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## Health informatics — System of concepts to support continuity of care

*Informatique de santé — Système de concepts en appui de la  
continuité des soins*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 215, *Health informatics*.

## 0 Introduction

### 0.1 General

The purpose of this International Standard is to define the generic concepts needed to achieve continuity of care. Continuity of care is an important aspect of quality and safety in healthcare and semantic interoperability is a basic requirement for continuity of care. The concepts that are needed for these should represent both the content and context of the healthcare services.

Healthcare is provided through activities in healthcare and clinical processes. These types of processes reflect the interaction between a subject of care and healthcare professionals. A clinical process provides continuity from the subject of care's perspective. To complete the concepts representing continuity of care, a number of basic premises for management, resource handling and administration are also needed.

The system of concepts for continuity of care defined in this International Standard is based upon the clinical perspective with the clinical process as focus, it defines its component concepts and their descriptive terms regarding all types of healthcare and especially considering patient-centred continuity of care. This International Standard will establish a common conceptual framework across national, cultural and professional barriers.

### 0.2 Aims for this International Standard

The general aim for this International Standard is to provide a comprehensive, conceptual basis for content and context in healthcare services. It should be the foundation for interoperability at all levels in healthcare organizations and for development of information systems in healthcare.

The concepts aim to support the continuity of care in healthcare with clinical processes as the focus, enabling the use of healthcare information for other purposes such as secondary use for follow-up and knowledge management. The core business in healthcare is the interaction between subjects of care and healthcare professionals, such interactions occur in healthcare and clinical processes and are the justification for the process approach of this International Standard. To be able to represent both clinical content and clinical context, this International Standard is based upon the clinical perspective and has focus upon the clinical process as a main concept for achieving continuity of care.

To be able to support continuity of care, the standard also aims to include comprehensive concept definitions and concept relations for the clinical, management and resource aspects of healthcare.

In practice this International Standard aims to be used whenever requirements for information in healthcare are specified. This will cover all levels of specifications in the development of,

- enterprise models as a common basis for interoperability on international, national or local levels,
- information systems, and
- structured information for specified types of clinical processes.

### 0.3 About the concept of health

This International Standard is based on the World Health Organization's (WHO) declaration of health from 1948: "... a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". In 1986 WHO made two amendments to the above definition: "resource for everyday life, not the objective of living" and "health is a positive concept emphasizing social and personal resources, as well as physical capacities".

In the International Classification of Functioning, Disability and Health (ICF) of WHO, the concept of health is categorized in a more specified way. The theoretical model in ICF identifies health components; body function, body structure, activity and participation, personal and environmental factors respectively. This International Standard applies the ICF model of health based on the health declaration.

In this International Standard, the word “health” is not used as an isolated term designating any concept within the scope of the standard. The word “health” is merely used as prefix in several terms. The meaning of this prefix is that the concept represented by the term has to do with the subject of care’s health state or health condition, often in relation to a healthcare/clinical process.

### 0.4 Healthcare versus social care

Healthcare as well as social care has the objective to influence, restore and maintain health in the WHO sense. All kinds of activities that have the potential to influence any one of the five components of health mentioned in the ICF model can be a part of such care. There is an evident overlap between healthcare activities and social care activities. This International Standard is focused upon the part of healthcare that (in most cultures) does not include social care. The role of the subject of care is defined with respect to healthcare and the terms chosen are from this sector. However, many of the concepts are relevant for the social care sector and through the cooperation of the different domains of healthcare this International Standard should also be applicable for social care.

### 0.5 Intended users for this International Standard

All parties interested in the interoperability issues in health care are intended users of this health informatics standard. This includes, but is not limited to, healthcare professionals and teams, subjects of care, healthcare managers, healthcare funding organizations and all types of healthcare providers and community care teams.

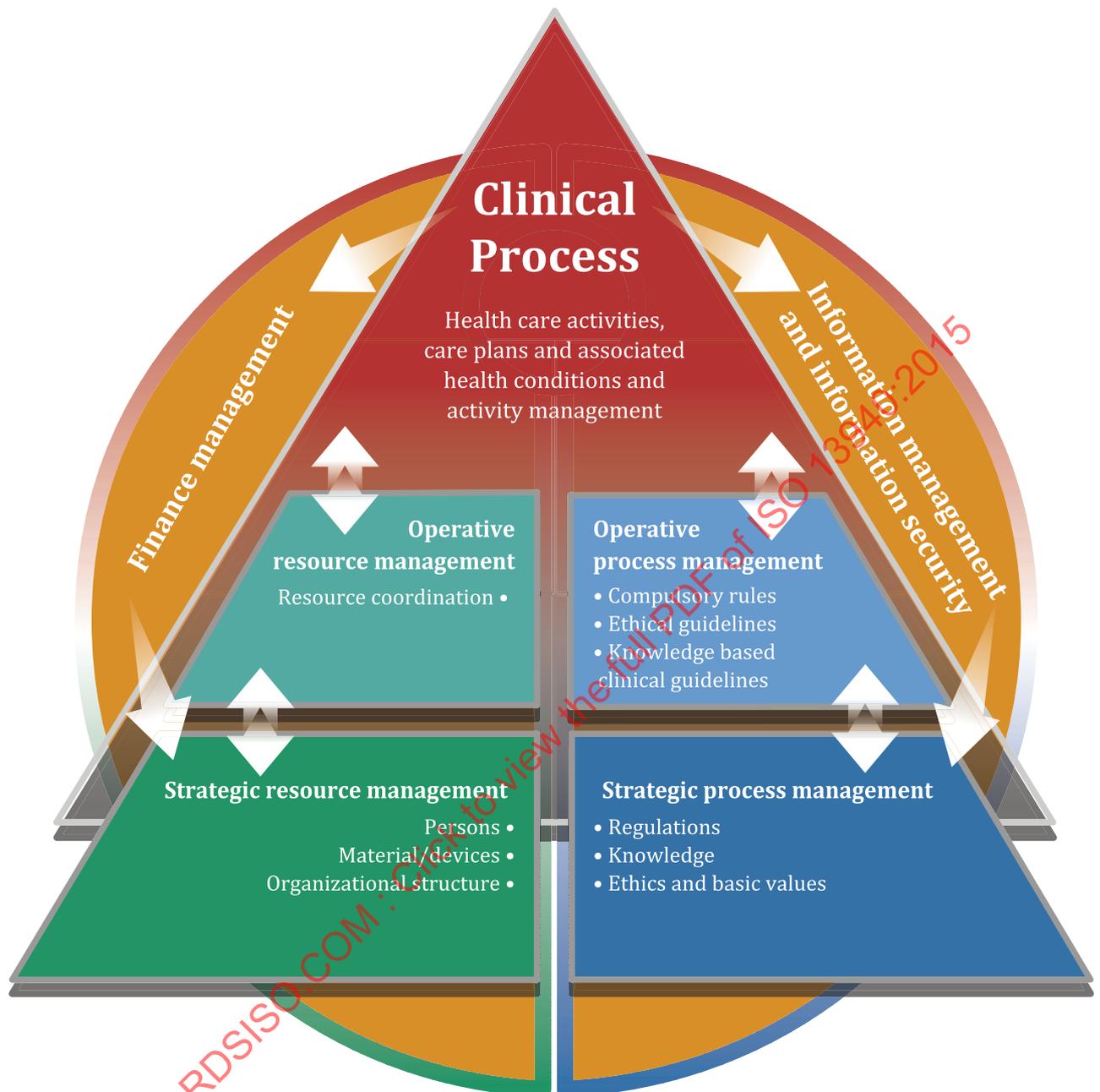
This system of concepts is relevant across all healthcare information and the development and use of healthcare information systems. It can also be used for business analysis as a basis for organizational decisions and more widely in developments that are not inherently tied to the use of information systems.

### 0.6 Architecture of this system of concepts

To cover continuity of care, concepts are needed from all of these basic process aspects:

- Healthcare/clinical processes
- Management
- Support

This system of concepts is based upon the clinical perspective of healthcare, this being the healthcare/clinical processes. All other areas of work in healthcare both relate to and interact with the healthcare/clinical processes. As such, the management aspects of healthcare are identified in the process management areas and similarly the resource support areas are correspondingly identified as outcomes of the support processes. This architecture with the areas around the healthcare/clinical process is described in [Figure 1](#).



**Figure 1 — Architecture of the concept areas**

## 0.7 Description and display of concepts

In this International Standard the concepts are grouped into separate clauses. The relationships between the enterprise/information areas that need to be covered are used to structure this International Standard. Each of the concepts are defined and described systematically and their relations are shown in UML models.

Descriptions are framed within tables, following the same pattern, and information is systematically provided for all the concepts presented in [Clauses 5](#) to [12](#). Some categories will intentionally be left blank as these are not relevant to a given concept.

Examples are provided wherever they are considered relevant and necessary. However and in general, examples for superordinate concepts are to be sought at the level of the corresponding subordinate concepts.

In order to help the reader understand the relationships between these concepts more easily, diagrams have been included based on UML conventions. For each one of the concepts described in [Clauses 5 to 12](#), a partial view of the general subclause and comprehensive diagram is provided, showing only its direct relationships with other concepts belonging to the relevant aspect of the system of concepts.

At the beginning of [Clauses 5 to 12](#) there are diagrams that provide partial views of the concepts that are to follow and focus upon the topic addressed in the corresponding clause. For clarity of reading,

- concepts shown in white with a solid border are defined in the same clause or subclause,
- concepts defined in other clauses or subclauses are shown in grey with a solid border,
- concepts not defined in this International Standard are shown in grey with a dashed border,
- for the concepts shown in white, all relationships are included,
- relationships between concepts shown in grey are not included,
- italic characters are used in the headings for concepts that are purely abstract and therefore supported only through their specializations.

The purpose of using concept models in this International Standard is to highlight the relationships between concepts. Attributes do not belong to the field of concept modelling. Attributes can be added in the course of implementation and still be conformant to this International Standard.

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# Health informatics — System of concepts to support continuity of care

## 1 Scope

This International standard defines a system of concepts for different aspects of the provision of healthcare.

The core business in healthcare is the interaction between subjects of care and healthcare professionals. Such interactions occur in healthcare/clinical processes and are the justification for the process approach of this International Standard. To be able to represent both clinical content and clinical context, this International Standard is related to a generic healthcare/clinical process model as well as comprehensive concept definitions and concept models for the clinical, management and resource aspects of healthcare services.

In practice this International Standard covers the concept definitions needed whenever structured information in healthcare is specified as a requirement. The definitions are intended to refer to the conceptual level only and not to details of implementation. This International Standard will cover all levels of specifications in the development of

- logical reference models within the information viewpoint as a common basis for semantic interoperability on international, national or local levels,
- information systems, and
- information for specified types of clinical processes.

How to perform specific healthcare/clinical/informatics processes is not covered by this International Standard.

Healthcare research processes and healthcare educational processes are not covered in this International Standard.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9000, *Quality management systems — Fundamentals and vocabulary*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000 and the following apply.

### 3.1 Healthcare

#### 3.1.1 healthcare

care activities, services, management or supplies related to the health of an individual

Note 1 to entry: This includes more than performing procedures for subjects of care. It includes, for example, the management of information about patients, health status and relations within the healthcare delivery framework and may also include the management of clinical knowledge.

[SOURCE: ISO/TR 18307:2001, 3.70, modified]

### 3.1.2

#### **continuity of care**

efficient, effective, ethical care delivered through interaction, integration, co-ordination and sharing of *information* (3.9.5) between different healthcare actors over time

Note 1 to entry: "Healthcare actors" is defined in 5.2.1.

## 3.2 Concepts and terms

### 3.2.1

#### **concept**

unit of knowledge created by a unique combination of characteristics

[SOURCE: ISO 1087-1:2000, 3.2.1]

### 3.2.2

#### **system of concepts**

DEPRECATED: concept system

set of *concepts* (3.2.1) structured according to the relations among them

[SOURCE: ISO 1087-1:2000, 3.2.11]

### 3.2.3

#### **deprecated term**

term rejected by an authoritative body

[SOURCE: ISO 1087-1:2000, 3.4.17]

## 3.3 Actors

### 3.3.1

#### **organization**

unique framework of authority within which a *person* (3.3.4) or persons act, or are designated to act towards some purpose

[SOURCE: ISO/IEC 6523-1:1998, 3.1].

Note 1 to entry: Groupings or subdivisions of organizations may also be considered as organizations where there is need to identify them in this way for purposes of information interchange.

Note 2 to entry: In this International Standard, this definition applies to any kind of organizations, whatever their legal status.

### 3.3.2

#### **organizational pattern**

relationships between the various parts of an *organization* (3.3.1)

### 3.3.3

#### **party**

person or group performing a *role* (3.3.5) in relation to the business of a specific community or domain

[SOURCE: ISO 8459:2009, 2.33]

### 3.3.4

#### **person**

human being regarded as an individual

**3.3.5****role**

function or position

[SOURCE: ISO/HL7 21731:2006]

**3.3.6****person role**

role (3.3.5) of a *person* (3.3.4)

**3.3.7****organization role**

role (3.3.5) of an *organization* (3.3.1)

**3.4 Resources****3.4.1****resource**

asset that is utilized or consumed during the execution of a *process* (3.6.1)

Note 1 to entry: Includes diverse entities such as funding, personnel, facilities, capital equipment, tools, and utilities such as power, water, fuel and communication infrastructures.

Note 2 to entry: Resources include those that are reusable, renewable or consumable.

EXAMPLE Time, personnel, human skills and knowledge, equipment, services, supplies, facilities, technology, data, money

[SOURCE: ISO/IEC/IEEE 15288:2015, 4.1.38, modified]

**3.4.2****medical device**

any instrument, apparatus, implement, machine, appliance, implant, in vitro reagent or calibrator, software, material or other similar or related article, intended by the manufacturer to be used, alone or in combination, for human beings for one or more of the specific purpose(s) of

- diagnosis, prevention, monitoring, treatment or alleviation of disease,
- diagnosis, monitoring, treatment, alleviation of or compensation for an injury,
- investigation, replacement, modification, or support of the anatomy or of a physiological process,
- supporting or sustaining life,
- control of conception,
- disinfection of medical devices,
- providing *information* (3.9.5) for medical purposes by means of *in vitro* examination of specimens derived from the human body,

and which does not achieve its primary intended action in or on the human body by pharmacological, immunological or metabolic means, but which may be assisted in its function by such means

Note 1 to entry: This definition has been developed by the Global Harmonization Task Force (GHTF)

Note 2 to entry: Products, which could be considered to be medical devices in some jurisdictions but for which there is not yet a harmonized approach, are:

- aids for disabled/handicapped people,
- devices for the treatment/diagnosis of diseases and injuries in animals,
- accessories for medical devices (see Note 3),

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- disinfection substances,
- devices incorporating animal and human tissues which can meet the requirements of the above definition but are subject to different controls.

Note 3 to entry: Accessories intended specifically by manufacturers to be used together with a “parent” medical device to enable that medical device to achieve its intended purpose, should be subject to this International Standard.

[SOURCE: ISO 14971:2007, 2.9]

### 3.4.3 medicinal product

any substance or combination of substances that can be administered to human beings for treating or preventing disease, with the view to making a medical diagnosis or to restore, correct, or modify physiological functions

Note 1 to entry: A medicinal product may contain one or more manufactured items and one or more pharmaceutical products.

Note 2 to entry: In certain jurisdictions a Medicinal Product may also be defined as any substance or combination of substances which may be used to make a medical diagnosis.

Note 3 to entry: The provisions in this International Standard apply to proprietary medicinal products for human use intended to be placed on the market and to industrially manufactured medicinal products, the marketing of which has been authorized by a Medicines Regulatory Agency. However, the provisions do not apply to medicinal products prepared according to prescription, for instance, prepared in a pharmacy from a prescription intended for a specific patient; medicinal products prepared in accordance with an official formula, for instance, prepared in a pharmacy in accordance with the instructions in a pharmacopoeia and intended to be given direct to the patient by the pharmacy; medicinal products intended for research and development trials; intermediate products intended for subsequent processing by an authorized manufacturer.

[SOURCE: ISO 11615:2012, 3.1.49]

## 3.5 Management

### 3.5.1 quality in healthcare

degree to which *healthcare* (3.1.1) fulfils requirements related to defined quality characteristics

Note 1 to entry: Quality is defined in ISO 9000:2015, 3.6.2, as the ‘degree to which a set of inherent characteristics of an object fulfils requirements’.

### 3.5.2 quality management

management with regard to quality

Note 1 to entry: Quality management can include establishing quality policies and quality objectives, and processes to achieve these quality objectives through quality planning, quality assurance, quality control, and quality improvement.

[SOURCE: ISO 9000:2015, 3.3.4]

### 3.5.3 quality assurance

part of *quality management* (3.5.2) focused on providing confidence that quality requirements will be fulfilled

[SOURCE: ISO 9000:2015, 3.3.6]

**3.5.4****quality control**

part of *quality management* (3.5.2) focused on fulfilling quality requirements

[SOURCE: ISO 9000:2015, 3.3.7]

**3.5.5****risk**

combination of the probability of an event and its consequences

[SOURCE: ISO Guide 73:2009, 1.1]

**3.5.6****unintended event**

phenomenon that is not part of the normal course of a *process* (3.6.1) but might influence it

Note 1 to entry: An unintended event can be either expected or unexpected.

Note 2 to entry: Activities in a process are deliberate and have a purpose. In an ideal situation purposes are always fulfilled. If an activity in whatever other process has an impact on the process currently analysed, the effect of this activity is perceived by the current process as an unintended event. Then the course of the process may deviate from the expected one. Such an exception from the desired course might prove negative or positive in comparison to the desired process outcome.

EXAMPLE Surgical complication (anatomy and tissue reacts in an unexpected manner), electrical failure, contamination in a medicinal product, hardware failure, spontaneous recovery when the patient is awaiting therapy.

**3.6 Process management****3.6.1****process**

set of interrelated or interacting activities that use inputs to deliver an intended result

Note 1 to entry: Whether the “intended result” of a process is called output, product or service depends on the context of the reference.

Note 2 to entry: Inputs to a process are generally the outputs of other processes and outputs of a process are generally the inputs to other processes.

Note 3 to entry: Two or more interrelated and interacting processes in series can also be referred to as a process.

Note 4 to entry: Processes in an organization are generally planned and carried out under controlled conditions to add value.

Note 5 to entry: A process where the conformity of the resulting output cannot be readily or economically validated is frequently referred to as a “special process”.

Note 6 to entry: This constitutes one of the common terms and core definitions for ISO management system standards given in Annex SL of the Consolidated ISO Supplement to the ISO/IEC Directives, Part 1. The original definition has been modified to prevent circularity between process and output, and Notes 1 to 5 to entry have been added.

[SOURCE: ISO 9000:2015, 3.4.1]

**3.6.2****process model**

representation of a *process* (3.6.1)

**3.6.3  
product**

output of an organization that can be produced without any transaction taking place between the organization and the customer

Note 1 to entry: Production of a product is achieved without any transaction necessarily taking place between provider and customer, but can often involve this service element upon its delivery to the customer.

Note 2 to entry: The dominant element of a product is that it is generally tangible.

Note 3 to entry: Hardware is tangible and its amount is a countable characteristic (e.g. tyres). Processed materials are tangible and their amount is a continuous characteristic (e.g. fuel and soft drinks). Hardware and processed materials are often referred to as goods. Software consists of information regardless of delivery medium (e.g. computer programme, mobile phone app, instruction manual, dictionary content, musical composition, copyright, driver's license).

[SOURCE: ISO 9000:2015, 3.7.6]

**3.6.4  
service**

output of an *organization* (3.3.1) with at least one activity necessarily performed between the organization and the customer

Note 1 to entry: The dominant elements of a service are generally intangible.

Note 2 to entry: Service often involves activities at the interface with the customer to establish customer requirements as well as upon delivery of the service and can involve a continuing relationship such as banks, accountancies or public organizations, e.g. schools or hospitals.

Note 3 to entry: Provision of a service can involve, for example, the following:

- an activity performed on a customer-supplied tangible *product* (3.6.3) (e.g. a car to be repaired);
- an activity performed on a customer-supplied intangible product (e.g. the income statement needed to prepare a tax return);
- the delivery of an intangible product (e.g. the delivery of *information* (3.9.5) in the context of knowledge transmission);
- the creation of ambience for the customer (e.g. in hotels and restaurants);

Note 4 to entry: A service is generally experienced by the customer.

[SOURCE: ISO 9000:2015, 3.7.7]

**3.6.5  
output  
result of a process**

Note 1 to entry: Whether an output of the *organization* (3.3.1) is a *product* (3.6.3) or a *service* (3.6.4) depends on the preponderance of the characteristics involved, e.g. a painting for sale in a gallery is a product whereas supply of a commissioned painting is a service, a hamburger bought in a retail store is a product whereas receiving an order and serving a hamburger ordered in a restaurant is part of a service.

[SOURCE: ISO 9000:2015, 3.7.5]

**3.7 Time**

**3.7.1  
appointment**

arrangement to meet someone at a particular time and place

## 3.8 Responsibility

### 3.8.1

#### **commitment**

action resulting in an obligation by one or more of the participants in the act to comply with a rule or perform a contract

Note 1 to entry: The enterprise object(s) participating in an action of commitment may be parties or agents acting on behalf of a party or parties. In the case of an action of commitment by an agent, the principal becomes obligated.

[SOURCE: ISO 12967-1:2009, 3.6.2]

## 3.9 Information management

### 3.9.1

#### **data**

reinterpretable representation of information in a formalized manner suitable for communication, interpretation or processing

Note 1 to entry: Data can be processed by humans or by automatic means.

[SOURCE: ISO/IEC 2382:2015, 2121272, modified]

### 3.9.2

#### **data repository**

an identifiable *data* (3.9.1) storage facility

Note 1 to entry: In ISO 10303-22:1998 this is the definition of repository.

### 3.9.3

#### **healthcare data**

*data* (3.9.1) produced during healthcare activities

Note 1 to entry: Healthcare activity is defined in 7.2.

### 3.9.4

#### **healthcare information**

*information* (3.9.5) about a *person* (3.3.4), relevant to his or her *healthcare* (3.1.1)

### 3.9.5

#### **information**

knowledge concerning objects that within a certain context has a particular meaning

Note 1 to entry: Facts, events, things, processes, and ideas, including concepts, are examples of objects.

Note 2 to entry: Information is something that is meaningful. Data might be regarded as information once its meaning is revealed.

[SOURCE: ISO/IEC 2382:2015, 2123204, modified]

### 3.9.6

#### **information model**

formal model of a bounded set of facts, concepts or instructions to meet a specified requirement

[SOURCE: ISO 10303-1:1994, 3.2.21]

### 3.9.7

#### **electronic health record**

repository of *information* (3.9.5) regarding the health of a subject of care in computer processable format

Note 1 to entry: Subject of care is defined in 5.2.1.

[SOURCE: ISO 13606-2:2008, 4.7, modified]

**3.9.8**

**medium**

material on which data is stored (e.g. a magnetic disk)

[SOURCE: ISO/IEC 14776-151:2010, 3.1.117, modified]

**4 Symbols and abbreviations**

The following abbreviations are used for the terms defined in this International Standard.

DRG	Diagnosis-Related Group
EHR	Electronic Health Record
ICF	The International Classification of Functioning, Disability and Health
GP	General Medical Practitioner
WHO	World Health Organization
UML	Unified Modelling Language

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## 5 Concepts related to healthcare actors

### 5.1 General

A model showing the associations between concepts related to actors in continuity of care is shown in Figures 2 and 3. For further detail about the diagram notation, please refer to 0.7 in the Introduction.

