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Health informatics - Electronic Healthcare communication -
Part 4: Messages for the exchange of information

This draft European Prestandard is submitted to CEN members for formal vote. It has been drawn up by the Technical Committee CEN/TC 251.

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FOREWORD

This European Prestandard has been prepared by CEN/ TC 251 Health Informatics under mandate BC/CEN/03/255/97/23 by the European Commission and the European Free Trade Association.

This is Part 4 of a multipart standard on *Electronic Healthcare Record Communication*.

The multipart standard consists of the following parts:

- Part 1: Extended Architecture
- Part 2: Domain Term List
- Part 3: Distribution Rules
- Part 4: Messages for the Exchange of information

This Prestandard was drafted using the conventions of the ISO/IEC directive part 3.

All annexes of Part 4 are Informative.

0. 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.

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

- Many hospitals, clinics and doctors now store the healthcare records of 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.
- 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.
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.

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:

- 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;
- 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.

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.

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.

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 conveying and referencing distribution rules in the form specified in Part 3 of this European Prestandard. 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 may be used for this purpose subject to the agreement of the communicating parties.
- *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 healthcare 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 messages described in this European Prestandard are based on the architectural principles stated in Part 1 of this European Prestandard. This does not preclude the use of this message for communications between systems that do not conform to Part 1. 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 all parts of this European Prestandard.

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", ENV12538 "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.

ISO639:1988	Symbols for languages, geographical areas and authorities
ISO6523	Data interchange - Structure for the identification of organizations.
ISO2382-4:1987	Information processing - Vocabulary Part 4: Organisation of data
ISO5281:1977	Information interchange - Representation of human sexes
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
ISO8601: 1988	Data elements and interchange formats - Information interchange - Representation of dates and times
ENV 1613:1995	Medical informatics - Messages for exchange of laboratory information
ENV 1614:1995	Medical informatics - Structure for nomenclature, classification, and coding of properties in clinical laboratory sciences
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
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
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
ENV 12612:1997	Medical informatics - Messages for the exchange of healthcare administrative information
prENV 13606-1	Electronic Healthcare Record Communication – Extended Architecture
prENV 13606-2	Electronic Healthcare Record Communication – Term List
prENV 13606-3	Electronic Healthcare Record Communication – Distribution Rules
prENV 13607	Health Informatics - Messages for The Exchange of Information on Medicine Prescriptions

3. Definitions

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

3.1. annotation identifier

a means to summarise the key contextual information pertaining to a component complex or a data item.

NOTE the annotations are added to the record component as a coded value. The *component annotation* measure within Part 2 provides a means to summarise in a standardised form the key contextual information pertaining to an elementary or compounded entry, primarily to assist in its safe interpretation. A secondary purpose is to facilitate the retrieval of relevant entries by computerised searches. See Part 2 for more details.

3.2. attestation

a binding of the healthcare agent (with digital signature) to a unit of information content to confirm the acceptance of the content.

3.3. 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.

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

3.4. cluster

original component complex used to aggregate data items and/or other clusters to represent a compound concept.

EXAMPLES A blood pressure measurement consisting of systolic and diastolic pressure, a collection of closely related clinical findings, results of a battery of laboratory investigations, a treatment schedule consisting of several individually specified preparations or dosages.

3.5. 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.

3.6. 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.

3.7. coding scheme

collection of rules that maps the elements of one set on to the elements of a second set.

3.8. communicating community

geographically or organisationally defined grouping of healthcare parties that agree to communicate, subject to an agreed set of constraints or guidelines.

3.9. component name

attribute that is used to provide a title or label to an instance of an EHCR message component.

3.10.

component name category

attribute that provides a high level indication of the general nature of the content of a record component.

NOTE 1 These categories are assigned by or derived from the EHCR, depending upon the nature of the data or the process being carried out.

NOTE 2 See Part 2 for permissible values for different types of record component.

3.11.

composition

original component complex that contains a set of record components relating to one time and place of care delivery, a single session of recording or a single document included in the EHCR.

EXAMPLES Consultation note, operation note, discharge summary, vital signs chart, laboratory report.

3.12.

data item

single unit of data that in a certain context is considered indivisible.

NOTE 1 The content of data is dependent upon the structure and type of the identified data type.

NOTE 2 The context may mean that this component's content may represent for example either a single clinical statement (see Part 2) or a single complex type such as an X-ray report. Its granularity is determined by the context.

3.13.

digital signature

data appended to, or a cryptographic transformation of, a data unit that allows a recipient of a data unit to prove the source and integrity of the unit and protect against forgery e.g. by the recipient.

[ISO 7498-2]

3.14.

distribution rule

logical concept or rule intended to convey and govern distribution.

NOTE The form of representation of EHCR distribution rules is the subject of Part 3 of this Pre standard.

3.15.

distribution rule reference

attribute referencing a distribution rule.

3.16.

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.

3.17.

electronic healthcare record

EHCR

healthcare record in computer readable form.

3.18.

electronic healthcare record architecture

a set of principles governing the logical structure and behaviour of electronic healthcare records that enables communication of the whole or part of a healthcare record.

3.19.

EHCR destination

communicating party that is the destination or intended of EHCR information that is requested, transferred or acknowledged in an EHCR message.

3.20.

EHCR extract

EHCR message component representing the entirety of a patient's electronic healthcare record or that part of the record contained within a particular instance of an EHCR message.

3.21.

EHCR source

communicating party that is the source or intended source of EHCR information that is requested, transferred or acknowledged in an EHCR message.

3.22.

EHCR message

generalisation applicable to all messages specified by this Prestandard for the purposes of requesting or providing EHCR information or for notifying another communicating party about this process.

3.23.

EHCR message component

part of an electronic healthcare record contained within an EHCR message in a form that renders it identifiable for the purposes of referencing and revision.

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

3.24.

EHCR message related agent

communicating party other than the source, intended source, destination or intended destination of EHCR information.

EXAMPLES Intermediary, forwarding agent, copy destination, trusted third party authenticating a request or provide EHCR message.

3.25.

EHCR notification message

message specified by this Prestandard for the purpose of conveying notifications about the sending, receipt, rejection or acceptance of a *request EHCR message* or *provide EHCR messages*.

3.26.

EHCR source

communicating party that is the source or intended source of EHCR information that is requested, transferred or acknowledged in an EHCR message.

3.27.

EHCR system

system for recording, retrieving and manipulating information in electronic healthcare records.

3.28.

folder

original component complex used to group record components collected and/or recorded during several contacts with a patient.

NOTE A folder may include information collected and recorded at different times and by different people.

3.29.

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 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.

3.30.
headed section

original component complex representing a sub-division within a composition, the contents of which have a common theme or are derived through the same healthcare process.

3.31.
healthcare agent

healthcare person, healthcare organisation, healthcare device or healthcare software component that performs a role in a healthcare activity.

3.32.
healthcare agent function

reference to a healthcare agent that identifies them *only* in terms of their function in relation to another healthcare agent and not by an individual name or identifier.

NOTE The healthcare agent function allows a record component or message to refer to healthcare agents who are not individually identified at the time of recording.

EXAMPLE To send a message to the “duty doctor” in an emergency department, to indicate the contact details for a specialist’s secretary, to distinguish between the parts of a pre-operative assessment applicable to the “anaesthetist”.

3.33.
healthcare agent in context

one or more healthcare agents related together in a specified manner for the purposes of performing a particular role in a healthcare activity.

3.34.
healthcare agent in context reference

reference which uniquely identifies a healthcare agent in context.

NOTE: Use of a healthcare agent in context reference depends on the existence of shared information describing the healthcare agent in context to which it refers.

3.35.
healthcare agent role

role played by a healthcare agent (or by a healthcare agent in context) in a healthcare activity.

EXAMPLES Originator or author of a record entry, requester of a service, provider of a service, sender of a message, recipient of a message, person signing a message or record entry.

3.36.
healthcare agent relationship

relationship between two healthcare agents.

NOTE 1 A healthcare agent relationship may apply for a specified period of time.

EXAMPLE 1 Employee / employer

NOTE 2 A healthcare agent relationship may be specific to a particular healthcare agent role.

EXAMPLE 2 On behalf of / responsible for.

3.37.
healthcare device

device or equipment involved in the direct or indirect provision of healthcare services to an individual or to a population.

EXAMPLE ECG machine, auto-analyser, syringe pump.

3.38.
healthcare organisation

organisation involved in the direct or indirect provision of healthcare services to an individual or to a population.

NOTE Groupings or subdivisions of an organisation, such as departments or sub-departments, may also be considered as organisations where there is need to identify them.

3.39.
healthcare party

organisation or person involved in the direct or indirect provision of healthcare services to an individual or to a population.

3.40.
healthcare person

person involved in the direct or indirect provision of healthcare services to an individual or to a population.

NOTE A carer or the patient may be a healthcare person. This enables the role of the patient in providing his/her own care to be recorded.

EXAMPLE Primary care physician, dentist, nurse, social worker, pharmacist, medical secretary.

3.41.
healthcare record

repository of information regarding the health of a subject of care.

3.42.
healthcare service

service provided with the intention of directly or indirectly improving the health of the person or populations to whom it is provided.

3.43.
healthcare software

software component involved in the direct or indirect provision of healthcare services to an individual or to a population.

EXAMPLE: EHCR system, decision support software, viewing tools.

3.44.
implementable message specification

IMS

specification of a general message description in a particular message syntax.

3.45.
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.

3.46.
International Coding Scheme Identifier

ICSI

unique permanent identifier of a coding scheme as specified by ISO 7826-1.

[ISO7826]

3.47.
link set item

record component that provides a means of associating two or more other instances of EHCR message component, and specifying the relationship between them.

NOTE The link set item is used to convey a collection of one or more link items (defined in accordance with Part 1 of this Prestandard) for which both the link source component and relationship are identical.

3.48.
message profile

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

3.49.
message syntax

system of rules and definitions specifying the basic component types of messages, their interrelationships and their arrangement.

3.50.
message type

identified, named and structured set of functionally related information which fulfils a specific business purpose.

3.51.
multiplicity

expression of the number of instances of one class that may be part of or associated with another class.

NOTE 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.

3.52.
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.

[ISO 6523-1984]

3.53.
original component complex
OCC

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.

3.54.
original information context

topological placement and position of data in the EHCR as entered by an authoring healthcare agent, be that person, software or device.

3.55.
provide EHCR message

message specified by this Prestandard for the purpose of conveying EHCR information between two healthcare agents.

3.56.
record component
component

part of an electronic healthcare record that is identifiable for the purposes of referencing and revision.

3.57.
request EHCR message

message specified by this Prestandard for the purpose of conveying a request for EHCR information between two healthcare agents.

3.58.
selected component complex
SCC

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 views 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.

3.59. Abbreviations

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

DIM	Domain Information Model
DTD	Document Type Definition
EHCR	Electronic Healthcare Record
GMD	General Message Description
GP	General Practitioner
HGMD	Hierarchical General Message Description
ICSI	International Coding Scheme Identifier
IMS	Implementable Message Specification
MIG	Message Implementation Guide
OCC	Original Component Complex
SCC	Selected Component Complex
UML	Unified Modelling Language
XML	Extensible Markup Language

4. Communication roles

4.1. General

This clause defines the communication roles applicable to the exchange of electronic healthcare record in a manner that is compliant with this European Prestandard. 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 for different messages

The following messages are defined in this European Prestandard:

- *request EHCR message*;
- *provide EHCR message*;
- *EHCR notification message*.

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. 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.

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:

- 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.

Healthcare parties undertaking these roles are referred to in this European Prestandard as *EHCR message related agents*. The involvement of *EHCR message related agents* 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 message related agents* and it does not specify the details of the roles an *EHCR message related agent* may play.

Table 1 notes the communication roles that different parties may play in relation to the messages described in this Prestandard. Figure 1 provides a graphical representation of this information. The following notes apply to Figure 1 and outline the different types of *EHCR notification message* that each party may send or receive. The decision on which, if any, of these notifications should be used is dependent on the business process in a communicating community and is not subject to any normative provisions in this Prestandard.

NOTE 1 An *EHCR source* may notify an *EHCR destination* of acceptance or rejection of a *request EHCR message*.

NOTE 2 An *EHCR destination* may notify an *EHCR source* of acceptance or rejection of a *provide EHCR message*.

NOTE 3 Either an *EHCR destination* or *EHCR source* may notify a third party (an *EHCR message related agent*) when they send, receive, accept or reject of a message.

NOTE 4 An *EHCR message related agent* may forward a notification from an *EHCR destination* or *EHCR source* to another communicating party.

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>EHCR notification message</i>	2,3	
		X	<i>request EHCR message</i> <i>EHCR notification message</i>		2,3
2. Healthcare party acting as EHCR destination	X		<i>request EHCR message</i> <i>EHCR notification message</i>	1,3	
		X	<i>provide EHCR message</i> <i>EHCR notification message</i>		1,3
3. Healthcare party acting as EHCR related agent (e.g. clearing house or forwarding agent)	X		<i>provide EHCR message</i> <i>EHCR notification message</i>	2	
	X		<i>request EHCR message</i> <i>EHCR notification message</i>	1	
		X	<i>provide EHCR message</i> <i>EHCR notification message</i>		1
		X	<i>request EHCR message</i> <i>EHCR notification message</i>		2

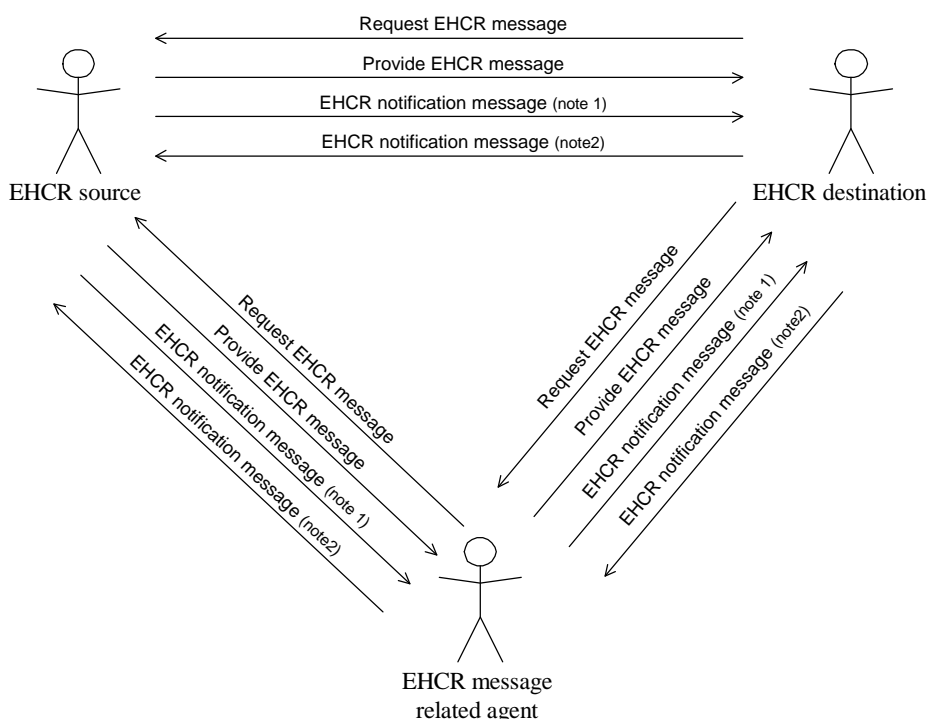


Figure 1. Illustration of EHCR message communications and communication role

5. Communication Requirements and Scenarios

5.1. Introduction

This clause outlines the communication requirements supported by use of the messages specified in this European Prestandard.

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.

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.

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 a 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.

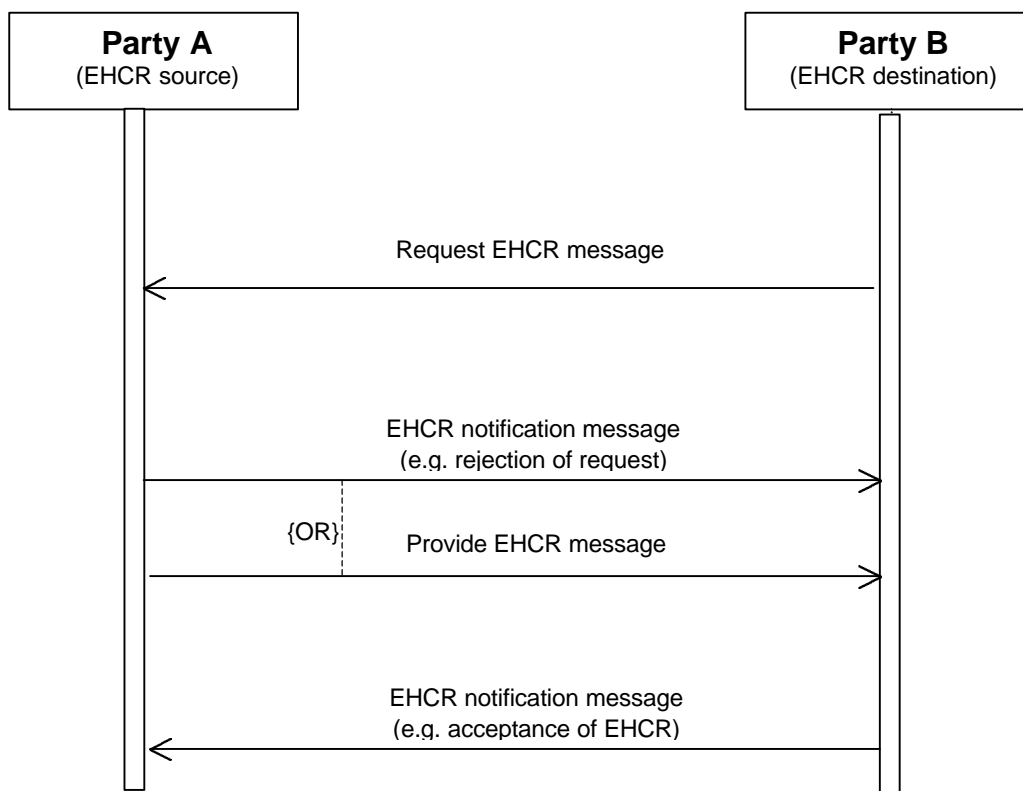


Figure 2. General sequence of messages

5.2. Transfer initiated by an EHCR source

5.2.1. Scenario outline

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

- **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

- 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.

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*).

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 *EHCR notification message* to **Party A** (an *EHCR source*).

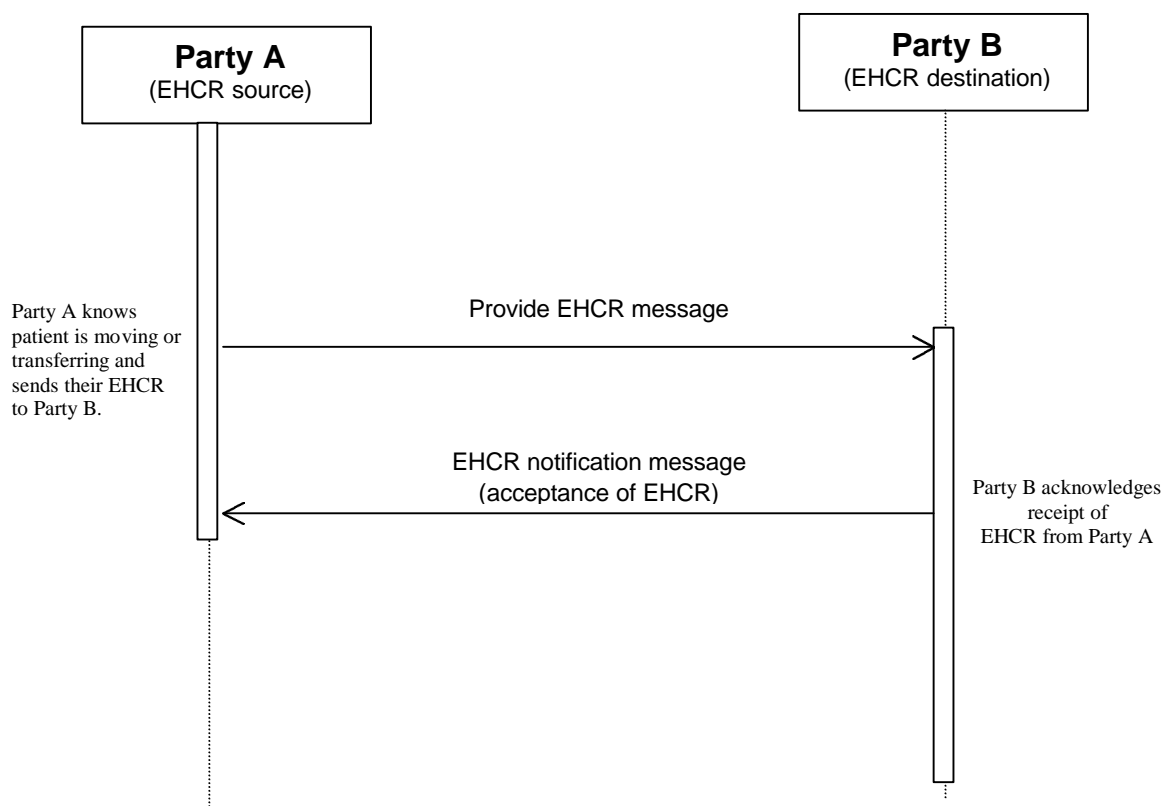


Figure 3. Patient transfer initiated by an EHCR source

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 an *EHCR notification message* to **Party B** (an *EHCR destination*).

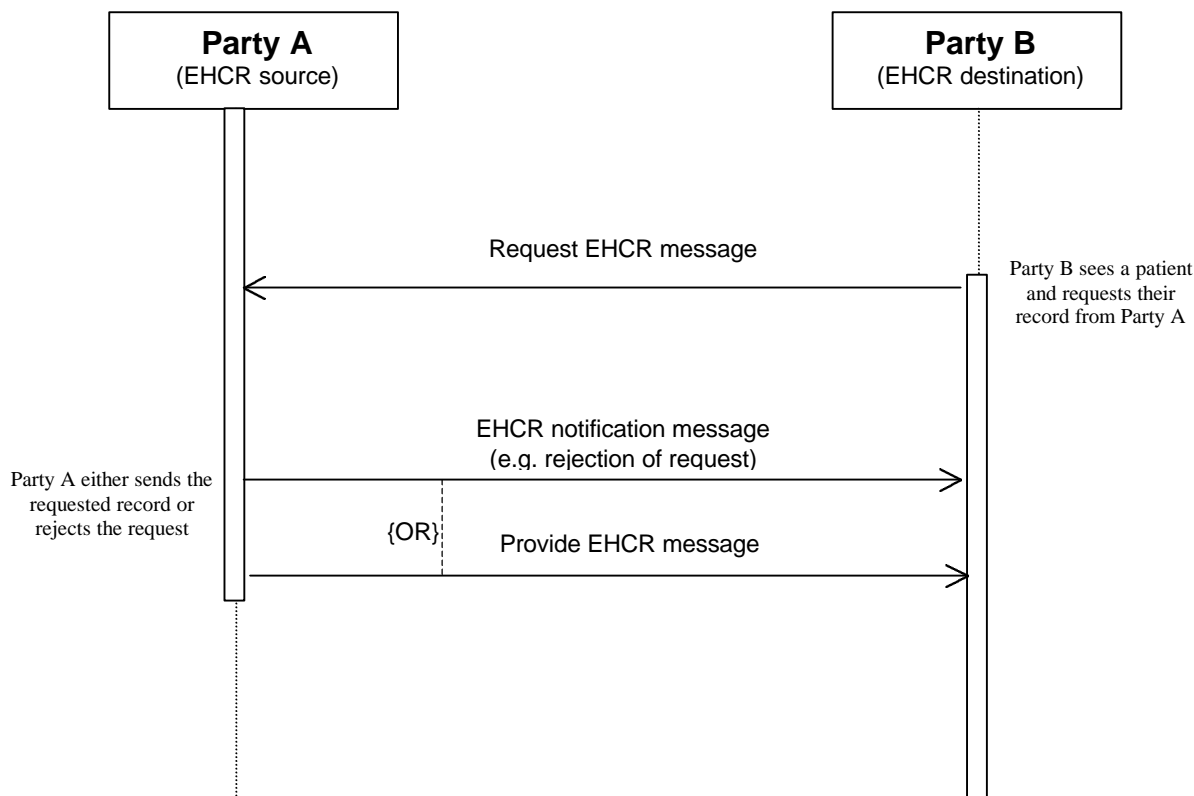


Figure 4. Transfer of care initiated by an EHCR destination

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.
- 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 an *EHCR notification 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*).

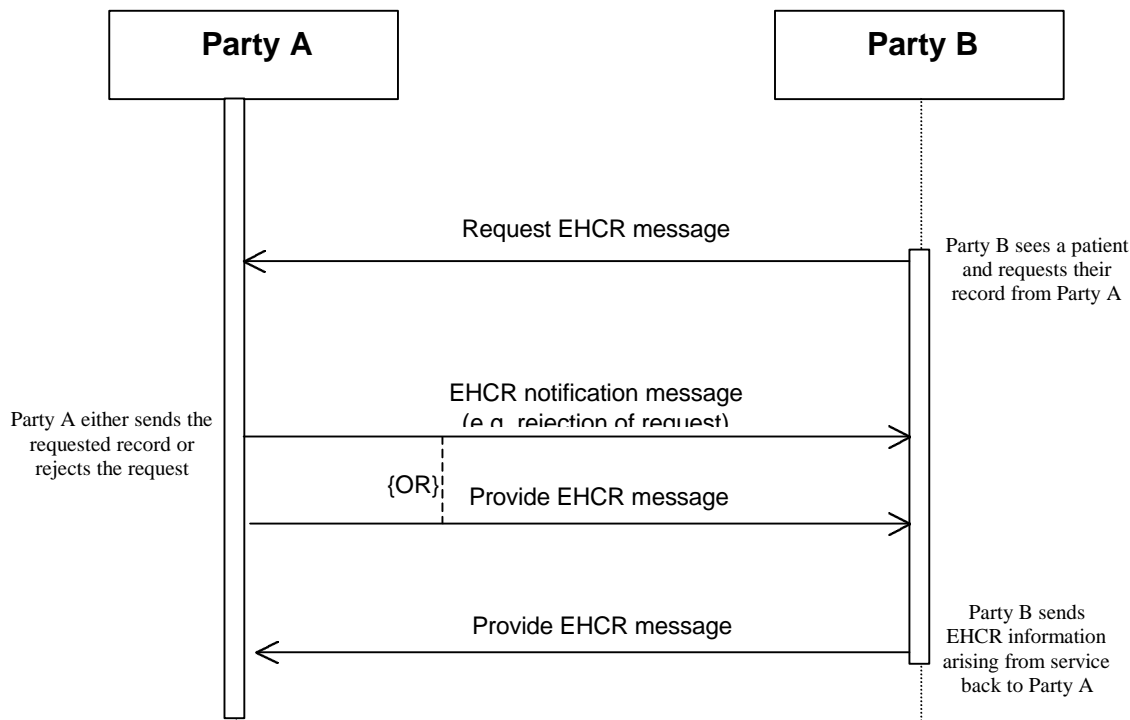


Figure 5. Service provision without a request

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*).

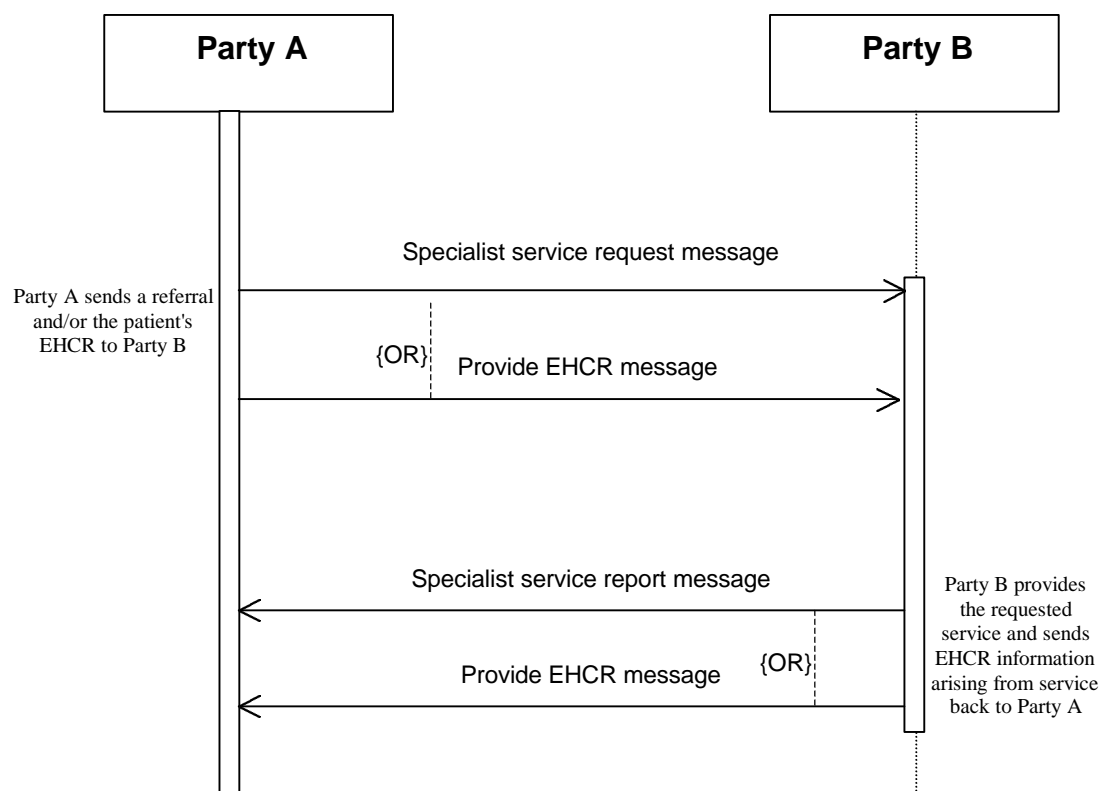


Figure 6. Service provision following a request

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*).

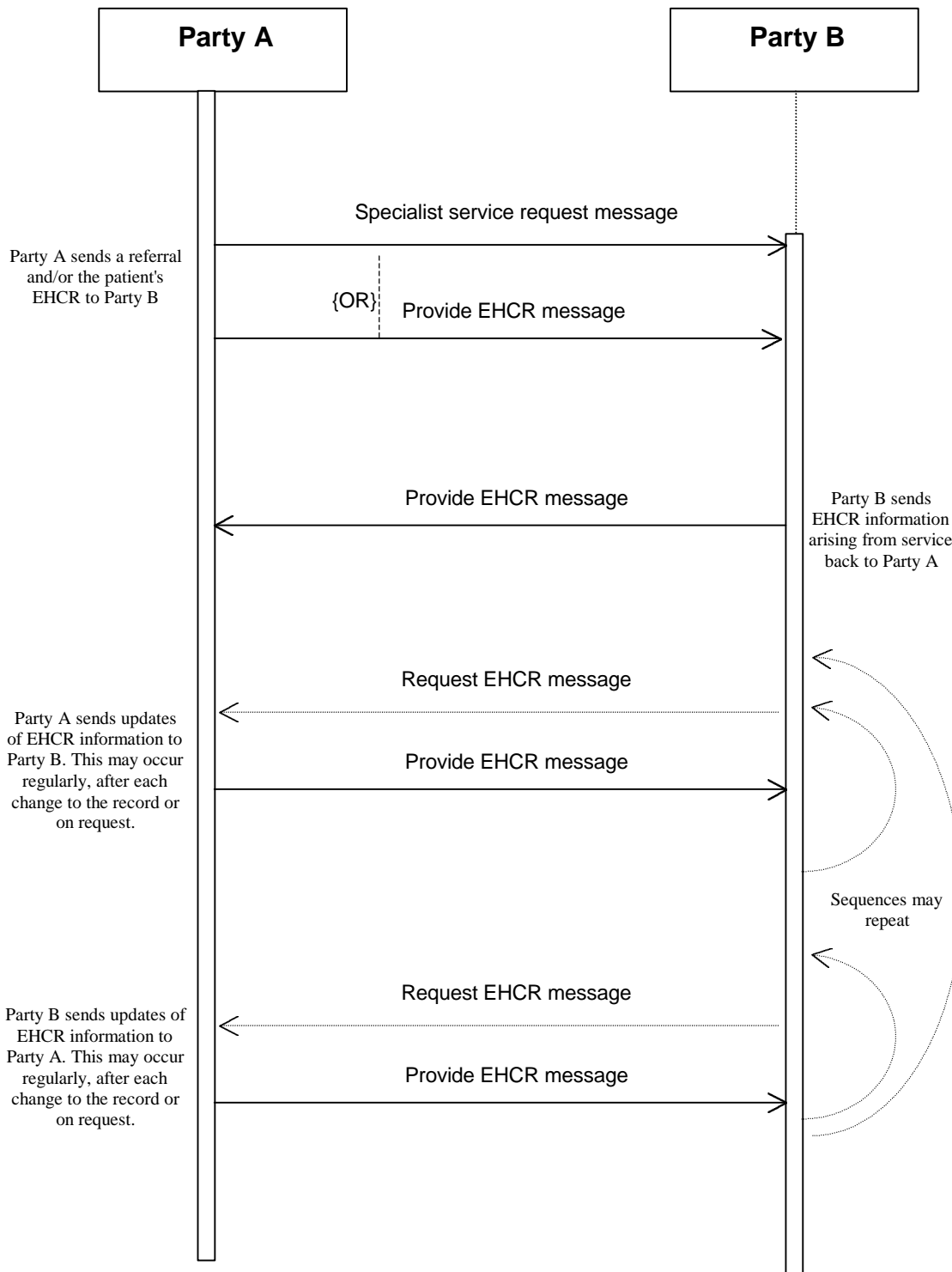


Figure 7. Continuing care by two parties

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 5.7.5) or authenticating the source of the EHCR information (see 5.7.6).

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 an *EHCR notification 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**.

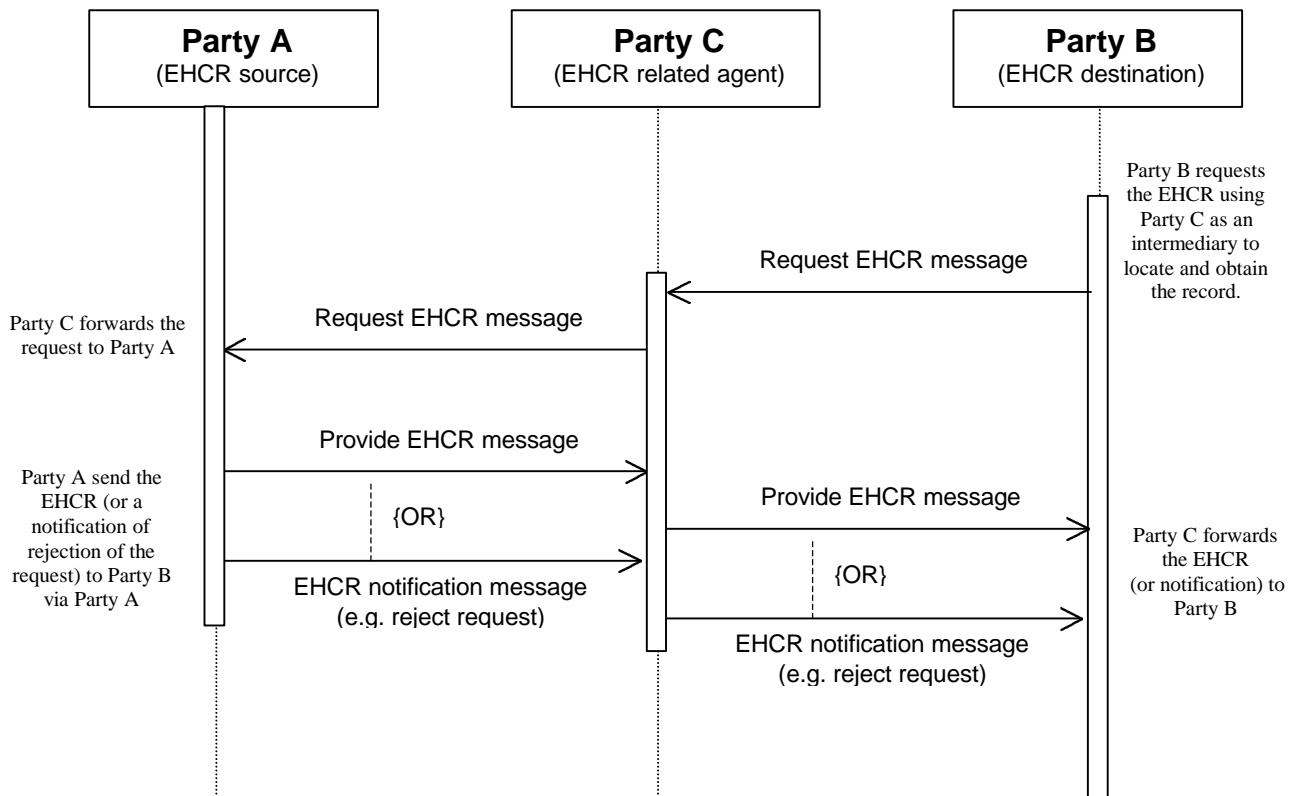


Figure 8. Indirect communication initiated by the recipient

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 *EHCR notification 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.

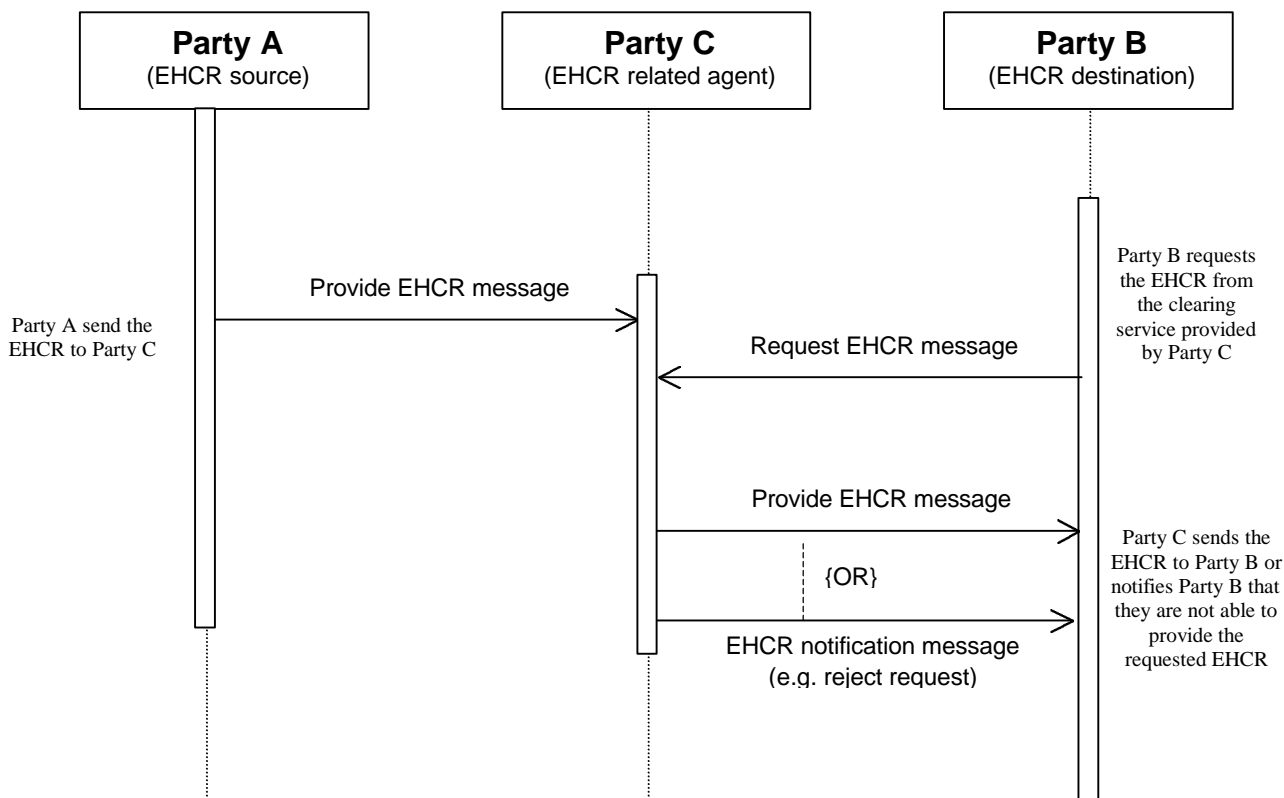


Figure 9. Indirect communication initiated by the sender

5.7.4. Indirect communication initiated by the third party

Case

- **Party C**, acting as a medical dispatch centre, wishes to receive information from an identified **Party A** in order to select and request a service from an appropriate **Party B**.

EXAMPLES

- A patient at home has a cardiac infarction and needs immediate intensive care. A communication between the family doctor and the emergency medical dispatch centre is established by telephone. The medical dispatch centre informs the intensive care unit of the regional university hospital. The medical dispatch centre requests the relevant patient records and forwards them to the hospital.
- An injured tourist asks an emergency medical assistance provider for repatriation. The assistance provider obtains the records from the treating clinicians in the country where the patient was injured and forwards this information to an appropriate hospital or clinician in the tourist's home country.

Action

- **Party C** sends a *request EHCR message* to **Party A**.
- **Party A** sends a *provide EHCR message* to **Party C**
- (optionally **Party C** sends a *specialist service request message* (referral) to **Party B**)
- (optionally **Party B** sends a *request EHCR message* to **Party C**)
- **Party C** sends a *provide EHCR message* to **Party B**.

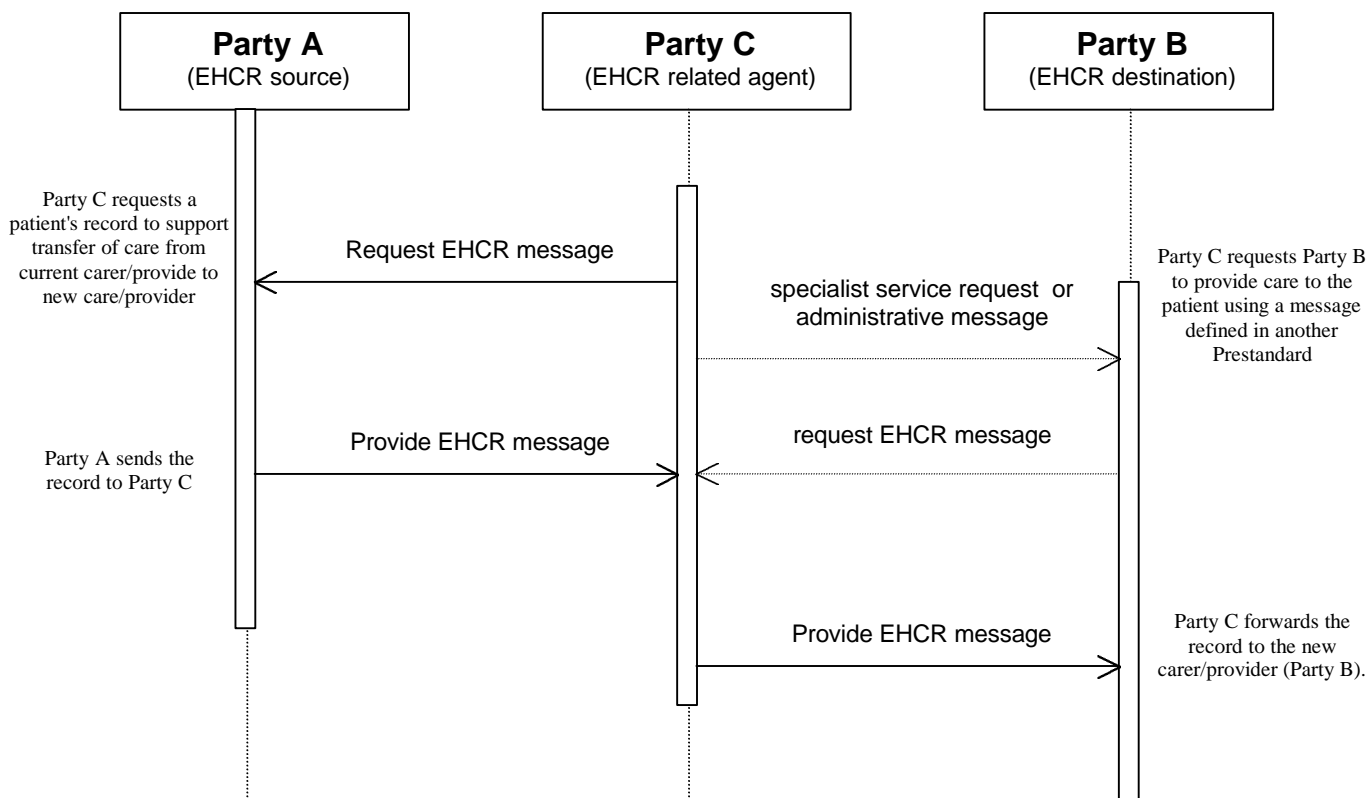


Figure 10. Indirect communication initiated by the third party

5.7.5. 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.
- 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.

