relationships indicates the constraint.

- 5 A note or reference enclosed in brace characters "{}" indicates the nature of the constraint.

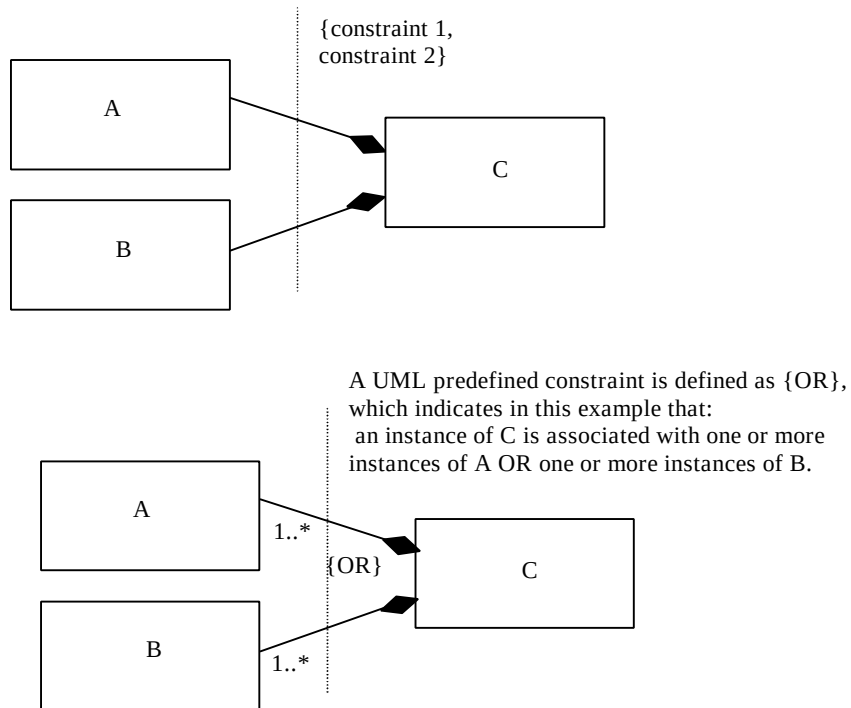


Figure 34. Illustration of constraints on relationships

Annex B. Suggested extended EHCR item elements (Informative)

B.1 Introduction

5 This Annex contains additional *data item elements* (7.8.4) that are suggested as a basis for consideration when implementing the *provide EHCR message* (7.3.4). These elements are based on classes included in earlier CEN TC251 message Prestandards. Support for these elements is not a requirement for conformance with this Prestandard but implementors should anticipate requirements for these or similar extensions when these messages are introduced into communicating communities.

B.1.1 date of death element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: The date of death of the patient.		
Attributes		
date and time of death	Type: TOCD [Time+Date]	1
<i>Note:</i> In case the exact date and time is unknown, year only or year + month or year + month + day are sufficient.		

B.1.2 event element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: Information about a planned or actual event that relates to the care process for an individual.		
Note: EHCR related events include: - individual contacts between health professionals and patients (e.g. consultations, phone calls) - admission, transfers and discharges - identifiable periods of care (e.g. episodes)		
Attributes		
administrative category of event	Type: V [Code Value] (7.12.5)	0 or 1
<i>Description:</i> Administrative type of the event that is requested, proposed or carried out. <i>Example(s):</i> First out-patient attendance, subsequent out-patient attendance, admission, day care, domiciliary visit, telephone consultation, direct access to procedure/operation, emergency admission.		
urgency status of event	Type: V [Code Value] (7.12.5)	0 or 1
<i>Description:</i> Classification of event in terms of urgency. <i>Example(s):</i> Emergency, elective.		
administrative outcome	Type: C/S [Code or String] (7.12.2)	0 or many
<i>Description:</i> Information relevant to further action. <i>Note:</i> If a request that is rejected or a planned investigation is postponed there may be further plans (e.g. a new appointment may be issued automatically or only on further request). The reason for postponement may impact future plans (e.g. non-attendance for the appointment, admission or death of the patient). <i>Example(s):</i> patient did not attend appointment, patient died, another appointment given, open appointment, appointment to be given at a later date, no further arrangements will be made.		

event location	Type: location related information (7.11.11)	0 or many
<i>Description:</i> Information about a location including associated information. <i>Example(s):</i> the location immediately prior to an <i>event element</i> , the location at which the event takes place or the location immediately subsequent to the event.		
Choice of		
1		
	event completion details	Type: actual event details (7.11.1)
<i>Note:</i> Dates of the start and end of the even are represented as <i>related dates</i> (7.5.5) in the containing <i>record component</i> (7.7.8).		
	event planning details	Type: planned event details (7.11.23)
<i>Description:</i> Information about an event that is planned.		

B.1.3 language element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: A language spoken by the patient.		
Attributes		
language details (7.11.9)	Type: sub class	1
<i>Description:</i> language(s) in which a person is willing and able to converse for the purposes of providing or receiving healthcare services.		

B.1.4 medication element

Type: class		
Specialisation of: data item element (7.8.4)		
Description: Information about a patient's previous, planned or current treatment with a substance or chemical compound for the prevention, alleviation or treatment of a medical condition.		
Note: May include 'presentation' (e.g. tablets, capsules, injection, inhaler, syrup) as well as the drug itself. This should not be used for conveying prescriptions as this is outside the scope of this European Prestandard. This is now aligned with the structured drug identification and structured dosage administration sub class are based directly on the current proposals of the European Prestandard from Prescription Messages (## current work CEN TC251 PT31 ##)		
Attributes		
drug information status	Type: E [Enumerated]	1
<i>Description:</i> Information that describes the status of the <i>medication element</i> information. <i>Values:</i> 0. Record of current medication (at the time of origin of this item). 1. Past medication. 2. Record of an issued prescription. 3. Record of a decision to prescribe or change dosage. 4. Record of medication administered to the patient. 5. Record of a recommendation. 6. Other		

Choice of		
1		
	unstructured identification of drug	Type: C/S [Code or String] (7.12.2)
<i>Description:</i> This identification may provide either a brand identification or the generic identification of the drug. In addition, it may identify the form of presentation (e.g. tablets, inhaler, patch). The scope of this attribute includes the possibility of it conveying both drug identification information and form of presentation information since code lists that combine these are in widespread current use. It is expected that in the future this information will be carried in several distinct attributes. <i>Example(s):</i> Salbutamol inhaler, salbutamol syrup, Ventolin, paracetamol, warfarin tablets, soluble insulin, lignocaine, dobutamine, gluten-free flour.		
	identification of drug	Type: manufactured medicinal product identification (7.11.12)
<i>Description:</i> Information about a medicinal product supplied in accordance with a specification furnished for use by a prescriber and/or as dispensed by the Dispensing agent, giving it a unique identification.		
Choice of		
0 or many		
	structured dosage administration (7.11.25)	Type: sub class
	unstructured dosage administration	Type: C/S [Code or String] (7.12.2)
days supply	Type: I [Integer]	0 or 1
quantity of drug supplied	Type: measurement (7.11.15)	0 or 1
<i>Note:</i> This attribute group consists of the attributes <i>numerical value</i> and <i>unit of measurement</i>.		
comment to drug treatment	Type: S [String]	0 or 1
<i>Note:</i> To convey any unstructured comment about the patient's treatment with the drug.		

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