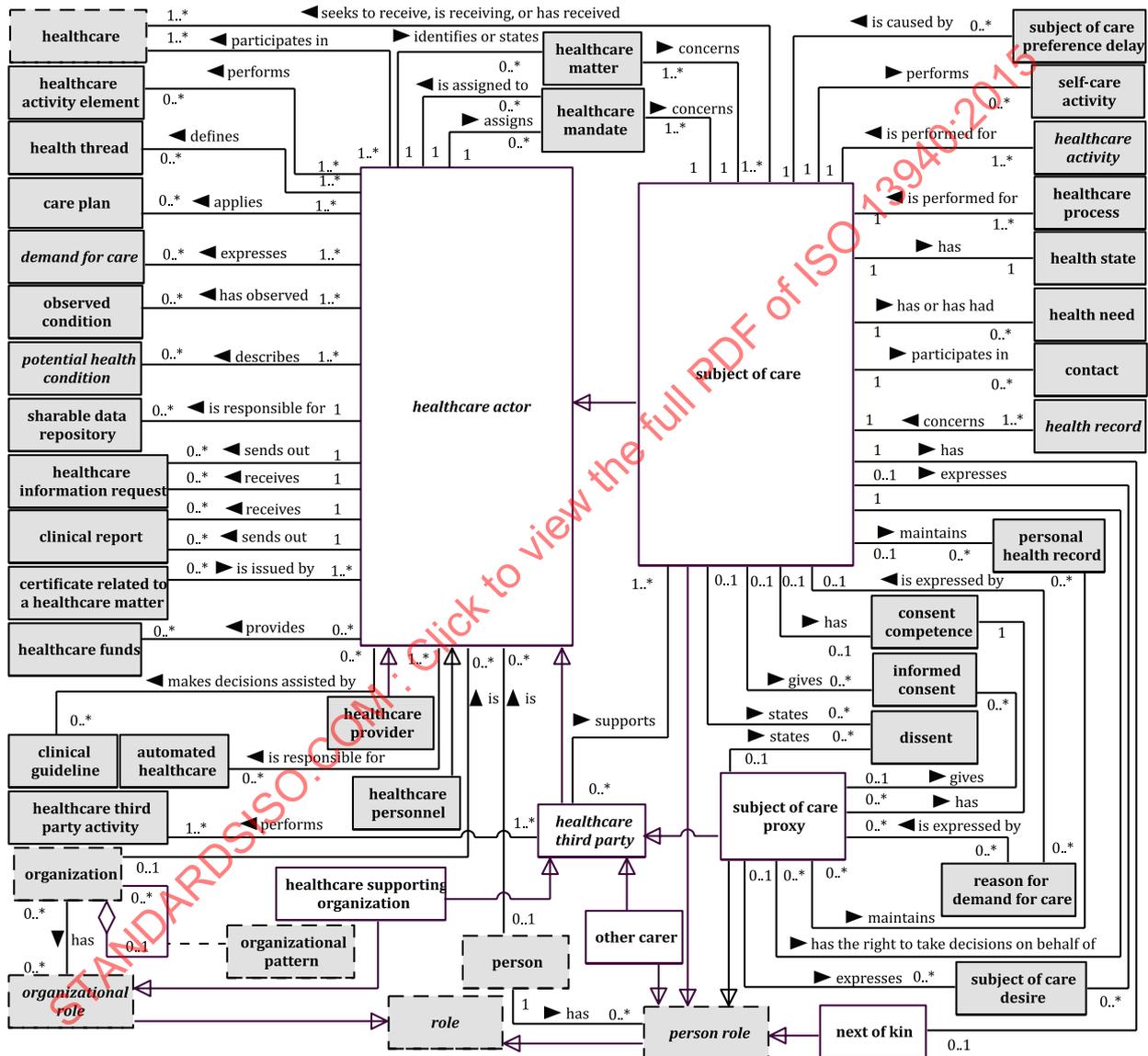


Figure 2 — Comprehensive UML diagram of concepts related to healthcare actors (i)

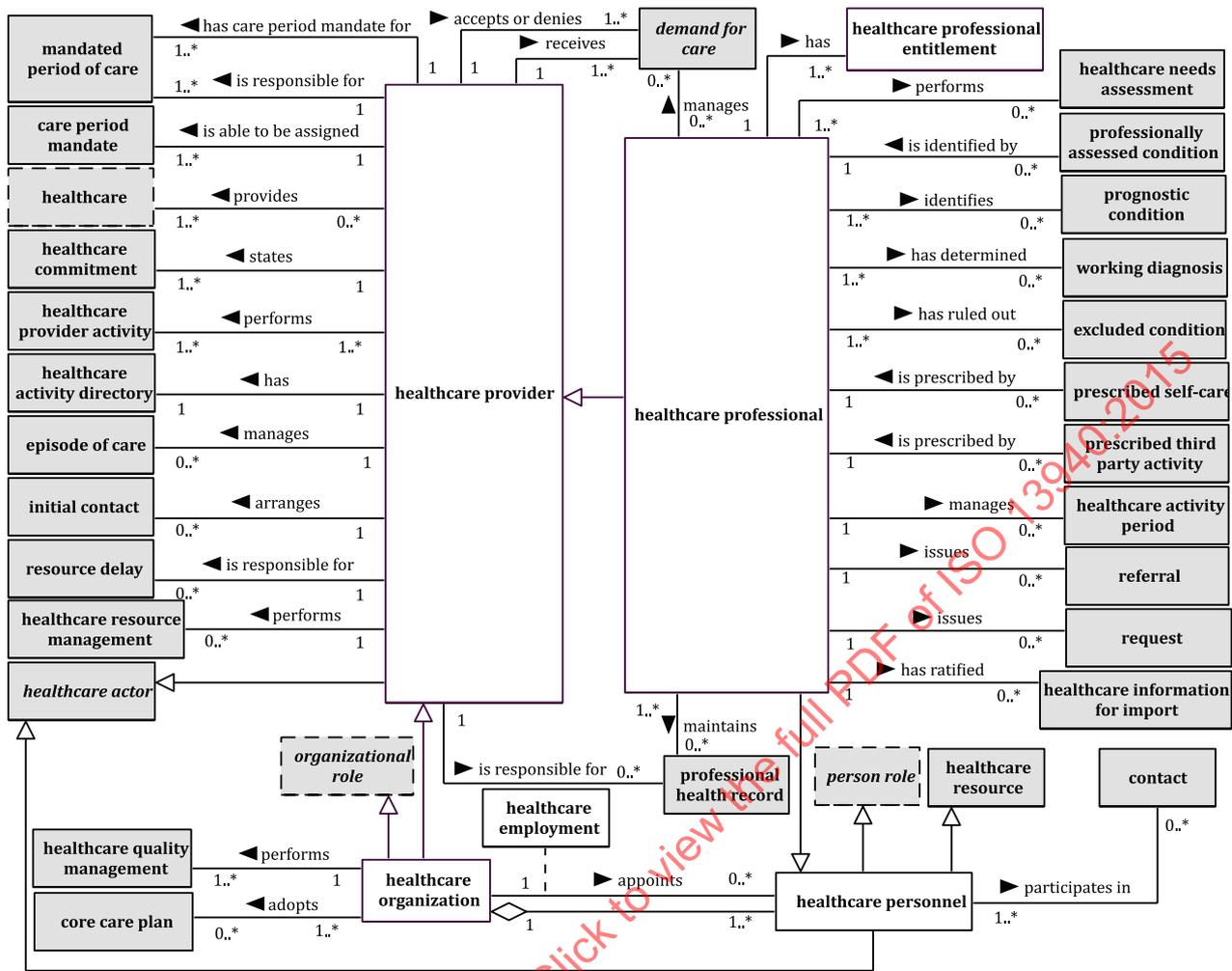


Figure 3 — Comprehensive UML diagram of concepts related to healthcare actors (ii)

## 5.2 Healthcare actor

**Term:** *healthcare actor*

**Deprecated term:** healthcare party

**Definition:** *organization or person participating in healthcare*

NOTE 1 The involvement of the *healthcare actor* will be either direct (for example, the actual provision of care), or indirect (for example, at organizational level).

NOTE 2 According to this definition, people or organizations responsible for the funding, payment, or reimbursement of healthcare provision are *healthcare actors*, as well as organizations responsible for healthcare delivery.

NOTE 3 In EN 13940-1:2007 healthcare party was the preferred term for this concept.

Table 1 lists the associations of this concept; a UML representation of the concept is shown in Figure 4.

**Table 1 — Associations of healthcare actor**

Specialization of		Generalization of	
		healthcare provider	
		subject of care	
		healthcare personnel	
		healthcare third party	
Association from		Association name	Association to
1..*	healthcare actor	participates in	1..* healthcare
1	healthcare actor	identifies or states	0..* healthcare matter
1..*	healthcare actor	defines	0..* health thread
0..*	healthcare actor	makes decisions assisted by	0..* clinical guideline
1..*	healthcare actor	applies	0..* care plan
1	healthcare actor	is responsible for	0..* sharable data repository
1..*	healthcare actor	expresses	0..* demand for care
1	healthcare actor	sends out	0..* healthcare information request
1	healthcare actor	receives	0..* healthcare information request
1	healthcare actor	sends out	0..* clinical report
1	healthcare actor	receives	0..* clinical report
1..*	healthcare actor	performs	0..* healthcare activity element
1..*	healthcare actor	is responsible for	0..* automated healthcare
0..*	healthcare actor	provides	0..* healthcare funds
1..*	healthcare actor	has observed	0..* observed condition
1..*	healthcare actor	describes	0..* potential health condition
1	healthcare actor	assigns	0..* healthcare mandate
0..*	healthcare mandate	is assigned to	1 healthcare actor
0..1	person	is	0..* healthcare actor
0..1	organization	is	0..* healthcare actor
0..*	certificate related to a healthcare matter	is issued by	1..* healthcare actor

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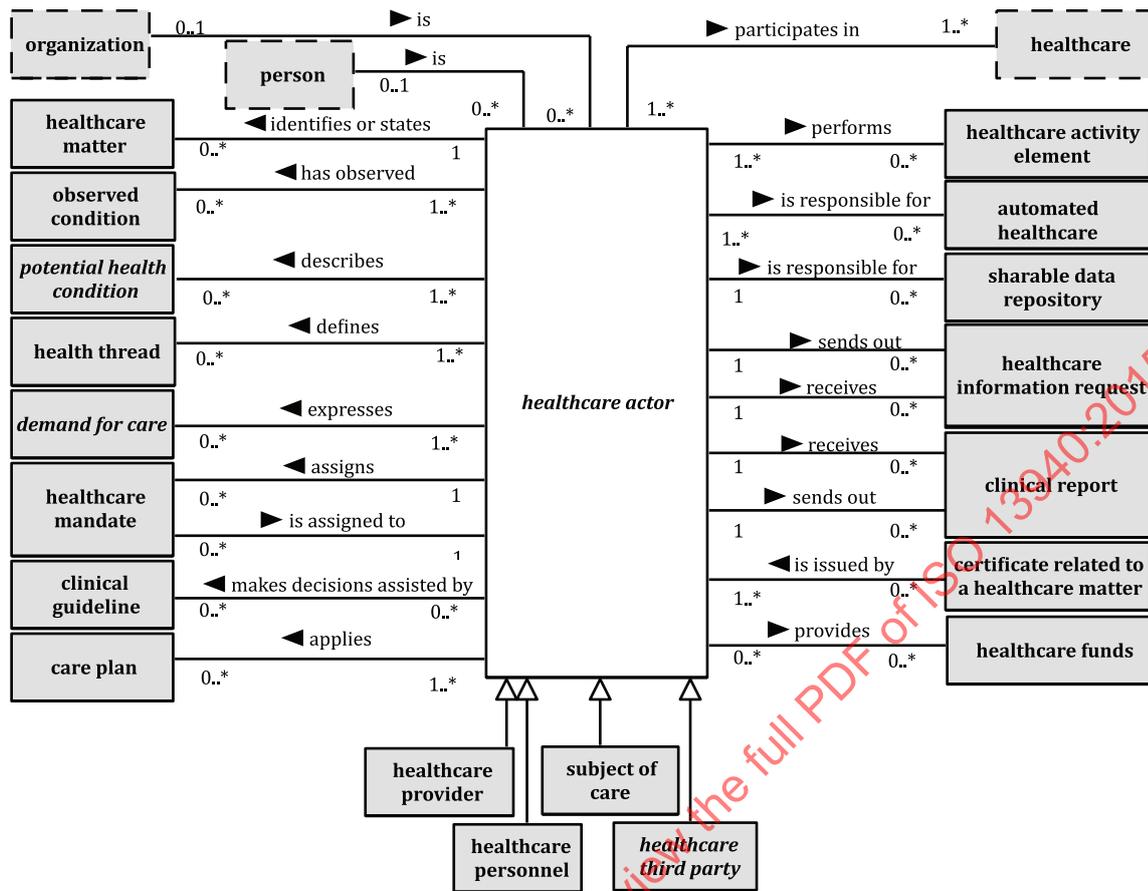


Figure 4 — Healthcare actor (UML representation)

### 5.2.1 Subject of care

**Term:** *subject of care*

**Synonyms:** subject of healthcare, patient, client, service user

**Definition:** *healthcare actor* with a *person* role; who seeks to receive, is receiving, or has received *healthcare*

**NOTE** A foetus may be considered as a subject of care when receiving or when having received healthcare.

**EXAMPLES** A treated patient, a client of a physiotherapist, each particular member of a target population for screening, each particular member of a group of diabetic people attending a session of medical education, a person seeking health advice.

[Table 2](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 5](#).

Table 2 — Associations of *subject of care*

Specialization of		Generalization of	
healthcare actor			
person role			
Association from		Association name	Association to
1	subject of care	seeks to receive, is receiving, or has received	1..* healthcare
1	subject of care	has	1 health state
1	subject of care	has or has had	0..* health need
0..1	subject of care	maintains	0..* personal health record
1	subject of care	performs	0..* self-care activity
1	subject of care	has	0..* next of kin
0..1	subject of care	has	0..1 consent competence
0..1	subject of care	expresses	0..* subject of care desire
0..1	subject of care	gives	0..* informed consent
0..1	subject of care	states	0..* dissent
1	subject of care	participates in	0..* contact
0..*	subject of care proxy	has the right to take decisions on behalf of	1 subject of care
0..*	subject of care preference delay	is caused by	1 subject of care
1..*	healthcare process	is performed for	1 subject of care
1..*	healthcare activity	is performed for	1 subject of care
1..*	healthcare matter	concerns	1 subject of care
1..*	healthcare mandate	concerns	1 subject of care
1..*	health record	concerns	1 subject of care
0..*	healthcare third party	supports	1..* subject of care
0..*	reason for demand for care	is expressed by	0..1 subject of care

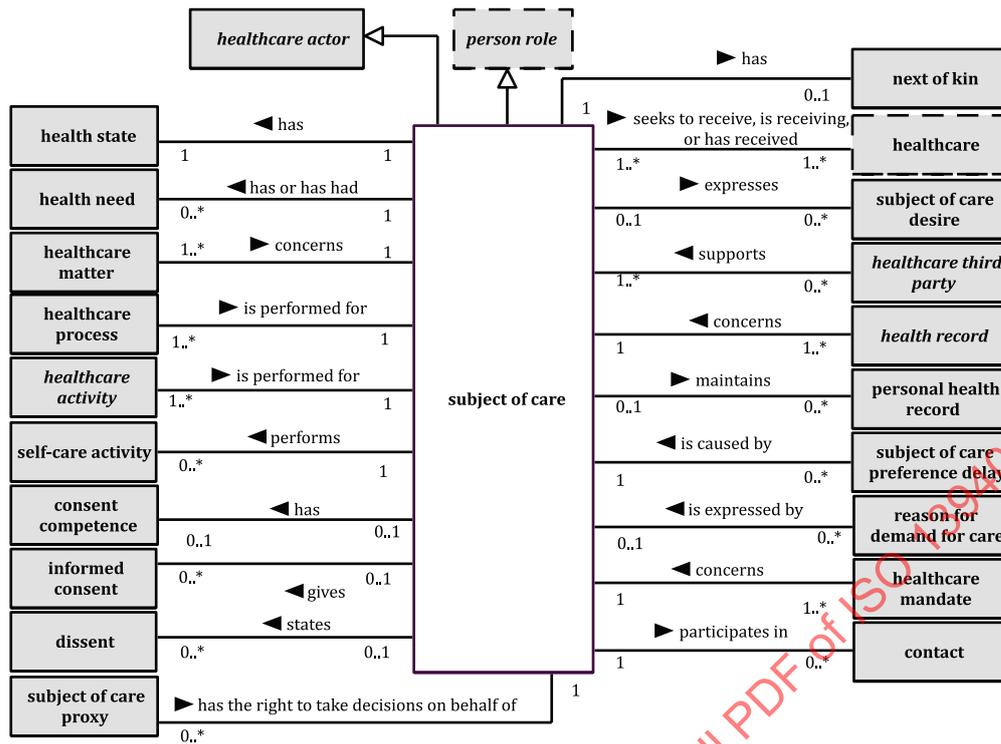


Figure 5 — Subject of care (UML representation)

5.2.2 Next of kin

Term: *next of kin*

Definition: *person role* being either the closest living relative of *the subject of care* or identified as the one he has a close relationship with

NOTE 1 The person that is the next of kin may participate implicitly or explicitly in healthcare by sometimes being a *subject of care proxy* when the *subject of care* has impaired consent competence. Thereby in these circumstances a person that is *next of kin* can perform the role of a *healthcare third party*.

NOTE 2 A person may play the role of *next of kin* to more than one *subject of care*

Table 3 lists the associations of this concept; a UML representation of the concept is shown in Figure 6.

Table 3 — Associations of *next of kin*

Specialization of		Generalization of	
person role			
Association from	Association name	Association to	
1 subject of care	has	0..1	next of kin

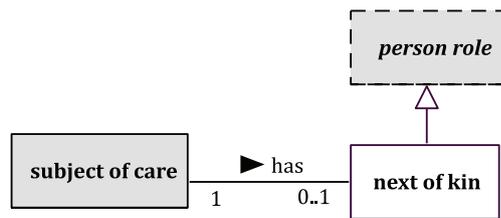


Figure 6 — Next of kin (UML representation)

5.2.3 Healthcare provider

**Term:** *healthcare provider*

**Synonyms:** care provider, health provider, health service provider, healthcare service provider

**Definition:** *healthcare actor* that is able to be assigned one or more *care period mandates*

NOTE 1 The personnel of a *healthcare organization* that is a *healthcare provider* may include both *healthcare professionals* and others which participate in the provision of healthcare.

NOTE 2 This International Standard includes only two specializations of *healthcare provider*. This is not meant to exclude the possibility of other specializations. In jurisdictions where other kinds of *healthcare actors* are included in the concept of *healthcare provider*, the necessary specializations may be added.

NOTE 3 According to this definition, organizations solely responsible for the funding, payment, or reimbursement of healthcare provision are not *healthcare providers*; for the purpose of this International Standard they are considered as *healthcare third parties*.

Table 4 lists the associations of this concept; a UML representation of the concept is shown in Figure 7.

Table 4 — Associations of *healthcare provider*

Specialization of		Generalization of	
healthcare actor		healthcare organization	
		healthcare professional	
Association from	Association name	Association to	
0..*	healthcare provider	provides	1..* healthcare
1	healthcare provider	has care period mandate for	1..* mandated period of care
1	healthcare provider	is responsible for	1..* mandated period of care
1..*	healthcare provider	performs	1..* healthcare provider activity
1	healthcare provider	receives	1..* demand for care
1	healthcare provider	accepts or denies	1..* demand for care
1	healthcare provider	is responsible for	0..* professional health record
1	healthcare provider	manages	0..* episode of care
1	healthcare provider	is able to be assigned	1..* care period mandate
1	healthcare provider	arranges	0..* initial contact
1	healthcare provider	states	1..* healthcare commitment
1	healthcare provider	has	1 healthcare activity directory
1	healthcare provider	is responsible for	0..* resource delay
1	healthcare provider	performs	0..* healthcare resource management

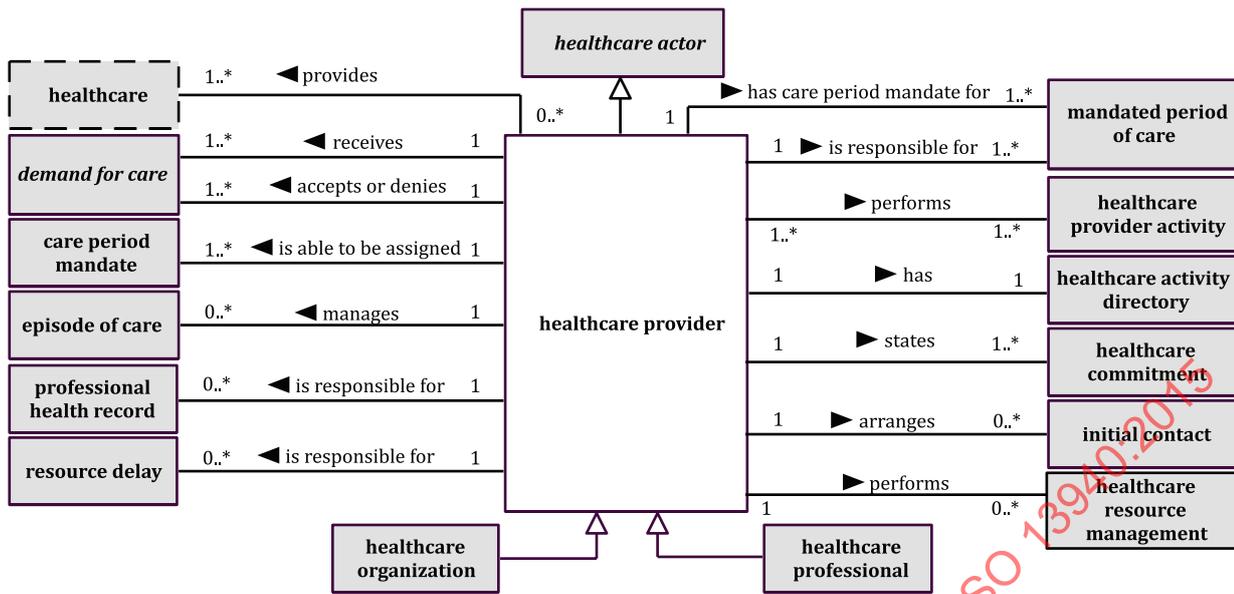


Figure 7 — Healthcare provider (UML representation)

5.2.3.1 Healthcare organization

**Term:** *healthcare organization*

**Synonyms:** care organization, healthcare delivery organization

**Definition:** *healthcare provider* having an *organization* role

NOTE 1 Groupings or subdivisions of an organization, such as departments or sub-departments, may also be considered as organizations where there is need to identify them. The internal structure of an organization is described by its organizational pattern. Therefore, an organization may be considered in itself as a standalone organization or as a superstructure containing departments and sub-departments, for instance, other lower level organizations. A *healthcare organization* represents the role any such organization plays when it is involved in the direct provision of *healthcare activities*.

NOTE 2 Effectively, a *healthcare organization* relies on the activity performed by healthcare personnel, whether employed, contracting, or with temporary informal though functional relationships between them. A healthcare team working together, for example, a specific type of *clinical process* with participants from different departments is also a kind of *healthcare organization*.

NOTE 3 A free-standing self-employed solo practising *healthcare professional* shall be considered as the only member of his/her own *healthcare organization*.

NOTE 4 Organizations may have a number of different roles. When an organization acts in a role where its *healthcare personnel* participate in the direct provision of healthcare, it is called a *healthcare organization*.