5.7.6. Authenticity of origin of EHCR Information

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 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**.

5.7.7. Sending EHCR information to multiple destinations

If it is appropriate to send a copy of the same information to several destinations, separate instances of the *provide EHCR message* should be used. Only one *EHCR destination* may be specified in an instance of the message. However, if appropriate, the same EHCR information can be included in another message sent to another *EHCR destination*. The other recipients of the same EHCR information can be identified in the message as *EHCR message related agents* with the role copy destination.

NOTE The requirement to use separate messages for each *EHCR destination* is intended to ensure that ethical and legal responsibility for each communicative act is explicit in the message. Therefore, each EHCR message is specifically identified and is sent by a single identified *EHCR source*, to a single identified *EHCR destination*.

6. Requirements and General Message Descriptions

6.1. Conformance requirements

6.1.1. This clause specifies the normative minimum acceptable content and structure requirements for messages that comply with this European Prestandard.

6.1.2. Messages that comply with this European Prestandard shall support the structure and relationships illustrated by the GMD diagrams and textual descriptions in this clause. The requirements in this clause incorporate by reference the relevant class descriptions in Clause 7.

6.1.3. In respect of each class referred to in the clause 6, compliant messages shall support the detailed content of the class as described in Clause 7.

6.1.4. 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 reference to further class and subclass descriptions in Clause 7.

6.1.5. Messages that comply with this European Prestandard need not support relationships shown in the domain information model diagrams in Clause 7, except to the extent that these are either:

- Explicitly specified in this clause; or
- Listed in Clause 7 as a component or attribute of a class explicitly specified in this clause.

6.1.6. Where text description in this clause include phrases such as "*the... message shall contain an optional instance of...*", 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 these classes in each instance of the message.

NOTE 1 This phrase is used to make clear that in these cases the optionality specified in the model applies to population of instances of the message with data. It is mandatory for the message to be capable of carrying these classes.

NOTE 2 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.

6.1.7. Where text description in clause 6 include phrases such as "*the... message shall contain one mandatory instance of...*", practical implementation of messages that comply with this European Prestandard shall include appropriate provision for the specified information. This European Prestandard requires that the message shall oblige the sender of such a message to send an instance of the referred classes in each instance of the message.

NOTE This phrase is used to make clear that in these instances it is not only mandatory for the message to be able to carry the specified class; it is also mandatory for the class to be populated with appropriate data in each instance of the message.

6.2. General Message Descriptions

6.2.1. 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. 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.

6.2.2. In some of the GMD diagrams, the generalisation of a class is shown by text within the box representing the specialised class, rather than by explicitly listing the generalised content of the class. The Domain Information Model in Clause 7 contains a fully expanded listing of the components of each class, including the attributes inherited from generalised classes.

6.3. Requirements common to all EHCR messages

6.3.1. The *EHCR message* (7.4.1) is an abstract generalisation of the three messages specified in this Prestandard. It is used to refer to those elements of the messages that are common to a wide range of patient related healthcare messages.

6.3.2. Any implementation of the *provide EHCR message* (7.4.3), *request EHCR message* (7.4.2) or *EHCR notification message* (7.4.4) shall comply with all the requirements for the *EHCR message* as stated in this subclause. These requirements are summarised in the GMD diagram (Figure 11). A more detailed description of the *EHCR message* class and its constituent attributes is provided in the Domain Information Model (7.4.1)

6.3.3. An *EHCR message* shall contain one mandatory instance of each of the following attributes (see 7.4.1):

- *identification of message by originator*
- *issue date and time of message*
- *urgency of message*
- *message receipt acknowledgement request.*

6.3.4. An *EHCR message* shall contain one mandatory instance of each of the following classes.

- *EHCR source* (7.3.2)
- *EHCR destination* (7.3.3)
- *patient matching information* (7.4.6).

6.3.5. An *EHCR message* shall contain optional instances of each of the following attributes (see 7.4.1):

- *comment on message*
- *language.*

6.3.6. An *EHCR message* shall contain optional instances of each of the following classes:

- *EHCR message related agent* (7.3.4)
- *healthcare agents directory* (7.10.19)
- *message reference* (7.4.5).

6.3.7. In accordance with the descriptions in Clause 7, the *EHCR source*, *EHCR destination* and any *EHCR message related agents* are identified using a *healthcare agent in context reference* (7.10.12). These references, and those for other *healthcare agents* identified in the message, may either refer to entries in a common shared directory or may refer to entries in the *healthcare agents directory* (7.10.19) class contained in the message. An individual instance of the message shall contain appropriate *healthcare agents directory* entries for any *healthcare agent*, or *healthcare agent in context*, referred to in the message, unless the reference refers to an existing entry for this agent in a directory readily accessible to both communicating parties.

6.3.8. The mandatory instance of *patient matching information* (7.4.6) shall contain sufficient information to identify the patient who is the subject of the message. The message shall include instances of the following attributes, one or more of which should be mandatory in any instance of the message.

- *patient identifiers*
- *person name*
- *date of birth.*

6.3.9. The requirement to include a *patient identifier*, *person name* or *date of birth* may be met by use of an alias or encrypted identifier where this is required to comply with data protection legislation. In this case, the communicating community shall specify a mechanism that enables an authorised communicating party to match a message to a patient.

6.3.10. The mandatory instance of *patient matching information* (7.4.6) should also contain optional instances of the following attributes. These may be included in individual instances of the message where this information may assist accurate matching:

- *alternative person name*
- *person administrative sex*
- *person addresses.*

6.3.11. Communicating communities should specify which combinations of the attributes listed in 6.3.8 and 6.3.10 are acceptable to enable safe automated or manually assisted matching of a message to a patient.

6.3.12. If the *EHCR message* is a response to another message, a *message reference* (7.4.5) should be included in the message and, if included, this shall uniquely identify the relevant message.

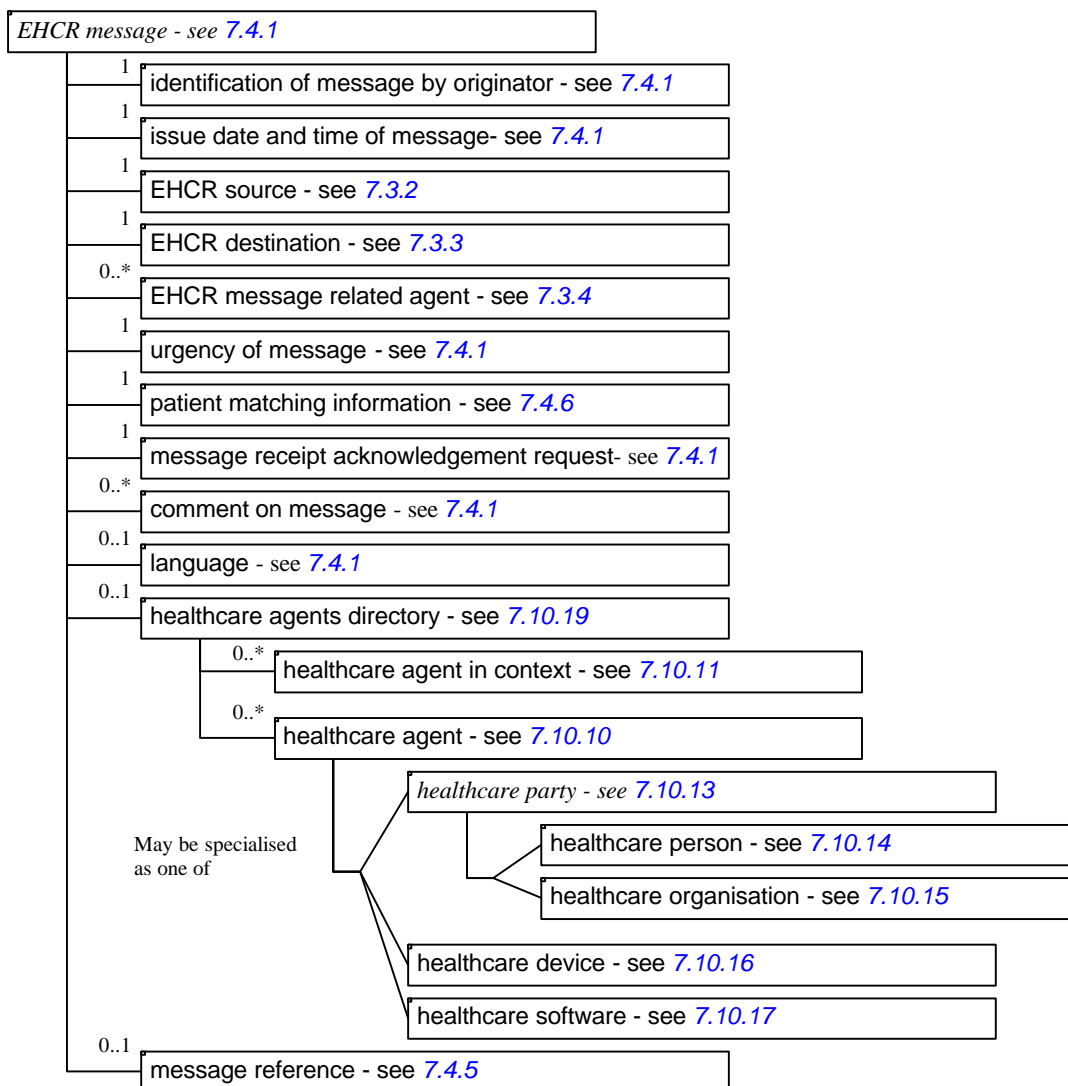


Figure 11. GMD for the common structures applicable to all EHCR Messages

6.4. Specification of EHCR message information

6.4.1. The *specification of EHCR information* is used to indicate the nature of the information that an *EHCR message* requests, contains or refers to. The requirements for including this class vary and are stated in the clauses relevant to each message. However, when *specification of EHCR information* is included in a message, the requirements for its composition are not dependent on the nature of the message.

6.4.2. Any implementation of the *provide EHCR message* (7.4.3), *request EHCR message* (7.4.2) or *EHCR notification message* (7.4.4) shall conform with all the requirements stated in this subclause. These requirements apply to the class *specification of EHCR information*, when it is included in any of the three messages specified in this Prestandard. These requirements are summarised in the GMD diagram (Figure 12). A more detailed description of *specification of EHCR information* class and its constituent attributes is provided in the Domain Information Model (7.4.7).

6.4.3. The *specification of EHCR information* shall contain one mandatory instance of the attribute *EHCR scope*. This shall indicate whether the EHCR information represents:

- the complete EHCR for a patient as held by the *EHCR source*;
- a selected subset from the EHCR;
- an update of changes during a specified period.

6.4.4. The *specification of EHCR information* shall contain one instance of the attribute *EHCR subset description* (see 7.4.7). This attribute shall be mandatory in any instance of the message in which the *EHCR scope* indicates that the information is a selected subset of the record.

6.4.5. The *specification of EHCR information* shall contain one instance of the attribute *EHCR update period* (see 7.4.7). This attribute shall be mandatory in any instance of the message in which the *EHCR scope* indicates that the information is an update of changes to the record.

6.4.6. The *specification of EHCR information* shall contain one instance of the attribute *EHCR update period* (see 7.4.7). This attribute shall be mandatory in any instance of the message in which the *EHCR scope* indicates that the information is an update of changes to the record.

6.4.7. The *specification of EHCR information* shall contain one optional instance of each of the following attributes (see 7.4.7):

- *communicating community identifier*
- *enterprise identifier*
- *EHCR language*.

6.4.8. If the attribute *communicating community identifier* is present in an instance of a message, it shall identify the *communicating community* which defined the implementation guidelines followed by this message. According to the nature of those guidelines, it may also determine the expected nature of a response to the message and/or the use of *community defined data items* within the message.

6.4.9. If the attribute *enterprise identifier* is present in an instance of a message, it shall identify the enterprise environment of the sending system. This may determine the inclusion of, or capability to interpret, enterprise specific *community defined data items*.

6.4.10. If the attribute *EHCR language* is present in an instance of a message, it shall identify the predominant language in which EHCR information is represented or, in the case of a *request EHCR message*, the language in which the *EHCR destination* would prefer to receive this information.

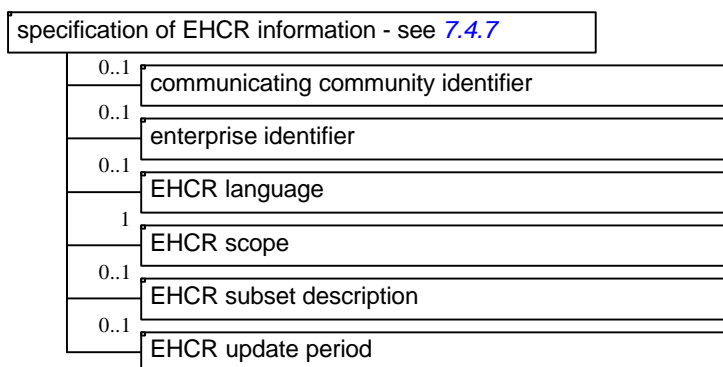


Figure 12. GMD for Specification of EHCR Information applicable to all EHCR messages

6.5. Provide EHCR Message

6.5.1. The *provide EHCR message* is used to communicate all or part of a single patient's EHCR:

- In response to:
 - a *request EHCR message*;
 - 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.

6.5.2. The requirements applicable to the *provide EHCR message* are stated in this subclause and summarised in the GMD diagram (Figure 13). A more detailed description of the *provide EHCR message* is included in the Domain Information Model (7.4.3).

6.5.3. The *provide EHCR message* shall comply with the general requirements for *EHCR messages* stated in 6.3.

6.5.4. The *provide EHCR message* shall include one mandatory instance of *specification of EHCR information* which shall comply with the requirements stated in 6.4. This shall indicate the scope of the EHCR information in the message. It may also indicate the predominant language and communicating community or enterprise constraints or extensions applied to that information.

6.5.5. The *provide EHCR message* should include one optional instance of *distribution rule directory* (7.9.1) which, if present, shall contain one or more instances of *distribution rules* (7.9.3). The rules included in the directory shall comply with the detailed requirements specified in Part 3 of this Prestandard. The *EHCR extract* or any of its constituent *record components* may refer to one or more of these rules using the *distribution rule reference* (7.9.2) attribute. Access to *record components* that refer to *distribution rules* shall be governed by those rules as specified in Part 3.

6.5.6. The *provide EHCR message* shall include one mandatory instance of *EHCR extract*. This shall contain the EHCR information indicated by the *specification of EHCR information* and shall be structured as specified in 6.6.

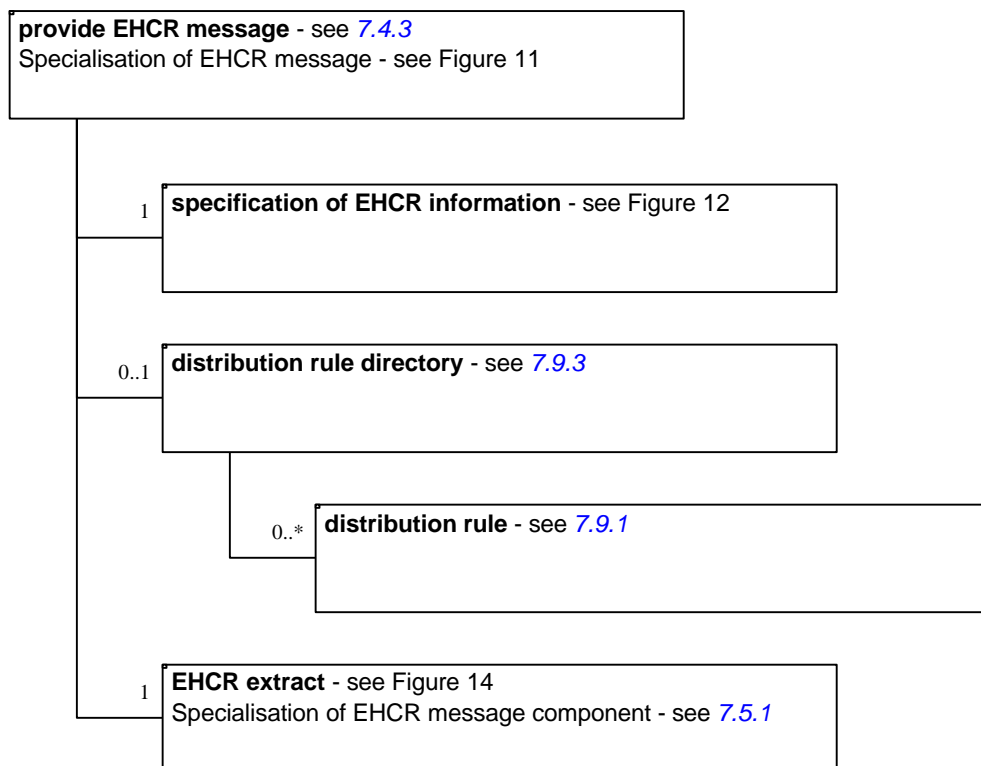


Figure 13. GMD Provide EHCR Message

6.6. EHCR Extract

6.6.1. The *EHCR extract* represents the entirety of the EHCR information within the message. Thus it acts as the root of a hierarchical structure including all the other record components that convey the structure and content of the EHCR. If the message contains the complete EHCR, the *EHCR extract* is equivalent to the *EHCR Root Architectural Component* specified in Part 1 of this Prestandard. However, this is not the case if the message contains a selected subset or an update of EHCR information.

6.6.2. The requirements applicable to the *EHCR extract* are stated in this subclause and summarised in the GMD diagram (Figure 14). A more detailed description of the *EHCR extract* class is included in the Domain Information Model (7.5.1).

6.6.3. The *EHCR extract* is a specialisation of the abstract class *EHCR message component*. Therefore, the *EHCR extract* shall include instances of the attributes of *EHCR message component* as specified in 7.8.1 and these attributes shall be populated in accordance with the specification of usage included in the full description of the *EHCR extract* in 7.5.1.

6.6.4. The *EHCR extract* shall include one or more members and each of these members shall be an instance of one of the following specialisations of the abstract class *record component*:

- *original component complexes* (7.5.3) of the following types:
 - *folder* (7.5.4)
 - *composition* (7.5.5)
- *selected component complex* (7.5.8)
- *empty record component* (7.5.9)
- *link set item* (7.7.1)
- *text data item* (7.6.2).

6.6.5. Implementation of the *provide EHCR message* in an Implementable Message Specification shall not restrict the maximum number of members that an *EHCR extract* may have.

6.7. Original component complexes

6.7.1. General requirements

6.7.1.1. *Original component complexes* are used to structure the record in accordance with the time and situation in which information was recorded in the EHCR.

6.7.1.2. Within the message all *record components* that are not members of the *EHCR extract* shall be members of one, and only one, *original component complex*. A *record component* that is a member of the *EHCR extract* shall not also be a member of an *original component complex*.

6.7.1.3. All the *record components* that are members of the same *original component complex* shall have arisen in a common original information context based on the time and situation in which they were recorded. *Original component complexes* shall not be used to represent logical or clinical relationships between *record components* that arose in different original information contexts.

6.7.1.4. The *original component complex* is a specialisation of the abstract class *record component*. Therefore, the *original component complex* shall include instances of the attributes of *record component* as specified in 7.5.2. These attributes shall be populated in accordance with the specification of usage included in the full description of the *original component complex* in 7.5.3.

6.7.1.5. Each instance of *original component complex* shall include one or more members and each of these members shall be an instance of one of the concrete specialisations of the abstract class *record component*.

6.7.1.6. Each member of an *original component complex* may play one of three *component roles* in the representation of the information content of that part of the EHCR. By default a member provides **structured** content. However, in each *original component complex* there may be one optional instance of a *record component* that provides a parallel **narrative** text representation of the same part of the record. They may also be one optional instance of a *record component* that provides a parallel **enterprise** specific representation of the same part of the record. These roles are indicated by the value of the *component role* attribute (7.5.2).

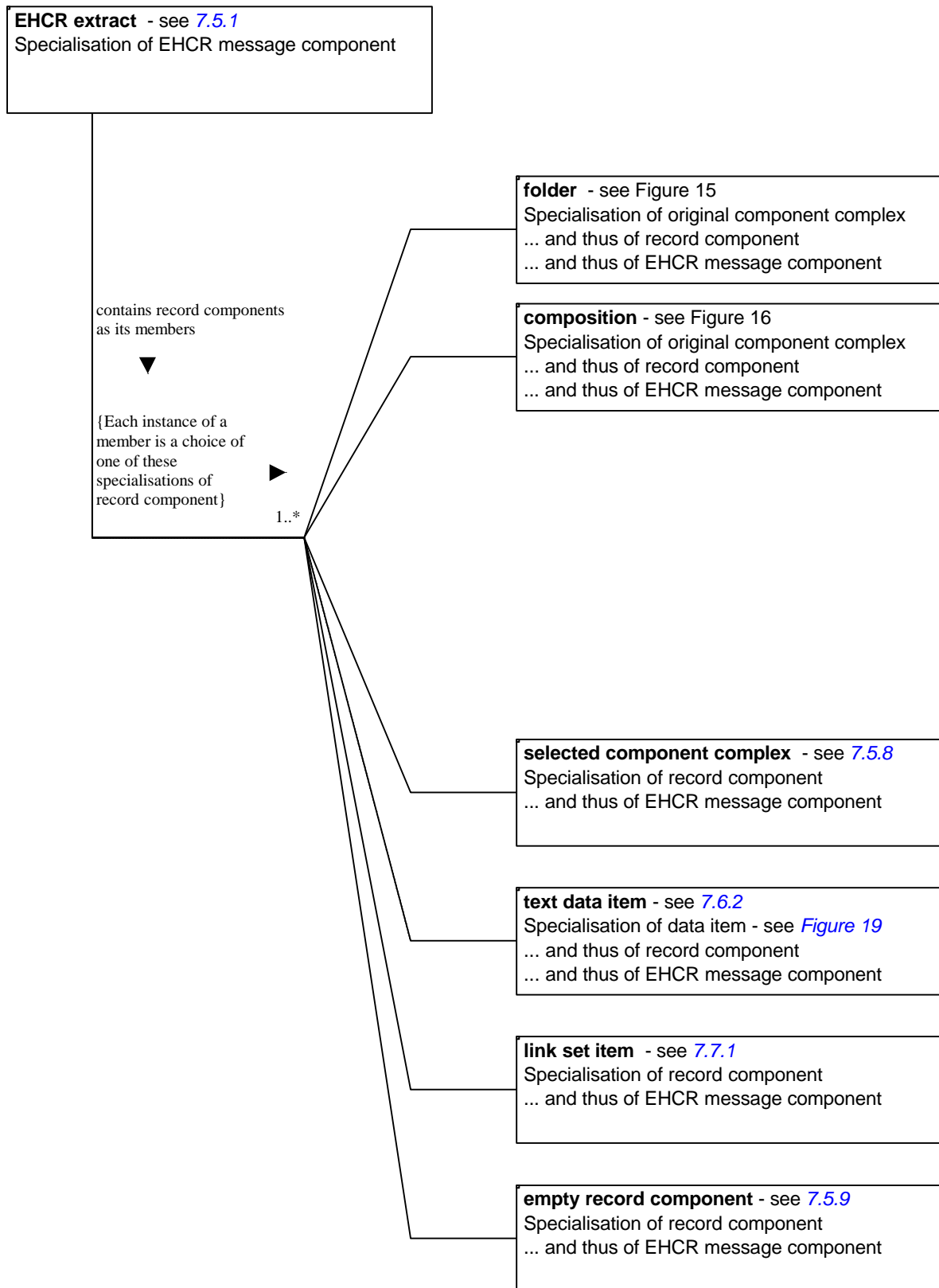


Figure 14. GMD EHCR Extract Component Hierarchy

6.7.1.7. Implementation of the *provide EHCR message* in an Implementable Message Specification shall not restrict the maximum number of members that an *original component complex* may have.

6.7.1.8. Four specialised types of *original component complex* are described in this Prestandard. These are *folder* (7.5.4), *composition* (7.5.5), *headed section* (7.5.6) and *cluster* (7.5.7). All *original component complexes* have the same general structure but differ in respect of:

- coarseness of granularity of their shared original information context;
- permissible values for certain attributes;
- propagation of attribute values to their members;
- specialisations of record components that are permitted to be their contain members.

The following subclauses describe and illustrate these points for each specialisation of *original component complex*.

6.7.2. Folders

6.7.2.1. A *folder* is used to group *record components* collected and/or recorded during several contacts with a patient. A *folder* may include information collected and recorded at different times and by different people.

EXAMPLES Nursing notes, Primary care notes, Specialist departmental record.

6.7.2.2. All implementations of the *provide EHCR message* should be capable of supporting *folders*. However, users of the message need not include instances of *folder* in a message.

6.7.2.3. If *folders* are implemented and used in the message, they shall comply with the requirements which are stated in this subclause and summarised in the GMD diagram (Figure 15). A more detailed description of the *folder* class is included in the Domain Information Model (7.5.4).

6.7.2.4. A *folder* is a specialisation of the abstract class *original component complex*. Therefore, the *EHCR extract* shall comply with the requirements specified for all types of *original component complex* in 6.7 and shall fully support the specialised constraints specified for *folder* type *original component complexes* in 7.5.4.

6.7.2.5. A *folder* shall include one or more members and each of these members shall be an instance of one of the following specialisations of the abstract class *record component*:

- *original component complexes* (7.5.3) of the types:
 - *folder* (7.5.4)
 - *composition* (7.5.5)
- *selected component complex* (7.5.8)
- *empty record component* (7.5.9)
- *link set item* (7.7.1)
- *text data item* (7.6.2)

6.7.2.6. A *folder* may include other folders among its members. A communicating community may specify limitations to the level of nesting of folders as part of the implementation guidelines for the *provide EHCR message*.

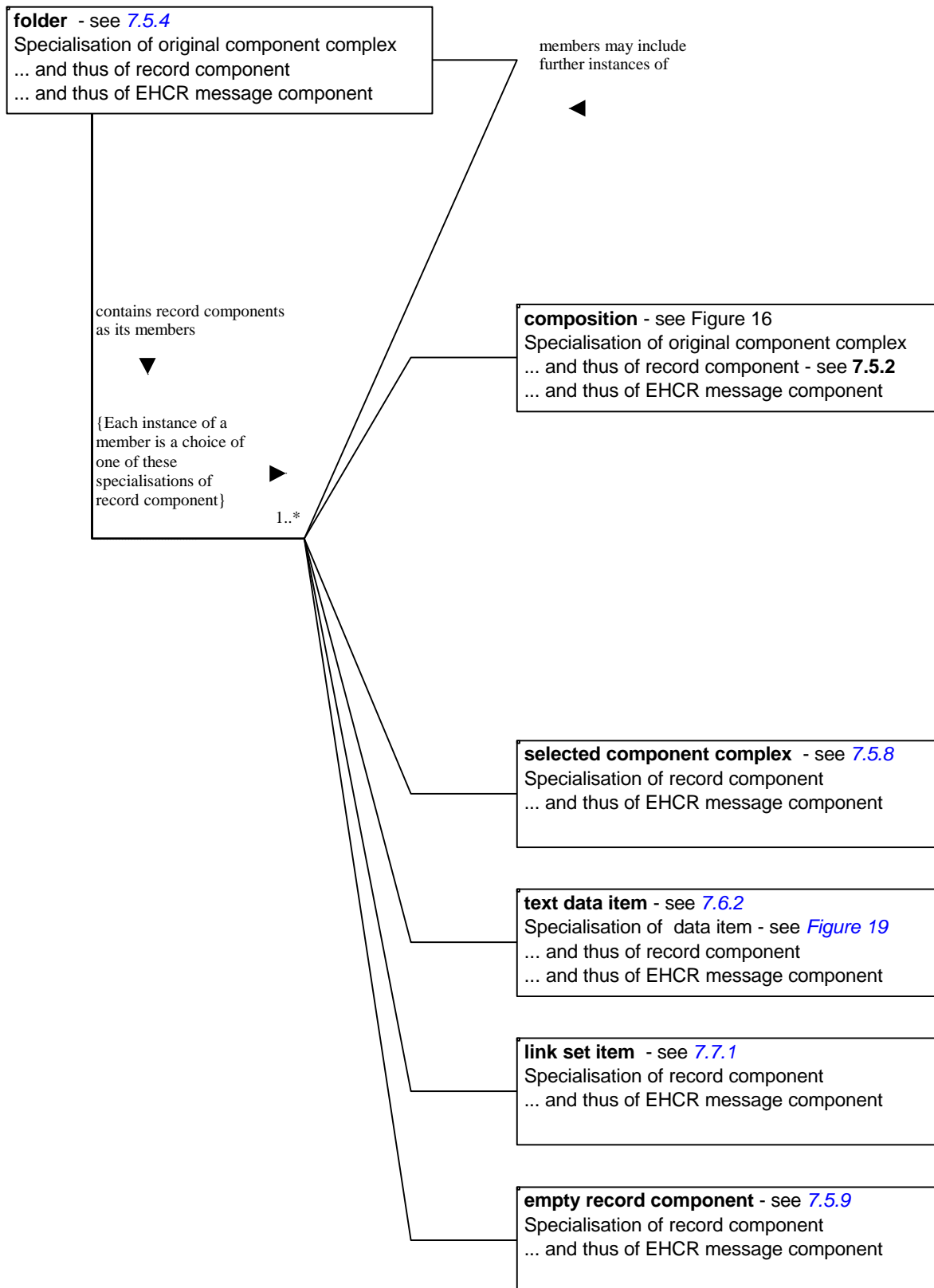


Figure 15. GMD Folder - Original Component Complex

6.7.3. Compositions

6.7.3.1. A *composition* is used to group *record components* collected during a single contact with a patient and/or a single interaction between the *originating healthcare agent* and the EHCR system.

EXAMPLES Notes of a consultation, an investigation report, a referral letter.

6.7.3.2. All implementations of the *provide EHCR message* shall support *compositions*. Each instance of the message should include at least one *composition*. However, an instance of the message that only conveys a narrative text summary of the EHCR need not contain a *composition*.

6.7.3.3. *Compositions* shall comply with the requirements which are stated in this subclause and summarised in the GMD diagram (Figure 16). A more detailed description of the *composition* class is included in the Domain Information Model (7.5.5).

6.7.3.4. A *composition* is a specialisation of the abstract class *original component complex*. Therefore, the *EHCR extract* shall comply with the requirements specified for all types of *original component complex* in 6.7 and shall fully support the specialised constraints specified for *composition* type *original component complexes* in 7.5.5.

6.7.3.5. Every instance of a *composition* shall include a value for the *component name category* attribute. This shall be one of the "Categories for Composition OCC types", listed in Table A.1 of Part 2 of this Prestandard. These values are required to communicate information about the general nature of the composition. An optional additional more detailed title may be provided using the *component name structure* (7.8.4).

6.7.3.6. Every instance of a *composition* shall include a value for the attributes *originating date and time* and *originating healthcare agent*.

6.7.3.7. A *composition* shall include one or more members and each of these members shall be an instance of one of the following specialisations of the abstract class *record component*:

- *original component complexes* (7.5.3) of the types:
 - *headed section* (7.5.6)
 - *cluster* (7.5.7)
- *selected component complex* (7.5.8)
- *empty record component* (7.5.9)
- *link set item* (7.7.1)
- *data item* (7.6.1) of any of the types specified in (6.8)

6.7.3.8. A *composition* shall not include *folders* or other *compositions* as members.

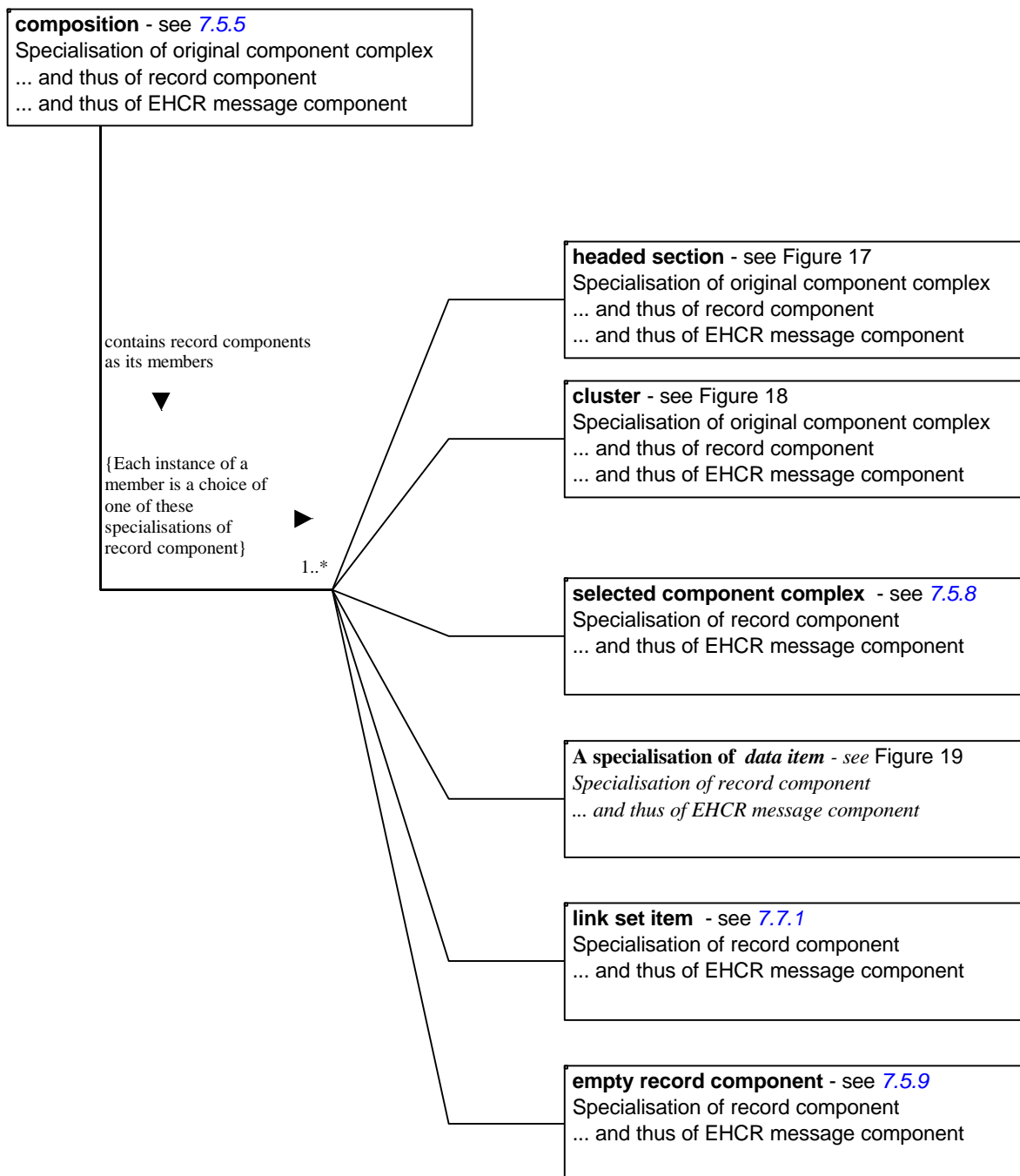


Figure 16. GMD Composition - Original Component Complex

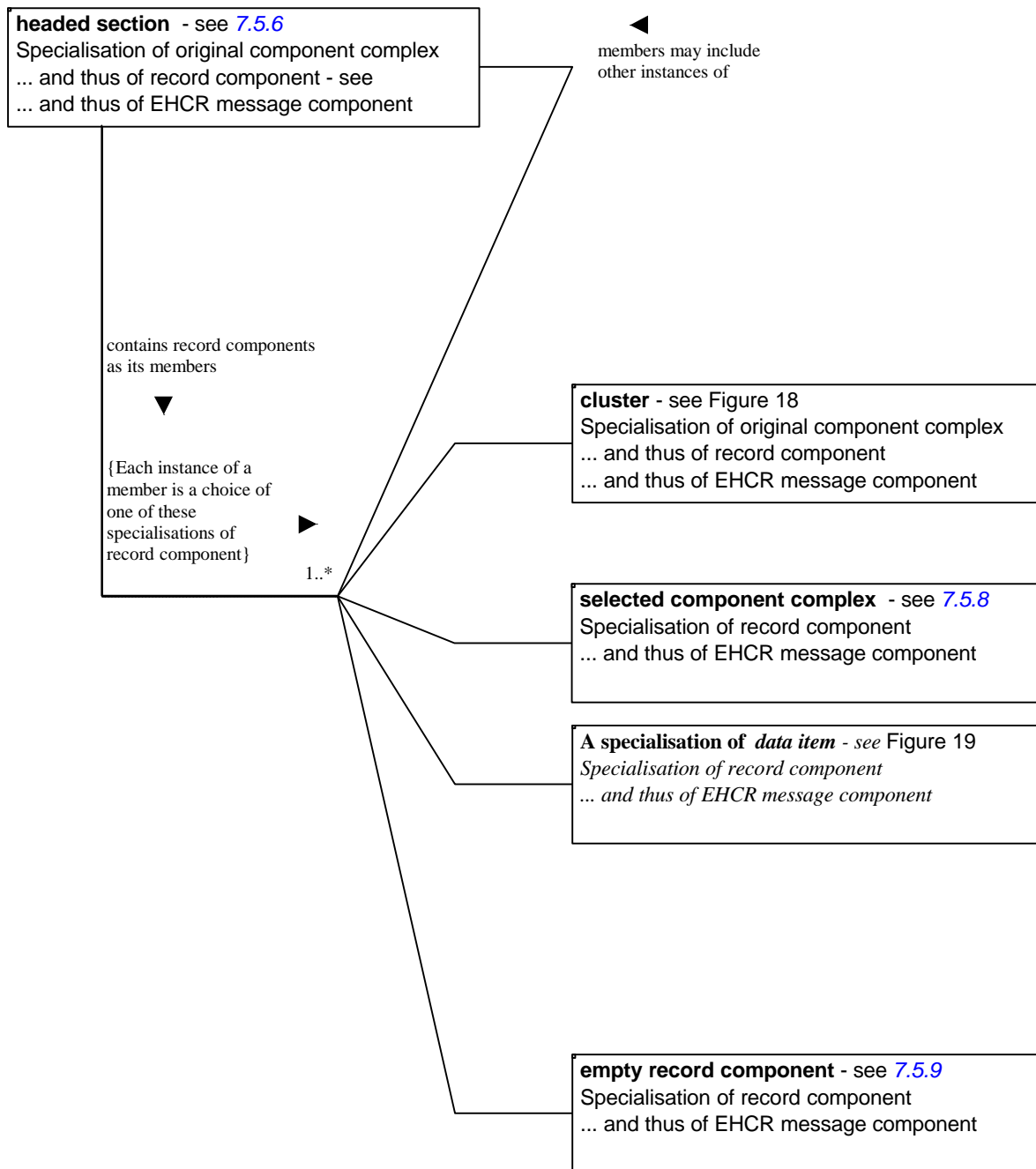


Figure 17. GMD Headed Section - Original Component Complex

6.7.4. Headed sections

6.7.4.1. A *headed section* is used to group *record components* that are part of a *composition* under an appropriate heading. A *headed section* shall not be used to group *record components* that arise from more than one contact with a patient.

EXAMPLES Clinical history, examination, treatment.

6.7.4.2. All implementations of the *provide EHCR message* should be capable of supporting *headed sections*. However, users of the message need not include instances of *headed section* in a message.

6.7.4.3. If *headed sections* are implemented and used in the message, they shall comply with the requirements which are stated in this subclause and summarised in the GMD diagram (Figure 17). A more detailed description of the *headed section* class is included in the Domain Information Model (7.5.6).

6.7.4.4. A *headed section* is a specialisation of the abstract class *original component complex*. Therefore, the *EHCR extract* shall comply with the requirements specified for all types of *original component complex* in 6.7 and shall fully support the specialised constraints specified for *headed section* type *original component complexes* in 7.5.6.

6.7.4.5. Every instance of a *headed section* shall include a value for the *component name category* attribute. This shall be one of the "Categories for Headed Section OCC types", listed in Table A.2 of Part 2 of this Prestandard. These values are required to communicate information about the general nature of the headed section. An optional additional more detailed heading may be provided using the *component name structure* (7.8.4).

6.7.4.6. A *headed section* shall include one or more members and each of these members shall be an instance of one of the following specialisations of the abstract class *record component*:

- *original component complexes* (7.5.3) of the types:
 - *headed section* (7.5.6)
 - *cluster* (7.5.7)
- *selected component complex* (7.5.8)
- *empty record component* (7.5.9)
- *data item* (7.6.1) of any of the types specified in (6.8)

6.7.4.7. A *headed section* may include other *headed sections* among its members. A communicating community may specify limitations to the level of nesting of *headed sections* as part of the implementation guidelines for the *provide EHCR message*.

6.7.5. Clusters

6.7.5.1. A *cluster* is used where it is necessary or desirable to group *data item* into logically or clinically associated collections within a *composition* or *headed section*. A *cluster* shall not be used to group *record components* that arise from more than one contact with a patient or that have been recorded under different *headed sections*.

EXAMPLES Blood pressure measurement (including systolic and diastolic as separate data items, the results of a "battery" of investigations).

6.7.5.2. All implementations of the *provide EHCR message* should be capable of supporting *clusters*. Instances of a message should include clusters if the *EHCR source* systems contains an indication of a fundamental relationship between several observations or actions recorded during the same contact with the patient.

6.7.5.3. If *clusters* are implemented and used in the message, they shall comply with the requirements stated in this subclause and summarised in the GMD diagram (Figure 18). A more detailed description of the *cluster* class is included in the Domain Information Model (7.5.7).

6.7.5.4. A *cluster* is a specialisation of the abstract class *original component complex*. Therefore, the *EHCR extract* shall comply with the requirements specified for all types of *original component complex* in 6.7 and shall fully support the specialised constraints specified for *cluster* type *original component complexes* in 7.5.7.

6.7.5.5. The nature of the information within a *cluster* should be represented by one or more code values applied to the *component name structure* (7.8.4). The codes used for this purpose shall be taken from a coding scheme or controlled terminology agreed for use within the communicating community and identified in the message.

6.7.5.6. Any other coded or structured information that alters the meaning of the entire *cluster* should be represented by inclusion of one or more instances of the *annotation identifier* attribute, which shall contain an appropriate value from the list in Table B.1 in Part 2 of this Prestandard.

6.7.5.7. A *cluster* shall include one or more members and each of these members shall be an instance of one of the following specialisations of the abstract class *record component*:

- *original component complexes* (7.5.3) of the type *cluster* (7.5.7)
- *empty record component* (7.5.9)
- *data item* (7.6.1) of any of the types specified in (6.8)

6.7.5.8. A *cluster* may include other *clusters* among its members and this Prestandard does not specify a limit to the levels of nesting. A communicating community may specify limitations to the level of nesting of *clusters* as part of the implementation guidelines for the *provide EHCR message*.