EXAMPLES A care team, a group practice, a hospital, a hospital department, a hospital care unit, self-employed GP

Table 5 lists the associations of this concept; a UML representation of the concept is shown in Figure 8.

Table 5 — Associations of *healthcare organization*

Specialization of	Generalization of
healthcare provider	

Table 5 (continued)

organizational role			
<b>Component of</b>		<b>Aggregation of</b>	
		1..*	healthcare personnel
<b>Association from</b>	<b>Association name</b>	<b>Association to</b>	
1..*	healthcare organization	appoints	0..* healthcare personnel
1..*	healthcare organization	adopts	0..* core care plan
1	healthcare organization	performs	1..* healthcare quality management

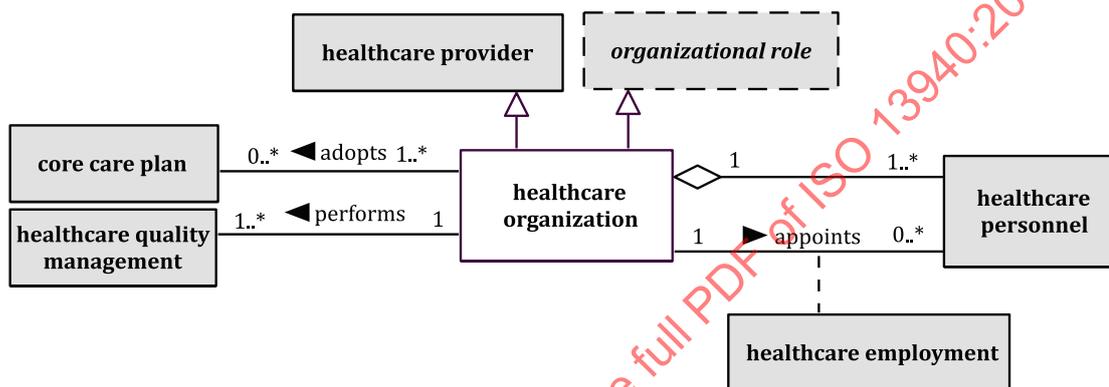


Figure 8 — Healthcare organization (UML representation)

5.2.3.2 Healthcare employment

**Term:** *healthcare employment*

**Synonym:** care employment

**Definition:** contractual framework between a *healthcare personnel* and a *healthcare organization* describing the roles and responsibilities assigned to that *healthcare personnel*

Table 6 lists the associations of this concept; a UML representation of the concept is shown in Figure 9.

Table 6 — Associations of *healthcare employment*

Association concept		Links			
1	healthcare employment	1	healthcare personnel	1	healthcare organization

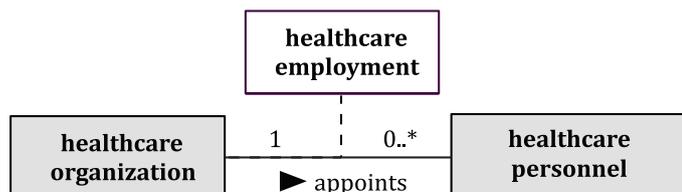


Figure 9 — Healthcare employment (UML representation)

5.2.3.3 Healthcare personnel

**Term:** *healthcare personnel*

**Synonyms:** care personnel, individual provider

**Definition:** individual *healthcare actor* having a *person role* in a *healthcare organization*

**EXAMPLES** GP, medical consultant, therapist, dentist, nurse, social worker, radiographer, nurse’s assistant, children’s nurse, nursing officer, head of department, social worker, medical consultant, etc.

Table 7 lists the associations of this concept; a UML representation of the concept is shown in Figure 10.

Table 7 — Associations of *healthcare personnel*

Specialization of		Generalization of	
healthcare actor		healthcare professional	
person role			
healthcare resource			
Component of		Aggregation of	
1	healthcare organization		
Association from	Association name	Association to	
1	healthcare organization	0..*	healthcare personnel
1..*	healthcare personnel	0..*	contact

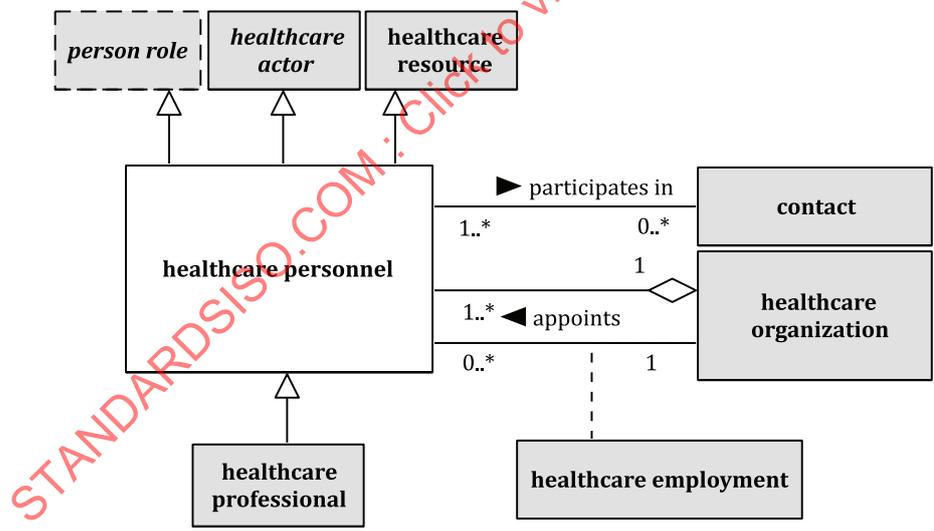


Figure 10 — Healthcare personnel (UML representation)

5.2.3.3.1 Healthcare professional

**Term:** *healthcare professional*

**Synonym:** care professional

**Definition:** *healthcare personnel* having a *healthcare professional entitlement* recognized in a given jurisdiction

**NOTE** The *healthcare professional entitlement* entitles a *healthcare professional* to provide healthcare independent of a role in a *healthcare organization*.

**EXAMPLES** GP, medical consultant, therapist, dentist, nurse, radiographer, etc.

[Table 8](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 11](#).

**Table 8 — Associations of *healthcare professional***

Specialization of		Generalization of	
healthcare provider			
healthcare personnel			
Association from		Association name	Association to
1	healthcare professional	has	1..* healthcare professional entitlement
1	healthcare professional	issues	0..* referral
1	healthcare professional	issues	0..* request
1	healthcare professional	manages	0..* healthcare activity period
1..*	healthcare professional	maintains	0..* professional health record
1	healthcare professional	has ratified	0..* healthcare information for import
0..*	healthcare professional	manages	0..* demand for care
1..*	healthcare professional	identifies	0..* prognostic condition
1	healthcare professional	has determined	0..* working diagnosis
1..*	healthcare professional	has ruled out	0..* excluded condition
0..*	professionally assessed condition	is identified by	1 healthcare professional
0..*	prescribed self-care	is prescribed by	1 healthcare professional
0..*	prescribed third party activity	is prescribed by	1 healthcare professional
1..*	healthcare professional	performs	0..* healthcare needs assessment

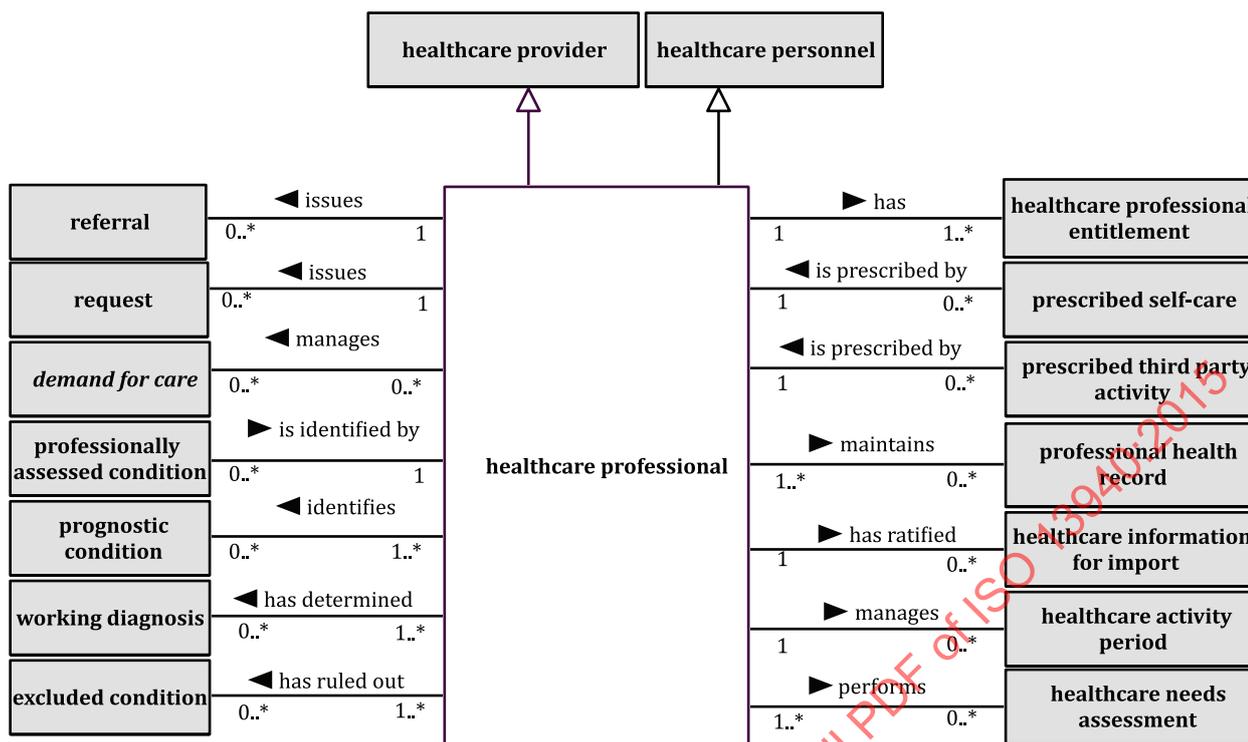


Figure 11 — Healthcare professional (UML representation)

5.2.3.3.2 Healthcare professional entitlement

**Term:** *healthcare professional entitlement*

**Synonym:** care professional entitlement

**Definition:** registered authorization given to a *person* in order to allow the *person* to have or perform specific roles in healthcare

NOTE 1 Entitlement is usually backed by evidence of having received, or continuously receiving, the necessary qualification, the relevant education and training.

NOTE 2 The official entitlement of a *healthcare professional* forms the foundation for his/her official duties and rights.

EXAMPLES Diploma, professional registration (e.g. registered nurse).

Table 9 lists the associations of this concept; a UML representation of the concept is shown in Figure 12.

Table 9 — Associations of *healthcare professional entitlement*

Association from		Association name	Association to	
1	healthcare professional	has	1..*	healthcare professional entitlement

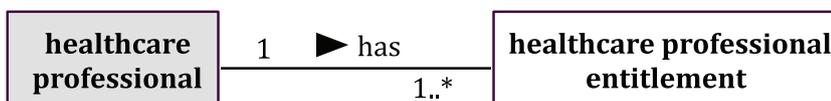


Figure 12 — Healthcare professional entitlement (UML representation)

5.2.4 Healthcare third party

**Term:** *healthcare third party*

**Synonym:** care third party

**Definition:** *healthcare actor* other than a *healthcare provider* or the *subject of care*

NOTE 1 According to this definition, a relative (family member) aiding the subject of care, any actor responsible for social support, or for the funding, payment, or reimbursement of healthcare provision are *healthcare third parties*.

NOTE 2 *Healthcare third party* is an abstract superordinate generic concept which is only fully supported through the use of one of its subordinate specific concepts.

Table 10 lists the associations of this concept; a UML representation of the concept is shown in Figure 13.

Table 10 — Associations of *healthcare third party*

Specialization of		Generalization of	
healthcare actor		other carer	
		subject of care proxy	
		healthcare supporting organization	
Association from	Association name	Association to	
0..*	healthcare third party	supports	1..* subject of care
1..*	healthcare third party	performs	1..* healthcare third party activity

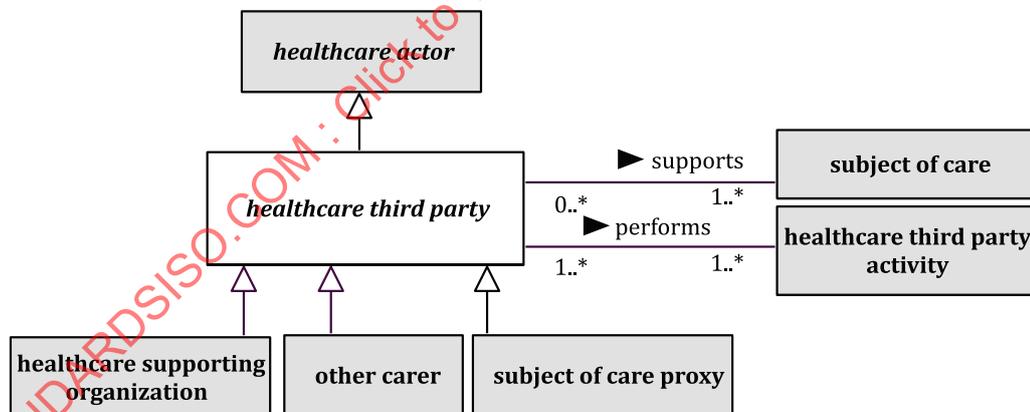


Figure 13 — Healthcare third party (UML representation)

5.2.4.1 Other carer

**Term:** *other carer*

**Synonym:** informal carer

**Definition:** *healthcare third party* having *person role*

EXAMPLES A relative (family member), a neighbour.

Table 11 lists the associations of this concept; a UML representation of the concept is shown in Figure 14.

Table 11 — Associations of *other carer*

Specialization of	Generalization of
healthcare third party	
person role	

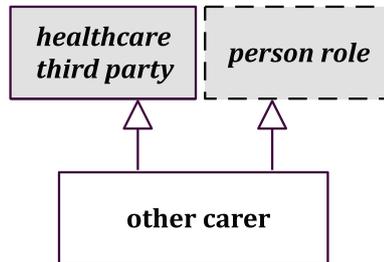


Figure 14 — Other carer (UML representation)

5.2.4.2 Healthcare supporting organization

**Term:** *healthcare supporting organization*

**Synonym:** care supporting organization

**Definition:** *healthcare third party* having *organizational role*

EXAMPLES Voluntary aid organization, a homecare service organization, a health insurance fund, the operator of a telemedicine system, family.

Table 12 lists the associations of this concept; a UML representation of the concept is shown in Figure 15.

Table 12 — Associations of *healthcare supporting organization*

Specialization of	Generalization of
healthcare third party	
organizational role	

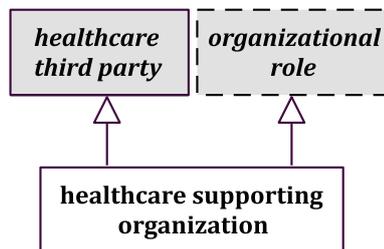


Figure 15 — Healthcare supporting organization (UML representation)

5.2.4.3 Subject of care proxy

**Term:** *subject of care proxy*

**Synonym:** subject of care agent

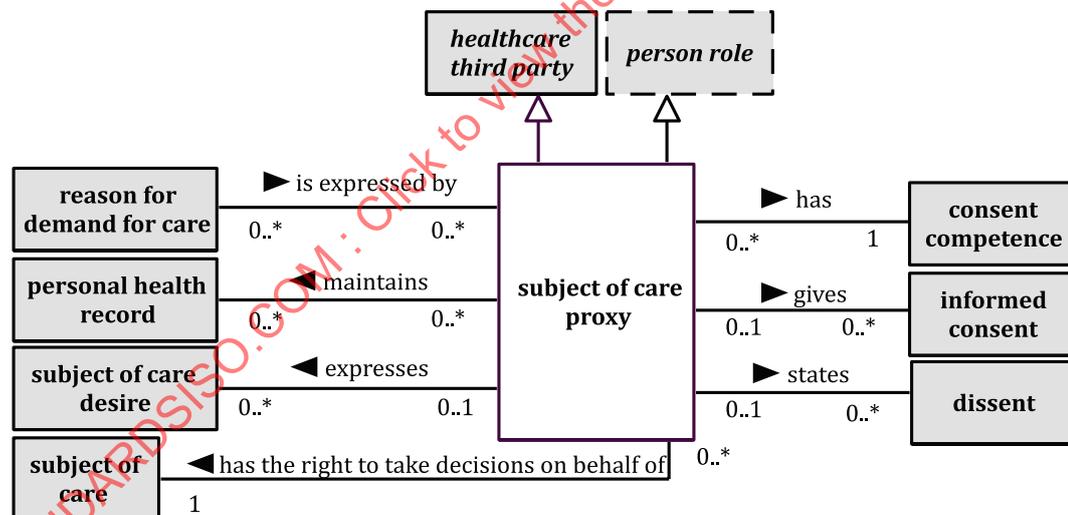
**Definition:** *healthcare third party* having *person role* with the right to take decisions on behalf of the *subject of care*

NOTE In ISO/TS 21298 subject of care agent is the preferred term for this concept.

Table 13 lists the associations of this concept; a UML representation of the concept is shown in Figure 16.

**Table 13 — Associations of *subject of care proxy***

Specialization of		Generalization of	
person role			
healthcare third party			
Association from	Association name	Association to	
0..1 subject of care proxy	gives	0..*	informed consent
0..* subject of care proxy	has the right to take decisions on behalf of	1	subject of care
0..1 subject of care proxy	states	0..*	dissent
0..* subject of care proxy	has	1	consent competence
0..* reason for demand for care	is expressed by	0..*	subject of care proxy
0..* subject of care proxy	maintains	0..*	personal health record
0..1 subject of care proxy	expresses	0..*	subject of care desire



**Figure 16 — Subject of care proxy (UML representation)**





**Definition:** representation of a matter related to the health of a *subject of care* and/or the provision of healthcare to that *subject of care*, as identified by one or more *healthcare actors*

NOTE 1 *Healthcare matter* is a very broad and flexible concept that includes anything related to the health or the healthcare of a *subject of care*. This means that *health conditions, healthcare activities, health problems, the result of healthcare activities, etc.* all are possible to be identified as *healthcare matters*. Thereby *healthcare matter* might have several specializations and further associations.

NOTE 2 According to this definition, a *healthcare matter* can represent a disease, an illness or another kind of *health condition*. In addition a *healthcare matter* may represent, for example, a request for a procedure (therapeutic or preventive) by the subject of care or another *healthcare actor*.

NOTE 3 Concepts described and/or identified in a clinical terminology may represent types of *healthcare matter*.

NOTE 4 Other specializations of this concept than those included in this International Standard, may be created when needed.

EXAMPLES A loss of weight, an immunization, a heart attack, a drug addiction, a case of meningitis in the school, a water fluoridation, a health certificate, an injury, dermatitis, an X-ray investigation, an arthroscopy, an administration of an oral antibiotic, a post-operative infection.

Table 14 lists the associations of this concept; a UML representation of the concept is shown in Figure 19.

**Table 14 — Associations of *healthcare matter***

Specialization of		Generalization of	
		health issue	
Association from		Association name	Association to
1..*	healthcare matter	concerns	1 subject of care
0..1	healthcare matter	is used as label for	0..* health record component
0..1	healthcare matter	is used as label for	0..* health record extract
1	healthcare actor	identifies or states	0..* healthcare matter
0..*	demand mandate	has topic	1..* healthcare matter
0..*	care period mandate	has topic	1..* healthcare matter
0..*	demand for care	concerns	1..* healthcare matter
0..*	mandate to export personal information	has topic	1..* healthcare matter
0..*	health thread	links	0..* healthcare matter
0..*	certificate related to a healthcare matter	attests	1..* healthcare matter

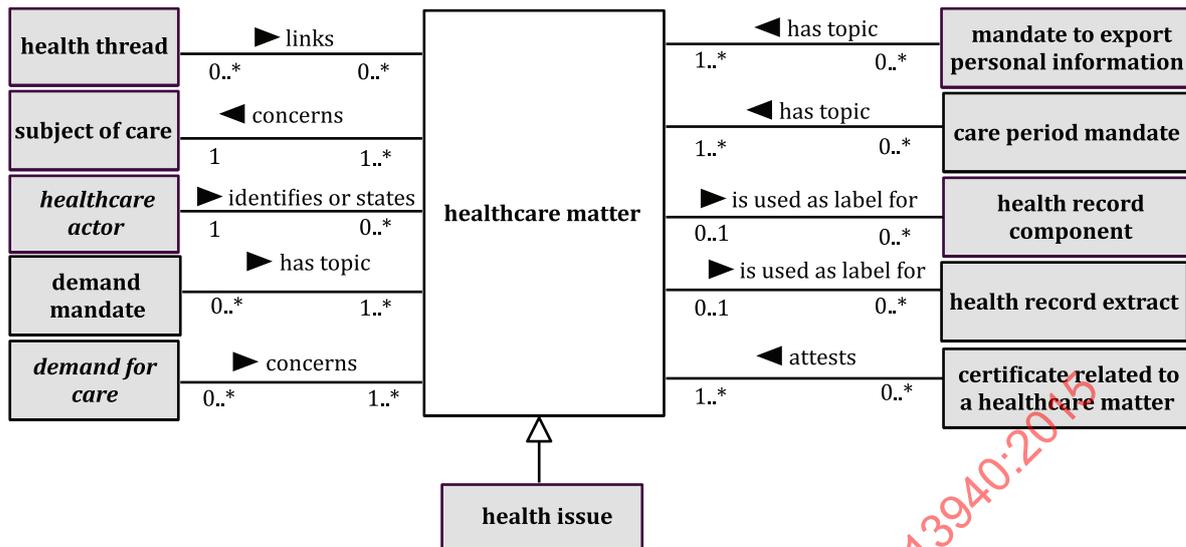


Figure 19 — Healthcare matter (UML representation)

### 6.3 Health issue

**Term:** *health issue*

**Definition:** representation of an issue related to the health of a *subject of care* as identified by one or more healthcare actors

**NOTE** According to this definition, a *health issue* can correspond to a health problem, a disease, an illness or another kind of *health condition*.

**EXAMPLES** A loss of weight, a heart attack, a drug addiction, an injury, dermatitis.

Table 15 lists the associations of this concept; a UML representation of the concept is shown in Figure 20.

Table 15 — Associations of *health issue*

Specialization of		Generalization of	
healthcare matter		health condition	
Association from	Association name	Association to	
1	health issue	0..*	healthcare activity period element
0..*	clinical process	1..*	health issue
0..*	care plan	1..*	health issue
0..*	episode of care	1	health issue
0..*	healthcare provider activity	1..*	health issue
0..*	clinical guideline	1..*	health issue

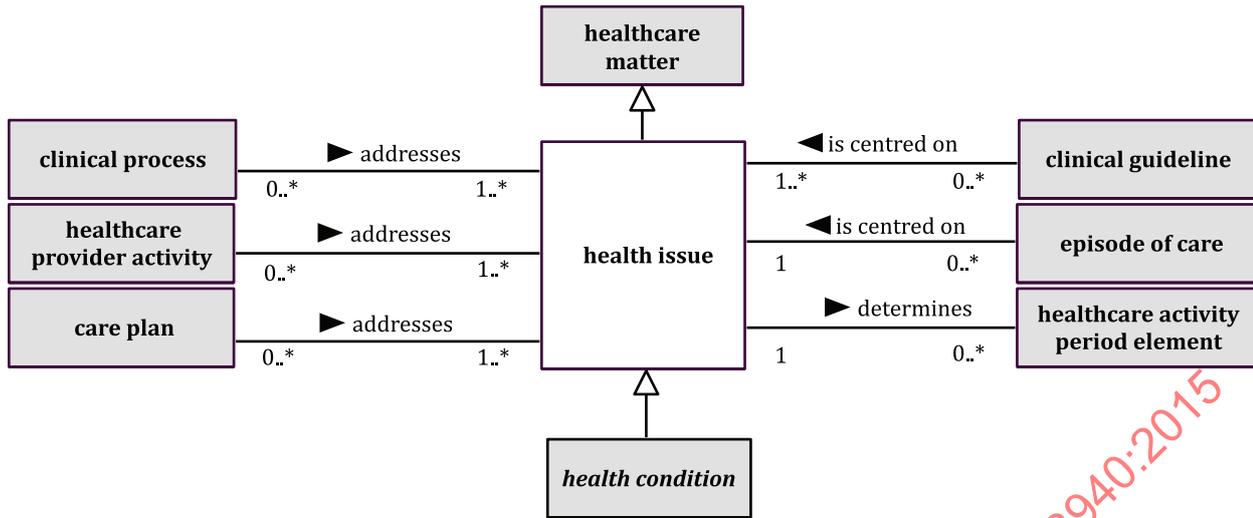


Figure 20 — Health issue (UML representation)

6.4 Health condition

**Term:** *health condition*

**Definition:** observed or potential observable aspects of the *health state* at a given time

NOTE 1 In the perspective of healthcare, the term *health condition* is often used to label a harmful or adverse condition (diseases, disorders, injuries, etc.), because it may motivate certain *healthcare activities*.

NOTE 2 A *health state* is an object, a perception of which is a *health condition*. The underlying *health state* is nevertheless present even if not perceived by an observer, for example, the *subject of care* having a cancer before it gives symptoms.

NOTE 3 In a *clinical process*, the *health state* of the *subject of care* is process input and also the process output. The evolving *health state* follows a life cycle and along its successive steps, is observed as different *health conditions*: initial, *observed condition*, *considered condition*, *professionally assessed condition*, *resultant condition* (the outcome of the process), evaluated.

NOTE 4 A diagnosis is a way to describe and label certain types of *health conditions*.

NOTE 5 *Health condition* may relate to a past, present or potential future *health state*.

NOTE 6 A *health condition* is a *health issue* and as such is a representation of aspect(s) of the *health state*.

EXAMPLES A *health problem*, diagnosis: an acute myocardial infarction (*professionally assessed condition*); a symptom: a head ache (*observed condition*).

Table 16 lists the associations of this concept; a UML representation of the concept is shown in Figure 21.

Table 16 — Associations of *health condition*

Specialization of		Generalization of			
health issue		observed condition			
		potential health condition			
		health problem			
Association from		Association name		Association to	
1..*	health condition	governs the choice of		0..*	clinical pathway

Table 16 (continued)

0..*	health condition evolution	shows the evolution of	1..*	health condition
0..*	clinical pathway	addresses	1..*	health condition

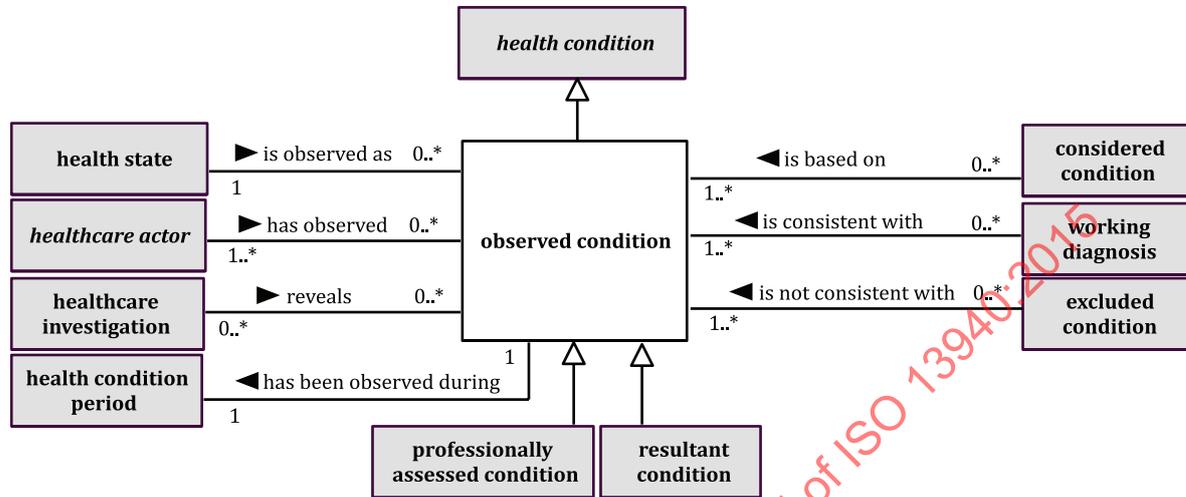


Figure 21 — Health condition (UML representation)

6.4.1 Observed condition

**Term:** *observed condition*

**Synonym:** observed health condition

**Definition:** *health condition* observed by a *healthcare actor*

NOTE 1 *Healthcare professionals* and *subjects of care* are examples of *healthcare actors* that can perceive the observed aspect of a health state.

NOTE 2 An *observed condition* is a *health issue* and as such is a representation of aspect(s) of the *health state*.

EXAMPLES A blood pressure, a swelling in the abdomen, tachycardia, body weight, lung infiltration on X-ray, a haemoglobin value, pale skin.

Table 17 lists the associations of this concept; a UML representation of the concept is shown in Figure 22.

Table 17 — Associations of *observed condition*

Specialization of		Generalization of	
health condition		professionally assessed condition	
		resultant condition	
Association from		Association name	Association to
1	health state	is observed as	0..* observed condition
1	observed condition	has been observed during	1 health condition period
0..*	considered condition	is based on	1..* observed condition
0..*	healthcare investigation	reveals	0..* observed condition
1..*	healthcare actor	has observed	0..* observed condition

Table 17 (continued)

0..*	working diagnosis	is consistent with	1..*	observed condition
0..*	excluded condition	is not consistent with	1..*	observed condition

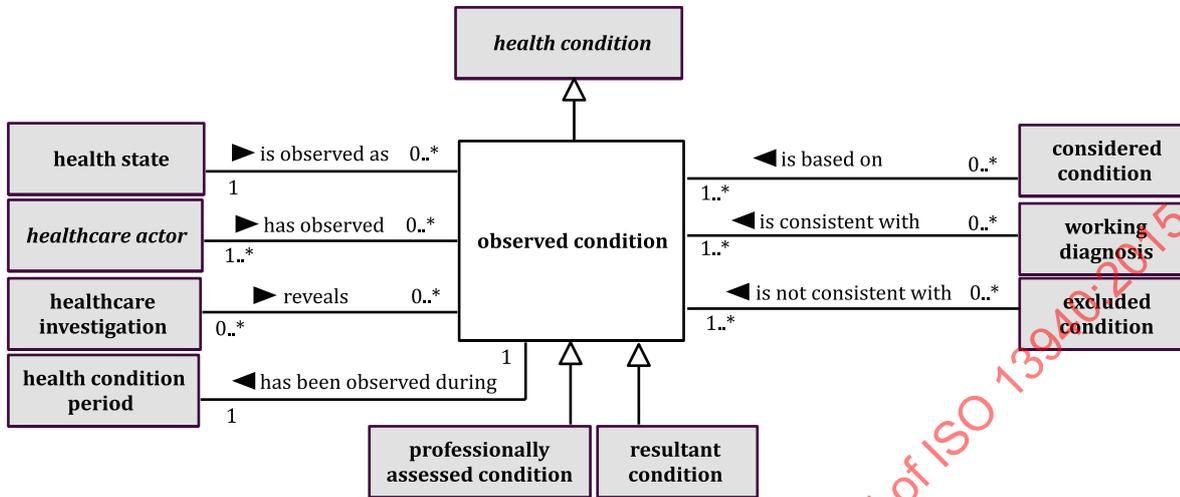


Figure 22 — Observed condition (UML representation)

6.4.1.1 Professionally assessed condition

**Term:** *professionally assessed condition*

**Synonym:** professionally assessed health condition

**Definition:** *observed condition* assessed by a *healthcare professional* concerning the genesis, the course, the severity or the impact of the *health state*

Table 18 lists the associations of this concept; a UML representation of the concept is shown in Figure 23.

Table 18 — Associations of *professionally assessed condition*

Specialization of		Generalization of	
observed condition		working diagnosis	
Association from	Association name	Association to	
0..*	prognostic condition	is based on	1..* professionally assessed condition
0..*	professionally assessed condition	is identified by	1 healthcare professional

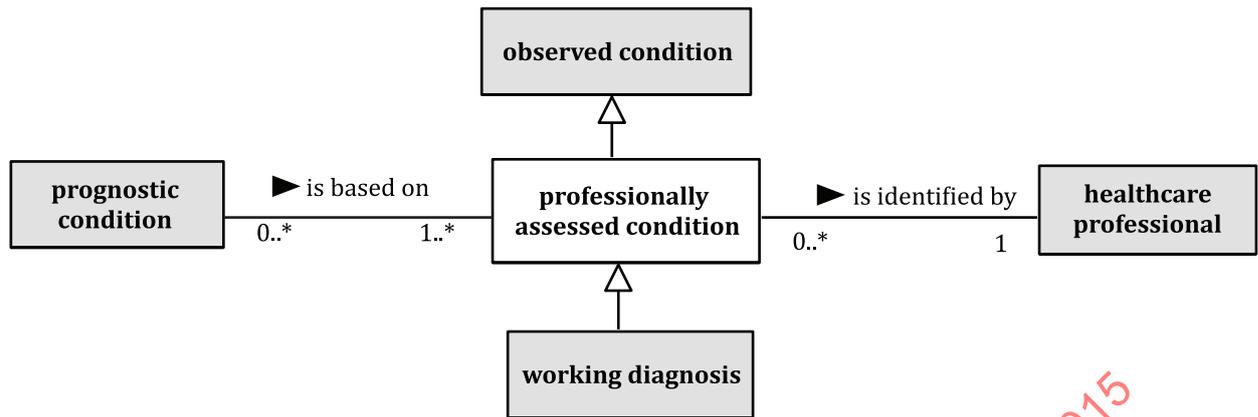


Figure 23 — Professionally assessed condition (UML representation)

6.4.1.2 Resultant condition

**Term:** *resultant condition*

**Definition:** *observed condition* representing an *output health state*

**NOTE** A resultant condition can represent the output health state after a single healthcare activity element, a bundle of healthcare investigations and/or healthcare treatments in a healthcare process and also the outcome after a complete clinical process.

**EXAMPLES** Healthcare process result, healthcare activity result.

Table 19 lists the associations of this concept; a UML representation of the concept is shown in Figure 24.

Table 19 — Associations of *resultant condition*

Specialization of		Generalization of	
observed condition			
Association from	Association name	Association to	
1	output health state	is observed as	0..* resultant condition
0..*	resultant condition	is input to	0..* clinical process outcome evaluation

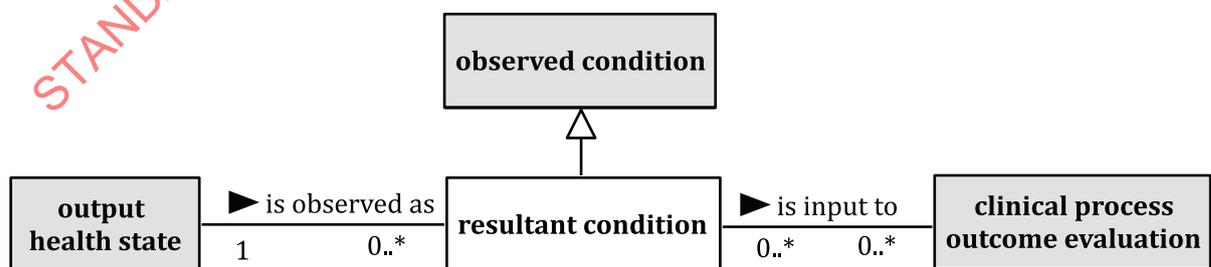


Figure 24 — Resultant condition (UML representation)

6.4.2 Potential health condition

**Term:** *potential health condition*

**Definition:** possible future or current *health condition* described by a *healthcare actor*

NOTE 1 A *potential health condition* is not yet observed, but represents an imagined, possible observation of aspects of a current or future health state.

NOTE 2 A *potential health condition* can only be fully supported through the use of one of its specializations.

Table 20 lists the associations of this concept; a UML representation of the concept is shown in Figure 25.

Table 20 — Associations of *potential health condition*

Specialization of		Generalization of	
health condition		prognostic condition	
		target condition	
		risk condition	
		considered condition	

Association from	Association name	Association to
1..* healthcare actor	describes	0..* potential health condition
0..* potential health condition	represents potential aspects of	1 health state

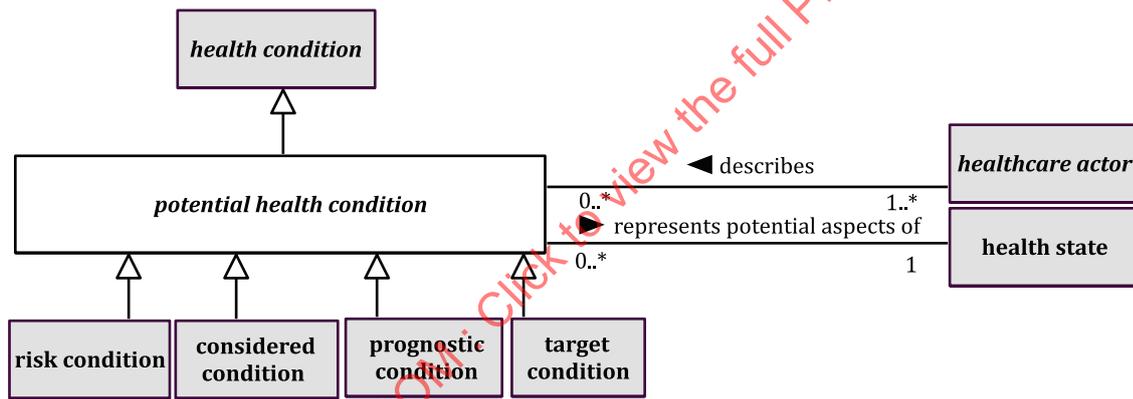


Figure 25 — Potential health condition (UML representation)

6.4.2.1 Considered condition

**Term:** *considered condition*

**Synonym:** considered health condition

**Definition:** *potential health condition* considered by a *healthcare actor* on the basis of one or more *observed conditions*

NOTE 1 A request for care normally includes a *health condition* or symptom observed by the *subject of care* and also a question about what the reason for that symptom might be. It is the *potential health condition* in this question (the *health condition* behind the symptom) that is called a *considered condition*.

NOTE 2 A *referral* within a *clinical process* is normally motivated by one or several *observed conditions* and/or *professionally assessed conditions*. However the *referral* also normally includes a question that the *healthcare investigation* is supposed to get an answer to. The question formulated as a *potential condition* is a *considered condition*.

NOTE 3 A *considered condition* remains considered until the associated *observed conditions* are changed or completed. *Healthcare investigation* and/or *healthcare treatment* result in new observations that can verify or not verify the (suspected) *considered condition*. When a *considered condition* is verified it is transformed into an *observed condition* and/or *professionally assessed condition* that also could be labelled as a *working diagnosis*. If a *considered condition* cannot be verified by relevant *healthcare activities* it is transformed into an *excluded condition*.

NOTE 4 A *working diagnosis* is often identified in the clinical process as a summary after the planned healthcare investigation are completed. A *working diagnosis* in this stage is often called a diagnosis. An excluded condition could correspondingly be called a negation of a *working diagnosis*.

EXAMPLES Diagnostic hypothesis, any candidate in a differential diagnosis set.

Table 21 lists the associations of this concept; a UML representation of the concept is shown in Figure 26.

Table 21 — Associations of *considered health condition*

Specialization of		Generalization of	
potential health condition		working diagnosis	
		excluded condition	
Association from	Association name	Association to	
0..*	considered condition	is based on	1..* observed condition

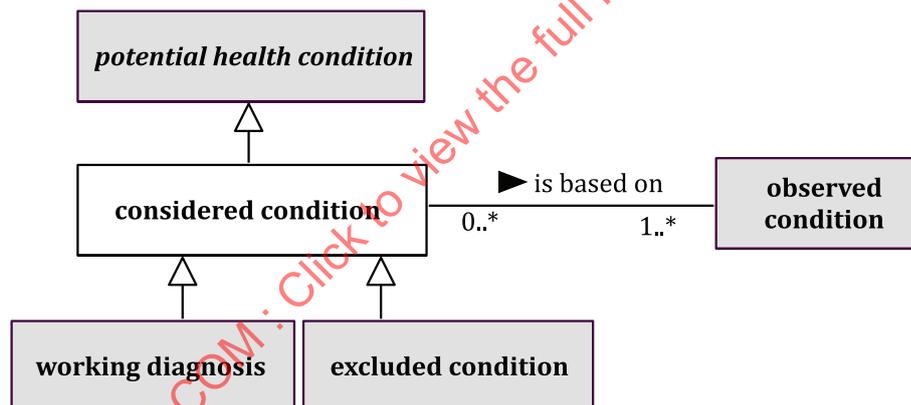


Figure 26 — Considered condition (UML representation)

#### 6.4.2.1.1 Working diagnosis

**Term:** *working diagnosis*

**Synonym:** working hypothesis

**Definition:** *considered condition* that one or more *healthcare professionals* have determined to be the most consistent with the currently known *observed conditions*

NOTE 1 A *working diagnosis* is used as a label for the *considered condition* that one or more *healthcare professionals* assess as the most probable *health condition* and that could be concluded after further observations. The basis for such assessments is the already *observed conditions*.

NOTE 2 Different *healthcare professionals* may make different interpretations and assessments of the *observed conditions* and thereby come to different conclusions and different *working diagnosis*.

Table 22 lists the associations of this concept; a UML representation of the concept is shown in Figure 27.

Table 22 — Associations of *working diagnosis*

Specialization of		Generalization of	
professionally assessed condition			
considered condition			
Association from	Association name	Association to	
1..* healthcare professional	has determined	0..*	working diagnosis
0..* working diagnosis	is consistent with	1..*	observed condition

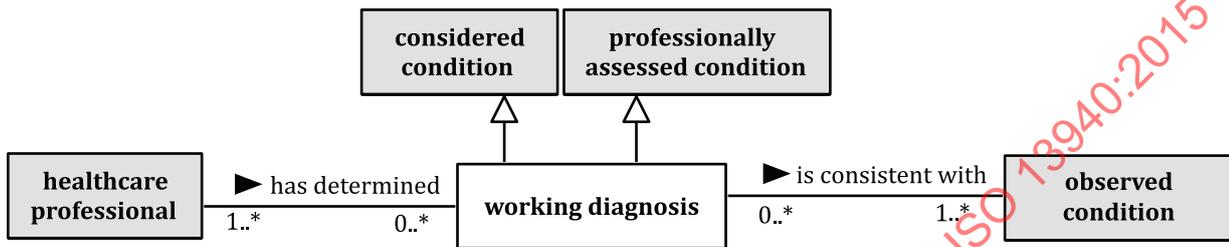


Figure 27 — Working diagnosis (UML representation)

6.4.2.1.2 Excluded condition

**Term:** *excluded condition*

**Synonyms:** discounted condition, non-verified condition, ruled out condition, ruled out considered condition

**Definition:** *considered condition* that one or more *healthcare professionals* have determined not to be consistent with the known *observed conditions*

Table 23 lists the associations of this concept; a UML representation of the concept is shown in Figure 28.

Table 23 — Associations of *excluded condition*

Specialization of		Generalization of	
considered condition			
Association from	Association name	Association to	
1..* healthcare professional	has ruled out	0..*	excluded condition
0..* excluded condition	is not consistent with	1..*	observed condition

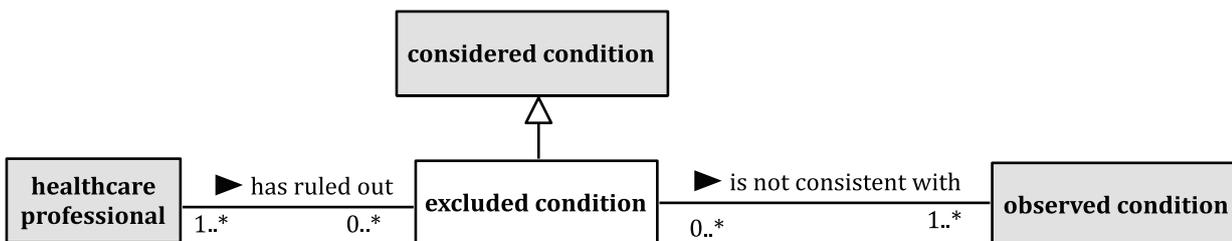


Figure 28 — Excluded condition (UML representation)

**6.4.2.2 Target condition**

**Term:** *target condition*

**Synonyms:** target health condition, intended outcome

**Definition:** *potential health condition* representing *health objectives* and/or *healthcare goals*

**NOTE** Assessment of needs for *healthcare activities* includes identification of *health objectives* and/or *healthcare goals*. These inform decisions about relevant activities to create or update the *care plan*.

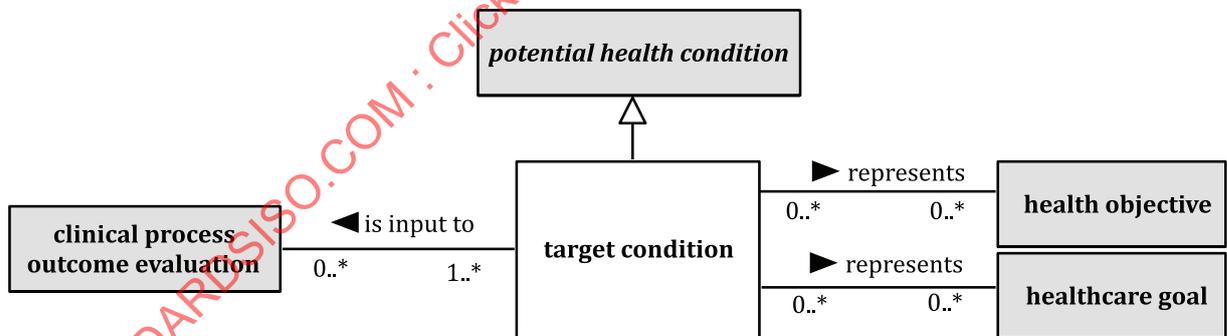
**EXAMPLE 1** The *target condition* for a worker that arrived at the Emergency Room with a broken arm is to be fully functional for work in the shortest time period.

**EXAMPLE 2** The *target condition* of a newly diagnosed diabetic adolescent boy is maintenance of his HbA1c at less than 48 mmol/mol. (HbA1c is a lab test that shows the average level of blood sugar (glucose) over the previous 3 months; it shows how well diabetes is being controlled).

[Table 24](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 29](#).

**Table 24 — Associations of *target condition***

Specialization of		Generalization of	
potential health condition			
Association from	Association name	Association to	
0..*	target condition	represents	0..* health objective
1..*	target condition	is input to	0..* clinical process outcome evaluation
0..*	target condition	represents	0..* healthcare goal



**Figure 29 — Target condition (UML representation)**

**6.4.2.3 Prognostic condition**

**Term:** *prognostic condition*

**Synonym:** prognostic health condition

**Definition:** *potential health condition* representing the expected course of a *health state* as assessed by *healthcare professionals*

[Table 25](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 30](#).