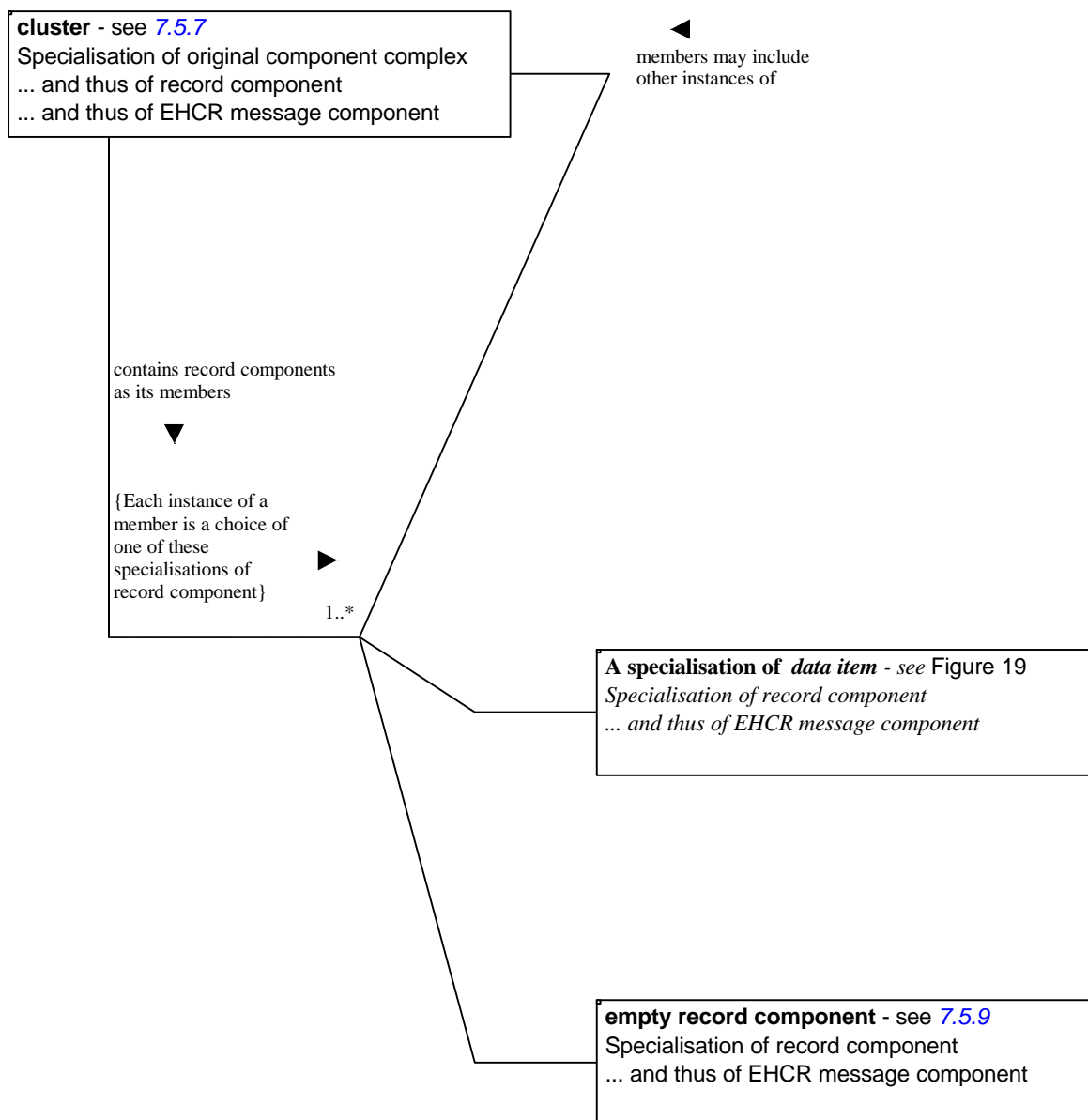


Figure 18. GMD Cluster - Original Component Complex

6.8. Data items

6.8.1. Concrete specialisations of the abstract class *data item* represent individual items of EHCR information that cannot be subdivided without losing all or part of their meaning.

6.8.2. The specialisations of *data item* are illustrated by Figure 19. A more detailed description of the *data item* class is included in the Domain Information Model (7.6.1).

6.8.3. A *data item* is a specialisation of the class *record component*. Therefore, each instance of *data item* shall include instances of the attributes of *record component* as specified in 7.5.2. These attributes shall be populated in accordance with the specification of usage included in the full description of each specialisation of *data item* in 7.6.

6.8.4. All implementations of the messages specified by this European Prestandard shall fully support the structure of the following mandatory specialisations of *data item* (7.6.1) as specified in the referenced clauses of the Domain Information Model:

- address data item (7.6.13)
- external data reference data item (7.6.7)
- medication data item (7.6.5)
- person identifier data item (7.6.11)
- physical entity reference data item (7.6.8)
- structured coded data item (7.6.3)
- text data item (7.6.2)
- event data item (7.6.6)
- language data item (7.6.15)
- patient related party data item (7.6.9)
- person name data item (7.6.12)
- quantifiable observation data item (7.6.4)
- telecom data item (7.6.14)

6.8.5. The nature of main information within a *data item* should be represented by one or more code values applied to the *component name structure* (7.8.4). The codes used for this purpose shall be taken from a coding scheme or controlled terminology agreed for use within the communicating community and identified in the message. More detailed specific requirements regarding the use of the *component name* are included in the description of the individual specialisation of *data item*. The *component name structure* is mandatory for most specialisations of *data item* but is optional or not applicable for others, such as the *text data item*.

EXAMPLES Coded representations of a diagnosis, a procedure, a drug identification or a property measured or observed.

6.8.6. Demographic and healthcare administrative information contained in the EHCR should be conveyed using the appropriate *data items*. The attributes for names, identifiers, address, sex, date of birth in *patient matching information* should only be used for information intended to be used to match a message to a patient.

NOTE The rationale for treating *patient matching information* separately for formal communication of demographic information is as follows. The *patient matching information* is part of the message but outside the formally defined EHCR. This allows a separation between data required to support the management of the message and information contained within the record. Information within the EHCR is conveyed as *record components* that are identifiable, attributable, subject to distribution rules and capable of supporting revision. *Patient matching information* is not subject to these constraints, it should be the minimum information required for a match and it may be effective even if it is out-of-date. For example, if a patient has moved home recently, their previous address may be more useful than their current address for matching a message to an existing record.

6.8.7. Information about characteristics of a patient such as sex, marital status and occupation should be conveyed in instances of *structured coded data item*.

6.8.8. The date of birth and/or date of death should be conveyed in instances of the *event data item*.

6.8.9. Any other coded or structured information that alters the meaning of the *data item* shall be represented by inclusion of one or more instances of the *annotation identifier* attribute, which shall contain an appropriate value from the list in Table B.1 in Part 2 of this Prestandard.

6.8.10. Those involved in implementing the messages specified by this European Prestandard may specify additional *community defined data items* (7.6.16) for use within a communicating community. These additional types of *data item* (7.6.1) 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 data items* should follow a documentary form similar to that used in this European Prestandard.

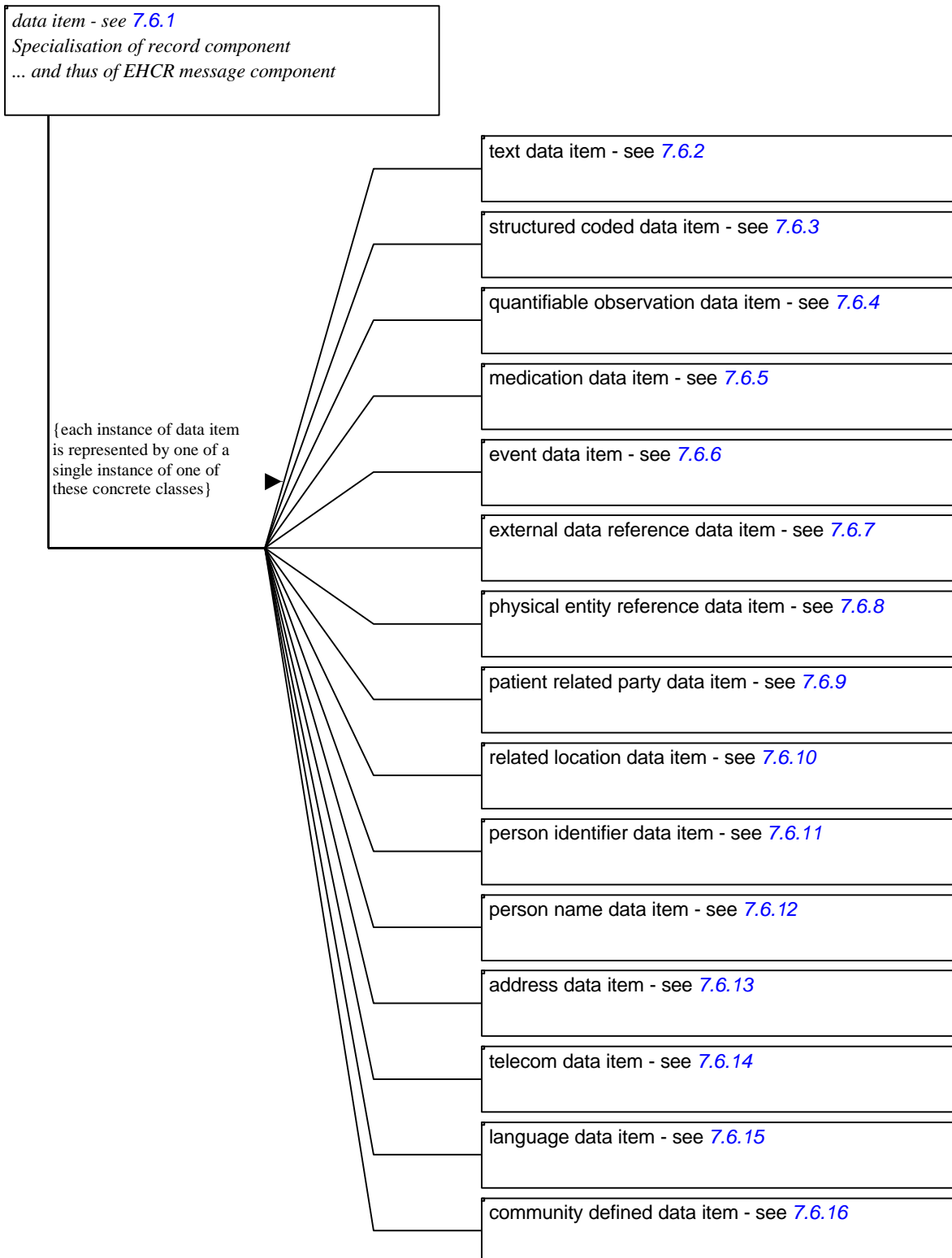


Figure 19. GMD Data Item

6.9. Link set items

6.9.1. A *link set item* is used to indicate relationships between *record components* other than those relationships that are determined by the original information context.

6.9.2. All implementations of the *provide EHCR message* shall enable the communication of *link set items* that comply with the requirements specified in this clause. An individual instance of the message need not include any *link set items*. However, *link set items* are the only way to convey explicit associations between *record components* other than those derived from the original information context. Therefore, *link set items* should be used wherever necessary for this purpose. Communicating communities may specify additional constraints in respect of the use of *link set items*.

6.9.3. A *link set item* is a specialisation of the class *record component*. Therefore, each instance of *link set item* (7.7.1) shall include instances of the attributes of *record component* as specified in 7.5.2. These attributes shall be populated in accordance with the specification of usage included in the full description of the *link set item* in 7.7.1.

6.9.4. Every instance of a *link set item* shall include a value for the *component name category* attribute. This shall be one of the "Categorisation of Link Item Names" listed in Table C.1 of Part 2 of this Prestandard. These values are required to communicate information about the general nature of the relationship between the linked components. An optional additional more detailed indication of the nature of a link may be provided using the *component name structure* (7.8.4).

6.9.5. The *link set item* shall also include a single mandatory instance of the *source component* (7.7.2) and one or more instances of the *target component* (7.7.3) attribute.

6.10. Selected component complexes

6.10.1. A *selected component complex* is used to aggregate *record components* in a manner not determined by the time and situation in which they were originally added to the EHCR. *Selected component complexes* can be used in the message to communicate various alternate views of the EHCR.

EXAMPLES Problem lists, views of information associated a particular topic or problem, summaries of based on reference to information in various parts of the record, representation of the record as it appeared at a particular time in the past, dynamic views generated by applying selection criteria to the record.

6.10.2. All implementations of the *provide EHCR message* shall enable the communication of *selected component complexes*. However, the requirements for this are equivalent to those for conveying a *data item* because, in the message, members of a *selected component complex* are associated with the complex using *link set items*. An individual instance of the message need not include any *selected component complexes*.

6.10.3. A *selected component complex* is a specialisation of the class *record component*. Therefore, each instance of *selected component complex* shall include instances of the attributes of *record component* as specified in 7.5.2. These attributes shall be populated in accordance with the specification of usage included in the full description of the *selected component complex* in 7.5.8.

6.10.4. The *component name structure* (7.8.4) should be used to denote the title of the view of the EHCR provided by the *selected component complex*. This may be mapped to a high-level *component name category*. In this case the value of the *component name category* shall be one of the values specified in Tables A.1 and A.2 of Part 2 of this European Prestandard.

6.10.5. The *selected component complex* may contain an additional optional attribute, the *component selection criteria*, for communicating the criteria used to generate a dynamic view. However, the nature of these criteria is not specified by this Prestandard. Therefore if this attribute is implemented, its contents shall be specified and agreed by the communicating community.

6.11. Empty record component

6.11.1. An *empty record component* is used to communicate the deletion of existing *record component*.

6.11.2. Any implementations of the *provide EHCR message* should enable the communication of *empty record component*. However, this component need not be supported if the message is not being used for updating.

6.11.3. An *empty record component* is a specialisation of the class *record component* (7.5.2). However the attributes required for this specialisation form a restricted set, which is specified in the Domain Information Model (7.5.9).

6.12. Adding comments to items

Comments on the information content of any *record component* may be included in the record in the form of *text data items* associated with the component to which they relate in one of the following ways:

- By an explicit link represented by *link set item* (7.7.1)
- By proximity within the same *original component complex*.
 - This second method is only applicable if the comment originates at the same time as the component on which the comment is made.

6.13. Request EHCR Message

6.13.1. The *request EHCR message* is used to request all or part of the EHCR for a single specified patient.

6.13.2. The requirements applicable to the *request EHCR message* are stated in this subclause and summarised in the GMD diagram (Figure 20). A more detailed description of the *request EHCR message* is included in the Domain Information Model (7.4.2).

6.13.3. The *request EHCR message* shall comply with the general requirements for *EHCR messages* stated in 6.3.

6.13.4. The *request EHCR message* shall include one mandatory instance of *specification of EHCR information*, which shall comply with the requirements stated in 6.4. This shall indicate the scope of the EHCR information requested by the *EHCR destination* (7.3.3). It may also indicate the language in which the EHCR information is requested and any communicating community or enterprise constraints that apply to the requester.

6.13.5. The *request EHCR message* shall include one mandatory instance of the coded or string attribute *reason for request*.

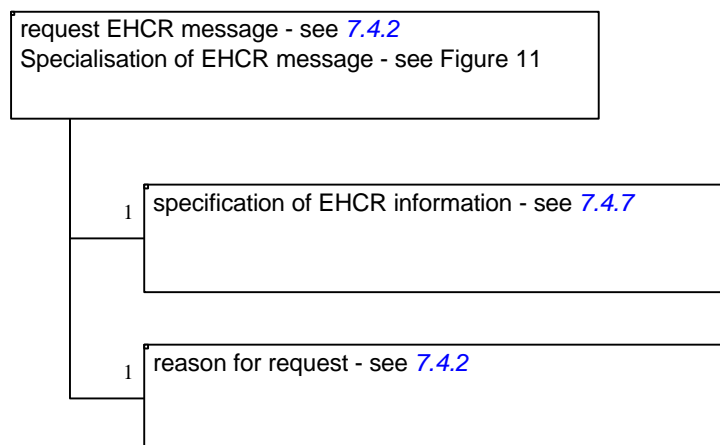


Figure 20. GMD Request EHCR Message

6.14. EHCR notification message

6.14.1. The *EHCR notification message* is used to enable the communicating parties to notify one another about the progress of EHCR communication. It may also be used to notify third parties about the transfer of EHCR information in a communicating community that requires this.

6.14.2. The requirements applicable to the *EHCR notification message* are stated in this subclause and summarised in the GMD diagram (Figure 21). A more detailed description of the *EHCR notification message* is included in the Domain Information Model (7.4.4).

6.14.3. The *EHCR notification message* shall comply with the general requirements for *EHCR messages* stated in 6.3.

6.14.4. The *EHCR notification message* shall include one optional instance of *specification of EHCR information*, which shall comply with the requirements, stated in 6.4. This may be used to indicate the scope of the EHCR information conveyed or requested by the message that is the subject of this notification.

6.14.5. The *EHCR notification message* shall include one mandatory instance of the enumerated attribute *EHCR message notification type* and this shall be used to indicate the type of notification (see 7.4.4).

6.14.6. The *EHCR notification message* shall include one mandatory instance of the coded or string attribute *EHCR notification comment* and this shall be used to convey a comment relevant to the notification.

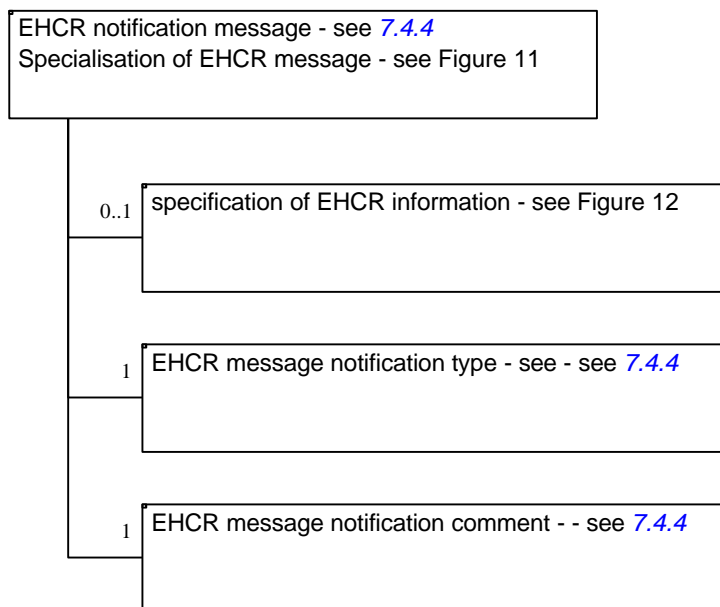


Figure 21. GMD EHCR Notification Message

7. Domain information model

7.1. Introduction

This clause contains the model on which the messages in clause 5 are based. It states requirements for the concrete classes of which the message is composed and also describes the abstract classes that form the common basis for the concrete classes.

The clause is divided up into sections that illustrate particular sets of related classes referred to as subsystems. This subdivision is arbitrary and primarily designed to aid clarity and understanding. Inclusion of a class in one subsystem rather would not alter the requirements in any way.

Figure 1 represents a top-level overview that illustrates the main dependencies between the classes. The subsystems are as follows:

The **EHCR communicating parties subsystem** contains Information about the *healthcare agents* who are the source and destination of the EHCR being transferred.

The **EHCR message subsystem** describes the general content of EHCR messages and relates this to the three messages specified in this Prestandard.

The **EHCR structured record subsystem** describes those elements of the EHCR that represent the structure of the record in a way that relates together information according to the time and/or place of origin.

The **EHCR data item subsystem** contains the various specialisations of data item that convey the main content of the EHCR as conveyed by the *provide EHCR message*.

The **EHCR link subsystem** describes the way in which record components can be related to one another, including the references used to refer to the preceding version of a component.

The **EHCR message component subsystem** specifies the structure of the *EHCR message component*, which is the most generalised abstract class that provides the foundation for the EHCR extract and for all types of *record component*.

The **EHCR distribution rule subsystem** illustrates the interface between the message and the distribution rules specified in Part 3 of this Prestandard.

The **healthcare agent subsystem** contains the general purpose information used to provide information about healthcare agents (including healthcare persons (or professionals), organisations, hardware devices and software).

The **Subclasses, Compound Types and Simple Data Types** contain the data elements that are used in the the classes included in this Prestandard.

The order of the classes in each subsystem follows a logical (rather than alphabetical) order moving from the general to the specific or otherwise grouping similar classes together. The index at the end of this Prestandard may be used to locate classes and attributes if the extensive cross-references are insufficient for this purpose.

7.2. Presentation of attributes from generalisations

The description of each class in this clause includes all attributes inherited from a generalisation as well as those that are specific to a particular specialisation. A double or heavier line on the left border of the table indicates that an attribute is derived from a generalisation of the class.

This substantially increases the size of the textual description of the model but reduces the need to check various layers of the model to establish the full set of attributes applicable to a concrete class.

The descriptions of attributes in different specialisations of the same class vary. This enables it to be more directly appropriate to each context in which the attribute is used. For example, the component name is the name of the measurable quantity for a *quantifiable observation data item* but is used to identifying a drug in the *medication data item*. A double line to the right of a row indicates that the row contains notes, examples or values specific to the use of a generalised attribute in this specialised class.

In some cases the multiplicities associated with a particular attribute differ when used in different specialisations based on the same abstract generalisation. In all these cases, the specialisation constrains rather than extending the range of multiplicities. For example *component name category* has a "0 or 1" relationship with *record component*, a mandatory "one" occurrence for the specialisations *headed section* and *composition* and is not used in the case of a *link set item*. A double line to the right of a cell that contains multiplicities indicates that special constraints apply to the use of this attribute in this specialisation.

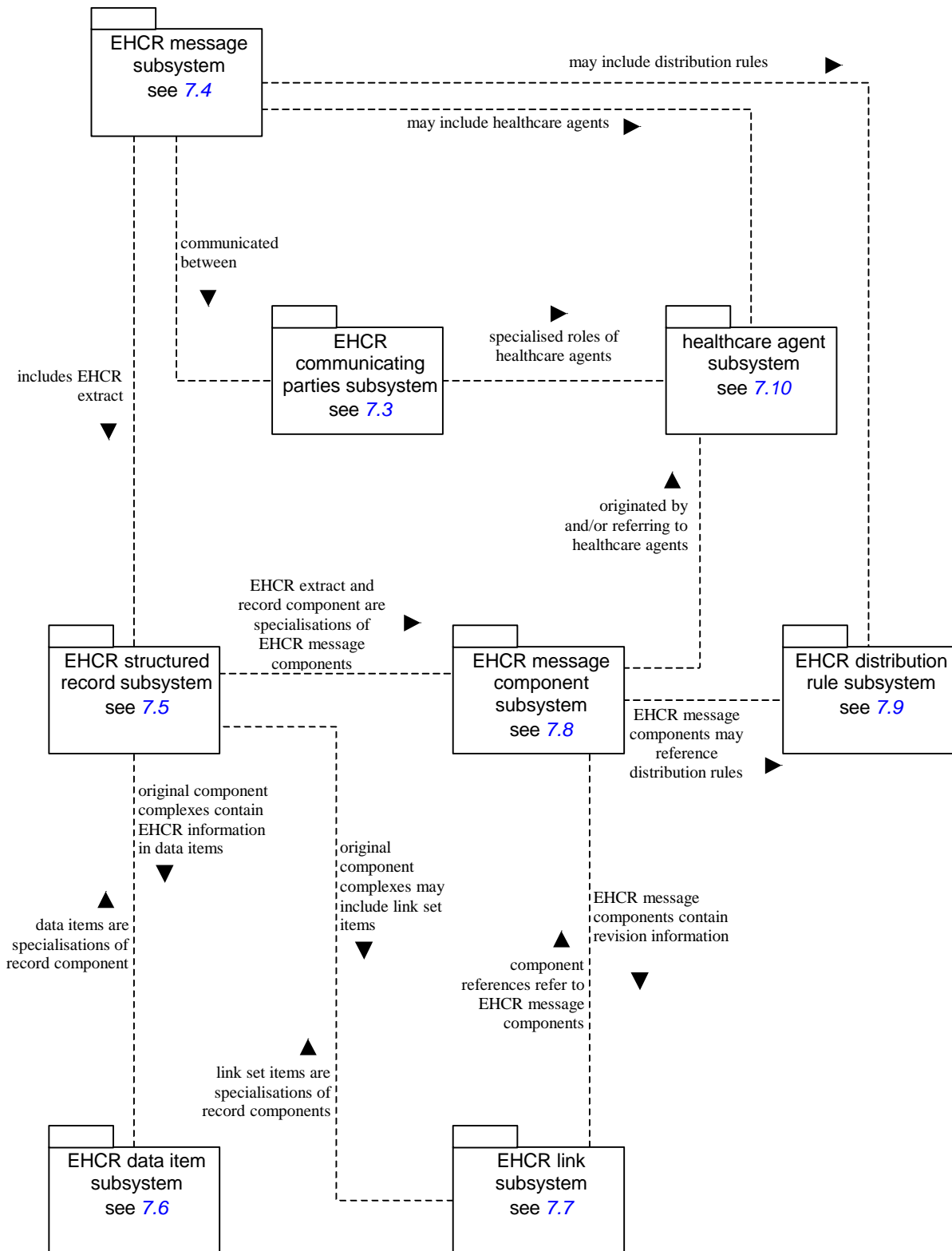


Figure 22. DIM - EHCRC Message Top Level

7.3. EHCR communicating parties subsystem

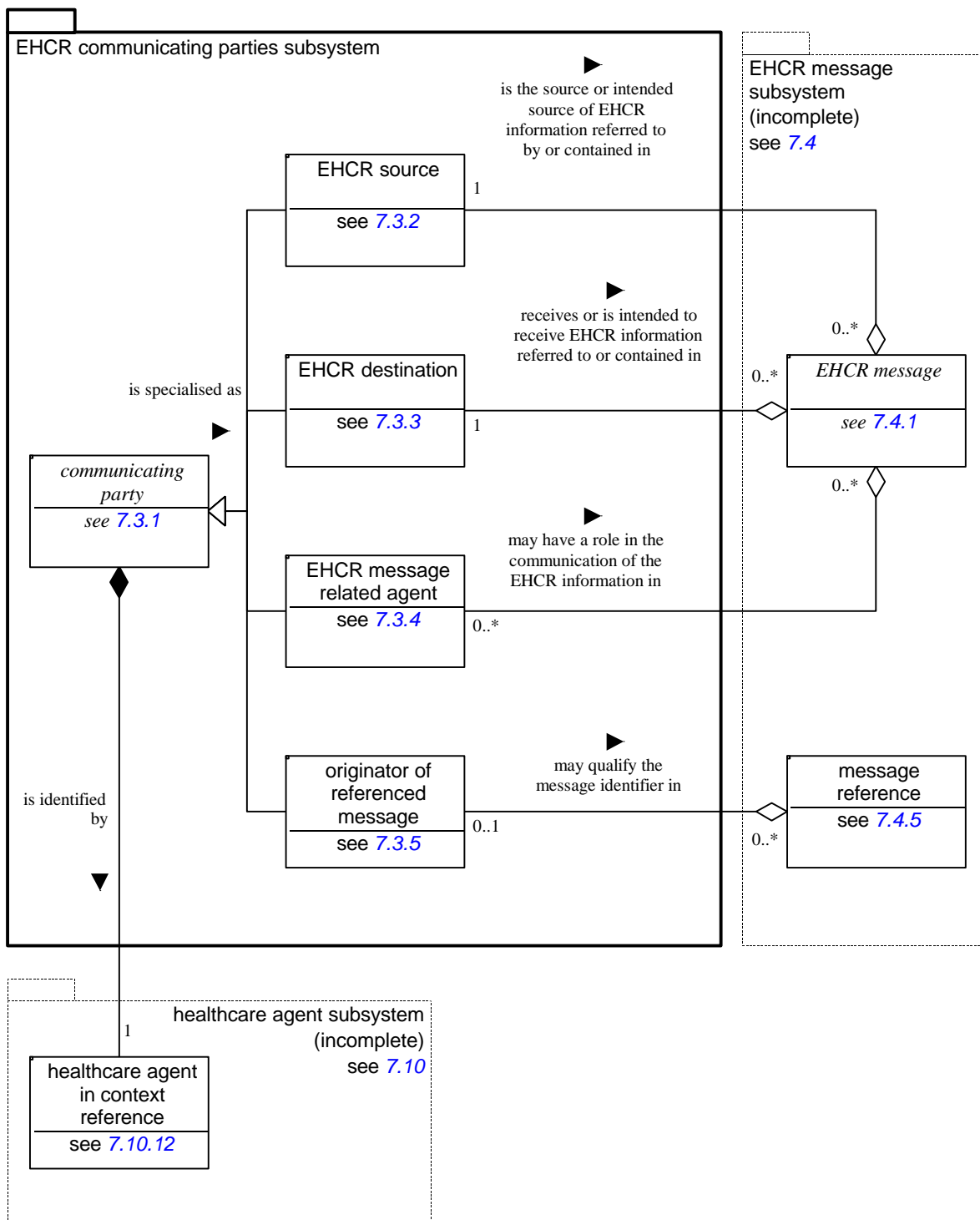


Figure 23. DIM - Communicating Parties Subsystem

7.3.1. communicating party

Type: Abstract Class		
Description: A <i>healthcare agent</i> (7.10.10) involved in the communication of EHCR information.		
Specialisations A <i>communicating party</i> is specialised as an <i>EHCR message related agent</i> (7.3.4), an <i>EHCR destination</i> (7.3.3), an <i>EHCR source</i> (7.3.2) or an <i>originator of referenced message</i> (7.3.5).		
Attributes	Type	Occurrence
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context</i> (7.10.11) using an unique identifier.		

7.3.2. EHCR source

Type: class		
Specialisation of: communicating party		
Description: A <i>communicating party</i> that sends EHCR information or receives a request for EHCR information.		
Contained in An <i>EHCR source</i> is the source or intended source of EHCR information referred to by or contained in any number of <i>EHCR messages</i> (7.4.1).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: communicating party</i> (7.3.1)		
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context</i> (7.10.11) using an unique identifier.		

7.3.3. EHCR destination

Type: class		
Specialisation of: communicating party		
Description: A <i>communicating party</i> that receives EHCR information or sends a request for EHCR information.		
Contained in An <i>EHCR destination</i> receives or is intended to receive EHCR information referred to or contained in any number of <i>EHCR messages</i> (7.4.1).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: communicating party</i> (7.3.1)		
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context</i> (7.10.11) using an unique identifier.		

7.3.4. EHCR message related agent

Type: class		
Specialisation of: communicating party		
Description: A <i>communicating party</i> , other than the <i>EHCR source</i> (7.3.2) or <i>EHCR destination</i> (7.3.3), referred to in a message to indicate their involvement in the process of communication.		
Usage: An <i>EHCR message related agent</i> may be: <ul style="list-style-type: none"> — A party that acts as a forwarding agent for messages that request or provide EHCR information. — Another recipient of the same EHCR information. In this case, the purpose of including this in the message is to inform the recipient of a message about the other recipients of the same information. — The <i>EHCR source</i> (7.3.2) or <i>EHCR destination</i> (7.3.3) of another EHCR related message. This enables an <i>EHCR notification message</i> (7.4.4) to inform a third party that an EHCR message has been sent to or received from another party. — A Trusted Third Party able to confirm that the <i>EHCR destination</i> (7.3.3) is entitled to receive EHCR information regarding a particular patient; — A Trusted Third Party able to confirm that the <i>EHCR source</i> (7.3.2) is qualified and/or registered to provide EHCR information. 		
Note: Each EHCR message has one <i>EHCR source</i> (7.3.2) and one <i>EHCR destination</i> (7.3.3). If the EHCR is sent to several parties, each instance of the message has a different <i>EHCR destination</i> (7.3.3). Instances of <i>EHCR message related agent</i> , may be used to represent the list of all the parties involved in a particular communication.		
Example(s): The intended recipient of this notification (if not the <i>EHCR source</i> (7.3.2) or {EHCR destination}).		
Contained in An <i>EHCR message related agent</i> may have a role in the communication of the EHCR information in any number of <i>EHCR messages</i> (7.4.1).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: communicating party</i> (7.3.1)		
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context</i> (7.10.11) using an unique identifier.		
<i>Attributes of specialisation</i>		
EHCR message related agent role	E [Enumerated]	1
An indication of the role of the <i>EHCR message related agent</i> in relation to the current message or a related EHCR message. <i>Usage:</i> Some of the potential roles that may be played by <i>EHCR message related agents</i> are outlined in the notes on usage of this class. The roles to be supported depend on the range of communication functions and message routing options required to meet the needs of a particular communicating community. <i>Values:</i> <ol style="list-style-type: none"> 0. Copy destination. 1. Forwarding agent. 2. Authorising third party. 3. Originator of this message. 4. Intended recipient. The "originator" and "recipient" roles are only applicable to notification messages sent to or from parties other than the EHCR source or EHCR destination.		

EHCR message related agent role scope	E [Enumerated]	1
<p>An indication of whether the role of the <i>EHCR message related agent</i> applies to this message, to a related EHCR message or to this message and any related messages.</p> <p><i>Example(s):</i></p> <p>In a <i>request EHCR message (7.4.2)</i> an <i>EHCR message related agent</i> may be the copy destination for a request or an intended copy destination for a reply to that request.</p> <p>In an <i>EHCR notification message (7.4.4)</i> an <i>EHCR message related agent</i> may be the recipient of a copy of the notification or a copy of a <i>provide EHCR message (7.4.3)</i> referred to by the notification.</p> <p><i>Values:</i></p> <ol style="list-style-type: none"> 0. Role applies to this message. 1. Role applies to expected replies to this message. 2. Role applies to this message and expected replies to this message. 3. Role applies to the referenced message. 		

7.3.5. originator of referenced message

Type: class		
Specialisation of: communicating party (7.3.1)		
<p>Description: The <i>communicating party</i> that originated a message referred to by the current message.</p> <p>Note: Unless a scheme of message identifiers ensures unique identification of all messages exchanged within a communicating community, the <i>originator of referenced message</i> is required to enable a referenced message to be uniquely identified.</p>		
<p>Contained in</p> <p>An <i>originator of referenced message</i> may qualify the message identifier in any number of <i>message references (7.4.5)</i>.</p>		
Attributes	Type	Occurrence
<i>Attributes from generalisation: communicating party (7.3.1)</i>		
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context (7.10.11)</i> using an unique identifier.		

7.4. EHCR message subsystem

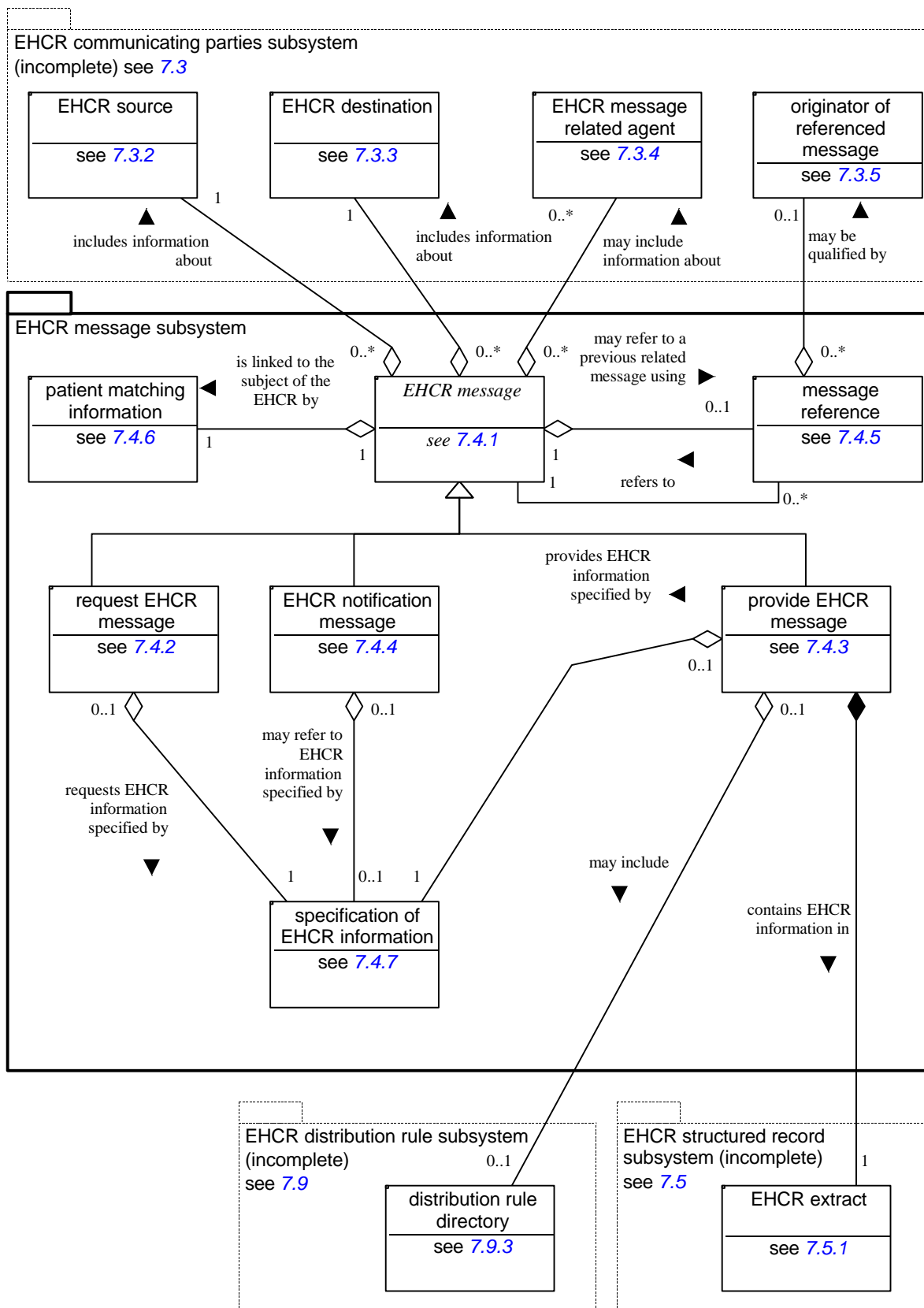


Figure 24. DIM - EHCR Message Subsystem

7.4.1. EHCR message

Type: Abstract Class		
Description: An abstract class which represents a generalisation on which all the messages specified by this Prestandard are based. It contains general information applicable to all messages.		
Note: Includes urgency of the message, request for acknowledgement, comments and language.		
Specialisations An <i>EHCR message</i> is specialised as an <i>EHCR notification message</i> (7.4.4), a <i>request EHCR message</i> (7.4.2) or a <i>provide EHCR message</i> (7.4.3).		
Attributes	Type	Occurrence
identification of message by originator	S [String]	1
Identifier assigned by the originator of a message. <i>Usage:</i> The <i>identification of message by originator</i> shall be unique for each <i>EHCR message</i> originated by a particular <i>communicating party</i> . Ideally the <i>identification of message by originator</i> should be unique for all each <i>EHCR message</i> within the communicating community. <i>Note:</i> A communicating community may specify a particular concatenation of values to generate a unique message identification. For example, a concatenation of originator identifier, year and a serial number generated by the originating system.		
issue date and time of message	TOCD [Time+Date]	1
Date and time at which a message is issued by the sending application. <i>Note:</i> A mail service may store or batch messages and, as a result, the <i>issue date and time of message</i> need not be the same as the dispatch time to the intended recipient.		
EHCR source (7.3.2)	class	1
A <i>communicating party</i> that sends EHCR information or receives a request for EHCR information.		
EHCR destination (7.3.3)	class	1
A <i>communicating party</i> that receives EHCR information or sends a request for EHCR information.		
EHCR message related agent (7.3.4)	class	0 to many
A <i>communicating party</i> , other than the <i>EHCR source</i> (7.3.2) or <i>EHCR destination</i> (7.3.3), referred to in a message to indicate their involvement in the process of communication.		
urgency of message	E [Enumerated]	1
Indication by sender of the urgency with which the receiver should deal with the request. <i>Usage:</i> This Prestandard does not specify any particular response times for the urgency values. The use and interpretation of these values is dependent on operational agreement within a communicating community. As a general principle, the urgency value "Normal" should be applied to the majority of messages with "Low" and "High" used for exceptions. The urgency value "Immediate" is only applicable in communicating communities where real-time responses are supported. <i>Values:</i> 0. Low 1. Normal 2. High 3. Immediate		
patient matching information (7.4.6)	class	1
Information provided for the purpose of matching an <i>EHCR message</i> to a uniquely identified individual patient.		
message receipt acknowledgement request	E [Enumerated]	1
Indication of whether or not the originator of a message requests an acknowledgement of receipt by the recipient. <i>Values:</i> 0. Never acknowledge. 1. Always acknowledge. 2. Acknowledge only if an error is detected.		

comment on message	C/S [Code or String] (7.12.2)	0 to many
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>EHCR message</i> class.		
language	V [Code Value] (7.12.6)	0 or 1
The language of the message represented by the abbreviations specified in ISO 639. <i>Usage:</i> The coding scheme does not require identification by an <i>ICSI</i> as the codes used are derived directly from ISO 639. <i>Note:</i> Other attributes are provided to specify: — the predominant language of the EHCR information provided or requested (<i>language</i> attribute of <i>specification of EHCR information</i> (7.4.7)). — the language of individual parts of the record (<i>language</i> attribute of <i>record component</i> (7.5.2)).		
healthcare agents directory (7.10.19)	class	0 or 1
A collection of information about any number of <i>healthcare agents</i> (7.10.10) and/or <i>healthcare agent in contexts</i> (7.10.11) that may be included in the message to enable subsequent reference without repetition of the detailed information. <i>Usage:</i> <i>healthcare agents directory</i> information need not be included in a message if it is available in a shared directory stored on, or accessible from, systems used by the systems between which the message is exchanged. <i>Note:</i> The <i>healthcare agents directory</i> represents a directory containing information about <i>healthcare agents</i> (7.10.10) and their inter-relationships in a form that can be referred to by other classes in a message.		
message reference (7.4.5)	class	0 or 1
A reference from an <i>EHCR message</i> to a related message.		

7.4.2. request EHCR message

Type: message		
Specialisation of: EHCR message		
Description: A message used to send a request for EHCR information from an <i>EHCR destination</i> (7.3.3) to an <i>EHCR source</i> (7.3.2).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: EHCR message (7.4.1)</i>		
identification of message by originator	S [String]	1
Identifier assigned by the originator of a message.		
issue date and time of message	TOCD [Time+Date]	1
Date and time at which a message is issued by the sending application.		
EHCR source (7.3.2)	class	1
The <i>communicating party</i> to which a request for EHCR information is sent in this message.		
EHCR destination (7.3.3)	class	1
The <i>communicating party</i> that requested EHCR information by sending this message.		
EHCR message related agent (7.3.4)	class	0 to many
A <i>communicating party</i> , other than the <i>EHCR source</i> (7.3.2) or <i>EHCR destination</i> (7.3.3), referred to in a message to indicate their involvement in the process of communication. <i>Example(s):</i> An intermediary involved in the communication of this message or the anticipated response. A Trusted Third Party able to confirm that the <i>EHCR destination</i> (7.3.3) is entitled to receive EHCR information regarding a particular patient. Another destination to whom a copy of the response to this message should be sent.		
urgency of message	E [Enumerated]	1
Indication by sender of the urgency with which the receiver should deal with the request.		

patient matching information (7.4.6)	class	1
Information provided for the purpose of matching an <i>EHCR message</i> to a uniquely identified individual patient.		
message receipt acknowledgement request	E [Enumerated]	1
Indication of whether or not the originator of a message requests an acknowledgement of receipt by the recipient.		
comment on message	C/S [Code or String] (7.12.2)	0 to many
A comment from the sender of the message.		
language	V [Code Value] (7.12.6)	0 or 1
The language of the message represented by the abbreviations specified in ISO 639.		
healthcare agents directory (7.10.19)	class	0 or 1
A collection of information about any number of <i>healthcare agents (7.10.10)</i> and/or <i>healthcare agent in contexts (7.10.11)</i> that may be included in the message to enable subsequent reference without repetition of the detailed information.		
message reference (7.4.5)	class	0 or 1
A reference from an <i>EHCR message</i> to a related message.		
<i>Attributes of specialisation</i>		
specification of EHCR information (7.4.7)	class	1
A specification of the language and completeness of content of the EHCR information requested by this message. The <i>specification of EHCR information</i> may include an identification of the enterprise environment and/or communicating community of the party requesting EHCR information.		
reason for request	C/S [Code or String] (7.12.2)	1
An indication of the reason for requesting EHCR information.		