Table 25 — Associations of *prognostic condition*

Specialization of		Generalization of	
potential health condition			
Association from	Association name	Association to	
0..*	prognostic condition	is based on	1..* professionally assessed condition
1..*	healthcare professional	identifies	0..* prognostic condition

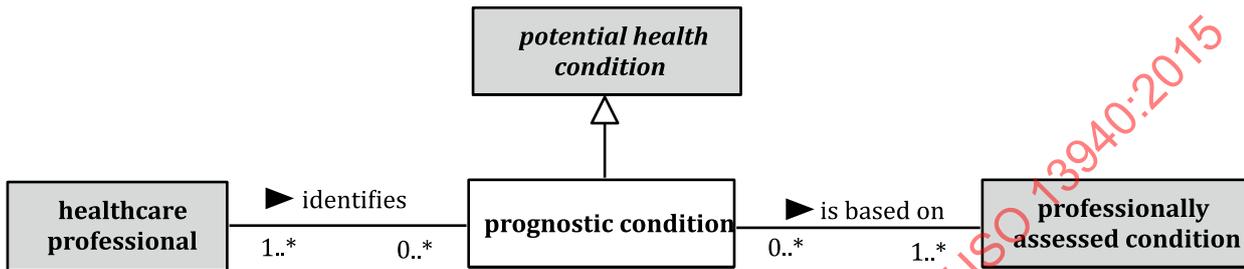


Figure 30 — Prognostic condition (UML representation)

6.4.2.4 Risk condition

**Term:** *risk condition*

**Synonym:** risk health condition

**Definition:** *potential health condition* representing an unintended future *health state*

NOTE While a risk is defined as the combination of a probability of an event and its consequences, the *risk condition* deals only with the consequences.

Table 26 lists the associations of this concept; a UML representation of the concept is shown in Figure 31.

Table 26 — Associations of *risk condition*

Specialization of		Generalization of	
potential health condition			

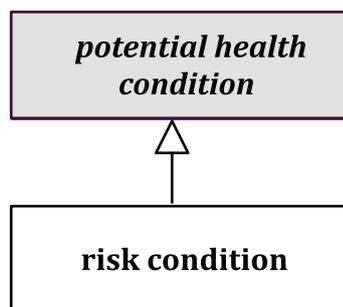


Figure 31 — Risk condition (UML representation)

**6.4.2.5 Health problem**

**Term:** *health problem*

**Definition:** *health condition* considered by a *health care actor* to be a problem

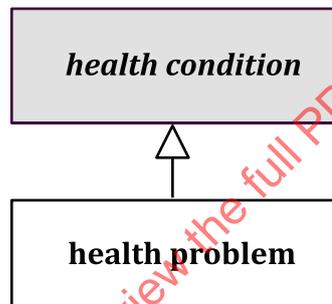
**NOTE** *Health problems* can be single observations but are usually more compound as a summary of several observations. Single observations are often criteria for the more compound *health condition* considered to be a *health problem*.

**EXAMPLES** Diabetes, stroke, heredity for breast cancer.

[Table 27](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 32](#).

**Table 27 — Associations of *health problem***

Specialization of	Generalization of
health condition	



**Figure 32 — Health problem (UML representation)**

**6.5 Health state**

**Term:** *health state*

**Definition:** physical and mental functions, body structure, personal factors, activity, participation and environmental aspects as the composite health of a *subject of care*

**NOTE 1** An observation of a *health state* is a *health condition*. A *health state* may possibly give way to more than one observation, resulting in more than one *health condition*. The underlying *health state* is nevertheless present even if not perceived by an observer, for example, the *subject of care* having a cancer before it gives symptoms.

**NOTE 2** In ICF (the International Classification of Functioning, Disability and Health) of the WHO, the concept of health is described. ICF identifies five health components; body function, body structure, activity, participation and environmental factors.

[Table 28](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 33](#).

**Table 28 — Associations of *health state***

Specialization of	Generalization of
	input health state
	output health state

Association from	Association name	Association to
1 subject of care	has	1 health state

Table 28 (continued)

1	health state	is observed as	0..*	observed condition
0..*	potential health condition	represents potential aspects of	1	health state
0..*	healthcare treatment	influences	1	health state
0..*	health need	is deficit in	1	health state
0..*	healthcare investigation	clarifies	1	health state

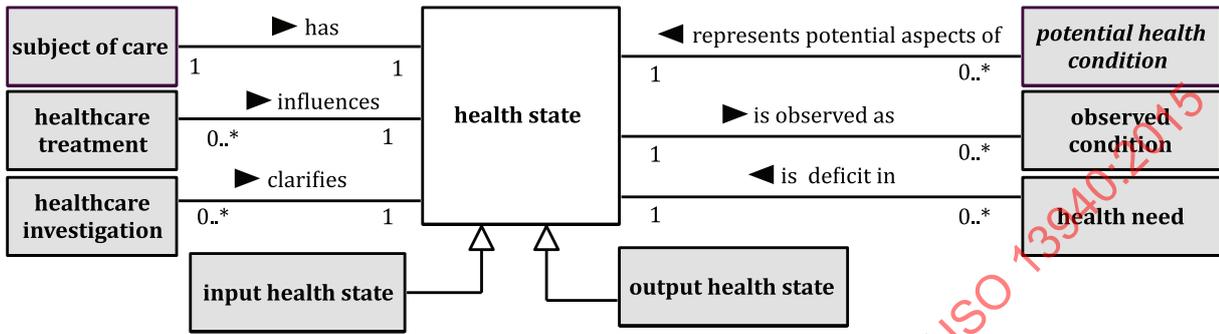


Figure 33 — Health state (UML representation)

6.5.1 Input health state

**Term:** *input health state*

**Definition:** *health state at the initiation of healthcare process*

**NOTE** The *output health state* from one *healthcare process* may be the *input health state* to a subsequent *healthcare process*.

Table 29 lists the associations of this concept; a UML representation of the concept is shown in Figure 34.

Table 29 — Associations of *input health state*

Specialization of		Generalization of	
health state			
Association from	Association name	Association to	
0..1 health condition evolution	relates to	1	input health state
0..1 input health state	is input to	1	healthcare process

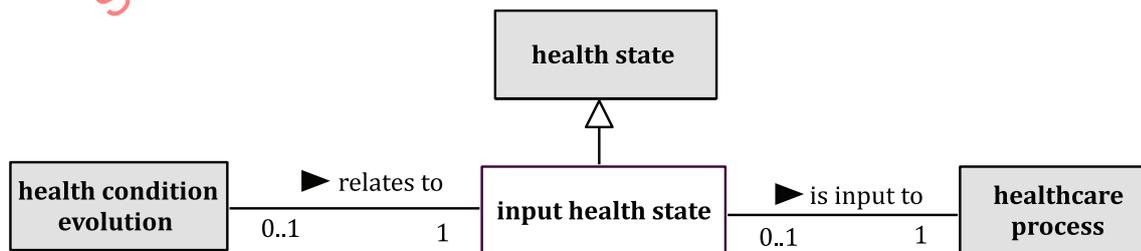


Figure 34 — Input health state (UML representation)

6.5.2 Output health state

**Term:** *output health state*

**Synonym:** outcome

**Definition:** *health state when a healthcare process ends*

Table 30 lists the associations of this concept; a UML representation of the concept is shown in Figure 35.

Table 30 — Associations of *output health state*

Specialization of		Generalization of	
health state			
Association from	Association name	Association to	
1	healthcare process	has output	0..1 output health state
1	output health state	is observed as	0..* resultant condition

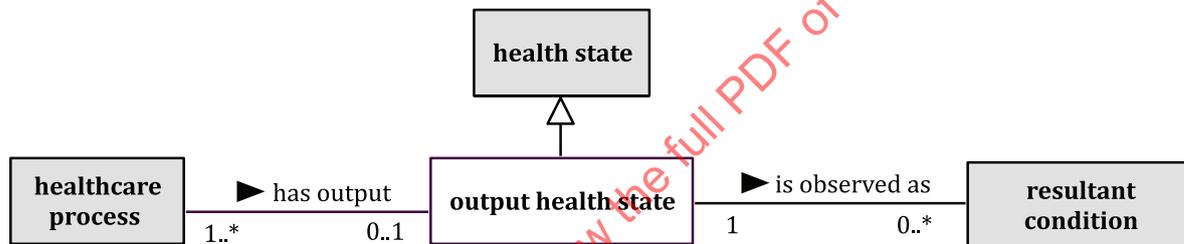


Figure 35 — Output health state (UML representation)

6.5.3 Health need

**Term:** *health need*

**Definition:** deficit in the current *health state* compared to aspects of a desired future *health state*

NOTE 1 A *health need* is the deficit in a *subject of care's* health state.

NOTE 2 The current *health state* is observed as *observed conditions*.

NOTE 3 The desired future *health state* can be a *health objective* expressed as *target conditions*.

NOTE 4 The *health need* can be identified and formulated by the *subject of care* or by any other *healthcare actor*.

NOTE 5 *Health needs* are the motivations/indications for *healthcare activities* and are the basic input to *healthcare needs assessments*.

Table 31 lists the associations of this concept; a UML representation of the concept is shown in Figure 36.

Table 31 — Associations of *health need*

Association from	Association name	Association to	
1	subject of care	has or has had	0..* health need
0..*	health need	is background for	0..* reason for demand for care
1	health need	is considered during	0..* healthcare needs assessment
0..*	health need	is deficit in	1 health state

Table 31 (continued)

1..*	needed healthcare activity	addresses	1..*	health need
0..*	health objective	addresses	1..*	health need

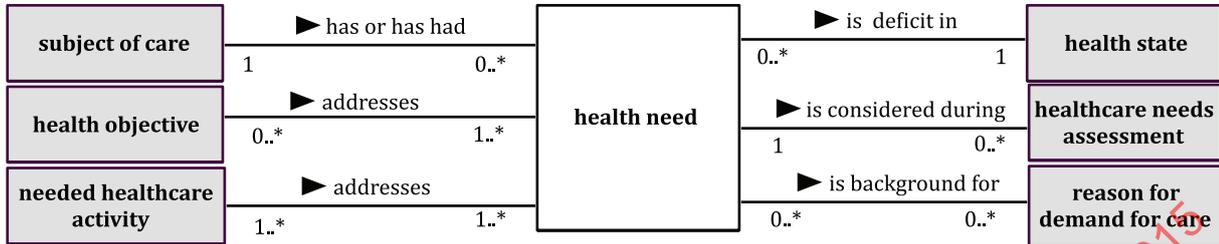


Figure 36 — Health need (UML representation)

### 6.6 Health thread

**Term:** *health thread*

**Definition:** defined association between *healthcare matters* as determined by one or more *healthcare actors*

NOTE 1 A *health thread* reconciles a range of *healthcare matters* reflecting the variety of scopes of *healthcare actors*, particularly of *healthcare providers*.

NOTE 2 A *health thread* inherently associates the *healthcare processes* as well as the *healthcare activity period elements* referring to those *healthcare matters*.

NOTE 3 A *health thread* may be established by a team (e.g. a coordination committee).

NOTE 4 A *health thread* can be built step-by-step, by allowing each *healthcare professional* to add their perspective into a common *health thread*.

NOTE 7 Under the responsibility of a designated *healthcare actor*, a *health thread* linking several *healthcare matters* can describe an *episodes of care bundle*, for instance, a partial or comprehensive synthesis of *healthcare actor related episodes of care*.

NOTE 8 A collective decision (before, during or after the healthcare interventions) may define a *health thread* and so the idea of the ‘episode’ accepted by all the *healthcare professionals* involved.

NOTE 9 Two *health conditions* may sometimes only be recognized as belonging to the same *health thread* late in the process of care. Conversely, two *health conditions* thought initially to belong to the same *health thread* may need to be separated later.

NOTE 10 Since a *health thread* links any number of *healthcare matters*; it also may link *health threads* linking other *health issues*. Hence, a *health thread* may be considered an aggregation of *health issues* and/or *health threads*.

#### EXAMPLES

A low back pain, known for many years by the *subject of care’s* GP, treated several times by the physiotherapist who labelled it a scoliosis and currently a candidate for a specific orthopaedic intervention.

A case labelled social problem by the GP after being treated by the psychiatrist for minor depression and the rheumatologist for osteoarthritis.

Type 2 diabetes treated by a GP, a nurse, an endocrinologist and a vascular surgeon.

The *health conditions* included in a *healthcare process*.

Table 32 lists the associations of this concept; a UML representation of the concept is shown in Figure 37.

Table 32 — Associations of *health thread*

Specialization of		Generalization of	
		clinical process interest	
		health condition evolution	
		health problem list	
Association from	Association name	Association to	
1 health thread	delineates	0..1	episodes of care bundle
1 health thread	delineates	0..1	health concern
0..* health thread	links	0..*	healthcare matter
0..* health thread	links	0..*	health thread
1..* healthcare actor	defines	0..*	health thread
0..* continuity facilitator mandate	has topic	0..*	health thread
0..* care plan	addresses	0..*	health thread

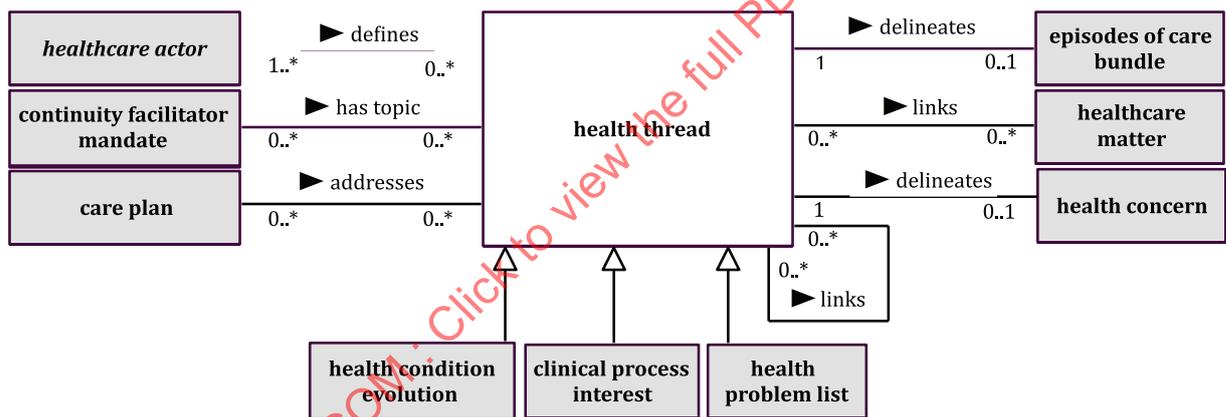


Figure 37 — Health thread (UML representation)

### 6.6.1 Clinical process interest

**Term:** *clinical process interest*

**Definition:** *health thread* comprising all *healthcare matters* related to a specific *clinical process*

**NOTE** A *clinical process interest* makes it possible

- to make all information related to the *healthcare matters* in a *clinical process* available to all *healthcare actors* that have the needs for that and thereby supporting continuity of care
- for documentation concerning a *clinical process* to follow the *subject of care* across borders of *healthcare providers* and organizational units and as such avoid unnecessary duplication of documentation (to create a *health concern*)
- to track all information in a *clinical process* to create a *health concern* for that *clinical process* and for secondary use of information in follow up
- to follow the value added by *healthcare activities* through documented changes in *health conditions* during all stages of the *clinical process*

- to create a *health concern* in order to constrain the availability of information related to a certain *clinical process* due to the integrity needs for the subject of care

Table 33 lists the associations of this concept; a UML representation of the concept is shown in Figure 38.

Table 33 — Associations of *clinical process interest*

Specialization of		Generalization of	
health thread			
Association from	Association name	Association to	
1 clinical process	has	0..1	clinical process interest

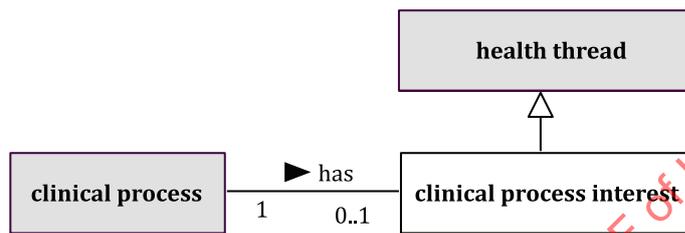


Figure 38 — Clinical process interest (UML representation)

### 6.6.2 Health problem list

**Term:** *health problem list*

**Synonym:** healthcare problem list

**Definition:** *health thread* linking a set of *health problems*

Table 34 lists the associations of this concept; a UML representation of the concept is shown in Figure 39.

Table 34 — Associations of *health problem list*

Specialization of		Generalization of	
health thread			

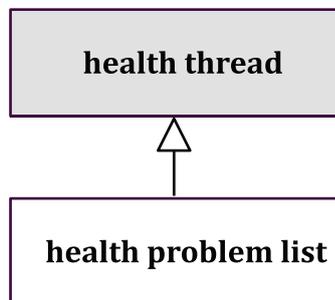


Figure 39 — Health problem list (UML representation)

### 6.6.3 Health condition evolution

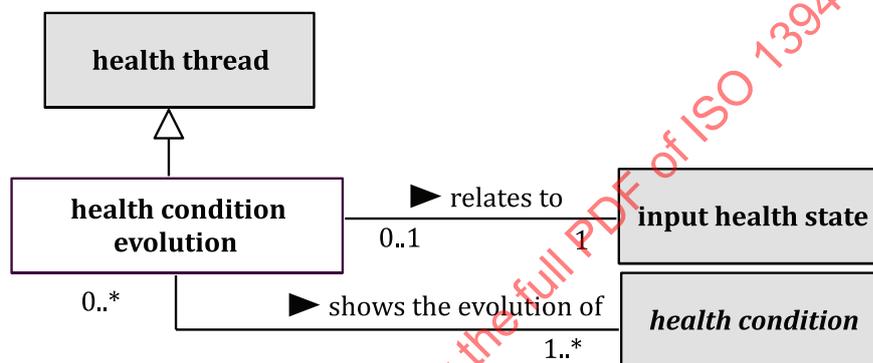
**Term:** *health condition evolution*

**Definition:** *health thread* showing the evolution of *health conditions* during a *healthcare process*, starting with the *health condition* that represents the *input health state*

Table 35 lists the associations of this concept; a UML representation of the concept is shown in Figure 40.

**Table 35 — Associations of *health condition evolution***

Specialization of		Generalization of	
health thread			
Association from		Association name	Association to
0..1	health condition evolution	relates to	1 input health state
0..*	health condition evolution	shows the evolution of	1..* health condition



**Figure 40 — Health condition evolution (UML representation)**

## 7 Concepts related to activities

### 7.1 General

A model showing the associations between the concepts related to activity and the other concepts defined in this International Standard is shown in Figures 41 and 42. For further detail about the diagram notation, please refer to 0.7 in the Introduction.

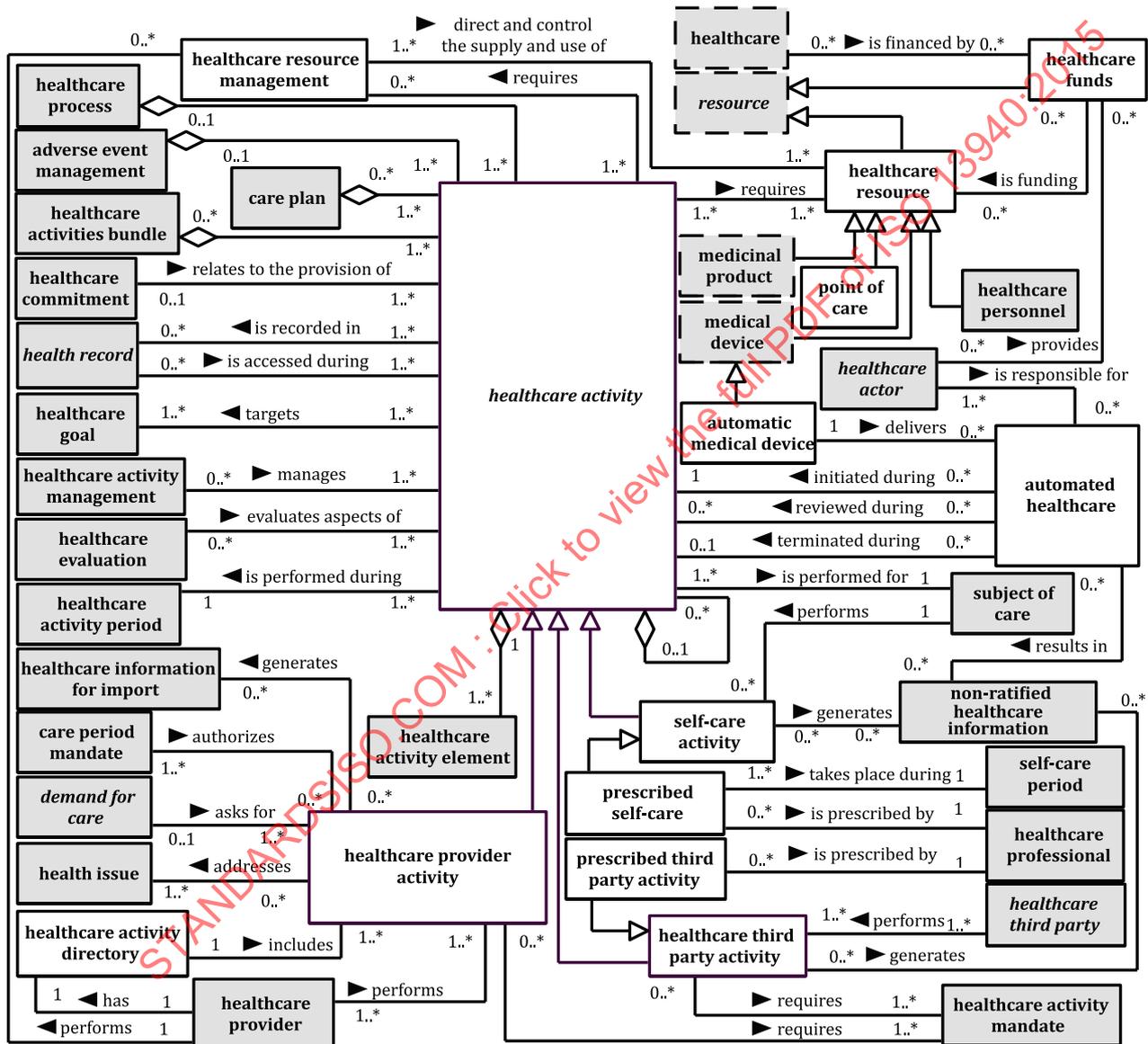


Figure 41 — Comprehensive UML diagram of concepts related to activities (i)

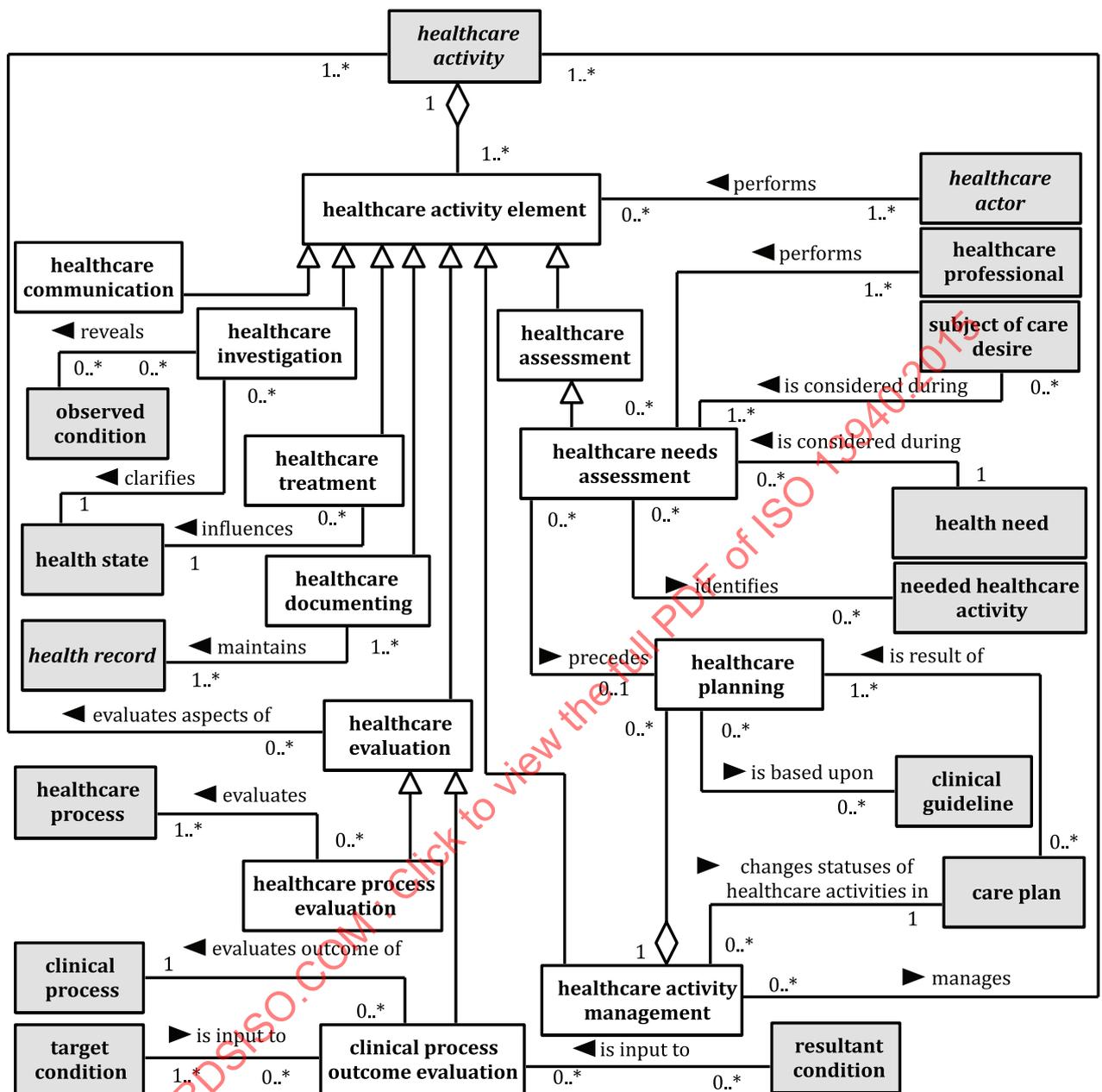


Figure 42 — Comprehensive UML diagram of concepts related to activities (ii)

## 7.2 Healthcare activity

**Term:** *healthcare activity*

**Definition:** activity intended directly or indirectly to improve or maintain a *health state*

NOTE 1 Each specialization of this concept represents *healthcare activities* performed by a specialization of healthcare actor.

NOTE 2 Different types of *healthcare activity elements* (e.g. *healthcare investigation* or *healthcare treatment*) may be performed during a healthcare activity.

NOTE 3 See the concepts *healthcare provider activity*, *self-care activity*, *healthcare third party activity* and *automated healthcare* when it comes to the recording of information that are the result of *healthcare activities* (e.g. ratified observations).

EXAMPLE A blood pressure measurement completed by a qualified nurse including the *healthcare activity elements* of taking, documenting and evaluation.

Table 36 lists the associations of this concept; a UML representation of the concept is shown in Figure 43.

Table 36 — Associations of *healthcare activity*

Specialization of		Generalization of	
		healthcare provider activity	
		healthcare third party activity	
		self-care activity	
Component of		Aggregation of	
0..*	care plan	0..*	healthcare activity
0..1	healthcare process	1..*	healthcare activity element
0..*	healthcare activities bundle		
0..1	healthcare activity		
0..1	adverse event management		
Association from	Association name	Association to	
1..*	healthcare activity	1	subject of care
1..*	healthcare activity	1..*	healthcare goal
1..*	healthcare activity	0..*	health record
0..*	health record	1..*	healthcare activity
1..*	healthcare activity	1	healthcare activity period
1..*	healthcare activity	1..*	healthcare resource
1..*	healthcare activity	0..*	healthcare resource management
0..1	healthcare commitment	1..*	healthcare activity
0..*	healthcare activity management	1..*	healthcare activity
0..*	automated healthcare	1	healthcare activity
0..*	automated healthcare	0..*	healthcare activity
0..*	automated healthcare	0..1	healthcare activity
0..*	healthcare evaluation	1..*	healthcare activity

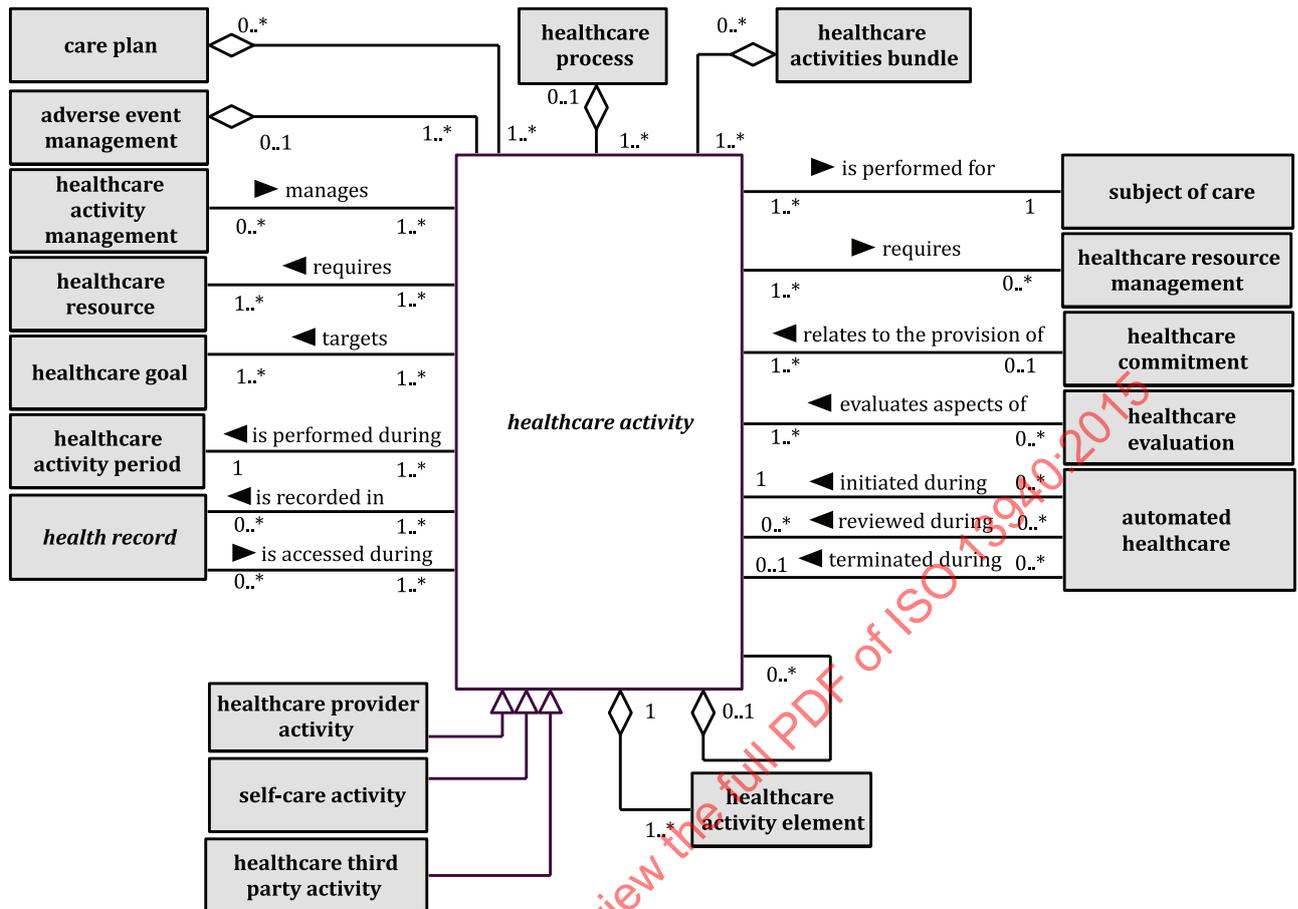


Figure 43 — Healthcare activity (UML representation)

### 7.2.1 Healthcare provider activity

**Term:** *healthcare provider activity*

**Definition:** *healthcare activity* performed by a *healthcare provider*

NOTE 1 A *healthcare provider activity* can be performed in relation to several *healthcare activity period elements* of the same *healthcare activity period*.

NOTE 2 When the *healthcare provider* is a *healthcare organization*, the *healthcare activities* are performed by the *healthcare personnel* of that *healthcare organization*.

Table 37 lists the associations of this concept; a UML representation of the concept is shown in Figure 44.

Table 37 — Associations of *healthcare provider activity*

Specialization of		Generalization of	
healthcare activity			
Association from	Association name	Association to	
0..*	healthcare provider activity	addresses	1..* health issue
0..*	healthcare provider activity	generates	0..* healthcare information for import
1..*	healthcare provider	performs	1..* healthcare provider activity
1..*	care period mandate	authorizes	0..* healthcare provider activity

Table 37 (continued)

0..1	demand for care	asks for	1..*	healthcare provider activity
0..*	healthcare provider activity	requires	1..*	healthcare activity mandate
1	healthcare activity directory	includes	1..*	healthcare provider activity

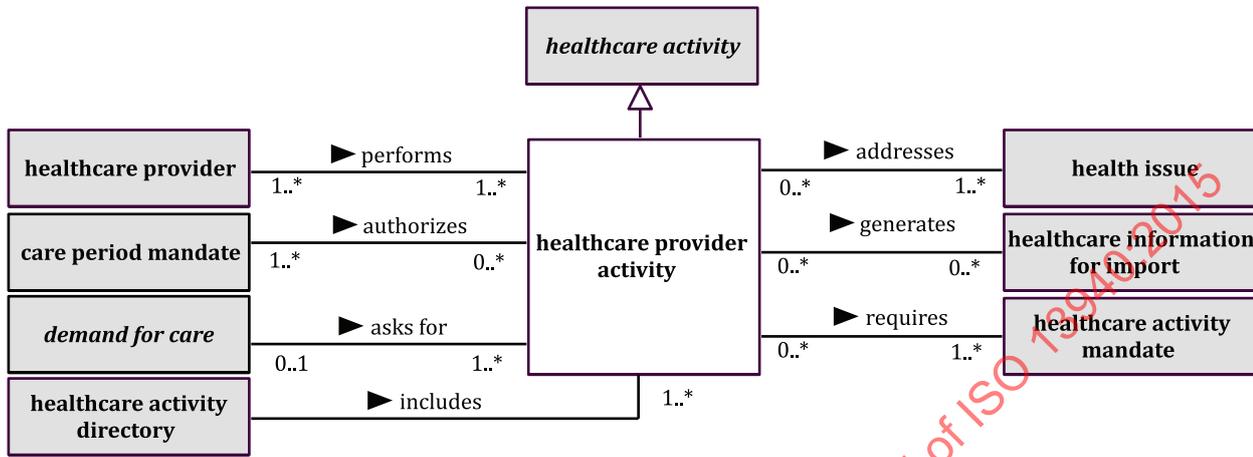


Figure 44 — Healthcare provider activity (UML representation)

7.2.2 Healthcare activity directory

Term: *healthcare activity directory*

Definition: directory of the *healthcare activities* offered by a *healthcare provider*

NOTE 1 The *healthcare activity directory* includes those *healthcare activities* that the *healthcare provider's* *healthcare personnel* can perform, not those that are actually available at the time of *healthcare delivery*. The ability to perform a *healthcare activity* implies that the *healthcare provider* has the necessary resources.

NOTE 2 The *healthcare activity directory* is related to the management of *healthcare processes*.

NOTE 3 *Healthcare providers* may also have a *healthcare service directory*. This directory includes the services that can be delivered by *healthcare processes* using the *healthcare activities* included in the *healthcare activity directory*.

Table 38 lists the associations of this concept; a UML representation of the concept is shown in Figure 45.

Table 38 — Associations of *healthcare activity directory*

Association from	Association name	Association to
1 healthcare activity directory	includes	1..* healthcare provider activity
1 healthcare provider	has	1 healthcare activity directory

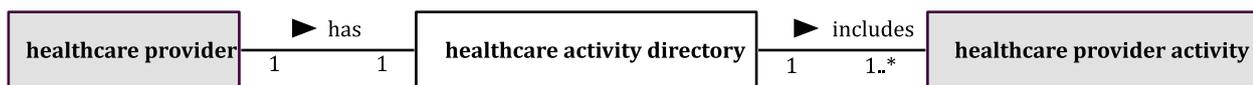


Figure 45 — Healthcare activity directory (UML representation)

7.2.3 Self-care activity

Term: *self-care activity*

**Deprecated term:** health self-care activity

**Definition:** *healthcare activity* performed by the *subject of care*

NOTE 1 There are two kinds of *self-care activities* that should be distinguished: a) *Prescribed self-care* that is included in a *care plan* and the documentation is included in a *professional health record*; b) Self performed health related activities that are not prescribed.

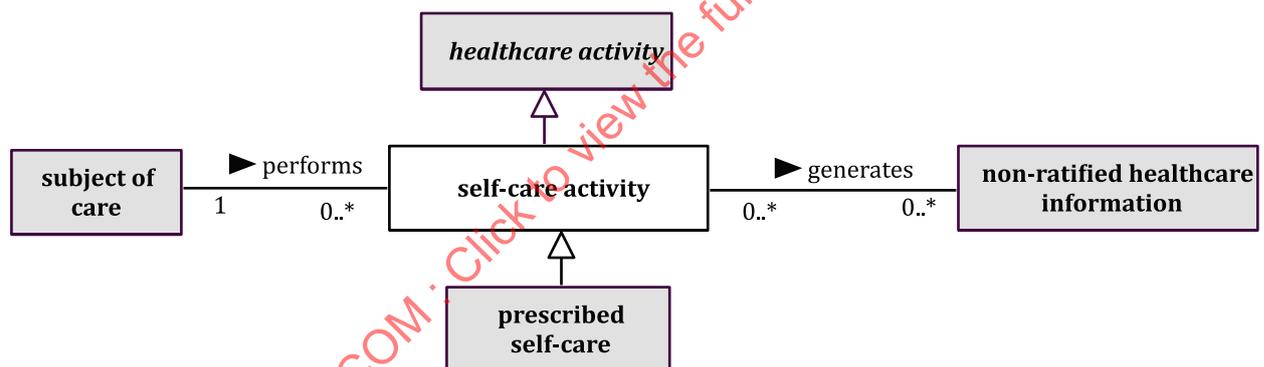
NOTE 2 In EN 13940-1:2007 health self-care activity was the preferred term for this concept.

EXAMPLES Self injection of insulin, self-measurement of blood pressure, or of glycaemia.

Table 39 lists the associations of this concept; a UML representation of the concept is shown in Figure 46.

**Table 39 — Associations of *self-care activity***

Specialization of		Generalization of	
healthcare activity		prescribed self-care	
Association from	Association name	Association to	
0..*	self-care activity	generates	0..* non-ratified healthcare information
1	subject of care	performs	0..* self-care activity



**Figure 46 — Self-care activity (UML representation)**

#### 7.2.4 Prescribed self-care

**Term:** *prescribed self-care*

**Definition:** *self-care activity* prescribed by a *healthcare professional*

Table 40 lists the associations of this concept; a UML representation of the concept is shown in Figure 47.

**Table 40 — Associations of *prescribed self-care***

Specialization of		Generalization of	
self-care activity			
Association from	Association name	Association to	
0..*	prescribed self-care	is prescribed by	1 healthcare professional
1..*	prescribed self-care	takes place during	1 self-care period

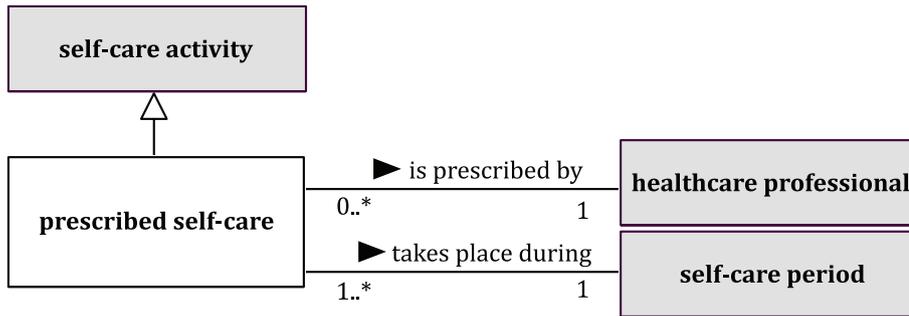


Figure 47 — Prescribed self-care (UML representation)

7.2.5 Healthcare third party activity

**Term:** *healthcare third party activity*

**Synonym:** healthcare contributing activity

**Definition:** *healthcare activity performed by a healthcare third party*

NOTE 1 There are two kinds of *healthcare third party activities* that should be distinguished.

*Prescribed contributing care* that is included in a *care plan* and the documentation is included in a *health record*.

*Healthcare third party activities* that are not prescribed.

NOTE 2 In EN 13940-1:2007 healthcare contributing activity was the preferred term for this concept.

EXAMPLES The *healthcare treatment* of a bedsore by a *subject of care's* relation, *healthcare treatment* on advice by a chemist.

Table 41 lists the associations of this concept: a UML representation of the concept is shown in Figure 48.

Table 41 — Associations of healthcare third party activity

Specialization of		Generalization of	
healthcare activity		prescribed third party activity	
Association from		Association name	Association to
0..*	healthcare third party activity	generates	0..* non-ratified healthcare information
0..*	healthcare third party activity	requires	1..* healthcare activity mandate
1..*	healthcare third party	performs	1..* healthcare third party activity

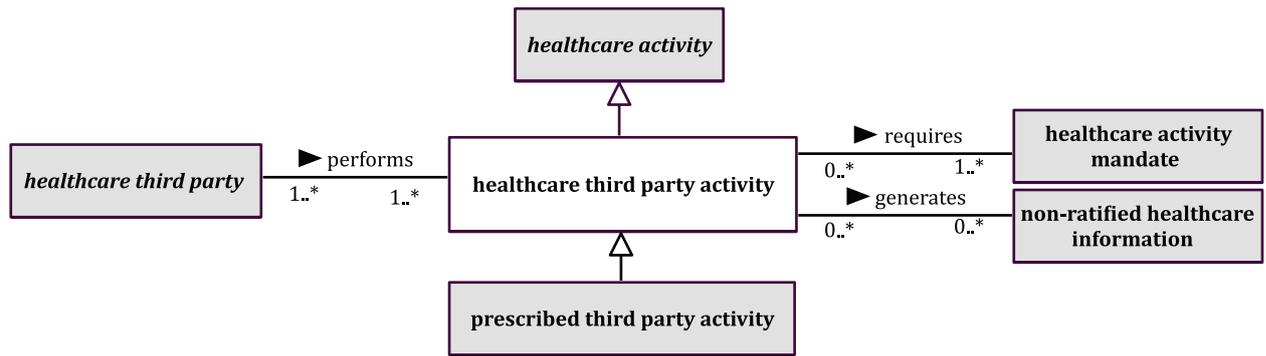


Figure 48 — Healthcare third party activity (UML representation)

7.2.6 Prescribed third party activity

**Term:** *prescribed third party activity*

**Definition:** *healthcare third party activity* prescribed by a *healthcare professional*

Table 42 lists the associations of this concept; a UML representation of the concept is shown in Figure 49.

Table 42 — Associations of *prescribed third party activity*

Specialization of		Generalization of	
healthcare third party activity			
Association from	Association name	Association to	
0..*	prescribed third party activity	is prescribed by	1 healthcare professional

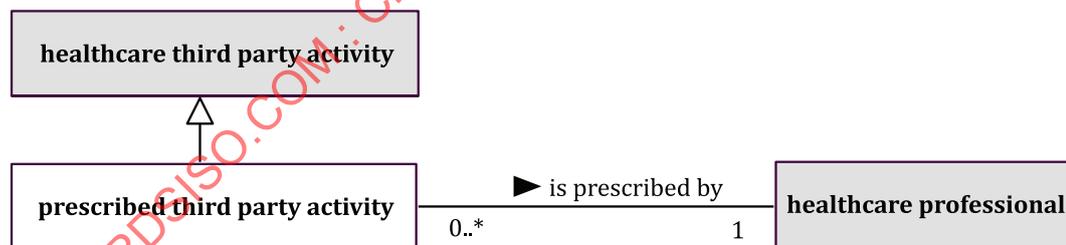


Figure 49 — Prescribed healthcare third party (UML representation)

7.2.7 Healthcare activity element

**Term:** *healthcare activity element*

**Definition:** element of *healthcare activity* that addresses one type of purpose

NOTE *Healthcare activity* is a complex concept that can be subdivided in elements that represent different purposes with the action. The different purposes could be direct (*healthcare investigation* and *healthcare treatment* that directly involves the *subject of care*) or indirect (*healthcare assessment*, *healthcare evaluation*, *healthcare documenting* or *healthcare activity management* that do not necessarily directly involve the *subject of care*).

Table 43 lists the associations of this concept; a UML representation of the concept is shown in Figure 50.

Table 43 — Associations of *healthcare activity element*

Specialization of		Generalization of	
		healthcare investigation	
		healthcare assessment	
		healthcare treatment	
		healthcare evaluation	
		healthcare documenting	
		healthcare communication	
		healthcare activity management	
Component of		Aggregation of	
1	healthcare activity		
Association from	Association name	Association to	
1..*	healthcare actor	performs	0..* healthcare activity element

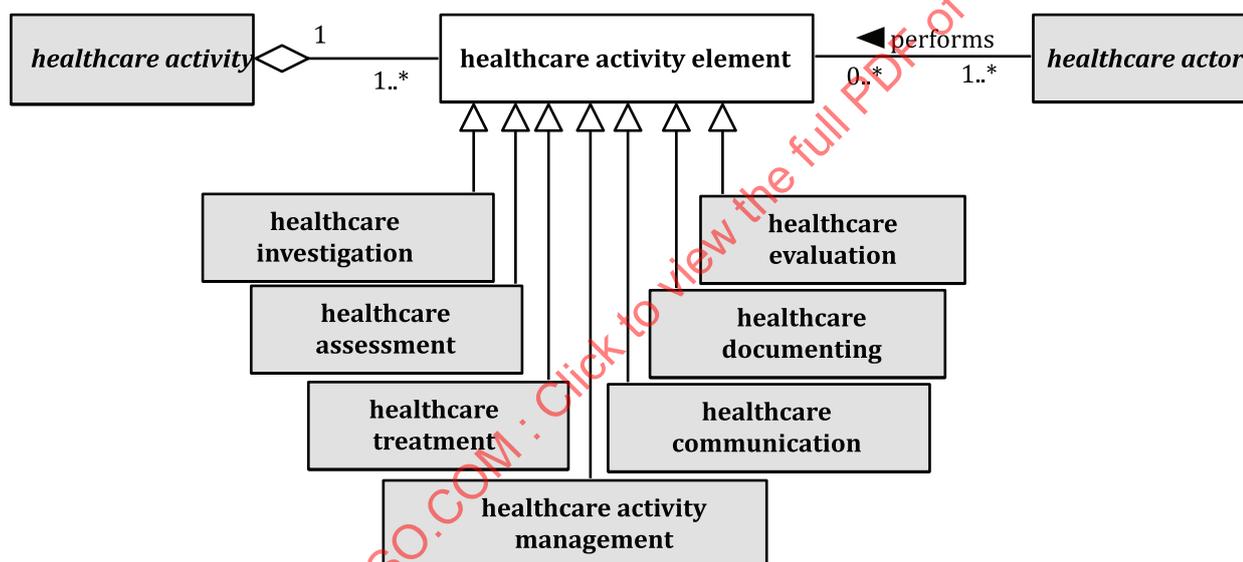


Figure 50 — Healthcare activity element (UML representation)

### 7.2.7.1 Healthcare treatment

**Term:** *healthcare treatment*

**Definition:** *healthcare activity element* intended to directly improve or maintain a *health state*

NOTE 1 The treatment of a *subject of care's health state*, based on that *subject of care's health conditions*, is a part of the *clinical process* considered from a therapeutic perspective.