7.4.3. provide EHCR message

Type: message		
Specialisation of: EHCR message (7.4.1)		
Description: A message used to send EHCR information from an <i>EHCR source (7.3.2)</i> to an <i>EHCR destination (7.3.3)</i> .		
Attributes	Type	Occurrence
<i>Attributes from generalisation: EHCR message (7.4.1)</i>		
identification of message by originator	S [String]	1
Identifier assigned by the originator of a message.		
issue date and time of message	TOCD [Time+Date]	1
Date and time at which a message is issued by the sending application.		
EHCR source (7.3.2)	class	1
The <i>communicating party</i> that provided the EHCR information in this message.		
EHCR destination (7.3.3)	class	1
The <i>communicating party</i> to which EHCR information is sent in this message.		
EHCR message related agent (7.3.4)	class	0 to many
A <i>communicating party</i> , other than the <i>EHCR source (7.3.2)</i> or <i>EHCR destination (7.3.3)</i> , referred to in a message to indicate their involvement in the process of communication.		
<i>Example(s):</i>		
An intermediary involved in the communication of the message.		
A Trusted Third Party, which confirms that the <i>EHCR source (7.3.2)</i> is qualified and/or registered to provide EHCR information.		
A copy destination that received the same information.		

urgency of message	E [Enumerated]	1
Indication by sender of the urgency with which the receiver should deal with the request.		
patient matching information (7.4.6)	class	1
Information provided for the purpose of matching an <i>EHCR message</i> to a uniquely identified individual patient.		
message receipt acknowledgement request	E [Enumerated]	1
Indication of whether or not the originator of a message requests an acknowledgement of receipt by the recipient.		
comment on message	C/S [Code or String] (7.12.2)	0 to many
A comment from the sender of the message.		
language	V [Code Value] (7.12.6)	0 or 1
The language of the message represented by the abbreviations specified in ISO 639.		
healthcare agents directory (7.10.19)	class	0 or 1
A collection of information about any number of <i>healthcare agents</i> (7.10.10) and/or <i>healthcare agent in contexts</i> (7.10.11) that may be included in the message to enable subsequent reference without repetition of the detailed information.		
message reference (7.4.5)	class	0 or 1
An optional reference to the <i>request EHCR message</i> (7.4.2) to which this message is a response. <i>Usage:</i> If the <i>provide EHCR message</i> is a response to a <i>request EHCR message</i> it should refer to that message.		
<i>Attributes of specialisation</i>		
specification of EHCR information (7.4.7)	class	1
A specification of the language and completeness of content of the EHCR information provided in this message. The <i>specification of EHCR information</i> may include an identification of the nature of the enterprise environment and/or communicating community applicable to system from which the EHCR information was derived.		
distribution rule directory (7.9.3)	class	0 or 1
The set of <i>distribution rules</i> (7.9.1) that apply to all or part of the EHCR information conveyed in a <i>provide EHCR message</i> .		
EHCR extract (7.5.1)	class	1
An <i>EHCR message component</i> (7.8.1) 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 equivalent to the <i>EHCR Root Architectural Component</i> specified in Part 1 of this European Prestandard. However, it differs in that it need not contain the entire EHCR but may instead contain a subset of, or update to, the EHCR.		

7.4.4. EHCR notification message

Type: message		
Specialisation of: EHCR message (7.4.1)		
Description: A message sent by a <i>healthcare agent</i> (7.10.10) to another <i>healthcare agent</i> (7.10.10) to notify the recipient of the state or action related to the communication of EHCR information.		
Note:		
<p>The <i>EHCR source</i> (7.3.2) may send any of the following notifications to an <i>EHCR destination</i> (7.3.3) or to an <i>EHCR message related agent</i> (7.3.4).</p> <ul style="list-style-type: none"> — <i>request EHCR message</i> (7.4.2) received. — request for EHCR accepted. — request for EHCR rejected. — <i>provide EHCR message</i> (7.4.3) sent. <p>The <i>EHCR destination</i> (7.3.3) may send any of the following notifications to an <i>EHCR source</i> (7.3.2) or to an <i>EHCR message related agent</i> (7.3.4).</p> <ul style="list-style-type: none"> — <i>request EHCR message</i> (7.4.2) sent. — <i>provide EHCR message</i> (7.4.3) received. — EHCR information accepted. — EHCR information rejected. 		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> EHCR message (7.4.1)		
identification of message by originator	S [String]	1
Identifier assigned by the originator of a message.		
issue date and time of message	TOCD [Time+Date]	1
Date and time at which a message is issued by the sending application.		
EHCR source (7.3.2)	class	1
<p>The <i>communicating party</i> that according to the nature of the notification contained in this message:</p> <ul style="list-style-type: none"> — sent EHCR information; — rejected a request for EHCR information; — received a request for EHCR information; — was intended to receive a request for EHCR information. 		
EHCR destination (7.3.3)	class	1
<p>The <i>communicating party</i> that according to the nature of the notification contained in this message:</p> <ul style="list-style-type: none"> — sent a request for EHCR information; — received EHCR information; — was intended to receive EHCR information. 		
EHCR message related agent (7.3.4)	class	0 to many
A <i>communicating party</i> , other than the <i>EHCR source</i> (7.3.2) or <i>EHCR destination</i> (7.3.3), referred to in a message to indicate their involvement in the process of communication.		
urgency of message	E [Enumerated]	1
Indication by sender of the urgency with which the receiver should deal with the request.		
patient matching information (7.4.6)	class	1
Information provided for the purpose of matching an <i>EHCR message</i> to a uniquely identified individual patient.		
message receipt acknowledgement request	E [Enumerated]	1
Indication of whether or not the originator of a message requests an acknowledgement of receipt by the recipient.		

comment on message	C/S [Code or String] (7.12.2)	0 to many
A comment from the sender of the message.		
language	V [Code Value] (7.12.6)	0 or 1
The language of the message represented by the abbreviations specified in ISO 639.		
healthcare agents directory (7.10.19)	class	0 or 1
A collection of information about any number of <i>healthcare agents (7.10.10)</i> and/or <i>healthcare agent in contexts (7.10.11)</i> that may be included in the message to enable subsequent reference without repetition of the detailed information.		
message reference (7.4.5)	class	0 or 1
An optional reference to the <i>request EHCR message (7.4.2)</i> to which this message is a response. <i>Usage:</i> If the <i>provide EHCR message (7.4.3)</i> is a response to a <i>request EHCR message</i> it should refer to that message.		
<i>Attributes of specialisation</i>		
specification of EHCR information (7.4.7)	class	0 or 1
A specification of the language and completeness of content of the EHCR information requested or provided in the activity notified by this message.		
EHCR message notification type	E [Enumerated]	1
An indication of the type of notification. <i>Values:</i> 0. Request EHCR message sent. 1. Request EHCR message received. 2. Request for EHCR accepted. 3. Request for EHCR rejected. 4. Provide EHCR message sent. 5. Provide EHCR message received. 6. EHCR information accepted. 7. EHCR information rejected. 8+. Other notifications. The nature of the notification is represented by EHCR message notification comment.		
EHCR message notification comment	C/S [Code or String] (7.12.2)	1
A text or coded comment or qualification of the <i>new</i> . <i>Example(s):</i> The reason for rejection of a request. Coded representation of other types of notification required by the communicating community.		

7.4.5. message reference

Type: class		
Description: A reference from an <i>EHCR message (7.4.1)</i> to a related message.		
Contained in A <i>message reference</i> may be part of an <i>EHCR message (7.4.1)</i> .		
Attributes	Type	Occurrence
identification of message by originator	S [String]	1
The identifier assigned by the originator of the referenced message.		
issue date and time of message	TOCD [Time+Date]	0 or 1
Date and time at which the referenced message was issued by the sending application. <i>Note:</i> This may be included to provide verification of the identification of the referenced message.		
originator of referenced message (7.3.5)	class	0 or 1
The <i>communicating party</i> that originated a message referred to by the current message.		

7.4.6. patient matching information

Type: class		
Description: Information provided for the purpose of matching an <i>EHCR message</i> (7.4.1) 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 <i>data items</i> (7.6.1) should be used as part of the <i>EHCR extract</i> (7.5.1).		
Contained in <i>patient matching information</i> identifies the subject of an <i>EHCR message</i> (7.4.1).		
Associations <i>patient matching information</i> identifies the subject of an <i>EHCR extract</i> (7.5.1).		
Attributes	Type	Occurrence
One or more of		0 or 1
patient identifiers	party identifiers (7.11.10)	
A set of one or more <i>party identifiers</i> (7.11.10) used to identify the patient. <i>Note:</i> Each <i>identifier</i> (7.11.5) is qualified to indicate the identification scheme from which it is derived.		
person name	person name details (7.11.12)	
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.		
date of birth	TOCD [Time+Date]	
<i>Note:</i> In case the exact date and time is unknown, year only or year + month or year + month + day are sufficient.		
alternative person name	person name details (7.11.12)	0 to many
An alternative name by which the person is, or has been, known.		
person administrative sex	E [Enumerated]	0 or 1
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. <i>Values:</i> 0. Unknown 1. Male 2. Female 9. Unspecified		
person address	address (7.11.1)	0 to many
An address associated with a person. 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.		

7.4.7. specification of EHCR information

Type: class		
Description: A specification of the language and completeness of content of the EHCR information requested or provided. The <i>specification of EHCR information</i> may include an identification of the nature of the enterprise environment and/or communicating community of the party sending the message.		
Contained in <i>specification of EHCR information</i> specifies the EHCR information provided by a <i>request EHCR message</i> (7.4.2). <i>specification of EHCR information</i> may be part of a <i>provide EHCR message</i> (7.4.3). <i>specification of EHCR information</i> may indicate the EHCR referred to by an <i>EHCR notification message</i> (7.4.4).		
Attributes	Type	Occurrence
communicating community identifier	identifier (7.11.5)	0 or 1
An identification of the communicating community within which this message is intended to be used. <i>Usage:</i> Communicating communities may specify <i>community defined data items</i> (7.6.16) and may impose particular implementation guidelines on systems that use these messages. The <i>communicating community identifier</i> is provided to allow the sender of message to inform the recipient about the source of any guidelines applicable to the message or to anticipated responses to the message.		
enterprise identifier	identifier (7.11.5)	0 or 1
An indication of the enterprise environment applicable to an EHCR message or to an <i>enterprise item</i> within a message. <i>Usage:</i> When used in a <i>provide EHCR message</i> (7.4.3) the <i>enterprise identifier</i> indicates the source of reference for any <i>community defined data items</i> (7.6.16) that are not generally used throughout the community specified by the <i>communicating community identifier</i> . When used in a <i>request EHCR message</i> (7.4.2) the <i>enterprise identifier</i> indicates the enterprise characteristics of the <i>EHCR destination</i> (7.3.3). This information may be used by the <i>EHCR source</i> (7.3.2) to determine whether it is appropriate to include any <i>community defined data items</i> (7.6.16) that are specific to a particular enterprise.		
EHCR language	V [Code Value] (7.12.6)	0 or 1
The language in which the EHCR was requested or provided. <i>Usage:</i> The language should be represented by the abbreviations specified in ISO 639.		
EHCR scope	E [Enumerated]	1
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 <i>healthcare person</i> (7.10.14) acting as the <i>EHCR source</i> (7.3.2). 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 EHCR update period		

EHCR subset description	C/S [Code or String] (7.12.2)	0 or 1
<p>A description the nature of a subset of the EHCR included a <i>provide EHCR message</i> (7.4.3) or requested by a <i>request EHCR message</i> (7.4.2).</p> <p><i>Note:</i></p> <p>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 or a code from a list of <i>EHCR extract</i> (7.5.1) types determined and agreed within a communicating community. This attribute is not intended to be used for fully automated selection but the coded values may enable the systems to assist the clinician to prepare an appropriate summary.</p> <p>This attribute should only be used if the <i>EHCR scope</i> attribute is set as "subset".</p> <p><i>Example(s):</i> General summary, nursing care records, summary from diabetic specialist for ophthalmologist.</p>		
EHCR update period	period (7.11.11)	0 or 1
<p><i>EHCR update period</i> the period of time to which the requested or provided part of the EHCR applies.</p> <p><i>Note:</i> Unless otherwise agreed between the communicating parties, the period applies to the date and time or origin of the relevant <i>EHCR message components</i> (7.8.1).</p>		
patient consent status	C/S [Code or String] (7.12.2)	0 or 1
<p>An indication of the fact that the patient has (or has not) given consent for the requested transfer of information. It may also indicate any limitations in the consent given.</p> <p><i>Usage:</i> This Prestandard does not specify how this attribute should be used. It is included to enable use in accordance with local business practice as agreed within a communicating community.</p> <p><i>Note:</i> This attribute indicates the message originators understanding of the consent status. It is not intended as a means of communicating verifiable patient consent.</p>		

7.5. EHCR structured record subsystem

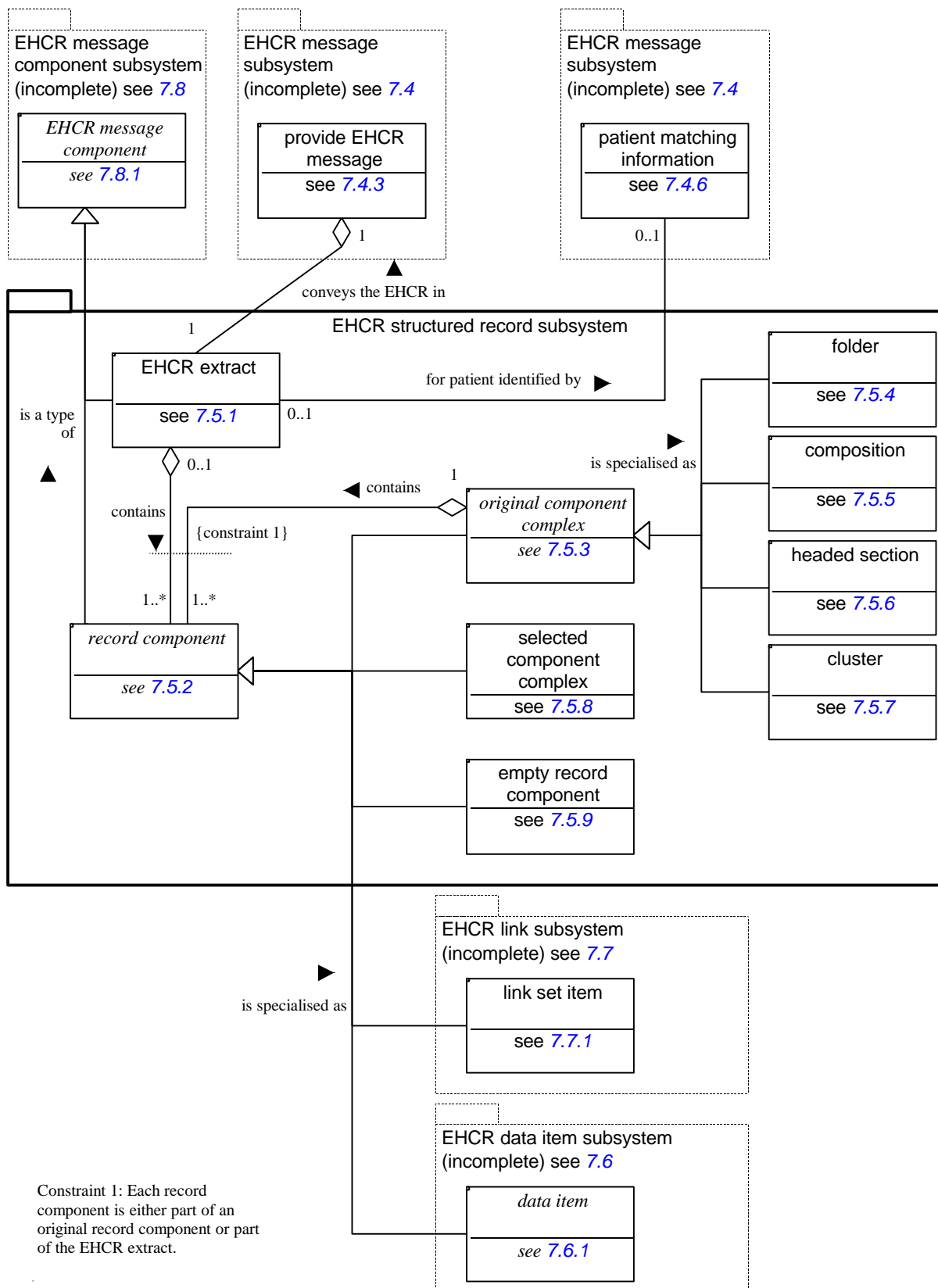


Figure 25. DIM - EHCR Structured Record Subsystem

7.5.1. EHCR extract

Type: class		
Specialisation of: EHCR message component (7.8.1)		
<p>Description: An <i>EHCR message component</i> (7.8.1) 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 equivalent to the <i>EHCR Root Architectural Component</i> specified in Part 1 of this European Prestandard. However, it differs in that it need not contain the entire EHCR but may instead contain a subset of or update to the EHCR.</p> <p>Usage: A <i>provide EHCR message</i> (7.4.3) shall contain 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 a single <i>text data item</i> (7.6.2) with the <i>component role</i> "Narrative Text". In this simplistic version of the message the <i>text data item</i> (7.6.2) contains a textual version of all the EHCR information to be communicated.</p>		
Contained in An <i>EHCR extract</i> conveys the EHCR in a <i>provide EHCR message</i> (7.4.3).		
Associations An <i>EHCR extract</i> contains EHCR information about a patient identified by <i>patient matching information</i> (7.4.6).		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
Identifies an instance of <i>EHCR extract</i> as a unique <i>EHCR message component</i> .		
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for generating this <i>EHCR extract</i> .		
originating date and time	TOCD [Time+Date]	1
Date and time on which this <i>EHCR extract</i> was generated.		
originating date validity	E [Enumerated]	0 or 1
An indication of the validity of the <i>originating date and time</i> .		
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the content of an <i>EHCR message component</i> , other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	None
Not applicable to this specialisation.		
component name structure (7.8.4)	class	0 or 1
An optional coded description of the <i>EHCR extract</i> .		
component status	E [Enumerated]	1
The <i>component status</i> of the <i>EHCR extract</i> in a <i>provide EHCR message</i> (7.4.3) should always be "Current".		

distribution rule reference (7.9.2)	class	0 to many
Applies a referenced <i>distribution rule (7.9.1)</i> to all the contents of the <i>EHCR extract</i> .		
revision information (7.7.4)	class	0 or 1
A link to a previous version of this <i>EHCR extract</i> which is superseded by this <i>EHCR extract</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>EHCR extract</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
<i>Attributes of specialisation</i>		
record component (7.5.2)	class	1 to many
<p>The <i>EHCR extract</i> consists of one or more members. Each member is an instance of one of the concrete specialisations of the abstract class <i>record component</i>.</p> <p><i>Usage:</i></p> <p>An <i>EHCR extract</i> may contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>folder (7.5.4)</i> — <i>composition (7.5.5)</i> — <i>selected component complex (7.5.8)</i> — <i>link set item (7.7.1)</i> — <i>text data item (7.6.2)</i> — <i>empty record component</i>. <p>A <i>EHCR extract</i> shall not contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>headed section (7.5.6)</i> — <i>cluster (7.5.7)</i> — <i>data items (7.6.1)</i> of types other than <i>text data item (7.6.2)</i>. <p>If the message includes a narrative text account of its contents, this should be contained in a single <i>text data item (7.6.2)</i> with the <i>component role</i> "Narrative".</p>		

7.5.2. record component

Type: Abstract Class
Specialisation of: EHCR message component (7.8.1)
<p>Description: A <i>record component</i> is a part of an EHCR that is identifiable for the purposes of referencing and revision.</p> <p>Note:</p> <p>A <i>record component</i> is an abstract class that only exists as instantiations on one of its concrete specialisations. Two of the specialisations (<i>original component complex (7.5.3)</i>, and <i>data item (7.6.1)</i>) are themselves abstract classes and only exist as instances of the more specialised types of <i>original component complex (7.5.3)</i> and <i>data item (7.6.1)</i>.</p> <p>Part 1 of this Prestandard specifies an additional abstract class <i>component complex</i>. This is a specialisation of <i>record component</i> that is itself further specialised into <i>original component complex (7.5.3)</i> and <i>selected component complex (7.5.8)</i>. Although the <i>component complex</i> represents a conceptual relationship it does not have any attributes or relationships other than those of its generalisation <i>record component</i> and its specialisations. Therefore, it plays no part in providing structure or content to the message.</p>
<p>Specialisations</p> <p>A <i>record component</i> is specialised as an <i>empty record component</i>, a <i>data item (7.6.1)</i>, a <i>link set item (7.7.1)</i>, an <i>original component complex (7.5.3)</i> or a <i>selected component complex (7.5.8)</i>.</p>
<p>Contained in</p> <p>A <i>record component</i> may be part of an <i>original component complex (7.5.3)</i>.</p> <p>A <i>record component</i> may be part of an <i>EHCR extract</i>.</p>

Attributes	Type	Occurrence
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent (7.10.10)</i> responsible for adding the <i>record component</i> to the record. <i>Usage:</i> Other parties associated with the <i>EHCR message component</i> shall be represented as <i>related healthcare agents (7.8.8)</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>record component</i> was added to the EHCR system on which it originated.		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent (7.10.10)</i> that has a role in relation to the <i>record component</i> , other than as the <i>originating healthcare agent (7.8.6)</i> . The role of the <i>healthcare agent (7.10.10)</i> is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to information recorded in a <i>data item (7.6.1)</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	0 or 1
A standard high-level category assigned to an <i>EHCR message component</i> to support communication. <i>Usage:</i> The <i>component name category</i> is mandatory in some specialisation of <i>EHCR message component</i> and not used in others. Refer to the specialisations for further details. <i>Values:</i> The acceptable values of component name category are specified by tables in Part 2 of this Prestandard. The applicable table of values varies according to the specialisation of record component and is specified separately for each specialisation.		
component name structure (7.8.4)	class	0 or 1
A coded descriptor, title, heading or label that represents the nature or focus of the information contained by in the <i>record component</i> .		
component status	E [Enumerated]	1
Indication of whether the <i>record component</i> is the current valid version or has been superseded.		
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule (7.9.1)</i> to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
<i>Attributes of specialisation</i>		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex (7.5.3)</i> . <i>Note:</i> The <i>component order</i> should be specified if reordering <i>record components</i> within the <i>original component complex (7.5.3)</i> could lead to loss of pertinent information. For example, if the <i>record components</i> within the <i>original component complex (7.5.3)</i> describe a logical sequence of events.		

7.5.3. original component complex

Type: Abstract Class		
Specialisation of: record component		
<p>Description: The <i>original component complex</i> is an abstract specialisation of <i>record component</i> (7.5.2). Its concrete specialisations all have the property of grouping other <i>record components</i> (7.5.2) (the members of the <i>original component complex</i>) in a manner determined by the <i>original information context</i>; that is the original time and situation in which they were originally added to the EHCR. The specialisations of <i>original component complex</i> represent different levels or granularity in respect of the scope of the <i>original information context</i>.</p> <p>Usage:</p> <p>The <i>original component complexes</i> in a <i>provide EHCR message</i> (7.4.3) form a hierarchy with a single axis linking each <i>EHCR message component</i> (7.8.1) to the <i>EHCR extract</i> (7.5.1).</p> <p>An <i>original component complex</i> should not be used to aggregate <i>record components</i> (7.5.2) to represent clinical or logical relationships between items of information collected at different times or in different places.</p> <p>Except as explicitly stated elsewhere in this part of the Prestandard, the following rules govern propagation of values from an <i>original component complex</i> to its members and descendants within a message.</p> <ul style="list-style-type: none"> — The value of an attribute stated for an <i>original component complex</i> is propagated to descendent members of that <i>original component complex</i> that do not themselves contain a value for an equivalent attribute. — Propagation of a value is terminated by a value for the same attribute specified at a lower level in the hierarchy. — In the case of attributes that may have multiple values the propagation rule applies to the entire set of values. Thus if a <i>record component</i> (7.5.2) contains any values for a particular attribute this interrupts propagation of the complete set of values for that attribute. — Propagation of values applies to <i>selected component complexes</i> (7.5.8) and <i>link set items</i> (7.7.1) as members of an <i>original component complex</i> but does not cross to the members of a <i>selected component complex</i> (7.5.8) or to other <i>record components</i> (7.5.2) linked by a <i>link set item</i> (7.7.1). — All applicable attribute values must be stated explicitly in an <i>original component complex</i> of the type <i>composition</i> (7.5.5). Values from a <i>folder</i> (7.5.4) type <i>original component complex</i> are not propagated to a <i>composition</i> (7.5.5) type <i>original component complex</i>. <p>Note:</p> <p>The four specialisations of <i>original component complex</i> included in the message are referred to in Part 1 and Part 2 of this Prestandard as types of <i>original component complex</i>. They are identified as specialised classes in the message to enable distinctions to be made regarding:</p> <ul style="list-style-type: none"> — constraints on their relationships and attributes. — the values applicable to attributes. 		
Specialisations		
An <i>original component complex</i> is specialised as a <i>composition</i> (7.5.5), a <i>headed section</i> (7.5.6), a <i>cluster</i> (7.5.7) or a <i>folder</i> (7.5.4).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: record component</i> (7.5.2)		
<i>Attributes from generalisation: EHCR message component</i> (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		

originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent (7.10.10)</i> responsible for adding the <i>record component</i> to the record.		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>record component</i> was added to the EHCR system on which it originated.		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent (7.10.10)</i> that has a role in relation to the <i>record component</i> , other than as the <i>originating healthcare agent (7.8.6)</i> . The role of the <i>healthcare agent (7.10.10)</i> is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to an <i>original component complex</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	0 or 1
A standard high-level category assigned to a <i>record component</i> to support communication. Refer to concrete specialisations of <i>original component complex</i> for details.		
component name structure (7.8.4)	class	0 or 1
A coded descriptor, title, heading or label that represents the nature or focus of the information contained by in the <i>record component</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> . <i>Usage:</i> An <i>original component complex</i> shall only be used to supersede a previous version that is another instance of the same concrete specialisation of <i>original component complex</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
<i>Attributes of specialisation</i>		
enterprise specific indicator	B [Boolean]	0 or 1
An indication that the <i>original component complex</i> is an enterprise specific structure representing an alternative version of the standard structured content of the <i>original component complex</i> or <i>EHCR extract (7.5.1)</i> of which it is a member.		
record component (7.5.2)	class	1 to many
Each <i>original component complex</i> contains of one or more members. Each member is an instance of one of the concrete specialisations of the abstract class <i>record component</i> . <i>Usage:</i> The members of an <i>original component complex</i> may themselves be <i>original component complexes</i> . However, certain restrictions apply to the types of <i>original component complexes</i> that may be nested within one another. These restrictions are specified in the descriptions of the individual specialisations.		

7.5.4. folder

<p>Description: An <i>original component complex</i> (7.5.3) used to group <i>record components</i> (7.5.2) collected and/or recorded during several contacts with a patient. A <i>folder</i> may include information collected and recorded at different times and by different people.</p> <p>Type: class</p> <p>Specialisation of: original component complex</p>		
<p>Usage: A <i>folder</i> shall be a member of one and only one of the following:</p> <ul style="list-style-type: none"> — <i>EHCR extract</i> (7.5.1) — another <i>folder</i>. 		
Attributes	Type	Occurrence
Attributes from generalisation: original component complex (7.5.3)		
Attributes from generalisation: record component (7.5.2)		
Attributes from generalisation: EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>record component</i> to the record.		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>record component</i> was added to the EHCR system on which it originated.		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the <i>record component</i> , other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to an <i>original component complex</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	None
Not applicable to <i>original component complexes</i> of type <i>folder</i> .		
component name structure (7.8.4)	class	0 or 1
A coded descriptor or title for the folder. <i>Example(s):</i> Primary care medical notes, orthopedic specialist notes, nursing notes, records extracted from legacy system.		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		

component order	I [Integer]	0 or 1
enterprise specific indicator	B [Boolean]	0 or 1
An indication that the <i>original component complex</i> is an enterprise specific structure representing an alternative version of the standard structured content of the <i>original component complex</i> or <i>EHCR extract (7.5.1)</i> of which it is a member.		
record component (7.5.2)	class	1 to many
<p><i>Usage:</i></p> <p>A <i>folder</i> may contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>folder</i> — <i>composition (7.5.5)</i> — <i>selected component complex (7.5.8)</i> — <i>link set item (7.7.1)</i> — <i>text data item (7.6.2)</i> — <i>empty record component.</i> <p>A <i>folder</i> shall not contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>headed section (7.5.6)</i> — <i>cluster (7.5.7)</i> — <i>data items (7.6.1)</i> of types other than <i>text data item (7.6.2)</i>. <p>If the <i>folder</i> includes a narrative text account of its contents, this should be contained in a single <i>text data item (7.6.2)</i> with the <i>component role</i> "Narrative".</p>		
<i>Attributes of specialisation</i>		
folder content indicator	E [Enumerated]	0 to 1
An indication of whether the contents of the <i>folder</i> in this message are a complete snapshot of the status of a <i>folder</i> at the time of sending or represent an extension to or modification of the content of that <i>folder</i> .		
<p><i>Usage:</i></p> <p>Unlike other types of <i>original component complex</i>, a <i>folder</i> may be extended by addition of <i>record components</i> collected at various times and places. It is also possible that a message may contain only those <i>record components</i> from the <i>folder</i> that are required to support a view represented by a <i>selected component complex (7.5.8)</i>. In either of these circumstances the appropriate value for the <i>folder content indicator</i> shall be used to inform the receiving system that the <i>folder</i> as contained in the message does not contain the complete content of the <i>folder</i> as held by the sender.</p> <p><i>Values:</i></p> <ol style="list-style-type: none"> 0. Complete representation of the <i>folder</i> at the date of sending (default). 1. Extension to the <i>folder</i> representing additions during the <i>EHCR update period</i> indicated in the <i>specification of EHCR information (7.4.7)</i> 2. Selected content from a <i>folder</i> provided to support a view. 		

7.5.5. composition

Type: class		
Specialisation of: original component complex		
Description: An <i>original component complex</i> (7.5.3) that contains a set of <i>record components</i> (7.5.2) relating to one time and place of care delivery, a single session of recording or a single document included in the EHCR.		
Usage: A <i>composition</i> shall be a member of one and only one of the following: <ul style="list-style-type: none"> — <i>EHCR extract</i> (7.5.1) — <i>folder</i> (7.5.4). 		
Example(s): Consultation note, operation note, discharge summary, vital signs chart, laboratory report.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> original component complex (7.5.3)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>record component</i> to the record.		
originating date and time	TOCD [Time+Date]	1
Date and time on which the <i>record component</i> was added to the EHCR system on which it originated.		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the <i>record component</i> , other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to an <i>original component complex</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	1
This attribute shall specify a high-level category indicating the general nature of the <i>composition</i> . An additional more detailed title may be provided using the <i>component name structure</i> . <i>Values:</i> The value shall be one the categories for Composition OCC types, listed in Table A.1 of Part 2 of this Prestandard.		
component name structure (7.8.4)	class	0 or 1
In a <i>composition</i> this attribute may be used to include a coded title for the notes, report or document. An appropriate high level category for this heading shall also be included (see <i>component name category</i>). <i>Example(s):</i> The <i>component name structure</i> might be a represent the title "Outpatient consultation". In this case the <i>component name category</i> value would be "DTC01" meaning "Consultations". The <i>component name structure</i> might represent the title "Discharge summary". In this case the <i>component name category</i> value would be "DTC06" meaning "Episode summary reports".		
component status	E [Enumerated]	1

distribution rule reference (7.9.2)	class	0 to many
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
enterprise specific indicator	B [Boolean]	0 or 1
An indication that the <i>original component complex</i> is an enterprise specific structure representing an alternative version of the standard structured content of the <i>original component complex</i> or <i>EHCR extract (7.5.1)</i> of which it is a member.		
record component (7.5.2)	class	1 to many
<p><i>Usage:</i></p> <p>A <i>composition</i> may contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>headed section (7.5.6)</i> — <i>cluster (7.5.7)</i> — <i>selected component complex (7.5.8)</i> — <i>link set item (7.7.1)</i> — <i>data item (7.6.1)</i> — <i>empty record component</i>. <p>A <i>composition</i> shall not contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>folder (7.5.4)</i> — <i>composition</i>. <p>If the <i>composition</i> includes a narrative text account of its entire structured contents, this should be contained in a single <i>text data item (7.6.2)</i> with the <i>component role</i> "Narrative".</p>		

7.5.6. headed section

Type: class		
Specialisation of: original component complex		
Description: An <i>original component complex</i> (7.5.3) representing a sub-division within a <i>composition</i> (7.5.5) the contents of which have a common theme or are derived through the same healthcare process.		
Usage: A <i>headed section</i> shall be a member of one and only one of the following: <ul style="list-style-type: none"> — <i>composition</i> (7.5.5) — another <i>headed section</i>. 		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> original component complex (7.5.3)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
<i>Usage:</i> May be omitted if the value is the same as the value applied to a <i>composition</i> (7.5.5) or <i>headed section</i> which contains this <i>headed section</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>record component</i> was added to the EHCR system on which it originated. <i>Usage:</i> May be omitted if the value is the same as the value applied to a <i>composition</i> (7.5.5) or <i>headed section</i> which contains this <i>headed section</i> .		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the <i>record component</i> , other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to an <i>original component complex</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	1
This attribute shall specify a high-level category indicating the general nature of the <i>headed section</i> . An additional more detailed title may be provided using the <i>component name structure</i> . <i>Values:</i> A value from the "Set of Categories for Headed Section OCC Types" as listed in Table A.2 of Part 2 of this Prestandard.		
component name structure (7.8.4)	class	0 or 1
In a <i>headed section</i> this attribute may be used to include a coded title for the section of a report or document. An appropriate high level category for this heading shall also be included (see <i>component name category</i>). <i>Example(s):</i> The <i>component name structure</i> might be a coded section heading "Prescribed medication". In this case the <i>component name category</i> value would be "DTH07" meaning "Delivered Interventions".		
component status	E [Enumerated]	1

distribution rule reference (7.9.2)	class	0 to many
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
enterprise specific indicator	B [Boolean]	0 or 1
An indication that the <i>original component complex</i> is an enterprise specific structure representing an alternative version of the standard structured content of the <i>original component complex</i> or <i>EHCR extract (7.5.1)</i> of which it is a member.		
record component (7.5.2)	class	1 to many
<p><i>Usage:</i></p> <p>A <i>headed section</i> may contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>headed section</i> — <i>cluster (7.5.7)</i> — <i>selected component complex (7.5.8)</i> — <i>data item (7.6.1)</i> — <i>empty record component</i>. <p>A <i>headed section</i> shall not contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>folder (7.5.4)</i> — <i>composition (7.5.5)</i> — <i>link set item (7.7.1)</i>. <p>If the <i>headed section</i> includes a narrative text account of its entire structured contents, this should be contained in a single <i>text data item (7.6.2)</i> with the <i>component role</i> "Narrative".</p>		

7.5.7. cluster

Type: class
Specialisation of: original component complex
Description: A type of <i>original component complex (7.5.3)</i> used to aggregate <i>data items</i> and/or other <i>clusters</i> to represent a compound concept.
Usage:
A <i>cluster</i> shall be a member of an instance of one and only one of the following: <ul style="list-style-type: none"> — <i>composition (7.5.5)</i> — <i>headed section (7.5.6)</i> — another <i>cluster</i>.
Example(s): A blood pressure measurement consisting of two <i>data items (7.6.1)</i> (one for systolic and the other diastolic pressure), a collection or closely related clinical findings, results of a battery of laboratory investigations, a treatment schedule consisting of several individually specified preparations or dosages.

Attributes	Type	Occurrence
<i>Attributes from generalisation: original component complex (7.5.3)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
<i>Usage:</i> May be omitted if the value is the same as the value applied to a <i>composition (7.5.5)</i> , <i>headed section (7.5.6)</i> or <i>cluster</i> which contains this <i>cluster</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>record component</i> was added to the EHCR system on which it originated. <i>Usage:</i> May be omitted if the value is the same as the value applied to a <i>composition (7.5.5)</i> , <i>headed section (7.5.6)</i> or <i>cluster</i> which contains this <i>cluster</i> .		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent (7.10.10)</i> that has a role in relation to the <i>record component</i> , other than as the <i>originating healthcare agent (7.8.6)</i> . The role of the <i>healthcare agent (7.10.10)</i> is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to an <i>original component complex</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	None
Not applicable to <i>original component complexes</i> of type <i>cluster</i> .		
component name structure (7.8.4)	class	0 or 1
A coded title or label indicating the nature of the contents of the <i>cluster</i> . <i>Example(s):</i> A code representing concepts such as: Blood pressure, serum electrolytes, examination of peripheral pulses. <i>Usage:</i> If any part of the <i>component name structure</i> modifies the information contained in the <i>cluster</i> in ways that affect the <i>annotation types</i> listed in Table B.1 of Part 2 of this Prestandard, this shall also be indicated by including the appropriate <i>annotation identifier</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
revision information (7.7.4)	class	0 or 1
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
enterprise specific indicator	B [Boolean]	0 or 1
An indication that the <i>original component complex</i> is an enterprise specific structure representing an alternative version of the standard structured content of the <i>original component complex</i> or <i>EHCR extract (7.5.1)</i> of which it is a member.		

record component (7.5.2)	class	1 to many										
<p><i>Usage:</i></p> <p>A <i>cluster</i> may contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>cluster</i> — <i>data item (7.6.1)</i> — <i>empty record component</i>. <p>A <i>cluster</i> shall not contain <i>record components</i> of the following types:</p> <ul style="list-style-type: none"> — <i>folder (7.5.4)</i> — <i>composition (7.5.5)</i> — <i>headed section (7.5.6)</i> — <i>selected component complex (7.5.8)</i> — <i>link set item (7.7.1)</i>. <p>If the <i>cluster</i> includes a narrative text account of its entire structured contents, this should be contained in a single <i>text data item (7.6.2)</i> with the <i>component role</i> "Narrative".</p>												
<i>Attributes of specialisation</i>												
annotation identifier	TL [Term List code] (7.12.5)	0 to many										
<p>An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item (7.6.1)</i> or <i>cluster</i>.</p> <p><i>Usage:</i></p> <p>The <i>annotation identifier</i> should not be used as the primary means of communicating modification information. Its is intended to provide a high-level indication of any safety critical modifiers within the information communicated. This may include modifiers that form part of the <i>component name structure</i> or modification implied by the structure of the information in the sending system.</p> <p>Table B.1 of Part 2 of this European Prestandard lists the terms and coded representations to be used as the <i>annotation identifier</i> values.</p> <p>The types of annotation supported are summarised here:</p> <table border="0" style="width: 100%;"> <tr> <td>— reliability of annotation</td> <td>— negation</td> </tr> <tr> <td>— subject of information</td> <td>— certainty</td> </tr> <tr> <td>— life cycle (applicable to activities)</td> <td>— focus</td> </tr> <tr> <td>— potentiality (applicable to states)</td> <td>— knowing mode (observation or action by author, opinion or conclusion by author, etc).</td> </tr> <tr> <td>— process status</td> <td></td> </tr> </table> <p>A sending system should only apply an <i>annotation identifier</i> where it can be derived reliably from the data held by that system. If any annotations are derived by automated parsing of text the annotation shall also include the "annotation unreliable" <i>annotation identifier</i>. Implementation guidelines within a communicating community may apply additional constraints to the process of annotation as deemed appropriate to ensure clinical safety.</p> <p>The rules in table B.1 of Part 2 of this Prestandard indicate which annotation types can have more than one value in the same <i>cluster</i>. In all other cases, no more than one value for each annotation type shall be specified for any one <i>cluster</i>.</p> <p>If a <i>cluster</i> does not contain a value for a particular annotation type, the only safe assumption is that nothing is known about that aspect of the information. This Prestandard does not define a default meaning. However, in some communicating communities it may be considered to be clinically safe to apply operational rules in respect of some annotation types. For instance, in the absence of a "subject of information" annotation, the information may be deemed to apply to the patient who is the subject of the record. The risk of misinterpretation of such an approach should be carefully considered. Any assumptions of this type should be stated explicitly in implementation guidelines and only apply to communication within that communicating community.</p> <p><i>Example(s):</i></p> <p>The <i>component name structure</i> may include a modifier indicating that an entry refers to "Family history - specific to the patient's father". In this case the <i>annotation identifier</i> should be "DS01" meaning "Subject of information = Relative".</p> <p>The <i>component name structure</i> may include a modifier indicating that an entry represents a "Differential diagnosis". In this case the <i>annotation identifier</i> would be "DC01" meaning "Uncertain".</p>			— reliability of annotation	— negation	— subject of information	— certainty	— life cycle (applicable to activities)	— focus	— potentiality (applicable to states)	— knowing mode (observation or action by author, opinion or conclusion by author, etc).	— process status	
— reliability of annotation	— negation											
— subject of information	— certainty											
— life cycle (applicable to activities)	— focus											
— potentiality (applicable to states)	— knowing mode (observation or action by author, opinion or conclusion by author, etc).											
— process status												

7.5.8. selected component complex

Type: class		
Specialisation of: record component (7.5.2)		
<p>Description: A <i>record component</i> (7.5.2) representing an aggregation of other <i>record components</i> (7.5.2) arranged in a manner not determined by the time and situation in which they were originally added to the EHCR.</p> <p>Usage: Within the message the members of a <i>selected component complex</i> are communicated using <i>link set items</i> (7.7.1) 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 set item</i> (7.7.1) is a <i>record component</i> (7.5.2) 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> (7.5.2).</p> <p>Note: <i>selected component complexes</i> are used to provide an alternative view or grouping of <i>record components</i> (7.5.2). They can represent the record as viewed at a particular time or they can represent groupings of clinically or logically associated record components.</p>		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>record component</i> to the record.		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>record component</i> was added to the EHCR system on which it originated.		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the <i>record component</i> , other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> .		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to information recorded in a <i>data item</i> (7.6.1). The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	0 or 1
An optional values from Table A.1 or A.2 in Part 2 of this Prestandard may be used where appropriate to the content of a <i>selected component complex</i> . Otherwise this attribute should be omitted.		
component name structure (7.8.4)	class	1
A coded title or heading that describes the nature of the content in the <i>selected component complex</i> .		
<p><i>Example(s):</i></p> <ul style="list-style-type: none"> — Problem list — Diabetes (or another named problem) — Current medication — Record as viewed on (<i>date</i>). 		

component status	E [Enumerated]	1
Indication of whether the <i>record component</i> is the current valid version or has been superseded.		
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule (7.9.1)</i> to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex (7.5.3)</i> .		
<i>Attributes of specialisation</i>		
selected component complex type	V [Code Value] (7.12.6)	0 or 1
Distinguishes between different types of <i>selected component complexes</i> . <i>Example(s)</i> : <ul style="list-style-type: none"> — Fixed views created with explicit links to other <i>record components (7.5.2)</i> (e.g. a "snapshot" of the record at a particular time). — Views created with explicit links but capable of being updated by addition of new links (e.g. Problem list, problem oriented views). — Views generated dynamically based on specified selection criteria or a protocol (e.g. current medication, investigation results, chronic disease review profile). 		
splitting restriction	E [Enumerated]	0 or 1
An explicit statement that the components selected by the <i>selected component complex</i> should be viewed as a whole, and a warning that the <i>originating healthcare agent (7.8.6)</i> considers that it would be unsafe to separate the selected components. <i>Note</i> : This is intended for binding an ad-hoc set of components found in an EHCR but which are not organised together in the same part of the <i>original component complex (7.5.3)</i> hierarchy. <i>Values</i> : <ul style="list-style-type: none"> 0. Unsafe to split content. 1. Safe to split content. 		
component selection criteria	[defined within a community]	0 to many
A specification of criteria designed to support a dynamic view of the record. <i>Example(s)</i> : Criteria to select all current medication.		

7.5.9. empty record component

Type: class		
Specialisation of: record component (7.5.2)		
Description: A specialisation of <i>record component</i> (7.5.2) that is used to mark an earlier <i>record component</i> (7.5.2) as deleted.		
Usage: An <i>empty record component</i> indicates that the component indicated by the <i>revision information</i> (7.7.4) is no longer valid.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for indicating that the previous version of this <i>record component</i> should be marked as superseded or rendered void.		
originating date and time	TOCD [Time+Date]	1
Date and time on which the previous version of this <i>record component</i> was deleted or rendered void on the originating EHCR system.		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	None
Not applicable to an <i>empty record component</i> .		
related date (7.8.7)	class	None
Not applicable to <i>empty record components</i> .		
component name category	TL [Term List code] (7.12.5)	None
Not applicable to <i>empty record components</i> .		
component name structure (7.8.4)	class	None
Not applicable to <i>empty record components</i> .		
component status	E [Enumerated]	1
Indication of whether the <i>record component</i> is the current valid version or has been superseded.		
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	1
A reference to the <i>record component</i> to be deleted or rendered void by this <i>empty record component</i> . <i>Usage:</i> An <i>empty record component</i> may supersede a previous version of any <i>record component</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>record component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	None
Not applicable to <i>empty record component</i> .		

7.6. EHCR data item subsystem

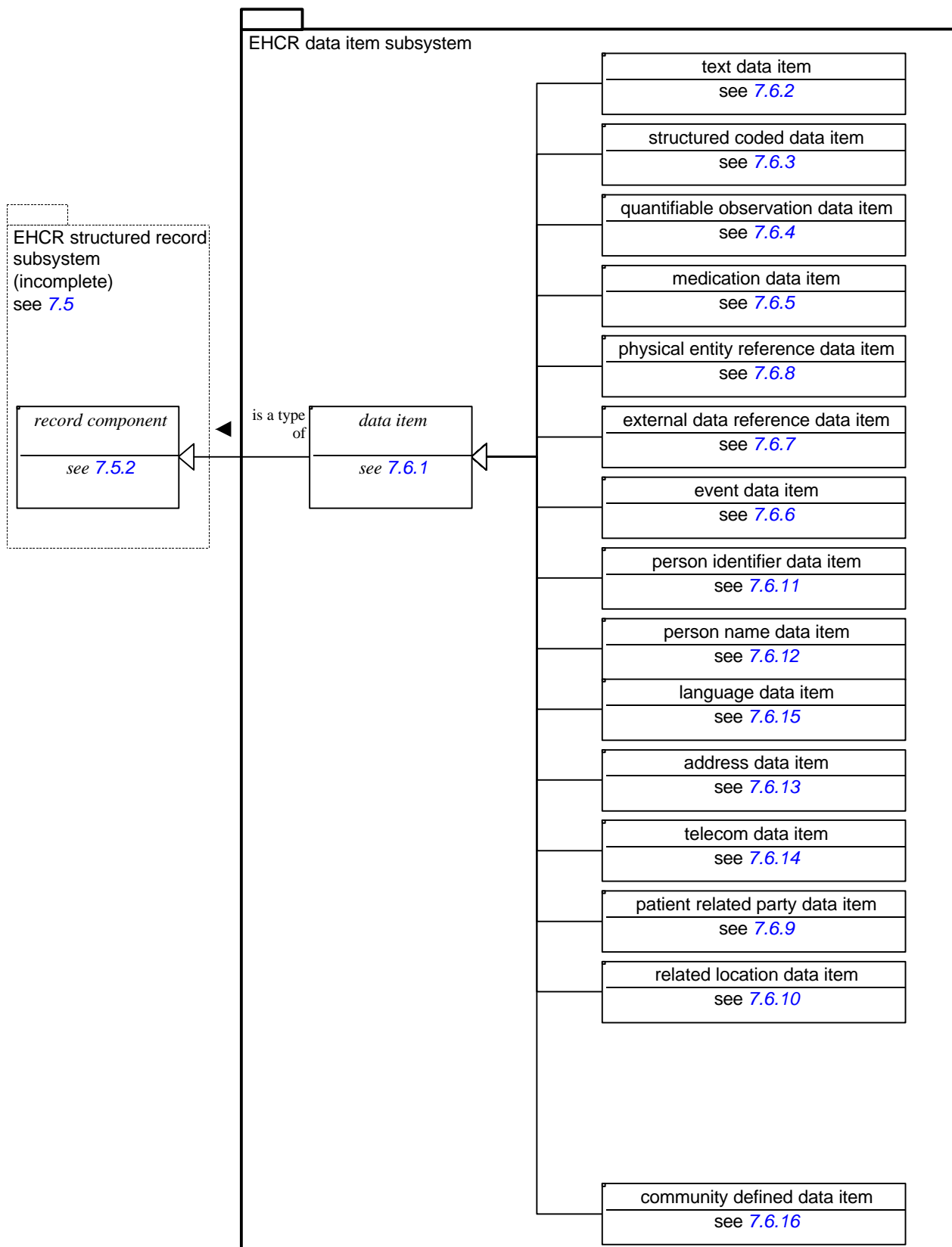


Figure 26. DIM - EHCR Data Item Subsystem

7.6.1. data item

Type: Abstract Class		
Specialisation of: record component (7.5.2)		
<p>Description: A <i>data item</i> is the <i>EHCR message component</i> (7.8.1) 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 aggregate information that cannot be safely disaggregated.</p> <p>Usage: A <i>data item</i> shall be a member of an instance of one and only one of the following:</p> <ul style="list-style-type: none"> — <i>composition</i> (7.5.5) — <i>headed section</i> (7.5.6) — <i>cluster</i> (7.5.7). <p>An exception to this rule applies in the case of the concrete specialisation <i>text data item</i> (7.6.2) one instance of which may be a member of the <i>EHCR extract</i> (7.5.1) or of any type of <i>original component complex</i> (7.5.3). In these cases, the <i>text data item</i> (7.6.2) provides a narrative account of the structured information within that component.</p>		
<p>Specialisations A <i>data item</i> is specialised as a <i>related location data item</i> (7.6.10), a <i>language data item</i> (7.6.15), a <i>person identifier data item</i> (7.6.11), a <i>person name data item</i> (7.6.12), an <i>address data item</i> (7.6.13), a <i>telecom data item</i> (7.6.14), a <i>community defined data item</i> (7.6.16), a <i>text data item</i> (7.6.2), a <i>physical entity reference data item</i> (7.6.8), a <i>quantifiable observation data item</i> (7.6.4), an <i>event data item</i> (7.6.6), an <i>external data reference data item</i> (7.6.7), a <i>patient related party data item</i> (7.6.9), a <i>structured coded data item</i> (7.6.3) or a <i>medication data item</i> (7.6.5).</p>		
Attributes	Type	Occurrence
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
<i>Usage:</i> May be omitted if the value is the same as the value applied to a <i>composition</i> (7.5.5), <i>headed section</i> (7.5.6) or <i>cluster</i> (7.5.7) which contains this <i>data item</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
<i>Usage:</i> May be omitted if the value is the same as the value applied to a <i>composition</i> (7.5.5), <i>headed section</i> (7.5.6) or <i>cluster</i> (7.5.7) which contains this <i>data item</i> .		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	0 or 1
A standard high-level category assigned to an <i>EHCR message component</i> to support communication. <i>Usage:</i> Applicability to <i>data items</i> varies according to the concrete specialisations.		
component name structure (7.8.4)	class	0 or 1
A coded descriptor specifying the main focus of the information contained in the <i>data item</i> . Refer to concrete specialisations of <i>data item</i> for further details. <i>Usage:</i> If any part of the <i>component name structure</i> modifies the information contained in the <i>data item</i> in ways that affect the <i>annotation types</i> listed in Table B.1 of Part 2 of this Prestandard, this shall also be indicated by including the appropriate <i>annotation identifier</i> .		

component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> . <i>Usage:</i> An <i>original component complex</i> (7.5.3) shall only be used to supersede a previous version that is another instance of the same concrete specialisation of <i>original component complex</i> (7.5.3). A <i>data item</i> shall only be used to supersede a previous version that is another instance of the same concrete specialisation of <i>data item</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
<i>Attributes of specialisation</i>		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7). <i>Usage:</i> The <i>annotation identifier</i> should not be used as the primary means of communicating modification information. Its is intended to provide a high-level indication of any safety critical modifiers within the information communicated. This may include modifiers that form part of the <i>component name structure</i> or modification implied by the structure of the information in the sending system. Table B.1 of Part 2 of this European Prestandard lists the terms and coded representations to be used as the <i>annotation identifier</i> values. The <i>annotation types</i> supported are summarised here: <ul style="list-style-type: none"> — reliability of annotation — subject of information — life cycle (applicable to activities) — potentiality (applicable to states) — process status — negation — certainty — focus — knowing mode (observation or action by author, opinion or conclusion by author, etc). A sending system should only apply an <i>annotation identifier</i> where it can be derived reliably from the data held by that system. If any annotations are derived by automated parsing of text the annotation shall also include the "annotation unreliable" <i>annotation identifier</i> . Implementation guidelines within a communicating community may apply additional constraints to the process of annotation as deemed appropriate to ensure clinical safety. The rules in table B.1 of Part 2 of this Prestandard indicate which annotation types can have more than one value in the same <i>data item</i> . In all other cases, no more than one value for each annotation type shall be specified for any one <i>data item</i> . If a <i>data item</i> does not contain a value for a particular annotation type, the only safe assumption is that nothing is known about that aspect of the information. This Prestandard does not define a default meaning. See additional notes on <i>annotation identifier</i> within the description of <i>original component complexes</i> of the type <i>cluster</i> (7.5.7). <i>Example(s):</i> The <i>component name structure</i> may include a modifier indicating that an entry refers to "Family history - specific to the patient's father". In this case the <i>annotation identifier</i> should be "DS01" meaning "Subject of information = Relative". The <i>component name structure</i> may include a modifier indicating that an entry represents a "Differential diagnosis". In this case the annotation identifier would be "DC01" meaning "Uncertain".		

7.6.2. text data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: A <i>data item content</i> that consists of plain text or presentationally enhanced text.		
Usage: This element is only suitable for human-readable information and should not be machine processed for analysis or decision support. The <i>structured coded data item</i> (7.6.3) should be used to represent text that is directly associated with structured coded information intended for searches and retrieval of data. A plain text element may be used to provide narrative text describing the content of an <i>original component complex</i> (7.5.3), which is also represented in structured form. This plain text information can then be used as a fallback to ensure communication of human-readable information, even if the receiving system cannot fully interpret the structured content of that complex.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to a <i>text data</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
component name category	TL [Term List code] (7.12.5)	0 or 1
Category values from Part 2 Annex E may be used if appropriate.		
component name structure (7.8.4)	class	None
Not applicable to <i>text data items</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		

annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
text markup indicator	S [String]	0 or 1
An indication of where mark-up has been used in the associated text block. <i>Usage:</i> Omit if plain text with no mark-up. Otherwise specify the markup applied by repeating the content of the "DOCTYPE" element. Additional attributes can be added to confirm that statement as used in the mark-up <i>Example(s):</i> HTML PUBLIC "-//IETF//DTD HTML//EN"		
text block	S [String]	1
<p>A block of printable human readable text. The text may contain mark-up for presentational enhancement subject to the following four conditions:</p> <ul style="list-style-type: none"> — the <i>text markup indicator</i> shall be set to indicate the presence and nature of mark-up. — presentation enhanced text in this <i>text data item</i> shall not be subjected to automated processing except for the purpose of rendering displaying the appropriately rendered text. — the mark-up shall be limited to either an ASCII printable 8 bit character set or the Unicode character set. — the communicating community shall have explicitly agreed and specified a subset of HTML mark-up to be permitted within that community. While reaching this agreement they should take note of the possible risks to structured communication posed by extensive use of mark-up. <p><i>Note:</i></p> <p>There is a strong practical case for using HTML to enhance the presentation and readability of textual information. However, concerns have been raised that full implementation of HTML within the <i>text data item</i> may compromise clinical and/or system safety. The extent of these risk is unproven but any communicating community should consider the following possible risks:</p> <ul style="list-style-type: none"> — List and table structures in HTML may embed and hide semantics from the receiving system. Thus a laboratory report rendered as a table may be easy to read. However, a receiving system will not be able to safely manipulate this presentation for analysis or decision support. Thus a possibility arises of inconsistencies and gaps in information that is sent only in a presentational form. — If communicating parties decide to use the presentational information for processing. The informal structures of text mark-up may circumvent validation applied to the EHCR message structure. — Full HTML complete with scripts and web links will provide a possible route for attacks on the security and integrity of the EHCR system. <p>One way to minimise these risks while providing an effective mechanism for presentational enhancement would be to specify a subset of HTML. However, this issue remains unclear and the while area is evolving so a normative subset specification is inappropriate at this stage. A very narrow definition of permitted enhancement would be too restrictive to meet the needs of users and developers. On the other hand, mandating an unlimited HTML enabled <i>text data item</i> seems unwise at this stage.</p> <p>Presentational enhancement could also be achieved by using XML with XSL style sheets. However, this will increase the risk that features intended for presentational enhancement may be used for adding arbitrary data structures nested within the standard message structure. A clear distinction should be drawn between use of XML for arbitrary structures within the <i>text data item</i> and the use of XML as a possible implementation of this Prestandard (see Annex C).</p>		
narrative account indicator	B [Boolean]	0 or 1
An indication that the <i>text data item</i> contains a narrative account of the structured content of the <i>original component complex</i> (7.5.3) or <i>EHCR extract</i> (7.5.1) of which it is a member.		

7.6.3. structured coded data item

Type: class		
Specialisation of: data item (7.6.1)		
<p>Description: An item of clinical or other healthcare related information represented by a code value or composite code with optional additional text.</p> <p>Note: The main difference between this and the <i>text data item (7.6.2)</i> is that the information in a <i>structured coded data item</i> is suitable for structured searches and retrieval of data as well as human-readability. In contrast, the <i>text data item (7.6.2)</i> is only suitable for human interpretation and should not be subject to automated processing.</p> <p>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.</p>		
Attributes	Type	Occurrence
<i>Attributes from generalisation: data item (7.6.1)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent (7.10.10)</i> that has a role in relation to the <i>structured coded data</i> , other than as the <i>originating healthcare agent (7.8.6)</i> . The role of the <i>healthcare agent (7.10.10)</i> is specified by the attribute <i>role of related healthcare agent</i> .		
<i>Example(s):</i> Person making a diagnosis, person undertaking a procedure, organisation responsible for a procedure, device used during a procedure, software module used to support protocol.		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to a <i>structured coded data</i> . The relevance of the date is specified by the attribute <i>related date role</i> .		
<i>Example(s):</i> Date of examination and time of examination, date or diagnosis, date of registration, date of birth, date of death.		
component name category	TL [Term List code] (7.12.5)	0 or 1
Category values from Part 2 Annex E may be used if appropriate.		
component name structure (7.8.4)	class	1
A coded representation of the primary focus of a statement about the clinical situation of the patient.		
<i>Usage:</i> The broad scope of concept "clinical situation" is illustrated in Table D.2 of Part 2 of this Prestandard. Instances of the <i>component name structure</i> of the <i>structured coded data item</i> shall be used for communication of most structured and/or coded information about the clinical situation of the patient. However, <i>quantifiable observations</i> and <i>medication</i> are conveyed in other specialisations of <i>data item</i> .		
<i>Values:</i> This information can be encoded in a range of different coding schemes and/or controlled terminologies. The composite code structure includes provision for identifying the coding schemes used and for including both the original code recorded on the source systems and a mapping to a coding scheme adopted for the purpose of communication within a defined communicating community.		

component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule (7.9.1)</i> to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex (7.5.3)</i> .		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster (7.5.7)</i> .		
<i>Attributes of specialisation</i>		
additional related text	S [String]	0 to many
Text that adds to the content expressed by the code values in this <i>structured coded data item</i> .		

7.6.4. quantifiable observation data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: Result of a single clinical measurement or laboratory investigation.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent (7.10.10)</i> that has a role in relation to the <i>quantifiable observation</i> , other than as the <i>originating healthcare agent (7.8.6)</i> . The role of the <i>healthcare agent (7.10.10)</i> is specified by the attribute <i>role of related healthcare agent</i> .		
<i>Example(s):</i> Person making or reporting an observation, department responsible for a measurement, device used to carry out a measurement.		

related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to the <i>quantifiable observation</i> . The relevance of the date is specified by the attribute <i>related date role</i> . <i>Example(s)</i> : Date and time of measurement, date of reporting results.		
component name category	TL [Term List code] (7.12.5)	0 or 1
No category values are specified for <i>quantifiable observation data item</i> .		
component name structure (7.8.4)	class	1
A coded representation of the <i>measurable quantity</i> (i.e. the property that was measured). <i>Usage</i> : The <i>measurable quantity</i> may be represented by a single code value that represents the entire concept of the measurement. Alternatively the composite code can be used to hold code values from a multi-axial coding scheme. <i>Note</i> : The composite code can be used to capture the individual "component", "system" and "kind of quantity" axes specified in by IFCC/IUPAC, was included explicitly in ENV1613 and ENV1614.		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
Choice of		1
numerical range result of observation	measurement range (7.11.8)	
A measurement expressed a range between two numeric values qualified by a <i>unit of quantity</i> .		
numerical value result of observation	measurement with comparator (7.11.9)	
A measurement expressed as a numeric value and <i>unit of quantity</i> with an optional mathematical comparator		
text value result of observation	C/S [Code or String] (7.12.2)	
An observation or investigation result expressed using text or codes.		
date value result of observation	TOCD [Time+Date]	
An observation or investigation result expressed as a date. <i>Example(s)</i> : Estimated date of obstetric delivery.		
reference limit (7.11.13)	subclass	0 to many
A reference limit or normal range expressed as a numeric <i>measurement range</i> (7.11.8) or in a textual form. The limits may be applicable to a particular population and may be of a specified type.		

7.6.5. medication data item

Type: class		
Specialisation of: data item (7.6.1)		
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.		
Attributes	Type	Occurrence
<i>Attributes from generalisation: data item (7.6.1)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent (7.10.10)</i> that has a role in relation to the <i>medication</i> , other than as the <i>originating healthcare agent (7.8.6)</i> . The role of the <i>healthcare agent (7.10.10)</i> is specified by the attribute <i>role of related healthcare agent</i> . <i>Example(s)</i> : Prescriber, dispenser, person administering a drug, person authorising repeat medication, person recommending change of treatment, pharmacy from which dispensed.		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to a <i>medication data item</i> . The relevance of the date is specified by the attribute <i>related date role</i> . <i>Example(s)</i> : Date of prescribing, date of dispensing, date and time of administration.		
component name category	TL [Term List code] (7.12.5)	1
Information that describes the status of the <i>medication data item</i> information. <i>Values</i> : The following values for medication status will appear in a table in Annex E of a future revision of Part 2. 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. Dispensed for later administration or self-administration. 7. Discontinued. 8. Record of an authorisation of a set of one or more prescriptions. 9. Record of non-compliance or uncompleted regime for any reason 10. Other.		

component name structure (7.8.4)	class	1
<p>A code or composite code identifying the drug, preparation or other prescribable product that is the focus of this <i>medication data item</i>.</p> <p><i>Usage:</i> The general purpose <i>component name structure</i> shall be used either to represent a drug using a single code or a composite code. The construction of any composite code for identification of a drug may separately represent various properties such as active ingredient(s), pharmaceutical form, strength, manufacturer, pack size.</p> <p><i>Note:</i> This Prestandard does not mandate a particular structure of drug identification. However, the <i>component name structure</i> can be used with coding schemes and structures that are fully compatible with the <i>unstructured drug identification</i> and <i>structured drug identification</i> classes defined in the Prescription message Prestandard (prENV 13607).</p>		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
<p>Applies a <i>distribution rule (7.9.1)</i> to a <i>record component</i>.</p>		
revision information (7.7.4)	class	0 or 1
<p>A reference to the immediately preceding version of this <i>record component</i>.</p>		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
<p>The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.</p>		
component order	I [Integer]	0 or 1
<p>A positive integer representing the order of a <i>record component</i> within its <i>original component complex (7.5.3)</i>.</p>		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
<p>An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster (7.5.7)</i>.</p>		
<i>Attributes of specialisation</i>		
Choice of		1
unstructured dosage administration	C/S [Code or String] (7.12.2)	
structured dosage administration (7.11.16)	subclass	
days supply	I [Integer]	0 or 1
quantity of drug supplied	value of quantity (7.11.22)	0 or 1
<p><i>Note:</i> This consists of the attributes <i>numerical value</i> and <i>unit of quantity</i> representing the amount of the drug prescribed, dispensed or administered.</p>		
medication provision category	V [Code Value] (7.12.6)	0 or 1
<p>Whether the medication was provided as an over the counter sale or as a health service, health insurance or private prescription.</p> <p><i>Usage:</i> Values for this need to be specified in the communicating community in a manner that allows recording of the various methods of supply of medication to patients in that country.</p> <p><i>Example(s):</i> In the UK there are several relevant values such as: NHS-GP, NHS-Hospital as outpatient, NHS-Inpatient, Private and OTC (over the counter sales). Other values may apply elsewhere.</p>		
medication commercial category	E [Enumerated]	0 or 1
<p>Whether the medication prescribed, dispensed or administered was a proprietary or generic form.</p> <p><i>Values:</i></p> <ul style="list-style-type: none"> 0. Generic. 1. Proprietary name with generic substitution permitted. 2. Proprietary. 		

comment to drug treatment	S [String]	0 or 1
<i>Usage:</i> This attribute may be used to add an integral free text comment to a <i>medication data item</i> . However, a more flexible approach to commenting on this or any other <i>record component</i> (7.5.2) is to add a separate <i>text data item</i> (7.6.2). This may then be linked to the <i>record component</i> (7.5.2) to which the comment applies using a <i>link set item</i> (7.7.1).		
repeat medication information (7.11.14)	subclass	0 or 1
Information about the authorisation for repeat prescribing. This sub-class is an optional part of the <i>medication data item</i> . It should be included in instances of the <i>medication data item</i> that have the <i>drug information status</i> authorisation.		
reason for stopping treatment	C/S [Code or String] (7.12.2)	0 or 1
The reason why treatment with this medication was stopped. <i>Usage:</i> Only applicable if the drug information status is "discontinued". <i>Note:</i> The person making the decision to stop treatment is recorded as a <i>related healthcare agent</i> (7.8.8) and the date of stopping is as a <i>related date</i> (7.8.7).		

7.6.6. event data item

Type: class		
Specialisation of: data item (7.6.1)		
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	Type	Occurrence
<i>Attributes from generalisation: data item (7.6.1)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the <i>event</i> , other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> . <i>Example(s):</i> Person registering a patient, person involved in contact or consultation, department admitting a patient, person planning an admission, organisation responsible for arranging an appointment.		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to an <i>event</i> . The relevance of the date is specified by the attribute <i>related date role</i> . <i>Example(s):</i> Date of birth, date of death, date of registration, date of admission, date and time of consultation, scheduled date of a planned appointment, date of planning an appointment.		

component name category	TL [Term List code] (7.12.5)	0 or 1
A standard high-level category assigned to an <i>event</i> to support communication. <i>Values:</i> One of the values specified in Table E.1 of Part 2 of this Prestandard.		
component name structure (7.8.4)	class	0 or 1
A coded descriptor specifying the detailed nature of the <i>event</i> . <i>Usage:</i> For the purposes of communication a high-level category for the event should also be specified in the <i>component name category</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
urgency status of event	V [Code Value] (7.12.6)	0 or 1
Classification of event in terms of urgency. <i>Example(s):</i> Emergency, elective.		
administrative outcome	C/S [Code or String] (7.12.2)	0 or 1
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. <i>Values:</i> A candidate list of codes and associated terms is provided in Table E.3 of Part 2 this Prestandard.		

duration of event	time interval (7.11.20)	0 or 1
<p>An interval of time expressed a number and a unit of time. <i>Usage:</i> If the event is planned this attribute expresses an expected duration. If the event is complete, it expresses an actual duration and if the event is in process the duration so far. If the duration of multiple sub events needs to be communicated (e.g. travel, waiting time and consultation) each should be represented as a separate event. The separate events can then be linked explicitly (using a <i>link set item (7.7.1)</i>) or implicitly (by proximity within an <i>original component complex (7.5.3)</i>).</p>		
planning stage	C [Coded] (7.12.1)	0 or 1
<p>The stage that has been reached in planning the delivery of this event. <i>Usage:</i> Scheduled dates and dates of planning are represented as <i>related dates (7.8.7)</i> in the containing <i>EHCR message component (7.8.1)</i>. <i>Example(s):</i> Accepted, proposed, scheduled, completed, rejected, postponed, cancelled. <i>Values:</i> A candidate list of codes and associated terms is provided in Table E.2 of Part 2 this Prestandard.</p>		
expected delay before event	expected delay (7.11.4)	0 or 1
<p>The <i>time interval (7.11.20)</i> of, and reason for, a delay. <i>Usage:</i> Only applicable to events which are planned or being planned.</p>		
comment	S [String]	0 or 1

7.6.7. external data reference data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: External reference to information stored in a digital form.		
Note:		
<p>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.</p> <p>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.</p>		
Attributes	Type	Occurrence
<i>Attributes from generalisation: data item (7.6.1)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
<p>A date, other than the <i>originating date and time</i>, which is related to the <i>external data</i>. The relevance of the date is specified by the attribute <i>related date role</i>. <i>Example(s):</i> Date of a procedure from which the <i>external data reference data item/referenced data item!</i> was derived.</p>		

component name category	TL [Term List code] (7.12.5)	0 or 1
Category values from Part 2 Annex A or Annex E may be used if appropriate.		
component name structure (7.8.4)	class	0 or 1
A coded descriptor specifying the nature of the <i>external data</i> . <i>Usage:</i> The <i>component name structure</i> should indicate the healthcare relevant nature of the <i>external data</i> , rather than the file format. <i>Example(s):</i> Chest X-ray, Discharge report, Electrocardiograph.		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
EHCR external information identifier	identifier (7.11.5)	1
A unique identifier applied to an item or collection externally referenced digital information.		
external data locator	S [String]	1
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 data application identifier</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 data application identifier	S [String]	0 or 1
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> (7.11.5) must be understood unambiguously by the communicating parties.		
external data bookmark	S [String]	0 to many
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.		

7.6.8. physical entity reference data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: A reference to a physical entity such as a paper file, a sample, a film or tracing.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the <i>physical entity</i> , other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> . <i>Example(s):</i> Person responsible for collecting a sample, department responsible for storage of an image.		
related date (7.8.7)	class	0 to many
A date, other than the <i>originating date and time</i> , which is related to the <i>physical entity</i> . The relevance of the date is specified by the attribute <i>related date role</i> . <i>Example(s):</i> Scheduled date and time of collection, date and time of sample collection, start and end dates and times of a sample collection.		
component name category	TL [Term List code] (7.12.5)	0 or 1
Category values from Part 2 Annex A or Annex E may be used if appropriate.		
component name structure (7.8.4)	class	0 or 1
A coded descriptor specifying the nature of the <i>physical entity</i> . <i>Usage:</i> The <i>component name structure</i> should indicate the healthcare relevant nature of the <i>physical entity</i> . <i>Example(s):</i> Chest X-ray film, throat swab, sample of venous blood.		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		

component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
physical entity identifier	identifier (7.11.5)	0 or 1
A general purpose identifier that can be qualified by the identification scheme from which the identifier is derived.		
physical entity location	location details (7.11.7)	0 or 1
The current location of the referenced physical entity.		

7.6.9. patient related party data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: Information about a person or organisation who has a role in relation to the care of a patient other than as a <i>healthcare agent</i> (7.10.10).		
Note: Additional information about a <i>patient related party data item</i> may be provided by linking an instance of <i>patient related party data item</i> with other <i>data items</i> (7.6.1). For example, an <i>address data item</i> (7.6.13) or <i>telecom data item</i> (7.6.14).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: data item (7.6.1)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
<i>Usage:</i> In the case of time limited relationships between <i>patient related party</i> and the patient instances of <i>related date</i> should be used to indicate the start and/or end of the period of the relationship.		
component name category	TL [Term List code] (7.12.5)	0 or 1
<i>Usage:</i> This attribute should be used to specify a high-level category indicating the general nature of the relationship between the <i>patient related party</i> and the patient who is the subject of the record. An additional more detailed indication of the relationship may be provided using the <i>component name structure</i> .		
<i>Values:</i> A value from the Table E.4 of Part 2 of this Prestandard.		
<i>Example(s):</i> Next of kin, wife, carer, father, guardian, prison officer, friend.		
component name structure (7.8.4)	class	0 or 1
This attribute may be used to specify details of the relationship with the patient related party, if the <i>component name category</i> provides insufficient detail.		
component status	E [Enumerated]	1

distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule (7.9.1)</i> to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex (7.5.3)</i> .		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster (7.5.7)</i> .		
<i>Attributes of specialisation</i>		
One or more of		0 or 1
name of patient related person	person name details (7.11.12)	
organisation name	S [String]	
identification of patient related party	party identifiers (7.11.10)	
Identification of a <i>patient related party data item</i> assigned by a national healthcare authority.		

7.6.10. related location data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: Information about a <i>location</i> including associated information.		
Note: Associated information may include <i>period (7.11.11)</i> of time at a <i>location</i> , the <i>address (7.11.1)</i> , <i>telecommunication (7.11.19)</i> and <i>healthcare organisation (7.10.15)</i> responsible for a <i>location</i> .		
Attributes	Type	Occurrence
<i>Attributes from generalisation: data item (7.6.1)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
<i>Example(s):</i> Organisation responsible for provision of services at a specified location.		
related date (7.8.7)	class	0 to many
<i>Usage:</i> If the role of the location is date limited, instances of <i>related date</i> should be used to indicate the start and/or end of that role.		

component name category	TL [Term List code] (7.12.5)	0 or 1
<p><i>Usage:</i> This attribute should be used to specify a high-level category indicating the general nature of the role of the <i>related location</i> in relation to the patient who is the subject of the record. An additional more detailed indication of the role may be provided using the <i>component name structure</i>.</p> <p><i>Values:</i> A value from the Table E.5 of Part 2 of this Prestandard.</p> <p><i>Example(s):</i> Location at which a service was performed, intended location of a service, location prior to a service, location after completion of a service.</p>		
component name structure (7.8.4)	class	0 or 1
<p>This attribute may be used to specify details of the role of the <i>related location</i> in relation to the patient, if the <i>component name category</i> provides insufficient detail.</p>		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
<p>Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i>.</p>		
revision information (7.7.4)	class	0 or 1
<p>A reference to the immediately preceding version of this <i>record component</i>.</p>		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
<p>The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.</p>		
component order	I [Integer]	0 or 1
<p>A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).</p>		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
<p>An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).</p>		
<i>Attributes of specialisation</i>		
One or more of		0 or 1
location	location details (7.11.7)	
<p>Information about a geographical location or type of location, expressed without a formal postal address.</p>		
address of location	address (7.11.1)	
<p>An address expressed in a structured or unstructured form.</p>		
bed location (7.11.2)	subclass	
<p>A location expressed as a combination of a bed, a room and ward.</p>		
telecommunication of location	telecommunication (7.11.19)	0 to many
<p>Telephone, facsimile and other <i>telecommunication</i> (7.11.19) numbers in a structured or unstructured form.</p>		

7.6.11. person identifier data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: Demographic Information about a person. Includes name, date of birth, sex, address, telecommunication.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	None
Not required for <i>person identifier data item</i> .		
component name structure (7.8.4)	class	None
Not required for <i>person identifier data items</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
party identifier	identifier (7.11.5)	1

7.6.12. person name data item

Type: class		
Specialisation of: data item		
Description: The name of the patient.		
Note: May also be used for alternative names specified using the <i>person name type</i> attribute.		
Attributes	Type	Occurrence
<i>Attributes from generalisation: data item (7.6.1)</i>		
<i>Attributes from generalisation: record component (7.5.2)</i>		
<i>Attributes from generalisation: EHCR message component (7.8.1)</i>		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	None
Not required for <i>person name data item</i> .		
component name structure (7.8.4)	class	None
Not required for <i>person name data item</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
revision information (7.7.4)	class	0 or 1
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
person name	person name details (7.11.12)	1
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.		

7.6.13. address data item

Type: class		
Specialisation of: data item		
Description: The address of the patient or of a patient related party.		
Usage: May also be used for alternative addresses specified using the <i>address type</i> attribute. When used for the address of a patient related party this item should be associated with the appropriate <i>patient related party data item</i> (7.6.9) using a <i>link set item</i> (7.7.1) and an <i>annotation identifier</i> for the subject of information should be included in the <i>address data item</i> .		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	None
Not required for <i>address data item</i> .		
component name structure (7.8.4)	class	None
Not required for <i>address data item</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
revision information (7.7.4)	class	0 or 1
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
person address	address (7.11.1)	1
An address associated with a person. 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.		

7.6.14. telecom data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: A telecommunication number associated with the patient or a patient related party.		
Usage: When used for the telecommunication number of a patient related party this item should be associated with the appropriate <i>patient related party data item</i> (7.6.9) using a <i>link set item</i> (7.7.1) and an <i>annotation identifier</i> for the subject of information should be included in the <i>telecom data item</i> . A telecommunication number can be associated with an address either by including the appropriate <i>address type of telecommunication</i> or by linking the <i>address data item</i> (7.6.13) to the <i>telecom data item</i> using a <i>link set item</i> (7.7.1).		
Note: Various telecommunication numbers can be specified using the <i>telecommunication type</i> attribute.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	None
Not required for <i>telecom data item</i> .		
component name structure (7.8.4)	class	None
Not required for <i>telecom data items</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
person telecommunication	telecommunication (7.11.19)	1

7.6.15. language data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: A language spoken by the patient or a patient related party.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	None
Not required for <i>language data item</i> .		
component name structure (7.8.4)	class	None
Not required for <i>language data item</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		
<i>Attributes of specialisation</i>		
language details of party	language details (7.11.6)	1
Information about the ability of a person or organisation to communicate using a particular language.		

7.6.16. community defined data item

Type: class		
Specialisation of: data item (7.6.1)		
Description: This abstract class provides an optional extension of the EHCR message using a specialised <i>data items</i> (7.6.1) with contents defined for use between members of a particular communicating community. The definition of the content of a <i>community defined data item</i> is specified by the <i>data item type reference</i> .		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> data item (7.6.1)		
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
originating healthcare agent (7.8.6)	class	0 or 1
originating date and time	TOCD [Time+Date]	0 or 1
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	0 to many
related date (7.8.7)	class	0 to many
component name category	TL [Term List code] (7.12.5)	0 or 1
Category values should be enumerated as part of the definition of a particular type of <i>community defined data item</i> .		
component name structure (7.8.4)	class	0 or 1
<i>Usage:</i> Use of the <i>component name structure</i> in a <i>community defined data item</i> should be determined as part of the definition of a particular <i>community defined data item</i> .		
component status	E [Enumerated]	1
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule</i> (7.9.1) to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex</i> (7.5.3).		
annotation identifier	TL [Term List code] (7.12.5)	1 to many
An <i>annotation identifier</i> is used to indicate the presence of modifiers that significantly alter the meaning of information in a <i>data item</i> or <i>cluster</i> (7.5.7).		

<i>Attributes of specialisation</i>		
data item type reference	V [Code Value] (7.12.6)	1
<p>A reference to one of an agreed set of element types defined within a community. Applicable only if the <i>data item content</i> is a <i>community defined data item</i>.</p> <p><i>Note:</i></p> <p>The <i>data item type reference</i> may be used with the <i>data item 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 <i>data item content</i> types should be defined using combinations of data types and sub-classes defined in the Normative parts of this European Prestandard.</p> <p>The <i>data item type reference</i> may also be used with one of the defined <i>data item types</i> to specify an extension to one of the <i>data item type</i> types defined in this European Prestandard.</p>		
data item content	class	1
<p>The <i>data item content</i> class contains information in a structure that conforms with a specification referred to by the <i>data item type reference</i>. The structures to be used within a communicating community should be agreed by that community. An enterprise within a communicating community may also specify and use alternative structures in accordance with the limitations imposed of <i>record components (7.5.2)</i> with the <i>component role</i> "enterprise".</p>		
enterprise specific indicator	B [Boolean]	0 or 1
<p>An indication that the <i>community defined data item</i> contains enterprise specific data or structures representing an alternative version of any structured content of the <i>composition (7.5.5)</i>, <i>headed section (7.5.6)</i> or <i>cluster (7.5.7)</i> of which it is a member.</p>		

7.7. EHCR link subsystem

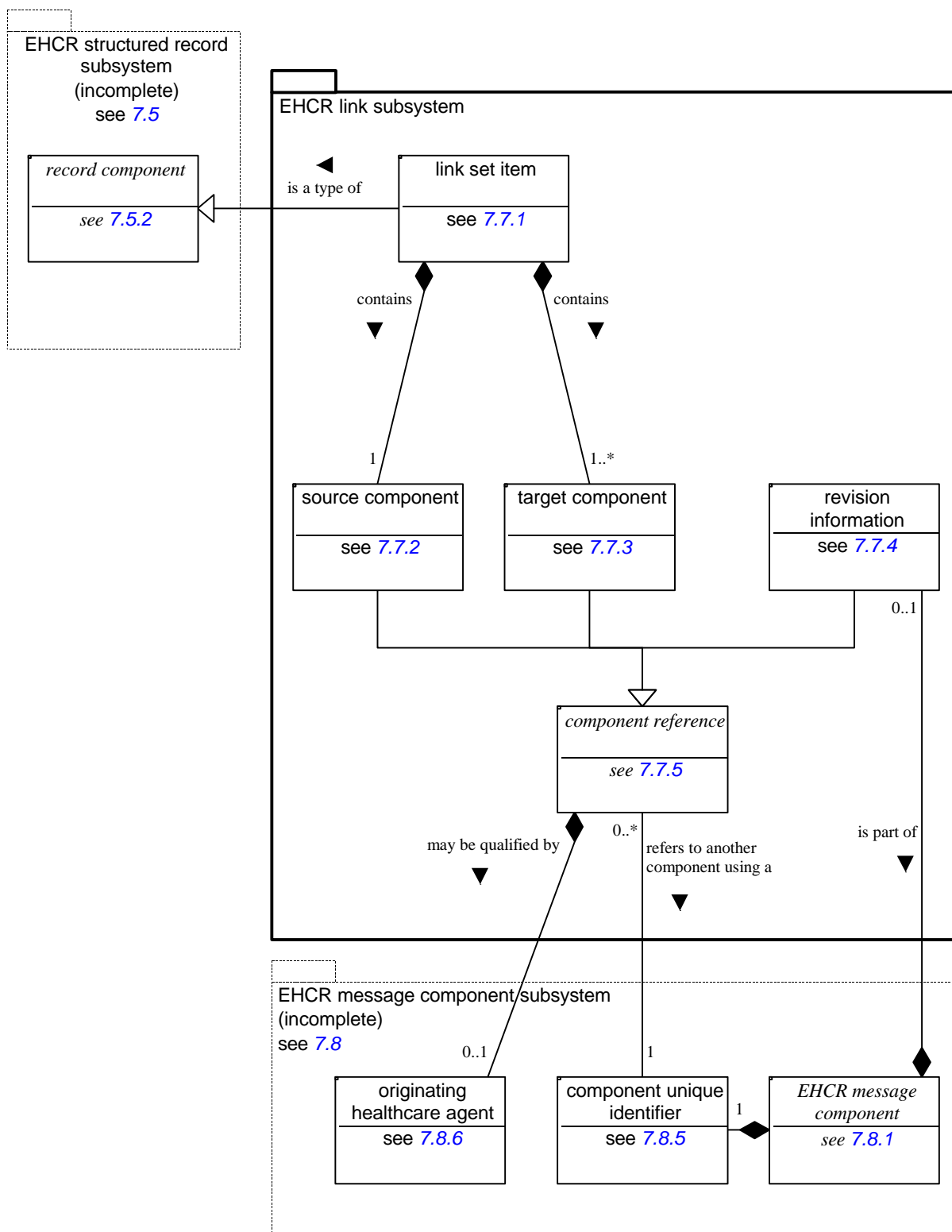


Figure 27. DIM - EHCR Link Subsystem

7.7.1. link set item

Type: class		
Specialisation of: record component (7.5.2)		
<p>Description: A <i>record component</i> (7.5.2) that provides a labelled link between one <i>EHCR message components</i> (7.8.1) (nominated as the <i>source component</i> (7.7.2)), with one or more <i>EHCR message components</i> (7.8.1) (nominated as the <i>target components</i> (7.7.3)).</p> <p>Usage: The nature of the relationship between the linked <i>record components</i> (7.5.2) is indicated by the <i>component name category</i> attribute of the <i>link set item</i>.</p> <p>Note: Part 1 of this Prestandard defines a <i>link item</i> as having only one <i>target component</i> (7.7.3). The <i>link set item</i> represents a set of one or more <i>link items</i> with a common <i>source component</i> (7.7.2) and label. A <i>link set item</i> with a single <i>target component</i> (7.7.3) can be used to represent a <i>link item</i>. However, a single <i>link set item</i> can also represent a set of <i>link items</i> used to communicate the relationship between a group of clinically related <i>record components</i> (7.5.2) (e.g. a problem title and notes from various consultations relating to the progress of that problem).</p>		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> record component (7.5.2)		
<i>Attributes from generalisation:</i> EHCR message component (7.8.1)		
component unique identifier (7.8.5)	class	1
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
Not required, as this is implicit by the named <i>record component</i> specialisation.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>link set item</i> to the record. <i>Usage:</i> May be omitted if the value is the same as the value applied to the <i>composition</i> (7.5.5) which contains this <i>link set item</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the link(s) represented by the <i>link set item</i> were first created on an EHCR system. <i>Usage:</i> May be omitted if the value is the same as the value applied to the <i>composition</i> (7.5.5) which contains this <i>link set item</i> .		
originating date validity	E [Enumerated]	0 or 1
related healthcare agent (7.8.8)	class	None
Not applicable to <i>link set item</i>		
related date (7.8.7)	class	None
Not applicable to <i>link set items</i> .		
component name category	TL [Term List code] (7.12.5)	0 or 1
A standard high-level category assigned to an <i>EHCR message component</i> to support communication. <i>Usage:</i> This attribute shall be used to specify the nature of the relationship between the linked <i>record components</i> . <i>Values:</i> A value from the "Set of Categorisation of Link Item Names" listed in Table C.1 of Part 2 of this Prestandard.		

component name structure (7.8.4)	class	0 or 1
An optional coded descriptor acting as a more detailed indication of the nature of the relationship between the <i>source component (7.7.2)</i> and the <i>target component (7.7.3)</i> . <i>Usage:</i> Even if the <i>component name structure</i> is used the <i>component name category</i> shall be included to provide a high-level categorisation of the nature of the link.		
component status	E [Enumerated]	1
Indication of whether the <i>record component</i> is the current valid version or has been superseded.		
distribution rule reference (7.9.2)	class	0 to many
Applies a <i>distribution rule (7.9.1)</i> to a <i>record component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the immediately preceding version of this <i>record component</i> .		
attestation (7.8.2)	class	0 to many
<i>Note:</i> If attestation is applied to a <i>link set item</i> it attests the link(s), not the content of the linked <i>record components</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		
component order	I [Integer]	0 or 1
A positive integer representing the order of a <i>record component</i> within its <i>original component complex (7.5.3)</i> .		
<i>Attributes of specialisation</i>		
source component (7.7.2)	class	1
A reference to the <i>EHCR message component (7.8.1)</i> from which the link is to be made.		
target component (7.7.3)	class	1 to many
A reference to the <i>EHCR message component (7.8.1)</i> (s) to which are to be linked to the <i>source component (7.7.2)</i> .		

7.7.2. source component

Type: class		
Specialisation of: component reference (7.7.5)		
Description: A reference to the <i>EHCR message component (7.8.1)</i> from which the link is to be made.		
Usage: The <i>source component</i> shall not be a <i>link set item (7.7.1)</i> .		
Contained in A <i>source component</i> is part of a <i>link set item (7.7.1)</i> .		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> component reference (7.7.5)		
component identifier value	S [String]	1
This attribute uniquely identifies an instance of an <i>EHCR message component (7.8.1)</i> within the scope specified by the <i>scope of component identifier</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>EHCR message component (7.8.1)</i> was added to the EHCR system on which it originated.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent (7.10.10)</i> responsible for adding the <i>EHCR message component (7.8.1)</i> to the record.		