NOTE 2 *Healthcare treatment* is intended to contribute to fulfilling the assessed health need.

NOTE 3 Prevention is a type of *healthcare treatment* where the risk of a *health condition* is treated.

NOTE 4 *Healthcare treatment* includes all types of activities that intend to influence the health state including, for example, rehabilitation, palliative care, education of subjects of care, caring, etc.

Table 44 lists the associations of this concept; a UML representation of the concept is shown in Figure 51.

Table 44 — Associations of *healthcare treatment*

Specialization of		Generalization of	
healthcare activity element			
Association from	Association name	Association to	
0..*	healthcare treatment	influences	1   health state

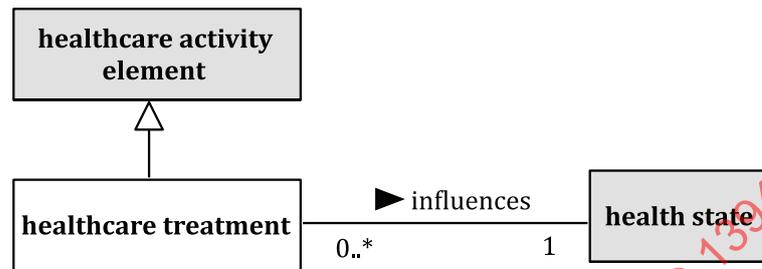


Figure 51 — Healthcare treatment (UML representation)

### 7.2.7.2 Healthcare investigation

**Term:** *healthcare investigation*

**Definition:** *healthcare activity element* with the intention to clarify one or more *health conditions* of a *subject of care*

NOTE 1 *Healthcare investigations* add and improve information about aspects of a *health state*.

NOTE 2 Some primary *healthcare investigations* can sometimes have an intended or secondary therapeutic effect, while some activities can be both investigating and therapeutic by essence (e.g. a fibroscopy, interventional cardiology, etc.)

Table 45 lists the associations of this concept; a UML representation of the concept is shown in Figure 52.

Table 45 — Associations of *healthcare investigation*

Specialization of		Generalization of	
healthcare activity element			
Association from	Association name	Association to	
0..*	healthcare investigation	clarifies	1   health state
0..*	healthcare investigation	reveals	0..*   health condition

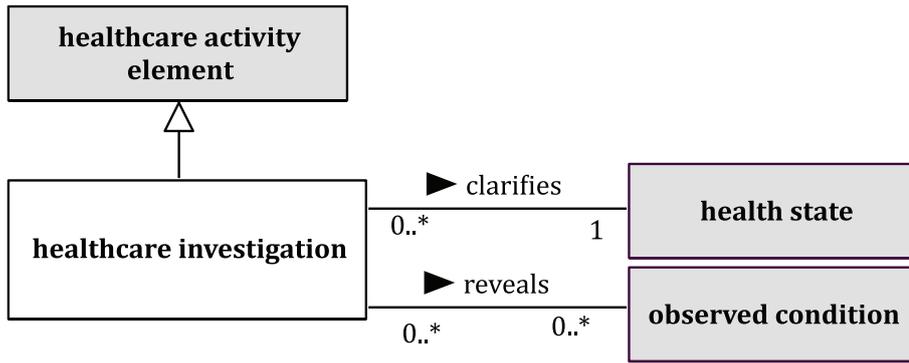


Figure 52 — Healthcare investigation (UML representation)

7.2.7.3 Healthcare activity management

**Term:** *healthcare activity management*

**Definition:** *healthcare activity element* during which the status of *healthcare activities* in a *care plan* are changed

**NOTE** Examples statuses for *healthcare activities* are; planned, scheduled, resource allocated, ongoing, performed/finished, evaluated.

[Table 46](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 53](#).

Table 46 — Associations of *healthcare activity management*

Specialization of		Generalization of	
healthcare activity element			
Component of		Aggregation of	
		0..*	healthcare planning
Association from	Association name	Association to	
0..*	healthcare activity management manages	1..*	healthcare activity
0..*	healthcare activity management changes statuses of healthcare activities in	1	care plan

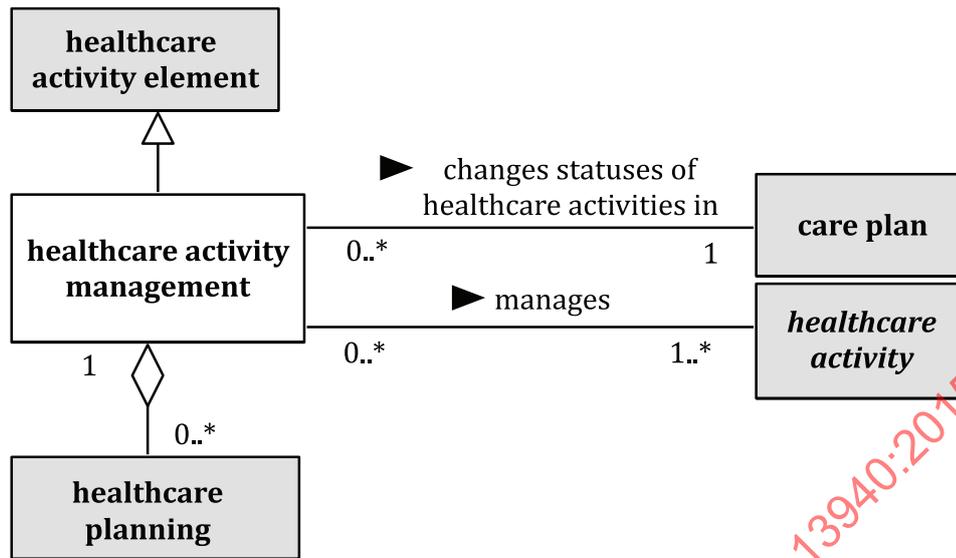


Figure 53 — Healthcare activity management (UML representation)

7.2.7.4 Healthcare assessment

**Term:** *healthcare assessment*

**Definition:** *healthcare activity element* where an opinion related to *health conditions* and/or *healthcare activities* is formed

Table 47 lists the associations of this concept; a UML representation of the concept is shown in Figure 54.

Table 47 — Associations of *healthcare assessment*

Specialization of	Generalization of
healthcare activity element	healthcare needs assessment

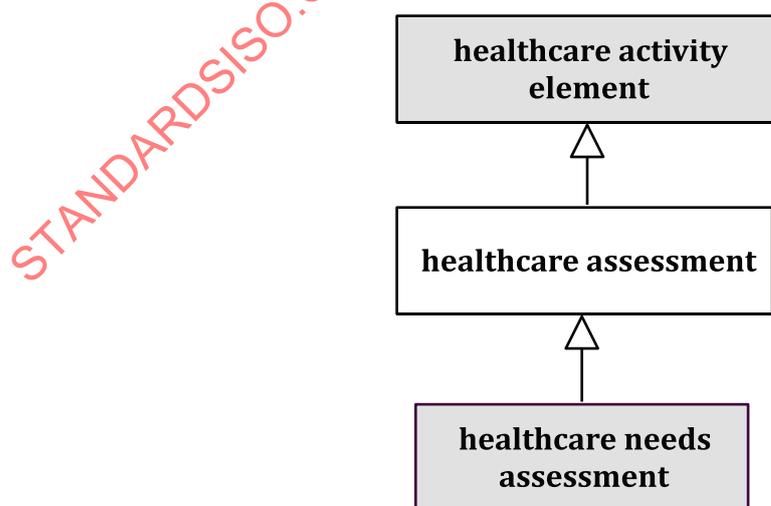


Figure 54 — Healthcare assessment (UML representation)

7.2.7.5 Healthcare needs assessment

**Term:** *healthcare needs assessment*

**Definition:** *healthcare assessment* during which a *healthcare professional* considers a *subject of care's* *health need* and determines the *needed healthcare activity*

NOTE 1 A *healthcare needs assessment* precedes *healthcare planning*.

NOTE 2 *Healthcare needs assessments* should be performed in a dialogue with the *subject of care*. The responsibility for a *healthcare needs assessment* is held by a *healthcare professional*.

NOTE 3 The *subjects of care* interact with *healthcare professionals* in *healthcare needs assessments* and also describe their opinions on which *healthcare activities* should be asked for in a demand for care.

Table 48 lists the associations of this concept; a UML representation of the concept is shown in Figure 55.

Table 48 — Associations of *healthcare needs assessment*

Specialization of		Generalization of	
healthcare assessment			
Association from	Association name	Association to	
0..*	healthcare needs assessment	precedes	0..1 healthcare planning
0..*	subject of care desire	is considered during	1..* healthcare needs assessment
1..*	healthcare professional	performs	0..* healthcare needs assessment
0..*	healthcare needs assessment	identifies	0..* needed healthcare activity
1	health need	is considered during	0..* healthcare needs assessment

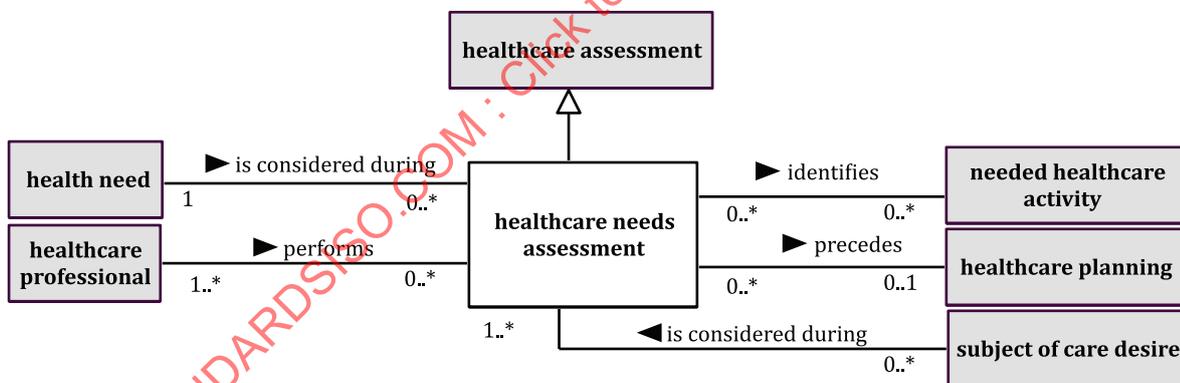


Figure 55 — Healthcare needs assessment (UML representation)

7.2.7.6 Healthcare planning

**Term:** *healthcare planning*

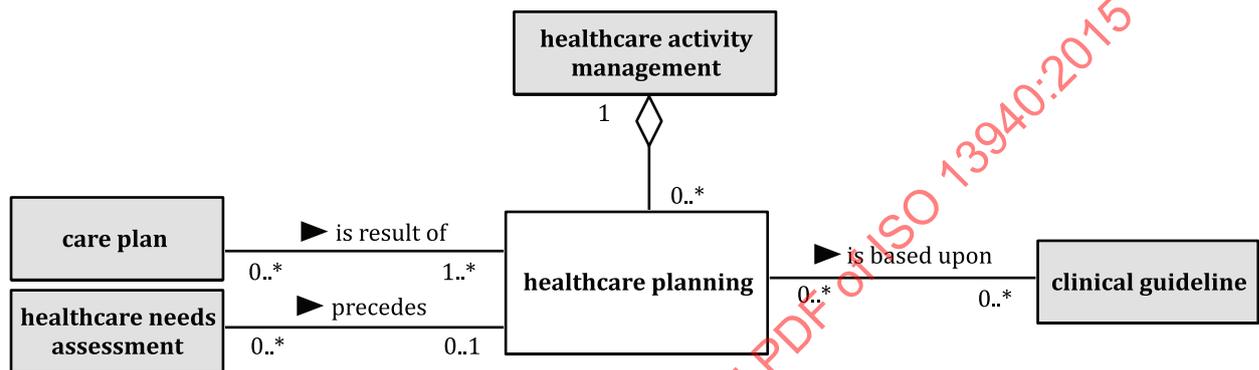
**Synonym:** care planning

**Definition:** element of *healthcare activity management* where a *care plan* is created or modified

Table 49 lists the associations of this concept; a UML representation of the concept is shown in Figure 56.

**Table 49 — Associations of *healthcare planning***

Component of		Aggregation of			
1	healthcare activity management				
Association from		Association name		Association to	
0..*	healthcare planning	is based upon	0..*	clinical guideline	
0..*	care plan	is result of	1..*	healthcare planning	
0..*	healthcare needs assessment	precedes	0..1	healthcare planning	



**Figure 56 — Healthcare planning (UML representation)**

**7.2.7.7 Healthcare evaluation**

**Term:** *healthcare evaluation*

**Definition:** *healthcare activity element* where aspects of at least one other *healthcare activity element* is evaluated

NOTE 1 *Healthcare evaluation* may be performed by all kinds of *healthcare actors*, including the *subject of care*.

NOTE 2 See also *clinical process outcome evaluation*.

[Table 50](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 57](#).

**Table 50 — Associations of *healthcare evaluation***

Specialization of		Generalization of			
healthcare activity element		healthcare process evaluation			
		clinical process outcome evaluation			
Association from		Association name		Association to	
0..*	healthcare evaluation	evaluates aspects of	1..*	healthcare activity	

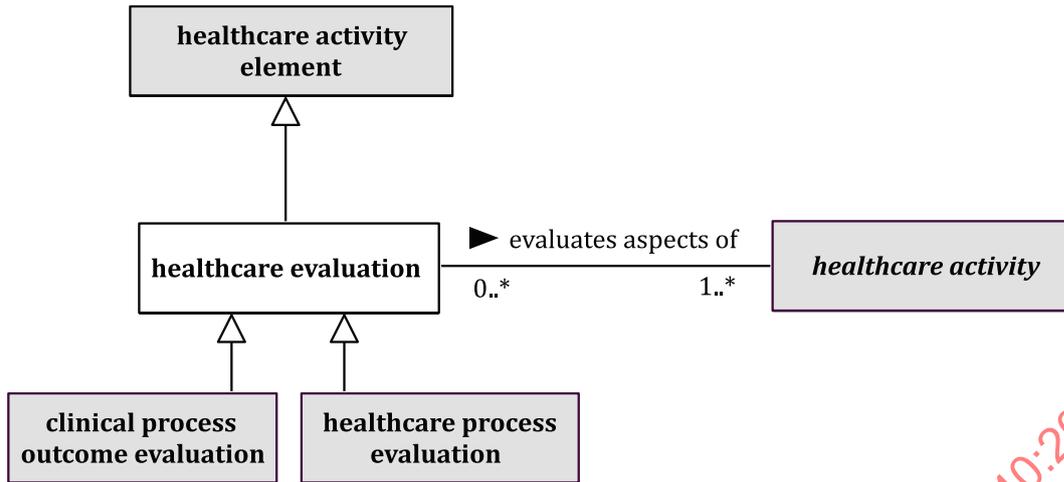


Figure 57 — Healthcare evaluation (UML representation)

7.2.7.7.1 Healthcare process evaluation

**Term:** *healthcare process evaluation*

**Definition:** *healthcare evaluation* where *healthcare processes* are systematically assessed against requirements

NOTE 1 The outputs of *clinical processes* are evaluated in a *clinical process outcome evaluation*.

NOTE 2 Requirements are defined as a combination of needs and expectations that are stated, generally implied or obligatory. The needs can be represented by, for example, *target conditions*, goals for resource consumption, compliance to guidelines, etc. The expectations can be represented by the perceptions of the outcomes from each of the involved *healthcare actor's* perspective (i.e. *subject of care* and *healthcare professionals*).

Table 51 lists the associations of this concept, a UML representation of the concept is shown in Figure 58.

Table 51 — Associations of *healthcare process evaluation*

Specialization of		Generalization of	
healthcare evaluation			
Association from	Association name	Association to	
0..* healthcare process evaluation	evaluates	1..* healthcare process	

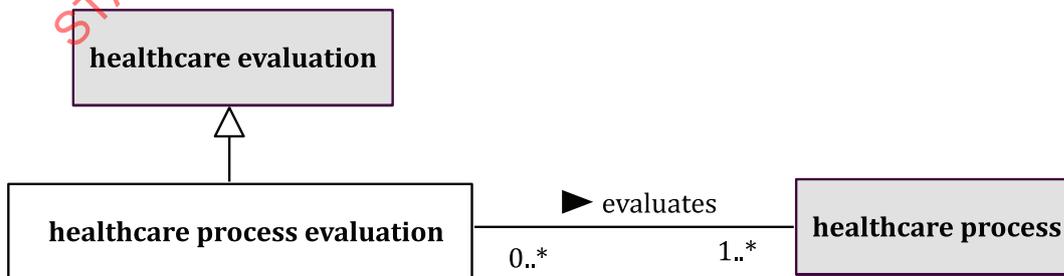


Figure 58 — Healthcare process evaluation (UML representation)

7.2.7.7.2 Clinical process outcome evaluation

**Term:** *clinical process outcome evaluation*

**Definition:** *healthcare evaluation* where the effects of a *clinical process* on a *health state* are assessed against the *target condition* and/or a *health condition* representing the *input health state*

NOTE 1 The *subject of care* and *healthcare professionals* are the main contributors to a *clinical process outcome evaluation*.

NOTE 2 The *target condition* represents a requirement for the *clinical process*.

Table 52 lists the associations of this concept; a UML representation of the concept is shown in Figure 59.

Table 52 — Associations of *clinical process outcome evaluation*

Specialization of		Generalization of	
healthcare evaluation			
Association from	Association name	Association to	
0..* clinical process outcome evaluation	evaluates outcome of	1	clinical process
1..* target condition	is input to	0..*	clinical process outcome evaluation
0..* resultant condition	is input to	0..*	clinical process outcome evaluation

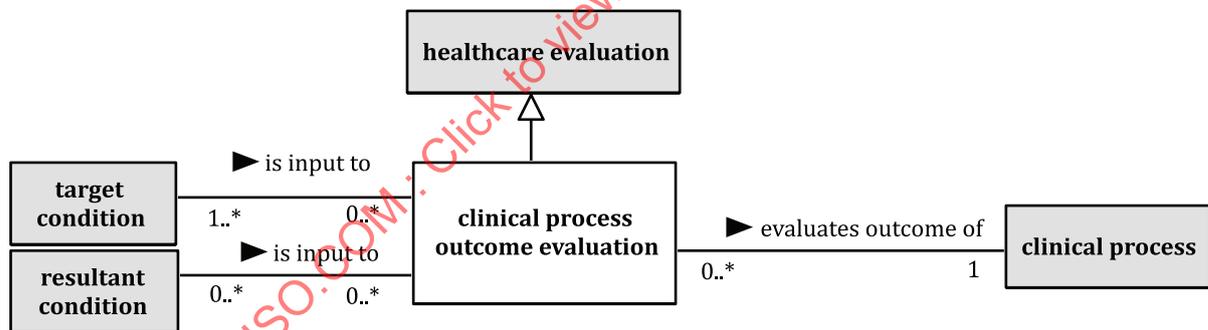


Figure 59 — Clinical process outcome evaluation (UML representation)

7.2.7.8 Healthcare documenting

**Term:** *healthcare documenting*

**Definition:** *healthcare activity element* where *health records* are created or maintained

Table 53 lists the associations of this concept; a UML representation of the concept is shown in Figure 60.

Table 53 — Associations of *healthcare documenting*

Specialization of		Generalization of	
healthcare activity element			
Association from	Association name	Association to	
1..* healthcare documenting	maintains	1..*	health record

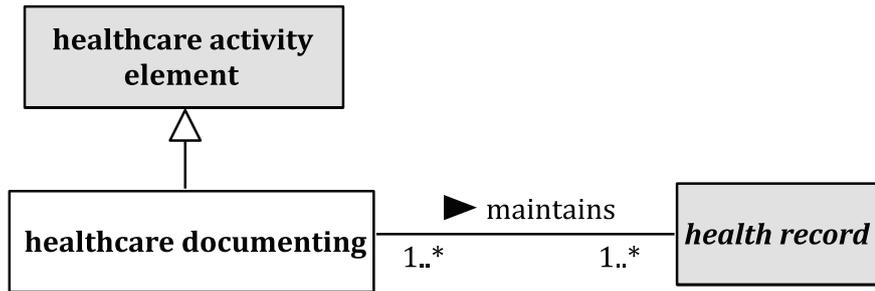


Figure 60 — Healthcare documenting (UML representation)

7.2.7.9 Healthcare communication

**Term:** *healthcare communication*

**Definition:** *healthcare activity element* where at least two *healthcare actors* communicate

[Table 54](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 61](#).

Table 54 — Associations of *healthcare communication*

Specialization of	Generalization of
healthcare activity element	

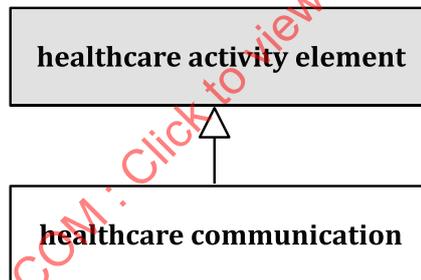


Figure 61 — Healthcare communication (UML representation)

7.2.8 Automated healthcare

**Term:** *automated healthcare*

**Definition:** method of delivering healthcare initiated by a responsible *healthcare actor* and thereafter delivered automatically by an *automatic medical device*

**NOTE** *Automated healthcare* is not a *healthcare activity* in its own right since the *automatic medical device* doesn't have the capacity to be responsible. It is the *healthcare actor* who initiates and reviews the *automated healthcare* that is responsible for safe use of the *automatic medical device*.

**EXAMPLE** Activities performed by the machine during a long term Electrocardiography (“Holter recording”) programme, implanted cardiac defibrillator.

[Table 55](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 62](#).

Table 55 — Associations of *automated healthcare*

Association from		Association name	Association to	
0..*	automated healthcare	initiated during	1	healthcare activity
0..*	automated healthcare	reviewed during	0..*	healthcare activity
0..*	automated healthcare	terminated during	0..1	healthcare activity
0..*	automated healthcare	results in	0..*	non-ratified healthcare information
1..*	healthcare actor	is responsible for	0..*	automated healthcare
1	automatic medical device	delivers	0..*	automated healthcare

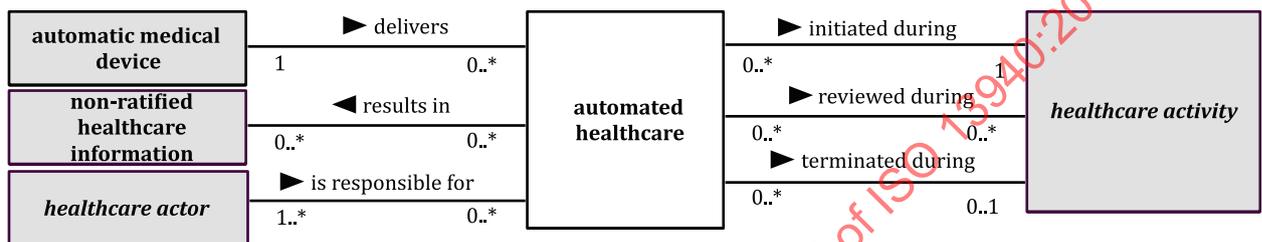


Figure 62 — Automated healthcare (UML representation)

### 7.2.9 Healthcare resource

**Term:** *healthcare resource*

**Definition:** resource needed to perform *healthcare activities*

**NOTE** As a *healthcare process* develops, the *healthcare resources* follow a life cycle. Examples of steps of such a life cycle are: 'available', 'booked', 'provided', "in use", 'consumed', etc.