7.7.3. target component

Type: class		
Specialisation of: component reference		
Description: A reference to the <i>EHCR message component</i> (7.8.1)(s) to which are to be linked to the <i>source component</i> (7.7.2).		
Usage: The <i>target component</i> shall not be a <i>link set item</i> (7.7.1).		
Contained in A <i>target component</i> is part of a <i>link set item</i> (7.7.1).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: component reference</i> (7.7.5)		
component identifier value	S [String]	1
This attribute uniquely identifies an instance of an <i>EHCR message component</i> (7.8.1) within the scope specified by the <i>scope of component identifier</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>EHCR message component</i> (7.8.1) was added to the EHCR system on which it originated.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>EHCR message component</i> (7.8.1) to the record.		
<i>Attributes of specialisation</i>		
referenced component order	I [Integer]	0 or 1
A number indicating the position of a referenced <i>EHCR message component</i> (7.8.1) 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.		

7.7.4. revision information

Type: class		
Specialisation of: component reference (7.7.5)		
Description: A reference to the <i>EHCR message component</i> (7.8.1) that contains the immediately preceding version of the information in this <i>EHCR message component</i> (7.8.1).		
Contained in <i>revision information</i> is part of an <i>EHCR message component</i> (7.8.1).		
Attributes	Type	Occurrence
<i>Attributes from generalisation: component reference</i> (7.7.5)		
component identifier value	S [String]	1
This attribute uniquely identifies an instance of an <i>EHCR message component</i> (7.8.1).		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>EHCR message component</i> (7.8.1) was added to the EHCR system on which it originated.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>EHCR message component</i> (7.8.1) to the record.		

<i>Attributes of specialisation</i>		
reason for revision	V [Code Value] (7.12.6)	0 or 1
Reason for revision as a coded value. <i>Example(s)</i> : Error of recording		
reason for revision comments	S [String]	0 or 1
Textual comment on reason for revision		

7.7.5. component reference

Type: Abstract Class		
Description: An abstract class containing a reference to an <i>EHCR message component (7.8.1)</i> .		
Specialisations <i>A component reference</i> is specialised as <i>revision information (7.7.4)</i> . <i>A component reference</i> is specialised as a <i>target component (7.7.3)</i> . <i>A component reference</i> is specialised as a <i>source component (7.7.2)</i> .		
Associations <i>A component reference</i> refers to another component using a <i>component unique identifier (7.8.5)</i> .		
Attributes	Type	Occurrence
component identifier value	S [String]	1
This attribute uniquely identifies an instance of an <i>EHCR message component (7.8.1)</i> within the scope specified by the <i>scope of component identifier</i> .		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>EHCR message component (7.8.1)</i> was added to the EHCR system on which it originated. <i>Usage:</i> Part 1 of this Prestandard requires the <i>originating date and time</i> to be included in every <i>Architectural Component</i> . However, in the message the <i>originating date and time</i> need not be repeated unless it differs for the <i>originating date and time</i> of the containing <i>composition (7.5.5)</i> , <i>headed section (7.5.6)</i> or <i>cluster (7.5.7)</i> . Other dates and time associated with the <i>EHCR message component (7.8.1)</i> shall be represented as <i>related dates (7.8.7)</i> . In the case of a revision that supersedes an existing component, the <i>originating date and time</i> is the date and time of the revision. Information about the date of origin of the superseded version is available in that version of the <i>EHCR message component (7.8.1)</i> .		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent (7.10.10)</i> responsible for adding the <i>EHCR message component (7.8.1)</i> to the record.		

7.8. EHCR message component subsystem

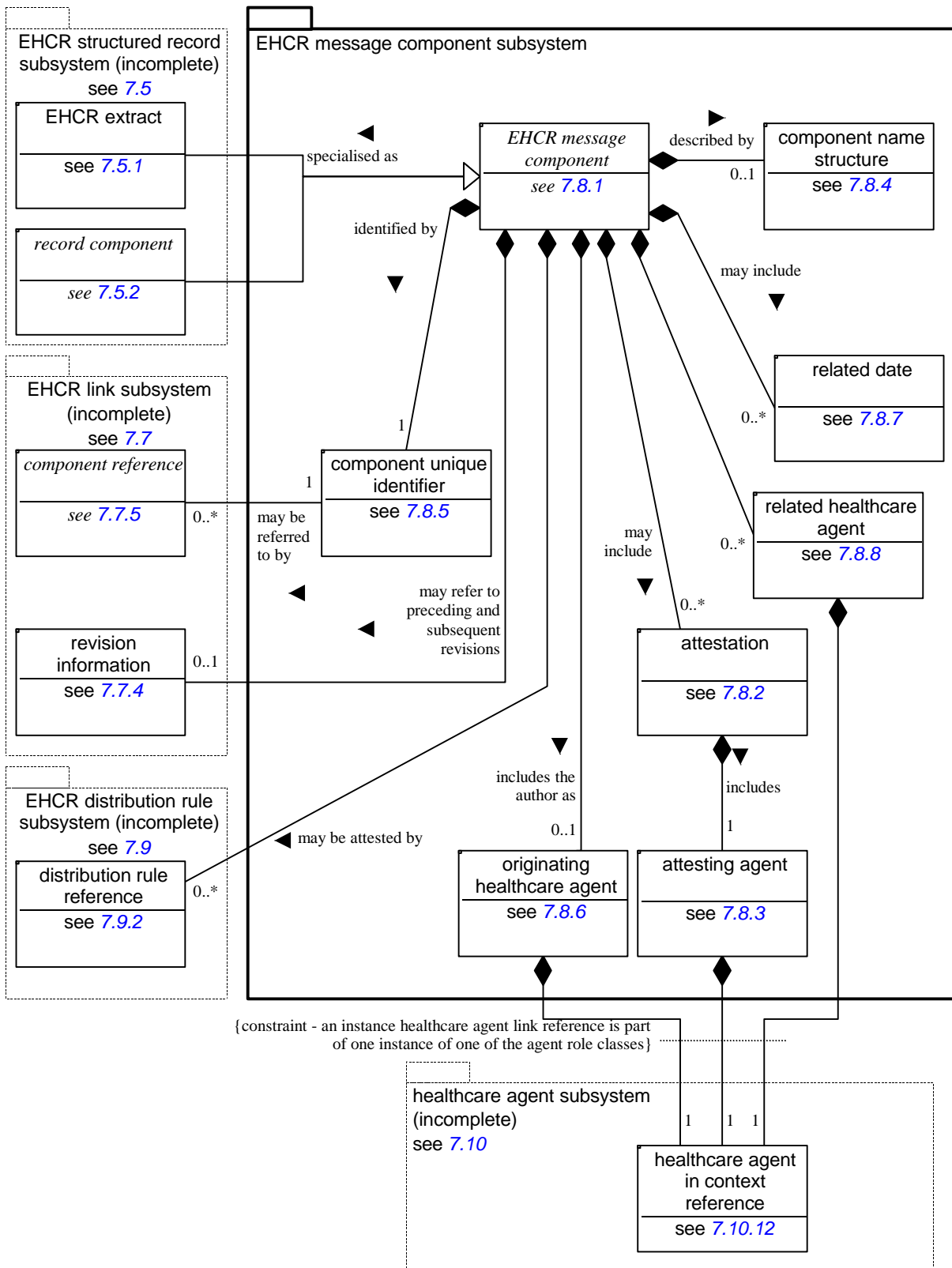


Figure 28. DIM - EHCR Message Component Subsystem

7.8.1. EHCR message component

Type: Abstract Class		
<p>Description: The <i>EHCR message component</i> is an abstract class representing the attributes and relationships common to the all parts of an electronic healthcare 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.</p> <p>Note:</p> <p>The <i>EHCR message component</i> is an abstract class. Therefore it only exists as an instance of one of its two specialisations. These are the <i>EHCR extract</i> (7.5.1), which represents the top-level of the EHCR hierarchy within the message, and the <i>record component</i> (7.5.2), which represents the subdivision of the EHCR within the message.</p> <p>The <i>EHCR message component</i> is based on the <i>Architectural Component</i>, specified in Part 1 of this European Prestandard. It differs in two ways:</p> <ul style="list-style-type: none"> — The specialisation the <i>EHCR extract</i> (7.5.1), differs from the <i>EHCR Root Architecture Component</i> as it can contain a subset of the EHCR, an update the EHCR or the entire EHCR. — Some attributes are defined in ways that are particular to the needs of message communication. 		
<p>Specialisations</p> <p>An <i>EHCR message component</i> is specialised as a <i>record component</i> (7.5.2) or an <i>EHCR extract</i> (7.5.1).</p>		
Attributes	Type	Occurrence
component unique identifier (7.8.5)	class	1
This identification shall uniquely identify an instance of <i>EHCR message component</i> 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 component identifier</i> .		
component identification by originating system	S [String]	0 or 1
An optional additional identifier based on the identification of the <i>EHCR message component</i> in the originating system.		
<i>Usage:</i> This additional identifier may be included if the <i>component identifier value</i> used in the message differs from the identification in the originating system. Support for this attribute is optional and its use depends on implementation guidelines agreed within the communicating community.		
originating healthcare agent (7.8.6)	class	0 or 1
A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>EHCR message component</i> to the record.		
originating date and time	TOCD [Time+Date]	0 or 1
Date and time on which the <i>EHCR message component</i> was added to the EHCR system on which it originated.		
<i>Usage:</i>		
Part 1 of this Prestandard requires the <i>originating date and time</i> to be included in every <i>Architectural Component</i> . However, in the message the <i>originating date and time</i> need not be repeated unless it differs for the <i>originating date and time</i> of the containing <i>composition</i> (7.5.5), <i>headed section</i> (7.5.6) or <i>cluster</i> (7.5.7).		
Other dates and time associated with the <i>EHCR message component</i> shall be represented as <i>related dates</i> (7.8.7).		
In the case of a revision that supersedes an existing component, the <i>originating date and time</i> is the date and time of the revision. Information about the date of origin of the superseded version is available in that version of the <i>EHCR message component</i> .		

originating date validity	E [Enumerated]	0 or 1
<p>An indication of the validity of the <i>originating date and time</i>.</p> <p><i>Usage:</i> If there is any uncertainty about the <i>originating date and time</i>, this attribute shall be used to indicate the basis from which the <i>originating date and time</i> have been derived.</p> <p><i>Values:</i></p> <ol style="list-style-type: none"> 0. Confirmed originating date derived from a system that fully conforms with this Prestandard. <i>This is the default value.</i> 1. Probable originating date derived from a partially-conformant system. 2. Date assigned on receiving information from another system. 3. Date assigned when processing information from a legacy system with no previous reliable indication of date of origin. 4. Date of compiling the information into a summary or update. 		
related healthcare agent (7.8.8)	class	0 to many
<p>A reference to a <i>healthcare agent (7.10.10)</i> that has a role in relation to the content of an <i>EHCR message component</i>, other than as the <i>originating healthcare agent (7.8.6)</i>. The role of the <i>healthcare agent (7.10.10)</i> is specified by the attribute <i>role of related healthcare agent</i>.</p>		
related date (7.8.7)	class	0 to many
<p>A date and time, other than the <i>originating date and time</i>, which is related to an <i>EHCR message component</i>. The relevance of the date is specified by the attribute <i>related date role</i>.</p>		
component name category	TL [Term List code] (7.12.5)	0 or 1
<p>A standard high-level category assigned to an <i>EHCR message component</i> to support communication.</p> <p><i>Usage:</i> The <i>component name category</i> is mandatory in some specialisation of <i>EHCR message component</i> and not used in others. Refer to the specialisations for further details.</p> <p><i>Values:</i> The acceptable values of component name category are specified by tables in Part 2 of this Prestandard. The applicable table of values varies according to the specialisation of component name category and is specified separately for each specialisation.</p>		
component name structure (7.8.4)	class	0 or 1
<p>A coded descriptor, title, heading or label that represents the primary focus or nature of the information conveyed by an <i>EHCR message component</i>. The information conveyed by an instance of this class varies according to the specialisation of <i>EHCR message component</i> to which it applies. Specific usage details are provided in the description of each specialisation.</p>		
component status	E [Enumerated]	1
<p>Indication of whether the <i>EHCR message component</i> is the current valid version or has been superseded.</p> <p><i>Usage:</i></p> <p>A "current" <i>EHCR message component</i> may later be superseded by another component that refers to it using the <i>revision information (7.7.4)</i>.</p> <p>A "superseded" <i>EHCR message component</i> may be conveyed in a message to provide a record of previous versions of component.</p> <p>A "deleted" <i>EHCR message component</i> may be conveyed in a message to provide a record of the predeleted version of component.</p> <p>An <i>EHCR message component</i> may be superseded by another <i>component status</i> of the same type or by an <i>empty record component</i>. In the latter case, the <i>component status</i> is of the superseded component becomes "deleted" and the component is effectively hidden from normal viewing.</p> <p><i>Note:</i> This is an abbreviated version of the class <i>component status information</i> specified by Part 1 of this Prestandard. The other information in that class relates to the date and responsibility for revision. This information is conveyed in the message as the <i>originating healthcare agent (7.8.6)</i> and <i>originating date and time</i> of the revising <i>EHCR message component</i>.</p> <p><i>Values:</i></p> <ol style="list-style-type: none"> 0. Current 1. Superseded 2. Deleted 		

distribution rule reference (7.9.2)	class	0 to many
A <i>distribution rule reference</i> applies a referenced <i>distribution rule (7.9.1)</i> to an <i>EHCR message component</i> .		
revision information (7.7.4)	class	0 or 1
A reference to the <i>EHCR message component</i> that contains the immediately preceding version of the information in this <i>EHCR message component</i> .		
attestation (7.8.2)	class	0 to many
Information about the attestation of the <i>EHCR message component</i> .		
component language	V [Code Value] (7.12.6)	0 or 1
The language in which the content of the <i>EHCR message component</i> is expressed, represented by the abbreviations specified in ISO 639.		

7.8.2. attestation

Type: class		
Description: Information about the attestation of the <i>EHCR message component (7.8.1)</i> .		
Note: The mechanism of attestation by digital signature is not specified in this Prestandard but is subject to agreement within a communicating community in conformance with other Standards.		
Contained in An <i>attestation</i> attests an <i>EHCR message component (7.8.1)</i> .		
Attributes	Type	Occurrence
date and time of attestation	TOCD [Time+Date]	1
attesting agent (7.8.3)	class	1
The <i>healthcare agent (7.10.10)</i> attesting the <i>EHCR message component (7.8.1)</i> .		
reason for attestation	C/S [Code or String] (7.12.2)	0 or 1
The reason why the <i>EHCR message component (7.8.1)</i> was attested. <i>Example(s):</i> To confirm the accuracy of the information contained, to authorise an instruction or request, to take responsibility for a recorded action.		
digital signature	Signature (7.13.7)	1

7.8.3. attesting agent

Type: class		
Description: The <i>healthcare agent (7.10.10)</i> attesting the <i>EHCR message component (7.8.1)</i> .		
Contained in An <i>attesting agent</i> is part of an <i>attestation (7.8.2)</i> .		
Attributes	Type	Occurrence
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context (7.10.11)</i> using an unique identifier.		

7.8.4. component name structure

Type: class		
<p>Description: A coded descriptor, title, heading or label that represents the primary focus or nature of the information conveyed by an <i>EHCR message component</i> (7.8.1). The information conveyed by an instance of this class varies according to the specialisation of <i>EHCR message component</i> (7.8.1) to which it applies. Specific usage details are provided in the description of each specialisation.</p> <p>Usage: The code values used may be composite (e.g. multi-axial or compositional) and in some situations a communicating community may require the inclusion of the original code (as recorded in the originating system) and a code derived by mapping into an agreed common coding scheme.</p> <p>Example(s): A code representing the title or heading for a <i>component complex</i>, a diagnosis, a procedure, a medicinal product or the nature of a measurable quantity.</p>		
<p>Contained in A <i>component name structure</i> may be part of an <i>EHCR message component</i> (7.8.1).</p>		
Attributes	Type	Occurrence
Choice of		1
component name original code	CC [composite code] (7.12.3)	
A coded descriptor, title, heading or label as applied to the <i>EHCR message component</i> (7.8.1) in the originating system.		
component name text	S [String]	
An plain text title, heading or label as applied to a <i>folder</i> (7.5.4). <i>Usage:</i> The <i>component name text</i> shall not be used for naming <i>EHCR message components</i> other than <i>folders</i> .		
component name mapped code	CC [composite code] (7.12.3)	0 or 1
A coded descriptor, title, heading or label, which was derived by mapping the original code to a coding scheme that is specified for use within a communicating community.		

7.8.5. component unique identifier

Type: class		
<p>Description: This identification shall uniquely identify an instance of <i>EHCR message component</i> (7.8.1) 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 component identifier</i>.</p> <p>Usage: Part 1 of this Prestandard requires that the <i>component unique identifier</i> shall be unique for all components applicable to the patient who is the subject of this <i>EHCR message component</i> (7.8.1), throughout a communicating community. However, the message may be used by systems that are unable to comply with this requirement. In these cases, the limitation to the scope of uniqueness shall be indicated by the <i>scope of component identifier</i>. Any <i>EHCR message component</i> (7.8.1) that it is subject to a limitation of the scope of uniqueness shall not be the subject of a subsequent update or revision. However, this need not preclude the replacement of a uniquely identified <i>EHCR message component</i> (7.8.1) that contains constituent elements that are not themselves uniquely identified. Use of any message to enable revision requires prior agreement within a communicating community on the detailed requirements, responsibilities and supporting business processes. As a general rule any provision for updating using the <i>provide EHCR message</i> (7.4.3) will be dependent on receiving systems retaining the <i>component identifier value</i> for any <i>record component</i> (7.5.2) that may subsequently require revision. In this context, the term "revision" includes subsequent communication of new links to an existing <i>record component</i> (7.5.2).</p>		

Contained in A <i>component unique identifier</i> identifies an <i>EHCR message component</i> (7.8.1).		
Associations A <i>component unique identifier</i> may be referred to by any number of <i>component references</i> (7.7.5).		
Attributes	Type	Occurrence
component identifier value	S [String]	1
This attribute uniquely identifies an instance of an <i>EHCR message component</i> (7.8.1) within the scope specified by the <i>scope of component identifier</i> .		
scope of component identifier	E [Enumerated]	1
An indication of whether the identifier is only unique within this message or is unique within the wider scope. The wider scopes supported are the EHCR for this patient as held by the EHCR source, the entirety of the system held by the EHCR source or the EHCR for this patient within a communicating community. <i>Usage:</i> Systems that do not support unique internal identification of record components should use this attribute to indicate that the identifier is unique within a more limited scope. A system may uniquely identify some <i>record components</i> (7.5.2) (e.g. a part of the record represented by an <i>original component complex</i> (7.5.3)) while not internally identifying all the constituent <i>component items</i> . In this case the sending system may generate unique identifiers for these elements when creating the message. Therefore, different values may apply to the <i>scope of component identifier</i> of different components within the message. <i>Values:</i> 0. Unique within message 1. Unique within originator's EHCR for this patient 2. Unique within originator's system 3. Unique within a communicating community		

7.8.6. originating healthcare agent

Type: class		
Description: A reference to the <i>healthcare agent</i> (7.10.10) responsible for adding the <i>EHCR message component</i> (7.8.1) to the record.		
Usage: Part 1 of this Prestandard requires the <i>originating healthcare agent</i> to be included in every <i>Architectural Component</i> . However, in the message the <i>originating healthcare agent</i> need not be repeated unless it differs for the <i>originating healthcare agent</i> of the containing <i>composition</i> (7.5.5), <i>headed section</i> (7.5.6) or <i>cluster</i> (7.5.7). Other parties associated with the <i>EHCR message component</i> (7.8.1) shall be represented as <i>related healthcare agents</i> (7.8.8). In the case of a revision that supersedes an existing component, the <i>originating healthcare agent</i> is the <i>healthcare agent</i> (7.10.10) responsible for the revision. Information about those responsible for a superseded version is available in that version of the <i>EHCR message component</i> (7.8.1).		
Contained in An <i>originating healthcare agent</i> originator of an <i>EHCR message component</i> (7.8.1). An <i>originating healthcare agent</i> may be part of a <i>component reference</i> (7.7.5).		
Attributes	Type	Occurrence
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context</i> (7.10.11) using an unique identifier.		

7.8.7. related date

Type: class		
Description: A date and time, other than the <i>originating date and time</i> , which is related to an <i>EHCR message component</i> (7.8.1). The relevance of the date is specified by the attribute <i>related date role</i> .		
Usage: The system timestamp representing the creation or modification of a component shall not be expressed as a <i>related date</i> . The <i>originating date and time</i> attribute of the <i>EHCR message component</i> (7.8.1) 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.		
Contained in A <i>related date</i> specifies a date applicable to an <i>EHCR message component</i> (7.8.1).		
Attributes	Type	Occurrence
date	TOCD [Time+Date]	1
A date associated with an <i>EHCR message component</i> (7.8.1). <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	TL [Term List code] (7.12.5)	1
The role or relationship of a date to an <i>EHCR message component</i> (7.8.1) <i>Values:</i> One of the values specified in Table E.6 in Part 2 of this Prestandard.		
related date accuracy	E [Enumerated]	0 or 1
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 an event occurred at that time (accurate) or around about that time (approximate). <i>Values:</i> 0. Accurate 1. Approximate		

7.8.8. related healthcare agent

Type: class		
Description: A reference to a <i>healthcare agent</i> (7.10.10) that has a role in relation to the content of an <i>EHCR message component</i> (7.8.1), other than as the <i>originating healthcare agent</i> (7.8.6). The role of the <i>healthcare agent</i> (7.10.10) is specified by the attribute <i>role of related healthcare agent</i> .		
Contained in A <i>related healthcare agent</i> may be referred to by an <i>EHCR message component</i> (7.8.1).		
Attributes	Type	Occurrence
role of related healthcare agent	TL [Term List code] (7.12.5)	1
Indication of the relationship between an <i>EHCR message component</i> (7.8.1) and the <i>related healthcare agent</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). <i>Values:</i> One of the values specified in Table E.7 in Part 2 of this Prestandard.		
healthcare agent in context reference (7.10.12)	class	1
A reference to a <i>healthcare agent in context</i> (7.10.11) using an unique identifier.		

7.9. EHCR distribution rule subsystem

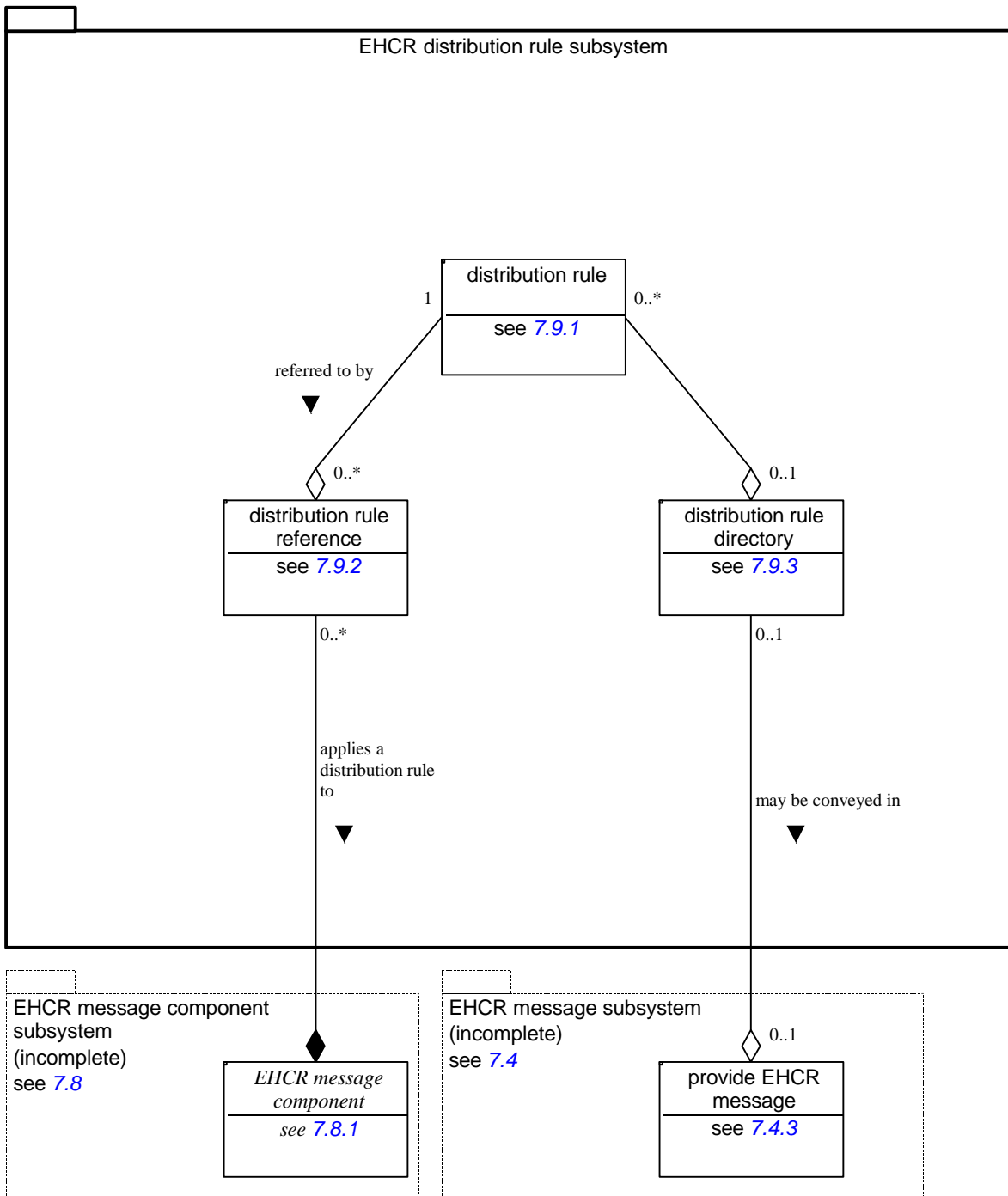


Figure 29. DIM - EHCR Distribution Rules

7.9.1. distribution rule

Type: class		
Description: All the necessary data to ascribe the intent of the author of the <i>distribution rule</i> with respect to data provision and access rules and rights to the data object to which the distribution rule is attached.		
Note: This class is represented in the manner specified in clause 5.4 of Part 3 of this European Prestandard.		
Contained in		
<p>A <i>distribution rule</i> may be conveyed by a <i>provide EHCR message</i> (7.4.3).</p> <p>A <i>distribution rule</i> referred to by any number of <i>distribution rule references</i> (7.9.2).</p> <p>A <i>distribution rule</i> may be part of a <i>distribution rule directory</i>.</p>		
Attributes	Type	Occurrence
distribution rule unique identifier	identifier (7.11.5)	1
If this distribution rule is applied to the architectural component as a healthcare persons demonstration of consent according to an existing, applied distribution rule, this attribute shall contain a reference to that distribution rule.		
DR access type	E [Enumerated]	0 or 1
<p>The intent of the author of that <i>distribution rule</i> as to the data processing permissions related to the information within an <i>EHCR message component</i> (7.8.1)..</p> <p><i>Note:</i> See clause 5.4 of Part 3 of this European Prestandard.</p> <p><i>Values:</i></p> <ul style="list-style-type: none"> R. Read only M. Modify B. Block E. Erase. 		
apply DR access	E [Enumerated]	0 or 1
A coded representation of the intent of the author of that <i>distribution rule</i> as to the permission concerning applying new <i>distribution rules</i> or invalidating already attached <i>distribution rules</i> to any <i>EHCR message component</i> (7.8.1) to which this distribution rule is attached.		
DR who	[class defined in Part 3]	0 to many
<i>Note:</i> See clause 5.5 of Part 3 of this European Prestandard.		
DR when	[class defined in Part 3]	0 or 1
<i>Note:</i> See clause 5.6 of Part 3 of this European Prestandard.		
DR where	[class defined in Part 3]	0 to many
<i>Note:</i> See clause 5.7 of Part 3 of this European Prestandard.		
DR why	[class defined in Part 3]	1 to many
<i>Note:</i> See clause 5.8 of Part 3 of this European Prestandard.		
DR how	[class defined in Part 3]	0 to many
<i>Note:</i> See clause 5.9 of Part 3 of this European Prestandard.		
DR rule author	class	1
All the necessary data to be able to identify the author of the distribution rule. The author of a distribution rule shall be an identifiable individual or organization specified as a <i>healthcare agent in context reference</i> (7.10.12).		

7.9.2. distribution rule reference

Type: class		
Description: A <i>distribution rule reference</i> applies a referenced <i>distribution rule</i> (7.9.1) to an <i>EHCR message component</i> (7.8.1).		
Usage: A <i>distribution rule reference</i> may refer to a <i>distribution rule</i> (7.9.1) conveyed in the message or to a <i>distribution rule</i> (7.9.1) held in a shared directory of commonly applied rules. The restrictions imposed by a <i>distribution rule</i> (7.9.1) apply to any hierarchical descendants of the <i>EHCR message component</i> (7.8.1) from which that rule is referenced. Therefore, if a <i>distribution rule</i> (7.9.1) is referenced by the <i>EHCR extract</i> (7.5.1), the restrictions apply to all EHCR information in that message.		
Note: The <i>distribution rule reference</i> is specified by clause 5.3 of Part 3 of this European Prestandard.		
Contained in A <i>distribution rule reference</i> applies a distribution rule to an <i>EHCR message component</i> (7.8.1).		
Attributes	Type	Occurrence
distribution rule unique identifier	identifier (7.11.5)	1
If this distribution rule is applied to the architectural component as a healthcare persons demonstration of consent according to an existing, applied distribution rule, this attribute shall contain a reference to that distribution rule.		
DR applied date and time	TOCD [Time+Date]	1
The date and time the <i>distribution rule</i> (7.9.1) was applied to the architectural component.		
DR applied by	class	1
A reference to the <i>healthcare agent</i> (7.10.10), and the context of that agent, that applied the <i>distribution rule</i> (7.9.1) to the <i>EHCR message component</i> (7.8.1).		
DR valid from	TOCD [Time+Date]	0 or 1
The date and time the distribution rule first may be used for accessing the architectural component. If not present, it may be used from the time of application.		
DR valid to	TOCD [Time+Date]	0 or 1
The date and time the distribution rule will cease be used in connection with the architectural component. If not present, there are no time limitations for its use.		
DR invalidated by	class	0 or 1
If the <i>distribution rule</i> (7.9.1) is invalidated within the period of time originally applied, this attribute shall contain a unique reference to the <i>healthcare agent</i> (7.10.10), and the context of that agent, that invalidated it.		
DR negation statement	B [Boolean]	1
A functional flag that informs the information system that the contents of the rule of which this is a part shall both be interpreted as a disabling mechanism and take precedence over all enabling rules containing any of the same <i>distribution rule</i> (7.9.1) components applied to this <i>EHCR message component</i> (7.8.1).		
DR basic distribution rule	B [Boolean]	1
A functional flag that represents that the <i>distribution rule</i> (7.9.1) is applied as a basic <i>distribution rule</i> (7.9.1) to the <i>EHCR message component</i> (7.8.1). If one or more basic <i>distribution rules</i> (7.9.1) are applied to an <i>EHCR message component</i> (7.8.1), it shall not be possible to apply any non-basic <i>distribution rule</i> (7.9.1) if its contents do not comply with one or more of the basic <i>distribution rules</i> (7.9.1).		
DR country of application	C [Coded] (7.12.1)	0 or 1
Coded data representation of the country in which the <i>distribution rule</i> (7.9.1) was applied to the <i>EHCR message component</i> (7.8.1).		
DR consent demonstration reference	identifier (7.11.5)	0 or 1
If this <i>distribution rule</i> (7.9.1) is applied to the <i>EHCR message component</i> (7.8.1) as a <i>healthcare person</i> (7.10.14)'s demonstration of consent according to an existing, applied distribution rule, this attribute shall contain a reference to that <i>distribution rule</i> (7.9.1).		

7.9.3. distribution rule directory

Type: class		
Description: The set of <i>distribution rules</i> (7.9.1) that apply to all or part of the EHCR information conveyed in a <i>provide EHCR message</i> (7.4.3).		
Usage: If access limitations are to be applied to the <i>EHCR extract</i> (7.5.1) or to any of the <i>record components</i> (7.5.2) within it these are conveyed as a table or <i>distribution rules</i> (7.9.1). The individual rules are references from the appropriate components in the message by including an instance of the <i>distribution rule reference</i> (7.9.2) class within the component.		
Contained in A <i>distribution rule directory</i> may be part of a <i>provide EHCR message</i> (7.4.3).		
Attributes	Type	Occurrence
distribution rule (7.9.1)	class	0 to many
All the necessary data to ascribe the intent of the author of the <i>distribution rule</i> with respect to data provision and access rules and rights to the data object to which the distribution rule is attached.		

7.10. Healthcare agent subsystem

7.10.1. Introduction

7.10.1.1. The healthcare agent subsystem supports different ways of referring to healthcare persons, healthcare organisations, healthcare devices and healthcare software from within a message. The method used may be constrained by the GMD of a particular message. If the GMD permits more than one of these methods, the approach to be taken may be subject to agreement between communicating parties.

7.10.1.2. As a general rule only three of the classes in this subsystem may be directly related to classes in other subsystems of a message. These are the *healthcare agent in context*, *healthcare agent in context reference* and the *healthcare agents directory*. A simple message need only refer to the *healthcare agent in context*.

7.10.2. Healthcare agent roles

7.10.2.1. Wherever a message needs to refer to a particular healthcare agent it includes a role specific specialisation of either *healthcare agent in context* or *healthcare agent in context reference*. These specialisations are referred to here as *healthcare agent roles*.

7.10.2.2. *Healthcare agent roles* are equivalent to *healthcare party roles* in earlier messages of CEN TC251. Thus any *healthcare party role* in such a message can be represented as either a *healthcare agent in context* or *healthcare agent in context reference*. However, the *healthcare agent roles* includes several features missing from *healthcare party role*:

- An explicit distinction between a reference and complete representation;
- Allows the same healthcare person or organisation to be referred to in different contexts within the same message;
- Allows a device or software module to be referred to as a source of information or a participant in a procedure.

NOTE:

The healthcare agent subsystem is illustrated in a generic form applicable to any healthcare message. Therefore, since *healthcare agent roles* vary from message to message they do not appear in the model.

7.10.3. Healthcare agent in context

7.10.3.1. A *healthcare agent in context* is an explicit representation of a *healthcare agent* acting within a particular context. This context is described as a relationship with other *healthcare agents*. For example, a secretary acting on behalf of a clinician, a person working in a particular organisation or a department within a hospital. The same *healthcare agent* can be the subject of several *healthcare agents in context* and thus distinctions can be drawn between activities of the *healthcare person* while serving in two different capacities.

EXAMPLES:

The same nurse, working in different departments.

The same doctor, acting in his own right or as a locum on behalf of a colleague.

7.10.4. Healthcare agent in context references

7.10.4.1. A *healthcare agent in context reference* is a reference to a *healthcare agent in context*. It allows the same *healthcare agent in context* to be included several times in a message without repeating the details. The *healthcare agent in context* to which the *healthcare agent in context reference* refers may either be in a shared directory to which the communicating parties have access or may be communicated in a message within an instance of *healthcare agents directory*.

7.10.4.2. The simplest instance of *healthcare agent in context* includes only one *healthcare agent* with no specified *healthcare agent relationships*. Therefore the *healthcare agent in context* or *healthcare agent in context reference* can be used for a simple case where it is deemed unnecessary to set the *healthcare agent* in the context of any relationships. However, the reverse does not apply. Therefore, unless there is an instance in a message in which an unqualified reference to a *healthcare agent* is always sufficient, specialisations of the *healthcare agent in context* or *healthcare agent in context reference* should be specified in the message rather than instances of *healthcare agent*.

7.10.5. Messages with a fixed number of instances of healthcare agent roles

7.10.5.1. In a message that only refers a fixed number of references to people, organisations, devices or software the full *healthcare agent in context* may be included for each such instance. In this case there is no need to exchange or share a *healthcare agents directory*.

7.10.6. Messages with an indeterminate number of instances of healthcare agent roles

7.10.6.1. In a message that includes an indeterminate number of references to people, organisations, devices or software the *healthcare agent in context reference* should be used. The sender then need only include the full details of any *healthcare agent in context* once.

7.10.6.2. The information about each *healthcare agent in context* can be conveyed in the *healthcare agents directory* class as part of such a message. Alternatively, the *healthcare agents directory* information may be communicated in a separate message used for maintaining and aligning this information. A third option is to provide real-time access to a shared or distributed directory containing the relevant information.

7.10.7. Representation of interrelationships between multiple healthcare agents

7.10.7.1. The classes *healthcare agent in context* or *healthcare agent in context reference* are not intended to represent all the relationships between a group of *healthcare agents*. They are intended to represent the context in which an agent is acting in respect of a particular action or event. Therefore, the fact that a *healthcare person* may work in various departments, which are parts of different organisations, should not be captured in a single instance of *healthcare agent in context*. Separate instances of *healthcare agent in context* should be used to refer to each context in which a *healthcare person* acts.

7.10.7.2. The context in which a *healthcare agent* acts may consist of relationships with several other persons or organisations. These relationships may be viewed as being a hierarchical chain of relationships. However, as noted above (7.10.7.1), the purpose of the *healthcare agent in context* is to convey the context in which an individual *healthcare agent* is acting while fulfilling a particular role. Even if these relationships are part of a hierarchy, they can also be stated a simple set of direct relationships with that *healthcare agent*.

EXAMPLE:

If Dr A undertakes a procedure or makes a record while working for Dr B and "Dr B is part of department C" and "Department C is in hospital D" the context in which Dr A acts is represented as three relationships:

- Dr A working for Dr B
- Dr A working in department C
- Dr A working in hospital D

Some of these relationships may be known to be fixed and need not be represented. Thus if department C is known to be a specific department within hospital D then the third relationship can be omitted.

Dr A may also work for Dr E in department F of hospital G. Therefore to state the full set of Dr A's relationships a hierarchical approach is necessary. However, this is not needed to represent a single context applicable to a particular role.

7.10.7.3. The approach described in 7.10.7.2 significantly simplifies implementation when compared with a richer recursive structure for representation of *healthcare agent* interrelationships. A communicating community may use directories that represent a fuller picture of these relationships. If such a directory provides a unique way to refer to a *healthcare agent* and a discrete set of relationships, it may be used in place of the *healthcare agents' directory* specified in this Prestandard. In this case, the *healthcare agent in context reference* refers to entries in this alternative directory.

7.10.7.4. If more than one *healthcare agent* is directly involved in, or responsible for, an activity, the roles of each agent should be represented by separate references to each of these *healthcare agents*. The involvement of several *healthcare agents* in an activity should **not** be represented by combining these *healthcare agents* as a single *healthcare agent in context*.

EXAMPLE:

If two surgeons are involved in carrying out an operation, each of these is represented by a separate instance of *healthcare agent in context*.

7.10.8. Using the healthcare agents directory in a message

7.10.8.1. A message may contain a single instance of the *healthcare agents' directory*. This may contain any number of *healthcare agents in context* and *healthcare agents*.

7.10.8.2. The same *healthcare agent* may be part of many *healthcare agents in context*. To avoid repetition of the details about a *healthcare agent* can be carried once in the *healthcare agents directory*. Then each *healthcare agent in context* that refers to that agent need only include an unspecialised instance of the class *healthcare agent* containing the appropriate identifier.

EXAMPLES:

The several doctors may work in one department.

The department details can be carried once as a *healthcare agent* specialised as a *healthcare organisation*.

The *healthcare agent in context* representing each doctor within the department includes *healthcare agent relationship* with an unspecialised instance of the *healthcare agent*. This refers to the relevant details by sharing the same identifier.

7.10.9. Restricted healthcare agent roles

7.10.9.1. Some specific *healthcare party roles* that can only be played by particular types of *healthcare agents*. Where such restriction apply these are stated as a constraint in the role specific class and this is also made explicit in the GMD by including only those specialisations that are permitted.

EXAMPLE:

Prescriber is a specialisation of *healthcare agents in context* that is always a *healthcare person*.

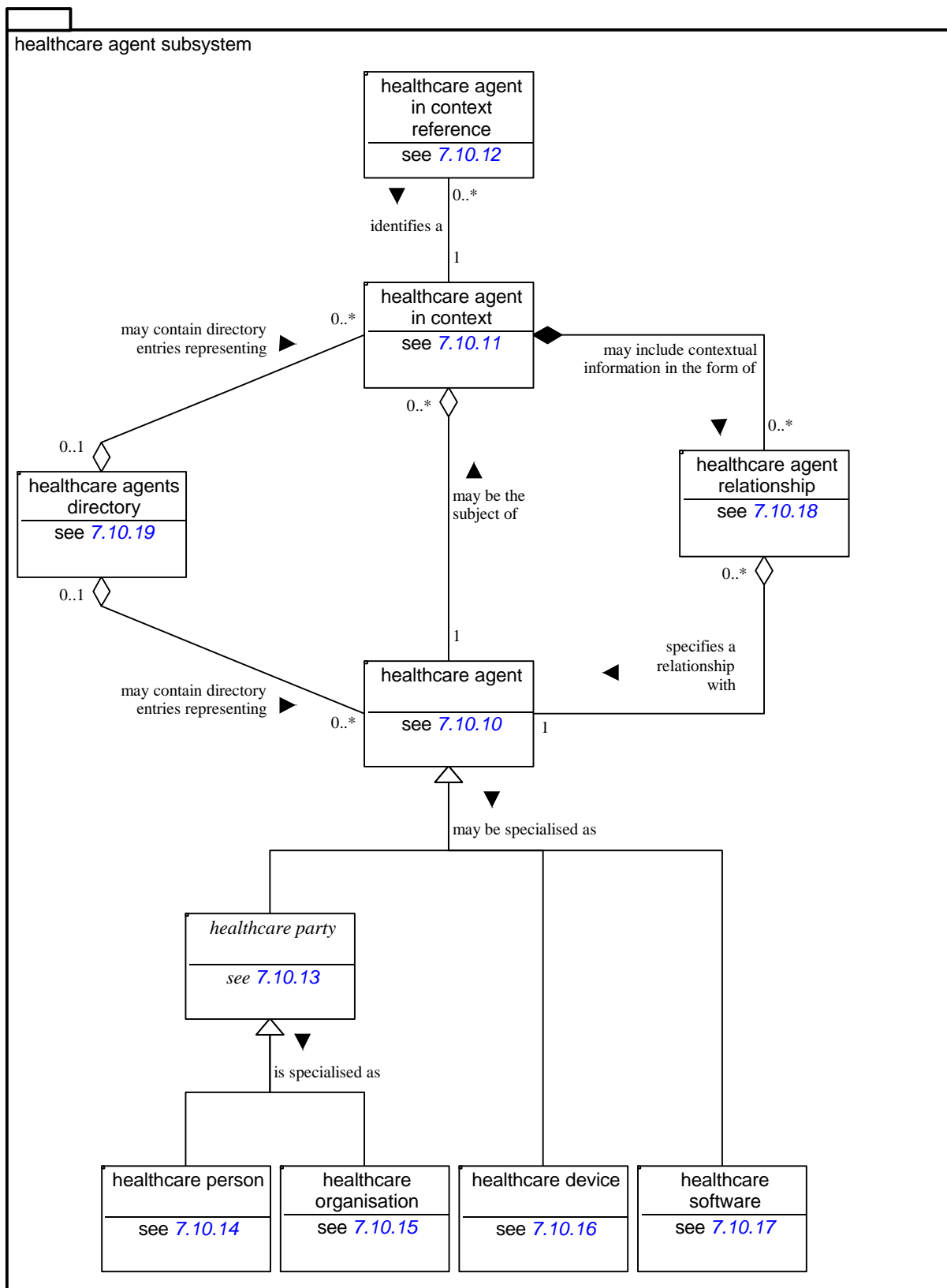


Figure 30. DIM - Healthcare Agent Subsystem

7.10.10. healthcare agent

Type: class		
<p>Description: Information about a <i>healthcare person</i> (7.10.14), <i>healthcare organisation</i> (7.10.15), <i>healthcare device</i> (7.10.16) or <i>healthcare software</i> (7.10.17) that performs a role in a healthcare activity.</p> <p>Usage: This is not an abstract class because it may exist without a specialisation. In this case, the identifier shall refer to a <i>healthcare agent</i> about which the <i>communicating parties</i> already share a common set of information. This shared information may be provided or maintained using messages that contain an instance of the class <i>healthcare agents directory</i> (7.10.19). Alternatively the shared information about <i>healthcare agents</i> may be derived from a commonly accessible directory service maintained in a manner separate from the messaging process.</p> <p>Note: The class <i>healthcare agent</i> contains only an identifier. However, its specialisations contain other attributes, which enable details about different types of <i>healthcare agents</i> to be conveyed.</p>		
<p>Specialisations</p> <p>A <i>healthcare agent</i> may be specialised as <i>healthcare software</i> (7.10.17), a <i>healthcare device</i> (7.10.16) or a <i>healthcare party</i> (7.10.13).</p>		
<p>Contained in</p> <p>A <i>healthcare agent</i> may be contained in a <i>healthcare agents directory</i> (7.10.19).</p> <p>A <i>healthcare agent</i> may be the subject of any number of <i>healthcare agent relationships</i> (7.10.18).</p> <p>A <i>healthcare agent</i> may be the subject of any number of <i>healthcare agent in contexts</i> (7.10.11).</p>		
Attributes	Type	Occurrence
healthcare agent identifier	identifier (7.11.5)	1 to many
<p>A unique identifier of a <i>healthcare agent</i>.</p> <p><i>Note:</i> Alternative identifiers may be used if required. Each identifier includes a coded attribute to identify the identification scheme from which it is derived.</p>		

7.10.11. healthcare agent in context

Type: class		
<p>Description: Information about a <i>healthcare agent</i> (7.10.10) in the context of a specified set of relationships to other <i>healthcare agents</i> (7.10.10). The <i>healthcare agent in context</i> enables a distinction to be made between references to the same <i>healthcare agent</i> (7.10.10) operating in different practical or organisational contexts.</p> <p>Usage: The simplest instantiation of <i>healthcare agent in context</i> is equivalent to a <i>healthcare agent</i> (7.10.10) as the inclusion of <i>healthcare agent relationships</i> (7.10.18) is optional. Therefore, for consistency, this class should be used even when it is unnecessary or impossible to specify any relationships to other <i>healthcare agents</i> (7.10.10).</p> <p>Note: Any class that represents a <i>healthcare agent</i> (7.10.10) in a particular role is a specialisation of this class. However, this is a generic model, which is used in different messages and the available specialisations depend on the nature of the message. Therefore these specialisations are neither listed here nor shown in the diagrammatic representation of the <i>healthcare agent subsystem</i>.</p> <p>Example(s):</p> <ul style="list-style-type: none"> A doctor while working in a particular hospital or department. A secretary acting for a clinical specialist. A specified department within a hospital. A radiologist using a specified piece of X-ray equipment. A specified piece of software running on a particular device. 		
<p>Contained in</p> <p>A <i>healthcare agent in context</i> may be contained in a <i>healthcare agents directory</i> (7.10.19).</p>		
<p>Associations</p> <p>A <i>healthcare agent in context</i> may be referenced by any number of <i>healthcare agent in context references</i> (7.10.12).</p>		

Attributes	Type	Occurrence
healthcare agent in context identifier	identifier (7.11.5)	1
A unique identifier of a <i>healthcare agent in context</i> . <i>Note:</i> The identifier includes attributes for indicating the identification scheme.		
healthcare agent (7.10.10)	class	1
The subject of this <i>healthcare agent in context</i> . The <i>healthcare person (7.10.14)</i> , <i>healthcare organisation (7.10.15)</i> , <i>healthcare device (7.10.16)</i> or <i>healthcare software (7.10.17)</i> to which this <i>healthcare agent in context</i> provides context.		
healthcare agent function	C/S [Code or String] (7.12.2)	0 or 1
Information about the function being carried out by the Healthcare Agent. <i>Note:</i> Enables a <i>healthcare agent in context</i> to refer to an otherwise unidentified <i>healthcare agent (7.10.10)</i> fulfilling a particular function in respect of or on behalf of an identified <i>healthcare agent (7.10.10)</i> . <i>Example(s):</i> Duty doctor in a department (when the identity of the duty doctor is unknown). Locum for a specified general practitioner (when the identity of the locum is unknown).		
healthcare agent relationship (7.10.18)	class	0 to many
A relationship between the subject of this <i>healthcare agent in context</i> and another <i>healthcare agent (7.10.10)</i> . Each <i>healthcare agent relationship</i> specifies part of the context surrounding the subject <i>healthcare agent (7.10.10)</i> .		

7.10.12. healthcare agent in context reference

Type: class		
Description: A reference to a <i>healthcare agent in context (7.10.11)</i> using an unique identifier. Note: A <i>healthcare agent in context (7.10.11)</i> is a <i>healthcare agent (7.10.10)</i> qualified by an optional set of relationships to other <i>healthcare agents (7.10.10)</i> . For example, rather than simply identifying a person, the <i>healthcare agent in context reference</i> may identify a person acting in accordance with a specific responsibility to a specified organisation.		
Contained in A <i>healthcare agent in context reference</i> is part of a <i>related healthcare agent (7.8.8)</i> . A <i>healthcare agent in context reference</i> is part of an <i>originating healthcare agent (7.8.6)</i> . A <i>healthcare agent in context reference</i> is part of an <i>attesting agent (7.8.3)</i> . A <i>healthcare agent in context reference</i> is part of a <i>communicating party</i> .		
Associations A <i>healthcare agent in context reference</i> identifies a <i>healthcare agent in context (7.10.11)</i> .		
Attributes	Type	Occurrence
healthcare agent in context identifier	identifier (7.11.5)	1
A unique identifier of a <i>healthcare agent in context (7.10.11)</i> . <i>Note:</i> The identifier includes attributes for indicating the identification scheme.		

7.10.13. healthcare party

Type: Abstract Class		
Specialisation of: healthcare agent (7.10.10)		
Description: Information about an organisation or person responsible for the direct or indirect provision of healthcare services to an individual or to a population. Note: This is an abstract class. It exists only as instances of one of its specialisations <i>healthcare organisation (7.10.15)</i> or <i>healthcare person (7.10.14)</i> .		
Specialisations A <i>healthcare party</i> is specialised as a <i>healthcare person (7.10.14)</i> or a <i>healthcare organisation (7.10.15)</i> .		

Attributes	Type	Occurrence
<i>Attributes from generalisation: healthcare agent (7.10.10)</i>		
healthcare agent identifier	identifier (7.11.5)	1
A unique identifier of a <i>healthcare agent</i> .		
<i>Attributes of specialisation</i>		
address of healthcare party	address (7.11.1)	0 to many
An address expressed in a structured or unstructured form.		
telecommunication of healthcare party	telecommunication (7.11.19)	0 to many
Telephone, facsimile and other telecommunication numbers or electronic addresses in a structured or unstructured form. <i>Usage:</i> Email and web site addresses may be specified using the <i>unstructured telecommunication number</i> , associated with the appropriate <i>telecommunication type</i> .		
language details of party	language details (7.11.6)	0 to many
Information about the ability of a person or organisation to communicate using a particular language.		
medical specialty of healthcare party	C/S [Code or String] (7.12.2)	0 to many
A healthcare discipline or speciality in which a <i>healthcare party</i> provides a service.		

7.10.14. healthcare person

Type: class		
Specialisation of: healthcare party		
Description: Person involved in the direct or indirect provision of healthcare services to an individual or to a population.		
Note: A carer or the patient may be a <i>healthcare person</i> . This enables the role of the patient in providing his/her own care to be recorded.		
Example(s): GP, consultant endocrinologist, dentist, nurse, radiographer, laboratory scientist, social worker, pharmacist, medical secretary.		
Attributes	Type	Occurrence
<i>Attributes from generalisation: healthcare party (7.10.13)</i>		
<i>Attributes from generalisation: healthcare agent (7.10.10)</i>		
healthcare agent identifier	identifier (7.11.5)	1 to many
A unique identifier of a <i>healthcare agent</i> . <i>Note:</i> Alternative identifiers may be used if required. Each identifier includes a coded attribute to identify the identification scheme from which it is derived.		
address of healthcare party	address (7.11.1)	0 to many
An address expressed in a structured or unstructured form.		
telecommunication of healthcare party	telecommunication (7.11.19)	0 to many
Telephone, facsimile and other telecommunication numbers or electronic addresses in a structured or unstructured form.		
language details of party	language details (7.11.6)	0 to many
Information about the ability of a <i>healthcare person</i> to communicate using a particular language.		
medical specialty of healthcare party	C/S [Code or String] (7.12.2)	0 to many
A healthcare discipline or speciality in which a <i>healthcare person</i> provides a service.		

<i>Attributes of specialisation</i>		
type of healthcare person	V [Code Value] (7.12.6)	0 or 1
<i>Example(s):</i> Doctor, dentist, nurse, radiographer, laboratory scientist, social worker, pharmacist, secretary, a carer or the patient (to record the patient's role in the delivery of their own care). <i>Values:</i> A candidate list of codes and associated terms is provided in Table E.12 of Part 2 this Prestandard.		
name of healthcare person	person name details (7.11.12)	0 or 1
position of healthcare person	C/S [Code or String] (7.12.2)	0 or 1
<i>Example(s):</i> Head of department, hospital consultant, trainee. <i>Values:</i> A candidate list of codes and associated terms is provided in Table E.8 of Part 2 this Prestandard.		
qualification of healthcare person	C/S [Code or String] (7.12.2)	0 to many
<i>Note:</i> This information is as supplied by the <i>healthcare person</i> or the organisation within which they work. It is not proof of qualification to undertake healthcare services. <i>Example(s):</i> MD, M.Sc.		
military rank of healthcare person	C/S [Code or String] (7.12.2)	0 or 1
<i>Example(s):</i> Captain, Major.		

7.10.15. healthcare organisation

Type: class		
Specialisation of: <i>healthcare party</i> (7.10.13)		
Description: Information about an organisation involved in the direct or indirect provision of healthcare services to an individual or to a population.		
Usage: If it is necessary to identify groupings or subdivisions of an organisation, such as departments or sub-departments, these should also be represented as organisations. Relationships between grouping and subdivisions of organisations may be expressed using <i>healthcare agent relationships</i> (7.10.18) as part of a <i>healthcare agent in context</i> (7.10.11).		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> <i>healthcare party</i> (7.10.13)		
<i>Attributes from generalisation:</i> <i>healthcare agent</i> (7.10.10)		
healthcare agent identifier	identifier (7.11.5)	1 to many
A unique identifier of a <i>healthcare agent</i> . <i>Usage:</i> If organisation identifiers issued in accord with ISO6523 are available, these should be used. <i>Note:</i> Alternative identifiers may be used if required. Each identifier includes a coded attribute to identify the identification scheme from which it is derived.		
address of healthcare party	address (7.11.1)	0 to many
An address expressed in a structured or unstructured form.		
telecommunication of healthcare party	telecommunication (7.11.19)	0 to many
Telephone, facsimile and other telecommunication numbers or electronic addresses in a structured or unstructured form.		
language details of party	language details (7.11.6)	0 to many
Information about a language in which the <i>healthcare organisation</i> is able or willing to communicate.		
medical specialty of healthcare party	C/S [Code or String] (7.12.2)	0 to many
A discipline or speciality provided by the <i>healthcare organisation</i> .		
<i>Attributes of specialisation</i>		
name of healthcare organisation	S [String]	0 or 1
type of organisation	V [Code Value] (7.12.6)	0 or 1
<i>Example(s):</i> University hospital, private clinic, laboratory service provider. <i>Values:</i> A candidate list of codes and associated terms is provided in Table E.9 of Part 2 this Prestandard.		

7.10.16. healthcare device

Type: class		
Specialisation of: healthcare agent (7.10.10)		
Description: Device or equipment involved in the direct or indirect provision of healthcare services to an individual or to a population.		
Example(s): Computer, ECG machine, auto-analyser, syringe pump.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> healthcare agent (7.10.10)		
healthcare agent identifier	identifier (7.11.5)	1 to many
A unique identifier of a healthcare agent . <i>Usage:</i> This should be used for a user organisation assigned identifier. A separate <i>device serial number</i> attribute is provided for a manufacturer assigned serial number. However, if there is no user organisation assigned identifier for a device the <i>device serial number</i> may be used.		
<i>Attributes of specialisation</i>		
device type	C [Coded] (7.12.1)	1
The nature or function of a device. <i>Example(s):</i> ECG machine, Computer, Cardiac monitor.		
device manufacturer	C/S [Code or String] (7.12.2)	0 or 1
The name or organisation code for of the manufacturer.		
manufacturer's model name	S [String]	0 or 1
The model name assigned by the manufacturer.		
device version	S [String]	0 or 1
Version number assigned to a device or to its constituent firmware.		
device serial number	S [String]	0 or 1
Serial number allocated by the manufacturer. <i>Usage:</i> This should not be used for a user assigned identifier of the device.		
device location	location details (7.11.7)	0 or 1
The physical location of the device. <i>Usage:</i> This is only relevant for devices that have a fixed physical location. If it is necessary to specify the location at the time of use for a particular procedure, the record component (7.5.2) that records that activity should be linked to a related location data item (7.6.10) .		

7.10.17. healthcare software

Type: class		
Specialisation of: healthcare agent (7.10.10)		
Description: Software component involved in the direct or indirect provision of healthcare services to an individual or to a population.		
Example(s): EHCR system, decision support software, viewing tools.		
Attributes	Type	Occurrence
<i>Attributes from generalisation:</i> healthcare agent (7.10.10)		
healthcare agent identifier	identifier (7.11.5)	1 to many
A unique identifier of the healthcare software . <i>Usage:</i> If there is no unique identification scheme for software modules, an identifier may be generated by concatenation of relevant other relevant attributes including <i>software product name</i> and <i>software version</i> .		

<i>Attributes of specialisation</i>		
software product name	S [String]	1
The name of the software product as assigned by the manufacturer.		
software manufacturer	C/S [Code or String] (7.12.2)	1
The name or organisation code for of the manufacturer or developer of the software.		
software internal name	S [String]	0 or 1
The name or identifier by which the software is referred to by other software. This may also be a programming object name.		
software filename	S [String]	0 or 1
The filename of the file that contains the software (or the main or initial part of the software). <i>Example(s):</i> Winzip.exe		
software version	S [String]	1
The version number of the software as assigned by the manufacturer.		
software date	TOCD [Time+Date]	0 or 1
The date of creation or last modification of the software.		

7.10.18. healthcare agent relationship

Type: class		
Description: A relationship between two <i>healthcare agents</i> (7.10.10).		
Note: A <i>healthcare agent relationship</i> is stated as relationship from a <i>healthcare agent</i> (7.10.10) (source) to another <i>healthcare agent</i> (7.10.10) (target). The source <i>healthcare agent</i> (7.10.10) is the subject of the <i>healthcare agent in context</i> (7.10.11) of which includes the <i>healthcare agent relationship</i> . Each <i>healthcare agent relationship</i> that is part of a <i>healthcare agent in context</i> (7.10.11) specifies part of the context to the "source" <i>healthcare agent</i> (7.10.10).		
Example(s): Employee / employer. On behalf of / responsible for.		
Contained in A <i>healthcare agent relationship</i> provides context for a <i>healthcare agent in context</i> (7.10.11).		
Attributes	Type	Occurrence
healthcare agent relationship type	V [Code Value] (7.12.6)	1
The nature of the relationship between the source and target <i>healthcare agents</i> (7.10.10). <i>Example(s):</i> Employer of, responsible for, employee of, responsible to, sub-division of, parent organisation of, etc. <i>Values:</i> A candidate list of codes and associated terms is provided in Table E.10 of Part 2 this Prestandard.		
healthcare agent (7.10.10)	class	1
The subject of this <i>healthcare agent in context</i> (7.10.11). The <i>healthcare person</i> (7.10.14), <i>healthcare organisation</i> (7.10.15), <i>healthcare device</i> (7.10.16) or <i>healthcare software</i> (7.10.17) to which this <i>healthcare agent in context</i> (7.10.11) provides context.		

7.10.19. healthcare agents directory

Type: class		
Description: A collection of information about any number of <i>healthcare agents</i> (7.10.10) and/or <i>healthcare agent in contexts</i> (7.10.11).		
Usage:		
The <i>healthcare agents directory</i> may contain information about one or more <i>healthcare agent in contexts</i> (7.10.11) (i.e. a <i>healthcare agent</i> (7.10.10) in the context of their relationships with other <i>healthcare agents</i> (7.10.10)).		
The <i>healthcare agents directory</i> may also contain information about individual <i>healthcare agents</i> (7.10.10) (i.e. <i>healthcare persons</i> (7.10.14), <i>healthcare organisations</i> (7.10.15), <i>healthcare devices</i> (7.10.16) or <i>healthcare software</i> (7.10.17)) in a form that can be referred to in a <i>healthcare agent in context</i> (7.10.11) without repeating the details.		
Note: The <i>healthcare agents directory</i> represents a directory containing information about <i>healthcare agents</i> (7.10.10) and their inter-relationships in a form that can be referred to by other classes in a message.		
Example(s): Detailed information about a hospital may be conveyed as a <i>healthcare agent</i> (7.10.10) in the <i>healthcare agents directory</i> . Information about a doctor working in that hospital may be conveyed in a <i>healthcare agent in context</i> (7.10.11) related to the <i>healthcare agent</i> (7.10.10) that represents the hospital.		
Attributes	Type	Occurrence
healthcare agent in context (7.10.11)	class	0 to many
Information about a <i>healthcare agent</i> (7.10.10) in the context of a specified set of relationships to other <i>healthcare agents</i> (7.10.10). The <i>healthcare agent in context</i> enables a distinction to be made between references to the same <i>healthcare agent</i> (7.10.10) operating in different practical or organisational contexts.		
healthcare agent (7.10.10)	class	0 to many
Information about a <i>healthcare person</i> (7.10.14), <i>healthcare organisation</i> (7.10.15), <i>healthcare device</i> (7.10.16) or <i>healthcare software</i> (7.10.17) that performs a role in a healthcare activity.		

7.11. Subclasses

7.11.1. address

Type: subclass		
Description: An address expressed in a structured or unstructured form.		
Attributes	Type	Occurrence
address type	E [Enumerated]	1
<i>Values:</i> 0. Home 1. Work 2. Vacation 3. Temporary 4. Former 5. Other 6. Unspecified		
period of address validity	period (7.11.11)	0 or 1
The period during which the associated address is applicable to the associated person or organisation.		
postal code	S [String]	0 or 1
area of country / county	C/S [Code or String] (7.12.2)	0 or 1
Choice of		1
	structured address (7.11.15)	subclass
	unstructured address (7.11.21)	subclass

7.11.2. bed location

Type: subclass		
Description: A location expressed as a combination of a bed, a room and ward.		
Attributes	Type	Occurrence
One or more of		0 or 1
	ward	C/S [Code or String] (7.12.2)
Separate division in a hospital.		
	room	S [String]
Identification or name of a room within a ward, as part of a bed location.		
	bed	S [String]
An identification or description of a particular bed within a ward.		

7.11.3. duration

Type: subclass		
Description: A period of time expressed as a time interval, date range or textual description.		
Attributes	Type	Occurrence
Choice of		1
duration as time interval	time interval (7.11.20)	
An interval of time expressed a number and a unit of time. <i>Note:</i> This sub-class consists of a numerical value and unit of duration.		
duration as date range	period (7.11.11)	
duration as text description	S [String]	

7.11.4. expected delay

Type: subclass		
Description: The <i>time interval</i> (7.11.20) of, and reason for, a delay.		
Attributes	Type	Occurrence
duration of expected delay	time interval (7.11.20)	1
comments to expected delay	S [String]	0 or 1

7.11.5. identifier

Type: subclass		
Description: A general-purpose identifier that can be qualified by the identification scheme from which the identifier is derived.		
Attributes	Type	Occurrence
identifier type	V [Code Value] (7.12.6)	0 or 1
An indication of the type of entity that is identified by the identifier. <i>Examples:</i> Person, organisation.		
identification scheme	V [Code Value] (7.12.6)	0 or 1
The identification scheme from which an associated identifier is derived. <i>Note:</i> 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 value</i> .		
identifier value	S [String]	1
A number or string specified in an identification scheme to uniquely identify a single instance of an entity.		

7.11.6. language details

Type: subclass		
Description: language(s) in which a person is willing and able to converse for the purposes of providing or receiving healthcare services.		
Attributes	Type	Occurrence
language	V [Code Value] (7.12.6)	1
Language represented by the abbreviations specified in ISO 639. <i>Usage:</i> The coding scheme does not require identification by an <i>ICSI</i> as the codes used are derived directly from ISO 639.		
ability in language	E [Enumerated]	0 or 1
<i>Values:</i> <ol style="list-style-type: none"> 1. First language 2. Preferred language 3. Fluent 4. Fair 5. Limited 6. None 		

7.11.7. location details

Type: subclass		
Description: Information about a geographical location or type of location, expressed without a postal <i>address</i> (7.11.1).		
Example(s): In the patient's home, in hospital, in a ward, in a diagnostic department, in a particular ward, in a particular room within a department.		
Attributes	Type	Occurrence
One or more of		1
location type	C [Coded] (7.12.1)	
A code indicating the nature of the location. <i>Example(s):</i> Hospital ward, patient's residence, outpatient clinic, accident & emergency department, prison, nursing home, diagnostic department. <i>Values:</i> A candidate list of codes and associated terms is provided in Table E.11 of Part 2 this Prestandard.		
location description	S [String]	
A textual description of the location.		
location identification	S [String]	
A partner agreed identification of the location. <i>Usage:</i> If the location is identified using a scheme that is internal to a particular organisation, the <i>location organisation</i> should be specified to identify this organisation.		
location organisation	healthcare agent (7.10.10)	0 or 1
A reference to a <i>healthcare organisation</i> (7.10.15) used to qualify a location identification or description. <i>Example(s):</i> If the location is a clinic or other place within a hospital, the <i>location organisation</i> identifies the hospital.		

7.11.8. measurement range

Type: subclass		
Description: A <i>measurement range</i> expressed as two numeric values and <i>unit of quantity</i> .		
Attributes	Type	Occurrence
One or more of		0 or 1
upper limit value	R [Real]	
lower limit value	R [Real]	
unit of quantity	V [Code Value] (7.12.6)	1
<i>Usage:</i> SI units should be used wherever possible. If standard SI unit abbreviations are used, the coding scheme need not be specified explicitly. In this case the <i>ICSI</i> associated with the <i>code value</i> may be omitted. <i>Example(s):</i> mmol/L, mg, days, kg, mmHg.		

7.11.9. measurement with comparator

Type: subclass		
Description: A measurement or <i>value of quantity</i> (7.11.22) expressed as a numeric value and <i>unit of quantity</i> with an optional mathematical comparator		
Note: Used where it is rational for a <i>value of quantity</i> (7.11.22) to be expressed as greater than or less than a specified value.		
Attributes	Type	Occurrence
numerical value	R [Real]	1
<i>Example(s):</i> "140" when a result is 140 mmol/l.		
unit of quantity	V [Code Value] (7.12.6)	1
<i>Usage:</i> SI units should be used wherever possible. If standard SI unit abbreviations are used, the coding scheme need not be specified explicitly. In this case the <i>ICSI</i> associated with the <i>code value</i> may be omitted. <i>Example(s):</i> mmol/L, mg, days, kg, mmHg.		
arithmetic comparator	V [Code Value] (7.12.6)	0 or 1
A mathematical sign indicating where a measurement is equal to, less than or greater than the specified numerical value. <i>Example(s):</i> >, >=, =, <=, <.		

7.11.10. party identifiers

Type: subclass		
Description: A set of one or more <i>party identifiers</i> used to identify a person or organisation.		
Note: Each <i>identifier</i> (7.11.5) is qualified to indicate the identification scheme from which it is derived.		
Attributes	Type	Occurrence
party identifier	identifier (7.11.5)	1 to many

7.11.11. period

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

7.11.12. person name details

Type: subclass		
Description: The structured or unstructured name of a person.		
Attributes	Type	Occurrence
person name type	V [Code Value] (7.12.6)	0 or 1
<i>Example(s):</i> <ul style="list-style-type: none"> — Alias name (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 (when female patients change their family name - e.g. upon marriage - this item carries their previous family name), — Former name, — Mother's maiden name (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	period (7.11.11)	0 or 1
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 (7.11.17)	subclass	
A person name composed of separately identifiable elements.		
unstructured name	S [String]	
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"		

7.11.13. reference limit

Type: subclass		
Description: A reference limit or normal range expressed as a numeric <i>measurement range</i> (7.11.8) or in a textual form. The limits may be applicable to a particular population and may be of a specified type.		
Example(s): Normal range for patients of a specified age and sex.		
Attributes	Type	Occurrence
Choice of		1
numerical reference limit	measurement range (7.11.8)	
<i>Note:</i> This attribute group consists of the attributes <i>numerical value of lower reference limit of quantity</i> , <i>numerical value of upper reference limit of quantity</i> and <i>unit of numerical reference limit values</i> .		
textual reference limit	C/S [Code or String] (7.12.2)	
<i>Note:</i> A <i>reference limit</i> may be expressed as a string (e.g. "Between 10 and 20%").		
reference population definition	C/S [Code or String] (7.12.2)	0 or 1
<i>Note:</i> To indicate the meaning of the <i>reference limit</i> .		
<i>Example(s):</i> Sex, age, race, smoker/non-smoker, clinical status.		
type of reference interval	V [Code Value] (7.12.6)	0 or 1
<i>Example(s):</i> Therapeutic (in the case of drug-monitoring).		

7.11.14. repeat medication information

Type: subclass		
Description: Information about the authorisation for repeat prescribing. This sub-class is an optional part of the <i>medication data item</i> (7.6.5). It should be included in instances of the <i>medication data item</i> (7.6.5) that have the <i>drug information status</i> authorisation.		
Usage: The provision of this information is a message is not intended to trigger an authorisation in the <i>EHCR destination</i> (7.3.3) system. Its purpose is to convey a record of any authorisation existing in the <i>EHCR source</i> (7.3.2) system.		
Note:		
Instances of the <i>related date</i> (7.8.7) attribute of the <i>medication data item</i> (7.6.5) should be used to convey information about dates or authorisation and date of expiry of authorisation.		
Instances of the <i>related healthcare agent</i> (7.8.8) attribute of the <i>medication data item</i> (7.6.5) should be used to indicate the person making the authorisation, the person responsible for the initial prescription of this medication and the person of people entitled to issue further repeats.		
Attributes	Type	Occurrence
number of issues authorised	I [Integer]	0 or 1
The total number of issues authorised for this repeat medication.		
number of prescriptions issued	I [Integer]	0 or 1
The number of prescriptions issued up the time on which this record was created.		
interval between repeat issues	time interval (7.11.20)	0 or 1
The expected interval between issues of an authorised repeat medication prescription.		

7.11.15. structured address

Type: subclass		
Attributes	Type	Occurrence
number or name of house	S [String]	0 or 1
PO box number	S [String]	0 or 1
<i>Note:</i> PO is post office.		
apartment number	S [String]	0 or 1
street name	S [String]	0 or 1
district	S [String]	0 or 1
Part of a city, town or rural area used as part of a postal address.		
city or town	S [String]	0 or 1
The name of the city, town or rural area used as part of the postal address.		
country	C/S [Code or String]	0 or 1

7.11.16. structured dosage administration

Type: subclass		
Attributes	Type	Occurrence
route of administration	V [Code Value] (7.12.6)	0 or 1
<i>Example(s):</i> oral, topical, intravenous injection		
single dose	value of quantity (7.11.22)	0 or 1
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	C/S [Code or String] (7.12.2)	0 or 1
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	value of quantity (7.11.22)	0 or 1
infusion rate	value of quantity (7.11.22)	0 or 1
trigger for administration	C/S [Code or String] (7.12.2)	0 to many
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	duration (7.11.3)	0 or 1
Information on the length of time that the party recommending or prescribing the drug intends it to be taken.		
associated equipment/devices	C/S [Code or String] (7.12.2)	0 or 1
time of administration	TOCD [Time+Date]	0 to many

7.11.17. structured person name

Type: subclass		
Description: A person name composed of separately identifiable elements.		
Attributes	Type	Occurrence
family name	S [String]	1
<i>Note:</i> "last name" is ambiguous, especially in the case of persons of Far Eastern extraction.		
first given name	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	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	S [String]	0 or 1
<i>Example(s):</i> Mr, Mrs, Sir, Lord, Dr, Ms, Miss, Rev.		
generation qualifier	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.		

7.11.18. structured telecommunication number

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

7.11.19. telecommunication

Type: subclass		
Description: Telephone, facsimile and other <i>telecommunication</i> numbers in a structured or unstructured form.		
Attributes	Type	Occurrence
telecommunication type	E [Enumerated]	1
<i>Values:</i> 0. Voice 1. Mobile 2. Pager 3. Facsimile 4. E-mail 5. Web-site 6. Other		

address type of telecommunication	E [Enumerated]	0 or 1
<p>Relates a telecommunication number to a particular address or location specified using an associated instance of the address class.</p> <p><i>Values:</i></p> <ul style="list-style-type: none"> 0. Home 1. Work 2. Vacation 3. Temporary 4. Former 5. Other 6. Unspecified 		
period of telecommunication number validity	period (7.11.11)	0 or 1
Choice of		1
	structured telecommunication number (7.11.18)	subclass
	unstructured telecommunication number	S [String]
<p><i>Note:</i> 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.</p> <p><i>Example(s):</i> X.400 address.</p>		

7.11.20. time interval

Type: subclass		
Description: An interval of time expressed a number and a unit of time.		
Attributes	Type	Occurrence
numerical value of time interval	R [Real]	1
Number of the value for the <i>time interval</i> .		
unit of time interval	V [Code Value] (7.12.6)	1
The unit of time in which the value of the <i>time interval</i> is expressed.		

7.11.21. unstructured address

Type: subclass		
Attributes	Type	Occurrence
unstructured address line	S [String]	1 to many
<i>Note:</i> Used instead of <i>structured address</i> (7.11.15) when communication parties do not support structured addresses or do not need to communicate the address in a structured form.		

7.11.22. value of quantity

Type: subclass		
Description: A quantity expressed as a numeric value and a <i>unit of quantity</i> .		
Attributes	Type	Occurrence
numerical value	R [Real]	1
<i>Example(s):</i> "140" when a result is 140 mmol/l.		
unit of quantity	V [Code Value] (7.12.6)	1
<p><i>Usage:</i> SI units should be used wherever possible. If standard SI unit abbreviations are used, the coding scheme need not be specified explicitly. In this case the <i>ICSI</i> associated with the <i>code value</i> may be omitted.</p> <p><i>Example(s):</i> mmol/L, mg, days, kg, mmHg.</p>		

7.12. Compound Types

7.12.1. C [Coded]

Type: subclass		
Description: Code with text description.		
Attributes	Type	Occurrence
ICSI	S [String]	0 or 1
<p>International Coding Scheme Identifier identifying the coding scheme from which the associated <i>code value</i> is derived.</p> <p><i>Usage:</i> The <i>ICSI</i> shall be present unless there is an explicit agreement on the coding scheme to be used for a particular attribute within a communicating community.</p> <p><i>Note:</i> <i>ICSIs</i> are issued in accordance with ISO7826 to registered coding schemes. ISO7826 provides ranges of values for unregistered local schemes.</p>		
code value	S [String]	1
<p>A string that contains a coded value taken from a specified coding scheme.</p> <p><i>Usage:</i></p> <p>The coding scheme shall be specified by one of the following:</p> <ul style="list-style-type: none"> — the accompanying <i>ICSI</i> — an explicit specification for the attribute to which this type applies within the Prestandard — an explicit specification for the attribute to which this type applies in implementation guidelines agreed within a communicating community. 		
code meaning	S [String]	0 or 1
<p>A text string representing the meaning or term associated with the code value.</p> <p><i>Usage:</i> Implementation guidelines agreed within a communicating community may make the <i>code meaning</i> mandatory for specified attributes of this type.</p>		

7.12.2. C/S [Code or String]

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

7.12.3. CC [composite code]

Type: subclass		
<p>Description: A sub-class used to convey information represented by one or more <i>composite code elements</i>. Each element within a composite code may contain a <i>code value</i> from a specified axis of a multi-axial coding scheme. Alternatively, the individual elements may be combinations of a <i>coded feature</i> and a <i>code value</i> representing a value applicable to that property.</p>		
Attributes	Type	Occurrence
ICSI	S [String]	1
<p>International Coding Scheme Identifier identifying the coding scheme from which the code values in the associated <i>composite code elements</i> are derived.</p> <p><i>Usage:</i> The <i>ICSI</i> shall be present for all composite codes and applies by default to all its <i>composite code elements</i>. However, a <i>composite code element</i> may be derived from a coding scheme other than the one specified for the composite code. In this case, the coding scheme is identified by a separate <i>ICSI</i> within the <i>composite code element</i>.</p> <p><i>Note:</i> <i>ICSIs</i> are issued in accordance with ISO7826 to registered coding schemes. ISO7826 provides ranges of values for unregistered local schemes.</p>		
composite code element	CE [coded element in composite] (7.12.4)	1 to many
A combination of a <i>code value</i> with optional instances of <i>ICSI</i> , <i>coded feature</i> and <i>code meaning</i> .		
composite code meaning	S [String]	0 or 1
<p>A textual description associated with a composite of one or more codes.</p> <p><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.</p> <p><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".</p>		

7.12.4. CE [coded element in composite]

Type: subclass		
Description: This construct is used, within the data type <i>CC [composite code]</i> (7.12.3), to hold a single <i>code value</i> within a composite. Each instance of <i>CE [coded element in composite]</i> contains a <i>code value</i> with optional instances of <i>ICSI</i> , <i>coded feature</i> and <i>code meaning</i> .		
Attributes	Type	Occurrence
ICSI	S [String]	0 or 1
International Coding Scheme Identifier identifying the coding scheme from which the associated <i>code value</i> is derived. <i>Usage:</i> The <i>ICSI</i> shall be present unless the coding scheme applicable to this element is the same as the scheme identified by the <i>ICSI</i> applied to the composite code of which this coded element forms a part. <i>Note:</i> <i>ICSIs</i> are issued in accordance with ISO7826 to registered coding schemes. ISO7826 provides ranges of values for unregistered local schemes.		
coded feature	S [String]	0 or 1
A coded representation of the property to which the associated <i>code value</i> applies. In the case of a multi-axial coding scheme the <i>coded feature</i> is used to represent the axis of the scheme from which the <i>code value</i> <i>Usage:</i> The <i>coded feature</i> is used if it is necessary to convey pairs of codes representing a named property and the coded value of that property. This attribute need not be included if the nature of the property is implicit in the <i>code value</i> . <i>Example(s):</i> Code for "anatomical site" in the case of "anatomical site = heart" Code for "severity" in the case of "severity = mild" Code for "morphology" in the case of a code from the morphology axis of a coding scheme.		
code value	S [String]	1
A string that contains a coded value taken from a specified coding scheme. <i>Usage:</i> The coding scheme is specified by one of the following: — the accompanying <i>ICSI</i> — the <i>ICSI</i> of the composite code of which this <i>coded element</i> forms a part. If the <i>coded feature</i> attribute is present, the <i>code value</i> specified a value applicable to the <i>coded feature</i> . <i>Example(s):</i> Code for "heart" in the case of "anatomical site = heart" Code for "mild" in the case of "severity = mild" A code from the morphology axis of a coding scheme.		
code meaning	S [String]	0 or 1
A text string representing the meaning or term associated with the code value. <i>Usage:</i> If present, the <i>code meaning</i> should represent the meaning of the coded information in this coded element in a human-readable form. If the <i>coded feature</i> attribute is present the <i>code meaning</i> should accurately reflect the meaning of the <i>code value</i> in the context of its association with this <i>coded feature</i> . However, this Prestandard does not specify the rules for generating such a combined meaning as these are dependent upon the coding schemes used. Communicating communities should consider whether such rules are appropriate to any or all of the coding schemes used and may specify such rules in implementation guidelines.		

7.12.5. TL [Term List code]

Type: subclass		
Description: A <i>code value</i> and optional <i>code meaning</i> derived from a table in Part 2 of this Prestandard.		
Usage: The applicable table in Part 2 of this Prestandard is specified in the description of each attribute of this type.		
Attributes	Type	Occurrence
code value	S [String]	1
A string that contains a coded value representing an identifier from one of the tables in Part 2 of this Prestandard.		
code meaning	S [String]	0 or 1
A text string representing the meaning or term associated with the code value.		

7.12.6. V [Code Value]

Type: subclass		
Description: Code without description		
Attributes	Type	Occurrence
ICSI	S [String]	0 or 1
International Coding Scheme Identifier identifying the coding scheme from which the associated <i>code value</i> is derived.		
<i>Usage:</i>		
The <i>ICSI</i> shall be present unless either:		
<ul style="list-style-type: none"> — this Prestandard specifies a specific coding scheme to be used to represent a particular attribute 		
or		
<ul style="list-style-type: none"> — there is an explicit agreement on the coding scheme to be used for a particular attribute within a communicating community. 		
<i>Note:</i> <i>ICSI</i> s are issued in accordance with ISO7826 to registered coding schemes. ISO7826 provides ranges of values for unregistered local schemes.		
code value	S [String]	1
A string that contains a coded value taken from a specified coding scheme.		
<i>Usage:</i>		
The coding scheme shall be specified by one of the following:		
<ul style="list-style-type: none"> — the accompanying <i>ICSI</i> — an explicit specification for the attribute to which this type applies within the Prestandard — an explicit specification for the attribute to which this type applies in implementation guidelines agreed within a communicating community. 		

7.13. Simple Data Types

7.13.1. B [Boolean]

Description: Boolean.
Values: True or False

7.13.2. Blob [Binary large object]

Description: A data type consisting of a collection of binary data the structure of which is not specified explicitly by this Prestandard.
Note: This data type is included for use where necessary in *community defined data items (7.6.16)*. It is not currently used for any of the defined classes within this Prestandard.

7.13.3. E [Enumerated]

Description: Enumerated list
Usage: The enumerated data type is used where a closed set of concepts is to be supported. The members of the closed set of concepts for each enumerated attribute are specified under the subheading "values" in this Prestandard. The manner in which these concepts are represented may depend on the implementation syntax.

7.13.4. I [Integer]

Description: Integer
Note: The value may be any whole positive or negative number including zero.

7.13.5. R [Real]

Description: Real number.
Note: The value may be any positive or negative number or zero with any number of decimal places.

7.13.6. S [String]

Description: String of characters.
Note: The value may be a string of zero or more characters. The permitted character set shall be determined by agreement within a communicating community subject to the constraints of the implementation syntax. However, the character set chosen shall be either a character set defined in ISO8859 or the Unicode character set.

7.13.7. Signature

Description: Representation of a digital signature. The detailed structure of this will depend on security related Standards and community agreements on implementation.
Note: Includes any hash key derived from the signature. Full structure may be dependent on the digital signature algorithm used by agreement between communicating parties.

7.13.8. TOCD [Time+Date]

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 in hours, minutes and seconds. However, 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.

Annex A. (informative) How to read the models

A.1 Introduction

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

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

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'.

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.

In the GMD diagrams in Clause 6, 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.

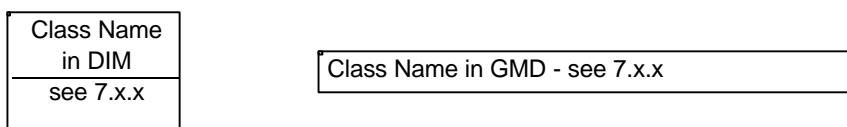


Figure A.1. Representation of classes in DIM and GMD diagrams

A.2.2 Packages

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.

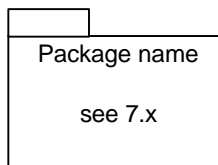


Figure A.2. Representation of packages in diagrams

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.

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.

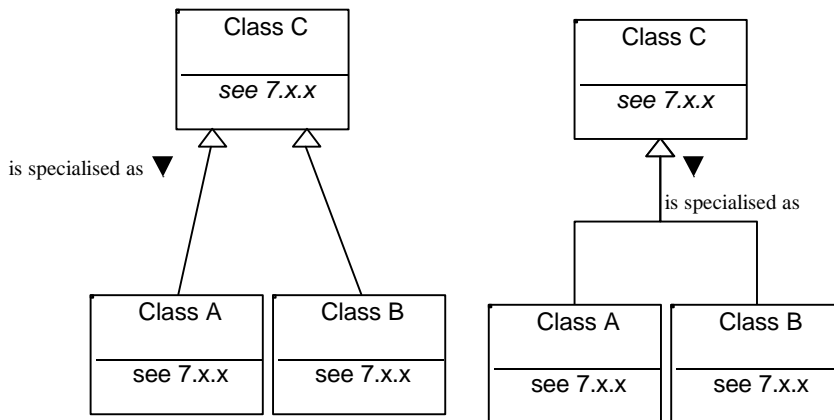


Figure A.3. Illustrations of classes A and B as specialisations of Class C

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.

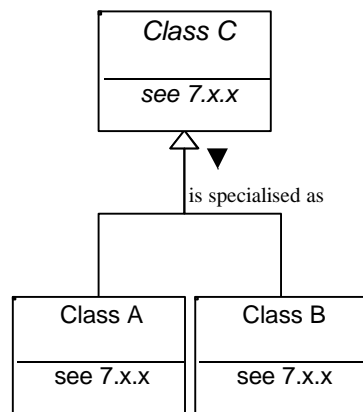


Figure A.4. Illustrations of classes A and B as specialisations of the abstract Class C

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

- 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".

- 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).

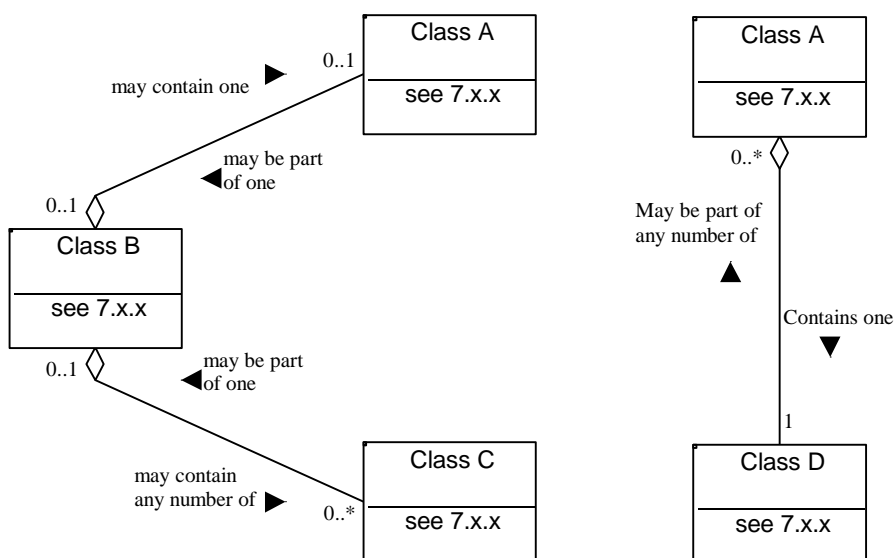


Figure A.5. Illustration of aggregation relationships

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.

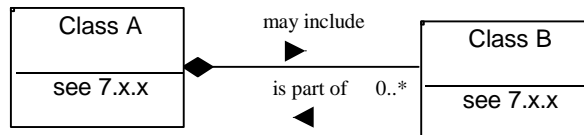


Figure A.6. Illustration of a composition relationship

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.

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).

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.

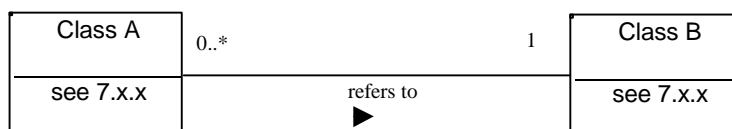


Figure A.7. Illustration of associations between classes

A.3.5 Associations between packages

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

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.

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

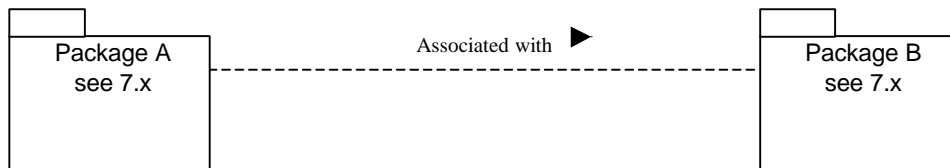


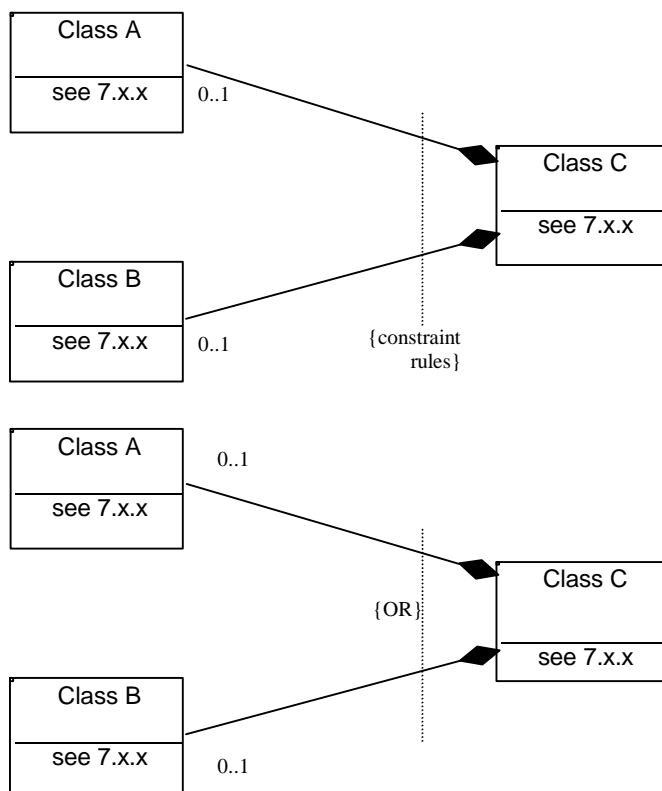
Figure A.8. Illustration of associations between packages

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.

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



NOTE

The predefined constraint {OR} implies that each instance of Class C may contain an instance of either Class A or Class B.

Figure A.9. Illustrations of constraints on relationships

Annex B. (informative) Draft XML DTDs for EHCR Messages

B.1 Introduction

This Annex contains examples of the messages specified in this European Prestandard represented using the Document Type Definition (DTD) of the Extensible Markup Language (XML). These specifications are illustrative only. Further development, refinement and documentation is required to enable successful implementation. Full documented versions of these DTDs are available as separated files on the World Wide Web. To avoid unnecessary repetition, these examples do not contain any comments other than reference to the relevant section of this Prestandard.

B.2 Document Type Definition of the Provide EHCR Message

<-- *provide EHCR message (7.4.3)* -->

```
<!ELEMENT ProvideEhcr (OrigMsgId,
    MsgIssueDate,
    EhcrSource,
    EhcrDestination,
    MsgRelAgent*,
    PatientMatchingInfo,
    CommentOnMsg*,
    Language?,
    AgentsDirectory?,
    MsgRef?,
    EhcrInfoSpec,
    DistRuleDirectory?,
    EhcrExtract)>
```

```
<!ATTLIST ProvideEhcr RcptAckRequest (NEVER|ALWAYS|ON_ERROR) #REQUIRED
    Urgency (LOW|NORMAL|HIGH|IMMEDIATE) #REQUIRED>
```

<-- This entity represents the choice of any specialisation of data item -->

```
<!ENTITY % ChoiceOfDataItems "RelLocationItem|
    LanguageItem|
    PersonIdItem|
    PersonNameItem|
    AddressItem|
    TelecomItem|
    CommunityDefinedItem|
    TextItem|
    PhysicalEntityRefItem|
    QuantifiableObsItem|
    EventItem|
    ExtDataRefItem|
    PatientRelPartyItem|
    StructCodedItem|
    MedicationItem" >
```

<-- This entity represents the common elements of all those data items in which the Component Name Structure is Optional -->

```
<!ENTITY % DataItemPlainRcInfo "OrigSystemRcId?,
    OrigAgent?,
    OrigDate?,
    RelAgent*
```

*RelDate**,
RcNameCateg?,
RcNameStruct?,
*DistRuleRef**,
RevisionInfo?,
*Attestation**,
Annotation+,">

<-- This entity represents the common elements of all those data items in which the Component Name Structure is Mandatory -->

```
<!ENTITY % DataItemCodedRcInfo " OrigSystemRcId?,  
    OrigAgent?,  
    OrigDate?,  
    RelAgent*,  
    RelDate*,  
    RcNameCateg?,  
    RcNameStruct,  
    DistRuleRef*,  
    RevisionInfo?,  
    Attestation*,  
    Annotation+,">
```

<-- *EHCR destination (7.3.3)* -->

```
<!ELEMENT EhcrDestination (AgentCtxId)>
```

<-- *EHCR source (7.3.2)* -->

```
<!ELEMENT EhcrSource (AgentCtxId)>
```

<-- *EHCR message related agent (7.3.4)* -->

```
<!ELEMENT MsgRelAgent (AgentCtxId)>
```

```
<!ATTLIST MsgRelAgent MsgRelRoleScope (THIS_MESSAGE|REPLY|BOTH|REFERENCED) #REQUIRED  
    MsgRelRole  
(COPY_DESTINATION|FORWARDING_AGENT|AUTHORISATION|ORIGINATOR|RECIPIENT|"ORIGINATOR") #REQUIRED>
```

<-- *originator of referenced message (7.3.5)* -->

```
<!ELEMENT RefMsgOrig (AgentCtxId)>
```

<-- *specification of EHCR information (7.4.7)* -->

```
<!ELEMENT EhcrInfoSpec (CommunicatingCommunityId?,  
    EnterprisId?,  
    SubsetDesc?,  
    Period?,  
    PatientConsentStatus?)>
```

```
<!ATTLIST EhcrInfoSpec EhcrScope (COMPLETE|SUBSET|UPDATE) #REQUIRED  
    xml:lang CDATA #IMPLIED>
```

<-- *message reference (7.4.5)* -->

```
<!ELEMENT MsgRef (OrigMsgId,  
    MsgIssueDate?,  
    RefMsgOrig?)>
```

<-- *patient matching information (7.4.6)* -->

```
<!ELEMENT PatientMatchingInfo (((PatientId,  
    PersonName?,  
    BirthDate?)|  
    (PersonName,
```

```

    BirthDate?)|
    BirthDate),
    AlternativePersonName*,
    PersonAdministrativeSex?,
    Address*)>
<-- attestation (7.8.2) -->
<!ELEMENT Attestation (AttestationDate,
    AttestingAgent,
    AttestationReason?,
    Signature)>
<-- attesting agent (7.8.3) -->
<!ELEMENT AttestingAgent (AgentCtxId)>
<-- component unique identifier (7.8.5) -->
<!ELEMENT Cuid (#PCDATA)>
<!ATTLIST Cuid IdScope (MESSAGE|EHCR|SYSTEM|COMMUNITY) #REQUIRED>
<-- originating healthcare agent (7.8.6) -->
<!ELEMENT OrigAgent (AgentCtxId)>
<-- component name structure (7.8.4) -->
<!ELEMENT RcNameStruct (RcNameOrigCode,
    RcNameMappedCode?)>
<-- related healthcare agent (7.8.8) -->
<!ELEMENT RelAgent (RelatedAgentRole,
    AgentCtxId)>
<-- related date (7.8.7) -->
<!ELEMENT RelDate (Date,
    RelatedDateRole)>
<!ATTLIST RelDate DateAccuracy (ACCURATE|APPROXIMATE) #IMPLIED>
<-- cluster (7.5.7) -->
<!ELEMENT Cluster (Cuid,
    OrigSystemRcId?,
    OrigAgent?,
    OrigDate?,
    RelAgent*,
    RelDate*,
    RcNameStruct?,
    DistRuleRef*,
    RevisionInfo?,
    Attestation*,
    (EmptyRecordRc|
    %ChoiceOfDataItems; |
    Cluster)+,
    Annotation*)>
<!ATTLIST Cluster EnterpriseSpecific (TRUE|FALSE) #IMPLIED
    RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- composition (7.5.5) -->
```

```
<!ELEMENT Composition (Cuid,
    OrigSystemRcId?,
    OrigAgent,
    OrigDate,
    RelAgent*,
    RelDate*,
    RcNameCateg,
    RcNameStruct?,
    DistRuleRef*,
    RevisionInfo?,
    Attestation*,
    (EmptyRecordRc|
    %ChoiceOfDataItems;|
    LinkSetItem|
    HeadedSection|
    Cluster|
    SelectedRcComplex)+>
<!ATTLIST Composition EnterpriseSpecific (TRUE/FALSE) #IMPLIED
    RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- EHCR extract (7.5.1) -->
<!ELEMENT EhcrExtract (Cuid,
    OrigSystemRcId?,
    OrigAgent,
    OrigDate,
    RelAgent*,
    RelDate*,
    RcNameStruct?,
    DistRuleRef*,
    RevisionInfo?,
    Attestation*,
    (EmptyRecordRc|
    LinkSetItem|
    Composition|
    Folder|
    SelectedRcComplex)+>
<!ATTLIST EhcrExtract xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- empty record component (7.5.9) -->
<!ELEMENT EmptyRecordRc (Cuid,
    OrigSystemRcId?,
    OrigAgent,
    OrigDate,
    DistRuleRef*,
    RevisionInfo,
    Attestation*)>
<!ATTLIST EmptyRecordRc xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
```

DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>

<-- **folder (7.5.4)** -->

<!ELEMENT *Folder* (*Cuid*,

OrigSystemRcId?,
OrigAgent?,
OrigDate?,
*RelAgent**,
*RelDate**,
RcNameStruct?,
*DistRuleRef**,
RevisionInfo?,
*Attestation**,
(*EmptyRecordRc*|
LinkSetItem|
Composition|
Folder|
SelectedRcComplex)+,
FolderContentIndicator?)>

<!ATTLIST *Folder* *EnterpriseSpecific* (*TRUE/FALSE*) #IMPLIED

RcOrder CDATA #IMPLIED
xml:lang CDATA #IMPLIED
RcStatus (CURRENT|SUPERSEDED) #REQUIRED
DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>

<-- **headed section (7.5.6)** -->

<!ELEMENT *HeadedSection* (*Cuid*,

OrigSystemRcId?,
OrigAgent?,
OrigDate?,
*RelAgent**,
*RelDate**,
RcNameCateg,
RcNameStruct?,
*DistRuleRef**,
RevisionInfo?,
*Attestation**,
(*EmptyRecordRc*|
%*ChoiceOfDataItems*; |
HeadedSection|
Cluster|
SelectedRcComplex)+)>

<!ATTLIST *HeadedSection* *EnterpriseSpecific* (*TRUE/FALSE*) #IMPLIED

RcOrder CDATA #IMPLIED
xml:lang CDATA #IMPLIED
RcStatus (CURRENT|SUPERSEDED) #REQUIRED
DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>

<-- **selected component complex (7.5.8)** -->

<!ELEMENT *SelectedRcComplex* (*Cuid*,

OrigSystemRcId?,
OrigAgent?,
OrigDate?,
*RelAgent**,

```

    RelDate*,
    RcNameCateg?,
    RcNameStruct,
    DistRuleRef*,
    RevisionInfo?,
    Attestation*,
    SelectedRcComplexType?,
    RcSelectionCriteria*)>
<!ATTLIST SelectedRcComplex SplitRestrict (NO_SPLIT|MAY_SPLIT) #IMPLIED
    RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- address data item (7.6.13) -->
<!ELEMENT AddressItem (Cuid,
    %DataItemPlainRcInfo; ,
    Address)>
<!ATTLIST AddressItem RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- community defined data item (7.6.16) -->
<!ELEMENT CommunityDefinedItem (Cuid,
    %DataItemPlainRcInfo; ,
    ItemTypeRef,
    DataItemContent)>
<!ATTLIST CommunityDefinedItem EnterpriseSpecific (TRUE/FALSE) #IMPLIED
    RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- event data item (7.6.6) -->
<!ELEMENT EventItem (Cuid,
    %DataItemRcInfo; ,
    EventUrgencyStatus?,
    AdministrativeOutcome?,
    EventDuration?,
    PlanStage?,
    ExpectedDelay?,
    Comment?)>
<!ATTLIST EventItem RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- external data reference data item (7.6.7) -->
<!ELEMENT ExtDataRefItem (Cuid,
    %DataItemPlainRcInfo; ,
    Id,
    ExtDataLocator,
```

```

        ExtDataApplicationId?,
        ExtDataBookmark*)>
<!ATTLIST ExtDataRefItem RcOrder CDATA #IMPLIED
        xml:lang CDATA #IMPLIED
        RcStatus (CURRENT|SUPERSEDED) #REQUIRED
        DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- language data item (7.6.15) -->
<!ELEMENT LanguageItem (Cuid,
        %DataPlainItemRcInfo; ,
        Language)>
<!ATTLIST LanguageItem RcOrder CDATA #IMPLIED
        xml:lang CDATA #IMPLIED
        RcStatus (CURRENT|SUPERSEDED) #REQUIRED
        DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- medication data item (7.6.5) -->
<!ELEMENT MedicationItem (Cuid,
        %DataItemCodedRcInfo; ,
        (UnstructDosageAdministration|
        StructDosageAdministration)*,
        DaysSupply?,
        DrugSuppliedQuantity?,
        MedicationProvisionCategory?,
        CommentToTreatment?,
        RepeatMedicationInfo?,
        StoppingTreatmentReason?)>
<!ATTLIST MedicationItem MedCateg (GENERIC.|PROPRIETARY|PROPRIETARY.) #IMPLIED
        DrugInfoStatus
(CURRENT|PAST|PRESCRIPTION|CHANGEDOSE|ADMINISTERED|RECOMMENDATION|DISPENSED|DISCO
NTINUED|AUTHORISED|NOT_TAKEN|OTHER) #REQUIRED
        RcOrder CDATA #IMPLIED
        xml:lang CDATA #IMPLIED
        RcStatus (CURRENT|SUPERSEDED) #REQUIRED
        DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- patient related party data item (7.6.9) -->
<!ELEMENT PatientRelPartyItem (Cuid,
        %DataItemPlainRcInfo; ,
        ((PersonName,
        OrgName?,
        PartyId?)|
        (OrgName,
        PartyId?)|
        PartyId))>
<!ATTLIST PatientRelPartyItem RcOrder CDATA #IMPLIED
        xml:lang CDATA #IMPLIED
        RcStatus (CURRENT|SUPERSEDED) #REQUIRED
        DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- person identifier data item (7.6.11) -->
<!ELEMENT PersonIdItem (Cuid,
        %DataItemPlainRcInfo; ,

```



```

    Id)>
<!ATTLIST PersonIdItem RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- person name data item (7.6.12) -->
<!ELEMENT PersonNameItem (Cuid,
    %DataItemPlainRcInfo; ,
    PersonName)>
<!ATTLIST PersonNameItem RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- physical entity reference data item (7.6.8) -->
<!ELEMENT PhysicalEntityRefItem (Cuid,
    %DataItemCodedRcInfo; ,
    Id?,
    Location?)>
<!ATTLIST PhysicalEntityRefItem RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- quantifiable observation data item (7.6.4) -->
<!ELEMENT QuantifiableObsItem (Cuid,
    %DataItemCodedRcInfo; ,
    (ObsNumRangeResult|
    ObsNumResult|
    ObsTextResult|
    ObsDateResult),
    RefLimit*)>
<!ATTLIST QuantifiableObsItem RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- related location data item (7.6.10) -->
<!ELEMENT RelLocationItem (Cuid,
    %DataItemPlainRcInfo; ,
    ((Location,
    Address?,
    BedLocation?)|
    (Address,
    BedLocation?)|
    BedLocation),
    Telecom*)>
<!ATTLIST RelLocationItem RcOrder CDATA #IMPLIED
    xml:lang CDATA #IMPLIED
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>
<-- structured coded data item (7.6.3) -->
```

```
<!ELEMENT StructCodedItem (Cuid,  
    %DataItemCodedRcInfo; ,  
    AdditionalRelText*)>  
<!ATTLIST StructCodedItem RcOrder CDATA #IMPLIED  
    xml:lang CDATA #IMPLIED  
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED  
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>  
<-- telecom data item (7.6.14) -->  
<!ELEMENT TelecomItem (Cuid,  
    %DataItemPlainRcInfo; ,  
    Telecom)>  
<!ATTLIST TelecomItem RcOrder CDATA #IMPLIED  
    xml:lang CDATA #IMPLIED  
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED  
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>  
<-- text data item (7.6.2) -->  
<!ELEMENT TextItem (Cuid,  
    %DataItemPlainRcInfo; ,  
    TextMarkupIndicator?,  
    TextBlock)>  
<!ATTLIST TextItem NarrativeAccount (TRUE|FALSE) #IMPLIED  
    RcOrder CDATA #IMPLIED  
    xml:lang CDATA #IMPLIED  
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED  
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>  
<-- link set item (7.7.1) -->  
<!ELEMENT LinkSetItem (Cuid,  
    OrigSystemRcId?,  
    OrigAgent?,  
    OrigDate?,  
    RcNameCateg?,  
    RcNameStruct?,  
    DistRuleRef*,  
    RevisionInfo?,  
    Attestation*,  
    LinkSource,  
    LinkTarget+)>  
<!ATTLIST LinkSetItem RcOrder CDATA #IMPLIED  
    xml:lang CDATA #IMPLIED  
    RcStatus (CURRENT|SUPERSEDED) #REQUIRED  
    DateValidity (CONFIRMED|PROBABLE|RECEIVED|LEGACY|COMPILED) #IMPLIED>  
<-- source component (7.7.2) -->  
<!ELEMENT LinkSource (RcId,  
    OrigDate?,  
    OrigAgent?)>  
<-- target component (7.7.3) -->  
<!ELEMENT LinkTarget (RcId,  
    OrigDate?,  
    OrigAgent?)>
```

<!ATTLIST LinkTarget *RcOrder CDATA #IMPLIED*>

<-- **revision information (7.7.4)** -->

<!ELEMENT *RevisionInfo* (*RcId*,
 OrigDate?,
 OrigAgent?,
 RevisionReason?,
 RevisionCommentsReason?)>

<-- **distribution rule directory (7.9.3)** -->

<!ELEMENT *DistRuleDirectory* (*DistRule*)*>

<-- **distribution rule reference (7.9.2)** -->

<!ELEMENT *DistRuleRef* (*DistRuleUid*,
 DistRuleAppliedDate,
 DistRuleAppliedBy,
 DistRuleValidFrom?,
 DistRuleValidTo?,
 DistRuleInvalidatedBy?,
 DistRuleNegationStatement,
 DistRuleBasicDistRule,
 ApplicationDistRuleCountry?,
 DistRuleConsentDemoRef?)>

<-- **healthcare agent in context (7.10.11)** -->

<!ELEMENT *AgentInContext* (*AgentCtxId*,
 (*AgentId*+|
 (*Software*|
 Device|
 Person|
 Organisation)),
 AgentFunction?,
 *AgentRel**)>

<-- **healthcare agent relationship (7.10.18)** -->

<!ELEMENT *AgentRel* (*AgentRelType*,
 (*AgentId*+|
 (*Software*|
 Device|
 Person|
 Organisation)))>

<-- **healthcare agents directory (7.10.19)** -->

<!ELEMENT *AgentsDirectory* (*AgentInContext**,
 (*Software*|
 Device|
 Person|
 Organisation)*)>

<-- **healthcare device (7.10.16)** -->

<!ELEMENT *Device* (*AgentId*+,
 DeviceType,
 DeviceManufacturer?,
 ManufacturerModelName?,
 DeviceVersion?,
 DeviceSerialNum?,

```

    Location?)>
<-- healthcare organisation (7.10.15) -->
<!ELEMENT Organisation (AgentId,
    Address*,
    Telecom*,
    Language*,
    PartyMedicalSpecialty*,
    OrgName?,
    OrganisationType?)>
<-- healthcare person (7.10.14) -->
<!ELEMENT Person (AgentId+,
    Address*,
    Telecom*,
    Language*,
    PartyMedicalSpecialty*,
    PersonType?,
    PersonName?,
    PersonPosition?,
    PersonQualification*,
    PersonMilitaryRank?)>
<-- healthcare software (7.10.17) -->
<!ELEMENT Software (AgentId+,
    SoftwareProductName,
    SoftwareManufacturer,
    SoftwareInternalName?,
    SoftwareFilename?,
    SoftwareVersion,
    SoftwareDate?)>
<--The items below here represent subclasses used in the message -->
<-- address (7.11.1) -->
<!ELEMENT Address (Period?,
    PostCode?,
    CountryOrCountyArea?,
    (StructAddress|
    UnstructAddress))>
<!ATTLIST Address AddrType (HOME|WORK|VACATION|TEMPORARY|FORMER|OTHER|UNSPECIFIED)
#REQUIRED>
<-- bed location (7.11.2) -->
<!ELEMENT BedLocation ((Ward, Room?, Bed?)|
    (Room, Bed?)|
    Bed)>
<-- CE [coded element in composite] (7.12.4) -->
<!ELEMENT CE (CodingAxis?,
    Code,
    CodeMeaning?)>
<-- expected delay (7.11.4) -->
<!ELEMENT ExpectedDelay (ExpectedDelayDuration,
    CommentsToExpectedDelay?)>
```

```
<-- identifier (7.11.5) -->
<!ELEMENT Id (IdType?, IdScheme?, IdValue)>
<-- language details (7.11.6) -->
<!ELEMENT Language (#PCDATA)>
<!ATTLIST Language LangAbility (FIRST|PREFERRED|FLUENT|FAIR|LIMITED|NONE) #IMPLIED>
<-- location details (7.11.7) -->
<!ELEMENT Location (((LocationType, LocationDesc?,LocationId?)|
    (LocationDesc, LocationId?)|
    LocationId),
    LocationOrg?)>
<-- party identifiers (7.11.10) -->
<!ELEMENT PartyId (Id+)>
<-- person name details (7.11.12) -->
<!ELEMENT PersonName (PersonNameType?,
    Period?,
    (StructPersonName| String))>
<-- reference limit (7.11.13) -->
<!ELEMENT RefLimit ((NumRefLimit| TextRefLimit),
    RefPopulation?,
    RefIntervalType?)>
<-- repeat medication information (7.11.14) -->
<!ELEMENT RepeatMedicationInfo (NumIssuesAuth?,
    NumPrescriptionsIssued?,
    RepeatIssueInterval?)>
<-- structured address (7.11.15) -->
<!ELEMENT StructAddress (HouseNumOrName?,
    PoBox?,
    ApartmentNum?,
    StreetName?,
    District?,
    CityOrTown?,
    Country)>
<-- structured dosage administration (7.11.16) -->
<!ELEMENT StructDosageAdministration (AdministrationRoute?,
    SingleDose?,
    DosagePattern?,
    MaximumDailyDose?,
    InfusionRate?,
    AdministrationTrigger*,
    TreatmentDuration?,
    AssociatedEquipmentOrDevices?,
    AdministrationTime*)>
<-- structured person name (7.11.17) -->
<!ELEMENT StructPersonName (FamilyName,
    GivenName?,
    MiddleName?,
    Title?,
```

```
        GenerationQualifier?)>
<-- structured telecommunication number (7.11.18) -->
<!ELEMENT StructTelecomNum (TelecomCountryCode?,
        TelecomAreaCode?,
        TelecomNum,
        TelecomExtNum?)>
<-- telecommunication (7.11.19) -->
<!ELEMENT Telecom (Period?,
        (StructTelecomNum| UnstructTelecomNum))>
<!ATTLIST Telecom AddrType (HOME|WORK|VACATION|TEMPORARY|FORMER|OTHER|UNSPECIFIED)
#IMPLIED
        TelecomType (VOICE|MOBILE|PAGER|FACSIMILE|E-MAIL|WEB-SITE|OTHER)
#REQUIRED>
<-- unstructured address (7.11.21) -->
<!ELEMENT UnstructAddress (UnstructAddressLine+)>
<--The items below here represent attributes of the classes used in the message -->
<-- additional related text -->
<!ELEMENT AdditionalRelText (#PCDATA)>
<-- route of administration -->
<!ELEMENT AdministrationRoute (#PCDATA)>
<!ATTLIST AdministrationRoute ICSI CDATA #IMPLIED>
<-- time of administration -->
<!ELEMENT AdministrationTime (#PCDATA)>
<!ATTLIST AdministrationTime Cen251:Type CDATA #FIXED "TOCD">
<-- trigger for administration -->
<!ELEMENT AdministrationTrigger (CodedElement| String)>
<-- administrative outcome -->
<!ELEMENT AdministrativeOutcome (CodedElement| String)>
<-- healthcare agent in context identifier -->
<!ELEMENT AgentCtxId (IdType?,
        IdScheme?,
        IdValue)>
<-- healthcare agent function -->
<!ELEMENT AgentFunction (CodedElement| String)>
<-- healthcare agent relationship type -->
<!ELEMENT AgentRelType (#PCDATA)>
<!ATTLIST AgentRelType ICSI CDATA #IMPLIED>
<-- alternative person name -->
<!ELEMENT AlternativePersonName (PersonNameType?,
        Period?,
        (StructPersonName|
        String))>
<-- annotation identifier -->
<!ELEMENT Annotation (Code, CodeMeaning?)>
<-- apartment number -->
```

```
<!ELEMENT ApartmentNum (#PCDATA)>
<-- DR country of application -->
<!ELEMENT ApplicationDistRuleCountry (Code, CodeMeaning?)>
<!ATTLIST ApplicationDistRuleCountry ICSI CDATA #IMPLIED>
<-- associated equipment/devices -->
<!ELEMENT AssociatedEquipmentOrDevices (CodedElement| String)>
<-- date and time of attestation -->
<!ELEMENT AttestationDate (#PCDATA)>
<!ATTLIST AttestationDate Cen251:Type CDATA #FIXED "TOCD">
<-- reason for attestation -->
<!ELEMENT AttestationReason (CodedElement| String)>
<-- bed -->
<!ELEMENT Bed (#PCDATA)>
<-- date of birth -->
<!ELEMENT BirthDate (#PCDATA)>
<!ATTLIST BirthDate Cen251:Type CDATA #FIXED "TOCD">
<-- city or town -->
<!ELEMENT CityOrTown (#PCDATA)>
<!ATTLIST CE ICSI CDATA #IMPLIED>
<-- code value -->
<!ELEMENT Code (#PCDATA)>
<-- coded element -->
<!ELEMENT CodedElement (Code, CodeMeaning?)>
<!ATTLIST CodedElement ICSI CDATA #IMPLIED>
<-- code meaning -->
<!ELEMENT CodeMeaning (#PCDATA)>
<-- coded feature -->
<!ELEMENT CodingAxis (#PCDATA)>
<-- comment -->
<!ELEMENT Comment (#PCDATA)>
<-- comment on message -->
<!ELEMENT CommentOnMsg (CodedElement| String)>
<-- comments to expected delay -->
<!ELEMENT CommentsToExpectedDelay (#PCDATA)>
<-- comment to drug treatment -->
<!ELEMENT CommentToTreatment (#PCDATA)>
<-- communicating community identifier -->
<!ELEMENT CommunicatingCommunityId (IdType?,
    IdScheme?,
    IdValue)>
<-- arithmetic comparator -->
<!ELEMENT Comparator (#PCDATA)>
```

```
<!ATTLIST Comparator ICSI CDATA #IMPLIED>
<-- composite code meaning -->
<!ELEMENT CompositeCodeMeaning (#PCDATA)>
<-- country -->
<!ELEMENT Country (CodedElement| String)>
<-- area of country / county -->
<!ELEMENT CountryOrCountyArea (CodedElement| String)>
<-- date -->
<!ELEMENT Date (#PCDATA)>
<!ATTLIST Date Cen251:Type CDATA #FIXED "TOCD">
<-- duration as date range -->
<!ELEMENT DateRangeDuration ((StartDate, EndDate?)|
    EndDate)>
<-- days supply -->
<!ELEMENT DaysSupply (#PCDATA)>
<!ATTLIST DaysSupply Cen251:Type CDATA #FIXED "INTEGER">
<-- device manufacturer -->
<!ELEMENT DeviceManufacturer (CodedElement| String)>
<-- device serial number -->
<!ELEMENT DeviceSerialNum (#PCDATA)>
<-- device type -->
<!ELEMENT DeviceType (Code, CodeMeaning?)>
<!ATTLIST DeviceType ICSI CDATA #IMPLIED>
<-- device version -->
<!ELEMENT DeviceVersion (#PCDATA)>
<-- district -->
<!ELEMENT District (#PCDATA)>
<-- DR applied date and time -->
<!ELEMENT DistRuleAppliedDate (#PCDATA)>
<!ATTLIST DistRuleAppliedDate Cen251:Type CDATA #FIXED "TOCD">
<-- DR basic distribution rule -->
<!ELEMENT DistRuleBasicDistRule (#PCDATA)>
<!ATTLIST DistRuleBasicDistRule Cen251:Type CDATA #FIXED "BOOLEAN">
<-- DR consent demonstration reference -->
<!ELEMENT DistRuleConsentDemoRef (IdType?, IdScheme?, IdValue)>
<-- DR negation statement -->
<!ELEMENT DistRuleNegationStatement (#PCDATA)>
<!ATTLIST DistRuleNegationStatement Cen251:Type CDATA #FIXED "BOOLEAN">
<-- distribution rule unique identifier -->
<!ELEMENT DistRuleUid (IdType?, IdScheme?, IdValue)>
<-- DR valid from -->
<!ELEMENT DistRuleValidFrom (#PCDATA)>
<!ATTLIST DistRuleValidFrom Cen251:Type CDATA #FIXED "TOCD">
```



```
<-- DR valid to -->
<!ELEMENT DistRuleValidTo (#PCDATA)>
<!ATTLIST DistRuleValidTo Cen251:Type CDATA #FIXED "TOCD">
<-- dosage pattern -->
<!ELEMENT DosagePattern (CodedElement| String)>
<-- quantity of drug supplied -->
<!ELEMENT DrugSuppliedQuantity (Number, QuantityUnit)>
<-- end date and time -->
<!ELEMENT EndDate (#PCDATA)>
<!ATTLIST EndDate Cen251:Type CDATA #FIXED "TOCD">
<-- enterprise identifier -->
<!ELEMENT EnterpriseId (IdType?, IdScheme?, IdValue)>
<-- duration of event -->
<!ELEMENT EventDuration (Number, TimeIntervalUnit)>
<-- urgency status of event -->
<!ELEMENT EventUrgencyStatus (#PCDATA)>
<!ATTLIST EventUrgencyStatus ICSI CDATA #IMPLIED>
<-- duration of expected delay -->
<!ELEMENT ExpectedDelayDuration (Number, TimeIntervalUnit)>
<-- external data application identifier -->
<!ELEMENT ExtDataApplicationId (#PCDATA)>
<-- external data bookmark -->
<!ELEMENT ExtDataBookmark (#PCDATA)>
<-- external data locator -->
<!ELEMENT ExtDataLocator (#PCDATA)>
<-- family name -->
<!ELEMENT FamilyName (#PCDATA)>
<-- folder content indicator -->
<!ELEMENT FolderContentIndicator (#PCDATA)>
<-- generation qualifier -->
<!ELEMENT GenerationQualifier (#PCDATA)>
<-- first given name -->
<!ELEMENT GivenName (#PCDATA)>
<-- number or name of house -->
<!ELEMENT HouseNumOrName (#PCDATA)>
<-- identification scheme -->
<!ELEMENT IdScheme (#PCDATA)>
<!ATTLIST IdScheme ICSI CDATA #IMPLIED>
<-- identifier type -->
<!ELEMENT IdType (#PCDATA)>
<!ATTLIST IdType ICSI CDATA #IMPLIED>
<-- identifier value -->
```

```

<!ELEMENT IdValue (#PCDATA)>
<-- infusion rate -->
<!ELEMENT InfusionRate (Number, QuantityUnit)>
<-- data item type reference -->
<!ELEMENT ItemTypeRef (#PCDATA)>
<!ATTLIST ItemTypeRef ICSI CDATA #IMPLIED>
<-- language -->
<!ELEMENT Language (#PCDATA)>
<-- location description -->
<!ELEMENT LocationDesc (#PCDATA)>
<-- location identification -->
<!ELEMENT LocationId (#PCDATA)>
<-- location organisation -->
<!ELEMENT OrganisationAtLocation (AgentId)>
<-- location type -->
<!ELEMENT LocationType (Code, CodeMeaning?)>
<!ATTLIST LocationType ICSI CDATA #IMPLIED>
<-- lower limit value -->
<!ELEMENT LowerLimit (#PCDATA)>
<!ATTLIST LowerLimit Cen251:Type CDATA #FIXED "REAL">
<-- manufacturer's model name -->
<!ELEMENT ManufacturerModelName (#PCDATA)>
<-- maximum daily dose -->
<!ELEMENT MaximumDailyDose (Number, QuantityUnit)>
<-- medication provision category -->
<!ELEMENT MedicationProvisionCategory (#PCDATA)>
<!ATTLIST MedicationProvisionCategory ICSI CDATA #IMPLIED>
<-- middle name -->
<!ELEMENT MiddleName (#PCDATA)>
<-- issue date and time of message -->
<!ELEMENT MsgIssueDate (#PCDATA)>
<!ATTLIST MsgIssueDate Cen251:Type CDATA #FIXED "TOCD">
<-- number of issues authorised -->
<!ELEMENT NumIssuesAuth (#PCDATA)>
<!ATTLIST NumIssuesAuth Cen251:Type CDATA #FIXED "INTEGER">
<-- number of prescriptions issued -->
<!ELEMENT NumPrescriptionsIssued (#PCDATA)>
<!ATTLIST NumPrescriptionsIssued Cen251:Type CDATA #FIXED "INTEGER">
<-- numerical reference limit -->
<!ELEMENT NumRefLimit (((UpperLimit, LowerLimit?)|
    LowerLimit),
    QuantityUnit)>
<-- date value result of observation -->

```

```
<!ELEMENT ObsDateResult (#PCDATA)>
<!ATTLIST ObsDateResult Cen251:Type CDATA #FIXED "TOCD">
<-- numerical range result of observation -->
<!ELEMENT ObsNumRangeResult (((UpperLimit, LowerLimit?)|
    LowerLimit),
    QuantityUnit)>
<-- numerical value result of observation -->
<!ELEMENT ObsNumResult (Number, QuantityUnit,
    Comparator?)>
<-- text value result of observation -->
<!ELEMENT ObsTextResult (CodedElement| String)>
<-- type of organisation -->
<!ELEMENT OrganisationType (#PCDATA)>
<!ATTLIST OrganisationType ICSI CDATA #IMPLIED>
<-- name of healthcare organisation -->
<!ELEMENT OrgName (#PCDATA)>
<-- organisation name -->
<!ELEMENT OrganisationName (#PCDATA)>
<-- originating date and time -->
<!ELEMENT OrigDate (#PCDATA)>
<!ATTLIST OrigDate Cen251:Type CDATA #FIXED "TOCD">
<-- identification of message by originator -->
<!ELEMENT OrigMsgId (#PCDATA)>
<-- component identification by originating system -->
<!ELEMENT OrigSystemRcId (#PCDATA)>
<-- medical specialty of healthcare party -->
<!ELEMENT PartyMedicalSpecialty (CodedElement| String)>
<-- patient consent status -->
<!ELEMENT PatientConsentStatus (CodedElement| String)>
<-- patient identifiers -->
<!ELEMENT PatientId (Id+)>
<-- period of address validity -->
<!ELEMENT Period ((StartDate, EndDate?)|
    EndDate)>
<-- person administrative sex -->
<!ELEMENT PersonAdministrativeSex (#PCDATA)>
<-- military rank of healthcare person -->
<!ELEMENT PersonMilitaryRank (CodedElement| String)>
<-- person name type -->
<!ELEMENT PersonNameType (#PCDATA)>
<!ATTLIST PersonNameType ICSI CDATA #IMPLIED>
<-- position of healthcare person -->
<!ELEMENT PersonPosition (CodedElement| String)>
```

```
<-- qualification of healthcare person -->
<!ELEMENT PersonQualification (CodedElement| String)>
<-- type of healthcare person -->
<!ELEMENT PersonType (#PCDATA)>
<!ATTLIST PersonType ICSI CDATA #IMPLIED>
<-- planning stage -->
<!ELEMENT PlanStage (Code, CodeMeaning?)>
<!ATTLIST PlanStage ICSI CDATA #IMPLIED>
<-- PO box number -->
<!ELEMENT PoBox (#PCDATA)>
<-- postal code -->
<!ELEMENT PostCode (#PCDATA)>
<-- unit of quantity -->
<!ELEMENT QuantityUnit (#PCDATA)>
<!ATTLIST QuantityUnit ICSI CDATA #IMPLIED>
<-- component name category -->
<!ELEMENT RcNameCateg (Code, CodeMeaning?)>
<-- component name mapped code -->
<!ELEMENT RcNameMappedCode (CE+, CompositeCodeMeaning?)>
<!ATTLIST RcNameMappedCode ICSI CDATA #REQUIRED>
<-- component name original code -->
<!ELEMENT RcNameOrigCode (CE+, CompositeCodeMeaning?)>
<!ATTLIST RcNameOrigCode ICSI CDATA #REQUIRED>
<-- component selection criteria -->
<!ELEMENT RcSelectionCriteria (#PCDATA)>
<!ATTLIST RcSelectionCriteria Cen251:Ehcr CDATA #FIXED "CommunityDefined">
<-- type of reference interval -->
<!ELEMENT RefIntervalType (#PCDATA)>
<!ATTLIST RefIntervalType ICSI CDATA #IMPLIED>
<-- reference population definition -->
<!ELEMENT RefPopulation (CodedElement| String)>
<-- role of related healthcare agent -->
<!ELEMENT RelatedAgentRole (Code, CodeMeaning?)>
<-- related date role -->
<!ELEMENT RelatedDateRole (Code, CodeMeaning?)>
<-- interval between repeat issues -->
<!ELEMENT RepeatIssueInterval (Number, TimeIntervalUnit)>
<-- reason for revision comments -->
<!ELEMENT RevisionCommentsReason (#PCDATA)>
<-- reason for revision -->
<!ELEMENT RevisionReason (#PCDATA)>
<!ATTLIST RevisionReason ICSI CDATA #IMPLIED>
<-- room -->
```

```
<!ELEMENT Room (#PCDATA)>
<-- selected component complex type -->
<!ELEMENT SelectedRcComplexType (#PCDATA)>
<!ATTLIST SelectedRcComplexType ICSI CDATA #IMPLIED>
<-- single dose -->
<!ELEMENT SingleDose (Number, QuantityUnit)>
<-- software date -->
<!ELEMENT SoftwareDate (#PCDATA)>
<!ATTLIST SoftwareDate Cen251:Type CDATA #FIXED "TOCD">
<-- software filename -->
<!ELEMENT SoftwareFilename (#PCDATA)>
<-- software internal name -->
<!ELEMENT SoftwareInternalName (#PCDATA)>
<-- software manufacturer -->
<!ELEMENT SoftwareManufacturer (CodedElement| String)>
<-- software product name -->
<!ELEMENT SoftwareProductName (#PCDATA)>
<-- software version -->
<!ELEMENT SoftwareVersion (#PCDATA)>
<-- start date and time -->
<!ELEMENT StartDate (#PCDATA)>
<!ATTLIST StartDate Cen251:Type CDATA #FIXED "TOCD">
<-- reason for stopping treatment -->
<!ELEMENT StoppingTreatmentReason (CodedElement| String)>
<-- street name -->
<!ELEMENT StreetName (#PCDATA)>
<-- text description -->
<!ELEMENT String (#PCDATA)>
<-- duration as text description -->
<!ELEMENT StringDuration (#PCDATA)>
<-- EHCR subset description -->
<!ELEMENT SubsetDesc (CodedElement| String)>
<-- telecommunication area code -->
<!ELEMENT TelecomAreaCode (#PCDATA)>
<-- telecommunication country code -->
<!ELEMENT TelecomCountryCode (#PCDATA)>
<-- telecommunication extension number -->
<!ELEMENT TelecomExtNum (#PCDATA)>
<-- telecommunication number -->
<!ELEMENT TelecomNum (#PCDATA)>
<-- text block -->
```

```
<!ELEMENT TextBlock (#PCDATA)>
<-- text markup indicator -->
<!ELEMENT TextMarkupIndicator (#PCDATA)>
<-- textual reference limit -->
<!ELEMENT TextRefLimit (CodedElement| String)>
<-- duration as time interval -->
<!ELEMENT TimeIntervalDuration (Number, TimeIntervalUnit)>
<-- unit of time interval -->
<!ELEMENT TimeIntervalUnit (#PCDATA)>
<!ATTLIST TimeIntervalUnit ICSI CDATA #IMPLIED>
<-- title -->
<!ELEMENT Title (#PCDATA)>
<-- duration of drug treatment -->
<!ELEMENT TreatmentDuration (TimeIntervalDuration|
    DateRangeDuration|
    StringDuration)>
<-- unstructured address line -->
<!ELEMENT UnstructAddressLine (#PCDATA)>
<-- unstructured dosage administration -->
<!ELEMENT UnstructDosageAdministration (CodedElement|String)>
<-- unstructured telecommunication number -->
<!ELEMENT UnstructTelecomNum (#PCDATA)>
<-- upper limit value -->
<!ELEMENT UpperLimit (#PCDATA)>
<!ATTLIST UpperLimit Cen251:Type CDATA #FIXED "REAL">
<-- ward -->
<!ELEMENT Ward (CodedElement|String)>
<--The items below here represent data types used in the message -->
<--Most data types are not explicitly included as XML elements as they are applied directly as templates for individual attributes listed above. Those listed here are referenced indirectly in some cases to avoid introducing mixed element types -->
<!ELEMENT Number (#PCDATA)>
<!ATTLIST Number Cen251:Type CDATA #FIXED "REAL">
<-- The Signature data type is only a placeholder for specific implementations -->
<!ELEMENT Signature (#PCDATA)>
<!ELEMENT String (#PCDATA)>
```

B.3 An XML Document Type Definition of the Request EHCR Message

Only the elements that differ from those in the Provide EHCR message are shown here.

<-- *request EHCR message (7.4.2)* -->

```
5 <!ELEMENT RequestEhcr (OrigMsgId,  
    MsgIssueDate,  
    EhcrSource,  
    EhcrDestination,  
    MsgRelAgent*,  
10 PatientMatchingInfo,  
    CommentOnMsg*,  
    AgentsDirectory?,  
    MsgRef?,  
    EhcrInfoSpec,  
15 RequestReason)>  
<!ATTLIST RequestEhcr xml:lang CDATA #IMPLIED  
    RcptAckRequest (NEVER|ALWAYS|ON_ERROR) #REQUIRED  
    Urgency (LOW|NORMAL|HIGH|IMMEDIATE) #REQUIRED>  
20 <!ELEMENT RequestReason (CodedElement|String)>
```

<!ATTLIST RequestReason Cen251:Noi CDATA #FIXED "1011:reason for request">

B.4 An XML Document Type Definition of the EHCR Notification Message

Only the elements that differ from those in the Provide EHCR message are shown here.

```
25 <!ELEMENT EhcrNotification (OrigMsgId,  
    MsgIssueDate,  
    EhcrSource,  
    EhcrDestination,  
    MsgRelAgent*,  
30 PatientMatchingInfo,  
    CommentOnMsg*,  
    Language?,  
    AgentsDirectory?,  
    MsgRef?,  
    EhcrInfoSpec?,  
35 MsgNotificationComment)>  
<!ATTLIST EhcrNotification NotificationType  
(REQ_SENT|REQ_RCV|REQ_ACCEPT|REQ_REJECT|EHCR_SENT|EHCR_RCV|EHCR_ACCEPT|EHCR_REJEC  
T|OTHER) #REQUIRED  
40 RcptAckRequest (NEVER|ALWAYS|ON_ERROR) #REQUIRED  
    Urgency (LOW|NORMAL|HIGH|IMMEDIATE) #REQUIRED>  
  
<!ELEMENT MsgNotificationComment (CodedElement|String)>
```

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