**EXAMPLES** *Healthcare professional* on duty, operation theatre, instruments ready to use, consultation rooms, bed in a ward, prepared medicinal products, Electrocardiography-device, blood sample, donated kidney, etc.

Table 56 lists the associations of this concept; a UML representation of the concept is shown in Figure 63.

Table 56 — Associations of *healthcare resource*

Specialization of	Generalization of
resource	healthcare personnel
	point of care
	medicinal product
	medical device

Association from		Association name	Association to	
1..*	healthcare activity	requires	1..*	healthcare resource
1..*	healthcare resource management	direct and control the supply and use of	1..*	healthcare resource
0..*	healthcare funds	is funding	0..*	healthcare resource

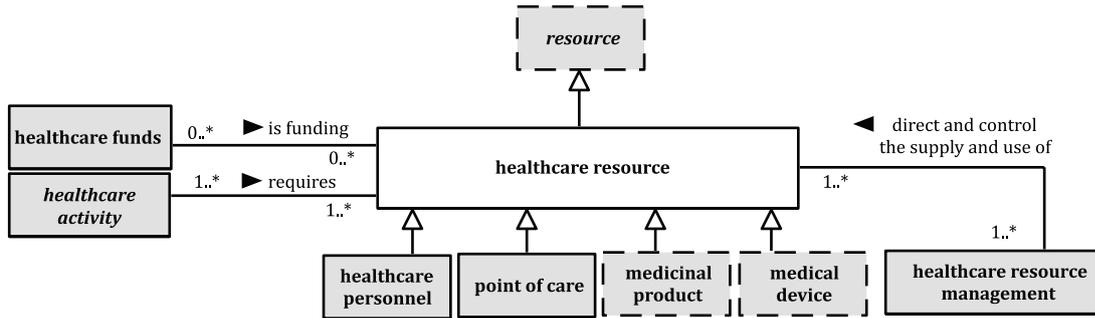


Figure 63 — Healthcare resource (UML representation)

7.2.9.1 Point of care

**Term:** *point of care*

**Definition:** location where direct *healthcare activities* are performed

NOTE Location refers to the geographical location of the *subject of care*; not the body area of the *subject of care* that the treatment is applied to.

EXAMPLES Surgery room, ward, ambulance, road side, home of the *subject of care*, school, etc.

Table 57 lists the associations of this concept; a UML representation of the concept is shown in Figure 64.

Table 57 — Associations of *point of care*

Specialization of	Generalization of
healthcare resource	

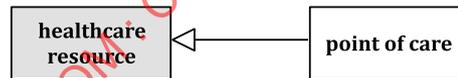


Figure 64 — Point of care (UML representation)

7.2.9.2 Automatic medical device

**Term:** *automatic medical device*

**Definition:** *medical device* capable of performing automated *healthcare activities*

NOTE In EN 13940-1:2007 the concept *healthcare device* was a specialization of *healthcare actor* and defined as 'device or equipment, possibly including a piece of software, involved in the provision of *health care activities*'.

EXAMPLES A specific identifiable Electrocardiography machine, electronic blood-sugar monitor.

Table 58 lists the associations of this concept; a UML representation of the concept is shown in Figure 65.

Table 58 — Associations of *automatic medical device*

Specialization of	Generalization of
medical device	

Table 58 (continued)

Association from		Association name	Association to	
1	automatic medical device	delivers	0..*	automated healthcare

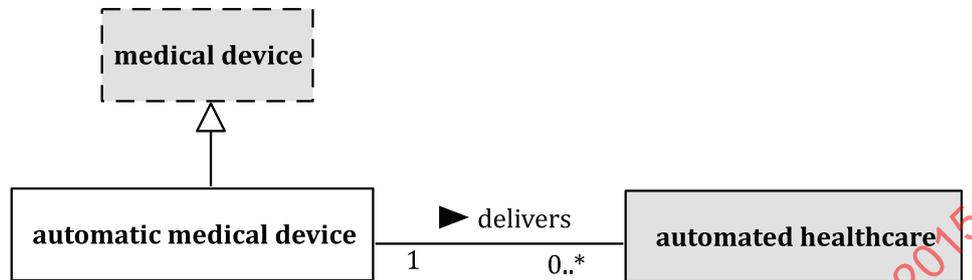


Figure 65 — Automatic medical device (UML representation)

### 7.2.9.3 Healthcare resource management

**Term:** *healthcare resource management*

**Definition:** activities to direct and control the supply and use of the *healthcare resources* required to perform *healthcare activities*

Table 59 lists the associations of this concept; a UML representation of the concept is shown in Figure 66.

Table 59 — Associations of *healthcare resource management*

Association from		Association name	Association to	
1..*	healthcare resource management	direct and control the supply and use of	1..*	healthcare resource
1..*	healthcare activity	requires	0..*	healthcare resource management
1	healthcare provider	performs	0..*	healthcare resource management

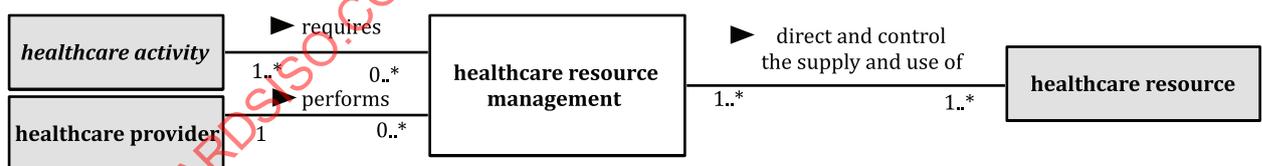


Figure 66 — Healthcare resource management (UML representation)

### 7.2.10 Healthcare funds

**Term:** *healthcare funds*

**Synonym:** care funds

**Definition:** resource provided for funding healthcare delivery

**NOTE** Funds may be provided by, for example, a health insurance fund, a governmental agency, a national or local authority, a welfare programme, the subject of care or any other person or organization having a role in the funding of healthcare.

Table 60 lists the associations of this concept; a UML representation of the concept is shown in Figure 67.

Table 60 — Associations of *healthcare funds*

Specialization of		Generalization of	
resource			
Association from	Association name	Association to	
0..* healthcare	is financed by	0..*	healthcare funds
0..* healthcare actor	provides	0..*	healthcare funds
0..* healthcare funds	is funding	0..*	healthcare resource

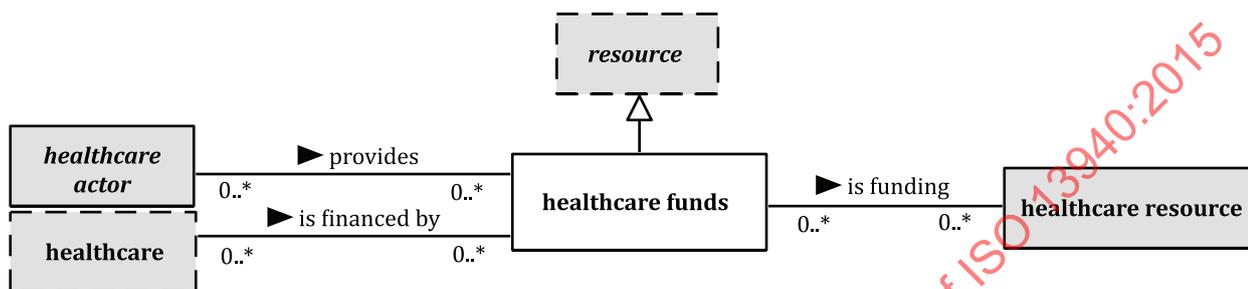


Figure 67 — Healthcare funds (UML representation)

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Table 61 — Associations of *healthcare process*

Specialization of		Generalization of	
Process		clinical process	
Component of		Aggregation of	
0..1	healthcare process	1..*	healthcare activity
		0..*	healthcare process
Association from	Association name	Association to	
1..*	healthcare process	1	subject of care
0..*	healthcare process	0..*	care plan
0..*	healthcare process evaluation	1..*	healthcare process
1..*	healthcare process	0..*	health record
1..*	healthcare process	0..1	output health state
1..*	healthcare process	0..1	healthcare quality management
1..*	healthcare mandate	1..*	healthcare processes
0..1	input health state	1	healthcare process
0..1	healthcare administration	1..*	healthcare process
0..1	healthcare quality management	1..*	healthcare process
0..*	adverse event	1..*	healthcare process
0..1	healthcare service	1	healthcare process

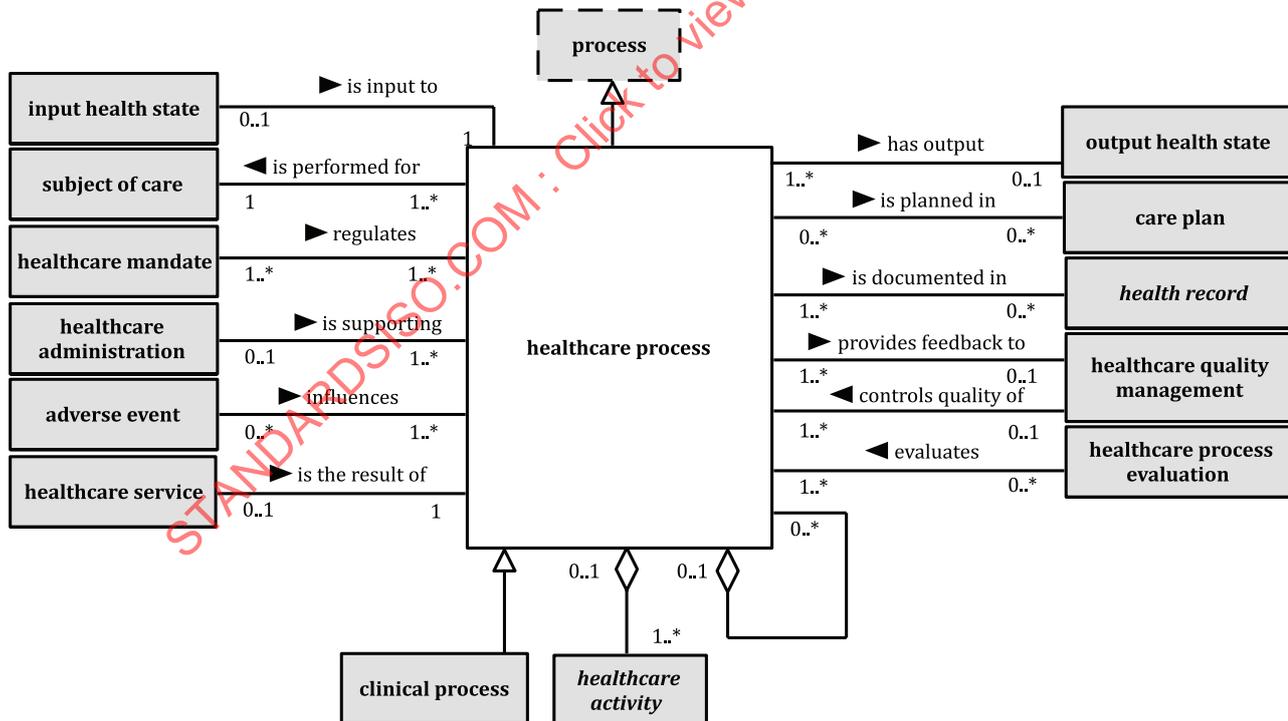


Figure 69 — Healthcare process (UML representation)

8.2.1 Clinical process

Term: *clinical process*

**Definition:** *healthcare process* encompassing all *healthcare provider activities* and other prescribed *healthcare activities* that addresses identified or specified *health issues*

NOTE 1 As such, a *clinical process* is a set of interrelated or interacting *healthcare activities*, which are performed for a *subject of care* with one or more *health issues*.

NOTE 2 The primary input and output to a *clinical process* is the health state.

NOTE 3 In a *clinical process* a *subject of care* and *healthcare professionals* interact in all types of *healthcare activities*.

NOTE 4 A *clinical process* comprises all kinds of *healthcare activities*, mainly *healthcare provider activities*, but also *self-care activities* as prescribed or recommended by *healthcare professionals*.

NOTE 5 The *clinical process* can be regarded as the key type of *process* to support continuity of care from the perspective of the *subject of care*.

NOTE 6 *Clinical processes* are the essential, central and most important type of *healthcare processes*.

NOTE 7 A relevant distinction exists between the primary input (the *subject of care's* initial *health state*) and secondary or ancillary inputs (the resources brought in to perform the *clinical process*).

Table 62 lists the associations of this concept; a UML representation of the concept is shown in Figure 70.

Table 62 — Associations of *clinical process*

Specialization of		Generalization of	
healthcare process			
Association from	Association name	Association to	
0..*	clinical process	addresses	1..* health issue
1..*	clinical process	includes	1..* mandated period of care
1	clinical process episode	is time interval for	1 clinical process
1	clinical process	has	0..1 clinical process interest
0..*	clinical process outcome evaluation	evaluates outcome of	1 clinical process
0..1	initial contact	establishes	1 clinical process

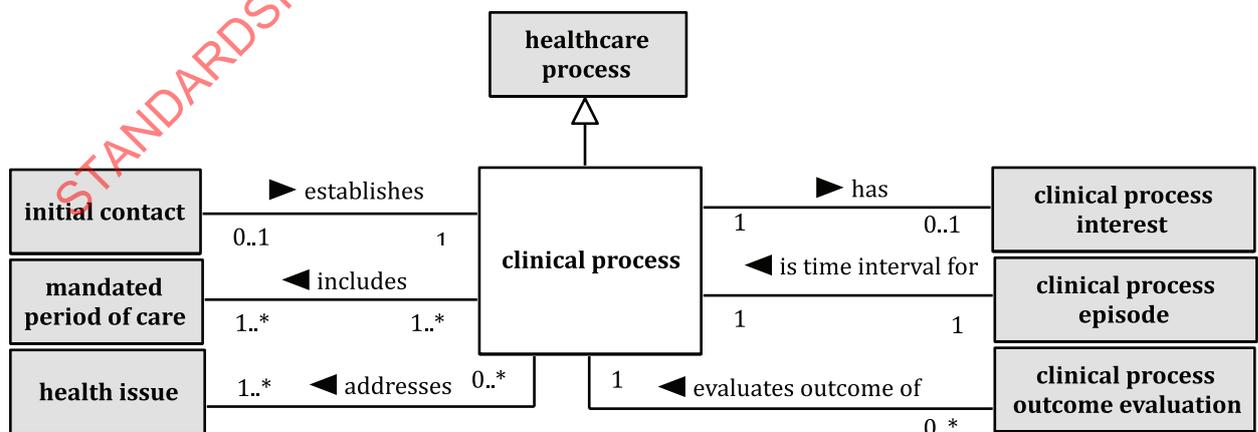


Figure 70 — Clinical process (UML representation)

**8.2.2 Healthcare quality management**

**Term:** *healthcare quality management*

**Synonym:** clinical governance

**Definition:** coordinated activities to direct and control a *healthcare organization* with regard to quality

NOTE 1 The *clinical processes* are the most important type of *healthcare processes* related to *healthcare quality management*.

NOTE 2 *Healthcare quality management* activities include the establishment of a quality policy, setting quality objectives, the performance of audits, evaluation and a feedback loop for quality improvement, all resulting in quality assurance.

EXAMPLES Direct and control the fulfilment of requirements in quality criteria repositories, changing behaviour of *healthcare professionals*.

Table 63 lists the associations of this concept; a UML representation of the concept is shown in Figure 71.

**Table 63 — Associations of *healthcare quality management***

Association from	Association name	Association to
0..1 healthcare quality management	controls quality of	1..* healthcare process
1 healthcare organization	performs	1..* healthcare quality management
1..* healthcare process	provides feedback to	0..1 healthcare quality management



**Figure 71 — Healthcare quality management (UML representation)**

**8.2.3 Healthcare administration**

**Term:** *healthcare administration*

**Definition:** administrative activities related to *healthcare processes*

NOTE Administrative activities are indirect activities in a *healthcare process* and include support and management.

EXAMPLES Budgeting and resource allocation, organizational structure, non-clinical documentation, administrative activity management, resource management, etc.

Table 64 lists the associations of this concept; a UML representation of the concept is shown in Figure 72.

**Table 64 — Associations of *healthcare administration***

Association from	Association name	Association to
0..1 healthcare administration	is supporting	1..* healthcare process

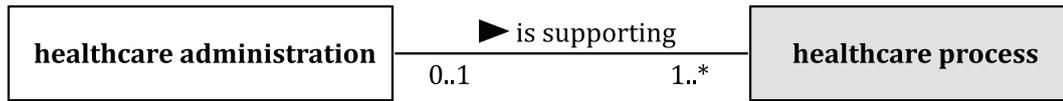


Figure 72 — Healthcare administration (UML representation)

8.2.4 Adverse event

Term: *adverse event*

Definition: unintended event that has negative influence upon *healthcare processes*

NOTE 1 'iatrogenesis' or 'iatrogeny' is a common cause of *adverse events*.

NOTE 2 *Adverse events* can occur during appropriate *healthcare activities*.

NOTE 3 *Adverse events* may cause harm.

EXAMPLES

An infection acquired during a hospital stay.

A drug may be used as recommended but cause allergic reaction when the drug allergy was not known before the treatment.

An accident in connection to a *healthcare activity* can be an adverse event.

A mishap during correctly performed *healthcare activity* may also be regarded as an adverse event

Table 65 lists the associations of this concept; a UML representation of the concept is shown in Figure 73.

Table 65 — Associations of *adverse event*

Specialization of		Generalization of	
unintended event			
Association from	Association name	Association to	
0..*	adverse event	influences	1..* healthcare process
1	adverse event	requires	1 adverse event management

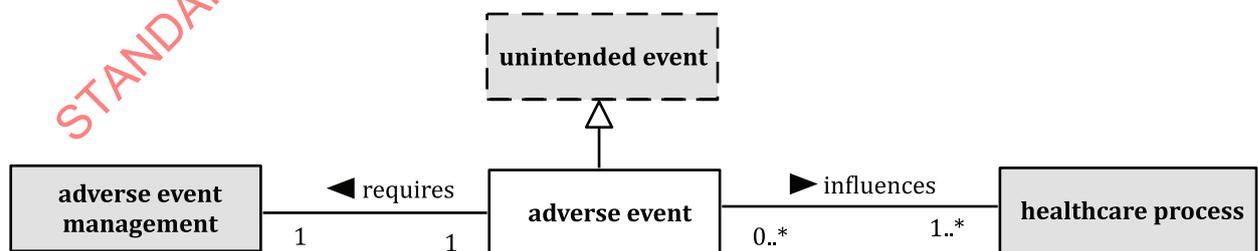


Figure 73 — Adverse event (UML representation)

8.2.5 Adverse event management

Term: *adverse event management*

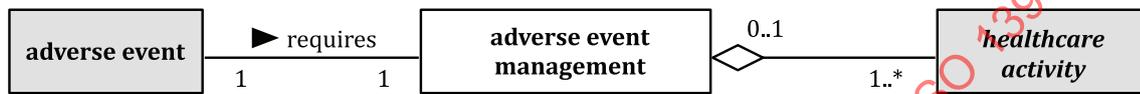
**Definition:** set of *healthcare activities* performed in response to an *adverse event*

**NOTE** The purposes for *adverse event management* are usually two: one is to reverse the effect or minimize the consequences of the *adverse event*, another one is to prevent the kind of *adverse event* in the future.

[Table 66](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 74](#).

**Table 66 — Associations of *adverse event management***

Component of		Aggregation of			
		1..*	healthcare activity		
Association from		Association name		Association to	
1	adverse event	requires		1	adverse event management



**Figure 74 — Adverse event management (UML representation)**

### 8.2.6 Healthcare service

**Term:** *healthcare service*

**Definition:** service that is the result of a *healthcare process*

**NOTE** Comprehensive *healthcare services* intended for specified *health issues* are results of *clinical processes*.

**EXAMPLE** Diagnostic investigation and result report.

[Table 67](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 75](#).

**Table 67 — Associations of *healthcare service***

Association from		Association name		Association to	
0..1	healthcare service	is the result of		1	healthcare process
1..*	healthcare service	is listed in		1..*	healthcare service directory
1	care period mandate	commissions		1..*	healthcare service



**Figure 75 — Healthcare service (UML representation)**

### 8.2.7 Healthcare service directory

**Term:** *healthcare service directory*

**Definition:** Directory of the types of *healthcare services* offered by one or more *healthcare providers*

Table 68 lists the associations of this concept; a UML representation of the concept is shown in Figure 76.

Table 68 — Associations of *healthcare service directory*

Association from		Association name	Association to	
1..*	healthcare service	is listed in	1..*	healthcare service directory

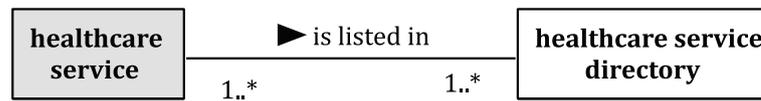


Figure 76 — Healthcare service directory (UML representation)



## 9.2 Care plan

**Term:** *care plan*

**Synonym:** healthcare plan

**Deprecated term:** programme of care

**Definition:** dynamic, personalized plan including identified *needed healthcare activity*, *health objectives* and *healthcare goals*, relating to one or more specified *health issues* in a *healthcare process*

NOTE 1 A *care plan* may be recorded in one or more *health records*.

NOTE 2 A *care plan* could be subdivided from different perspectives by different constraints. One example is *uniprofessional care plan*, for example, a nursing care plan with the constraint of only one specific *healthcare professional* involved. Other examples of specific constraints for a *care plan* are: *care plan* to address one *health issue*, one *health condition*, one *contact*, one *clinical process*, *healthcare activities* to be performed by one *healthcare provider*, etc.

NOTE 3 *Care plans* are reviewed repeatedly during a *healthcare process*, each review based on a new healthcare needs assessment.

NOTE 4 The *healthcare activities* in a *care plan* follow a life cycle. Examples of statuses of such a life cycle are: 'planned', 'performed', 'cancelled', etc.; all of these statuses are included in the care plan.

NOTE 5 In EN 13940-1:2007 programme of care was the preferred term for this concept.

EXAMPLE A *care plan* for retinopathy in diabetics by video-retinoscopy, which involves the GP and an ophthalmologist and implies specific mobile equipment (video-retinoscope) with a camera.

Table 69 lists the associations of this concept; a UML representation of the concept is shown in Figure 77.

**Table 69 — Associations of care plan**

Specialization of		Generalization of	
		uniprofessional care plan	
		multi-professional care plan	
Component of		Aggregation of	
0..*	care plan	0..*	care plan
		1..*	healthcare activity
		0..*	healthcare activities bundle
Association from	Association name	Association to	
0..*	care plan	0..*	clinical guideline
0..*	care plan	0..*	protocol
0..*	care plan	0..*	core care plan
0..*	care plan	1..*	health issue
0..*	care plan	0..*	health thread
1..*	care plan	1..*	health objective
1..*	care plan	1..*	healthcare goal
0..*	care plan	1..*	healthcare planning
1..*	healthcare actor	0..*	care plan
0..*	healthcare process	0..*	care plan
0..*	healthcare appointment	0..1	care plan

Table 69 (continued)

0..*	healthcare activity management	changes statuses of healthcare activities in	1	care plan
0..*	care plan	is recorded in	0..*	health record

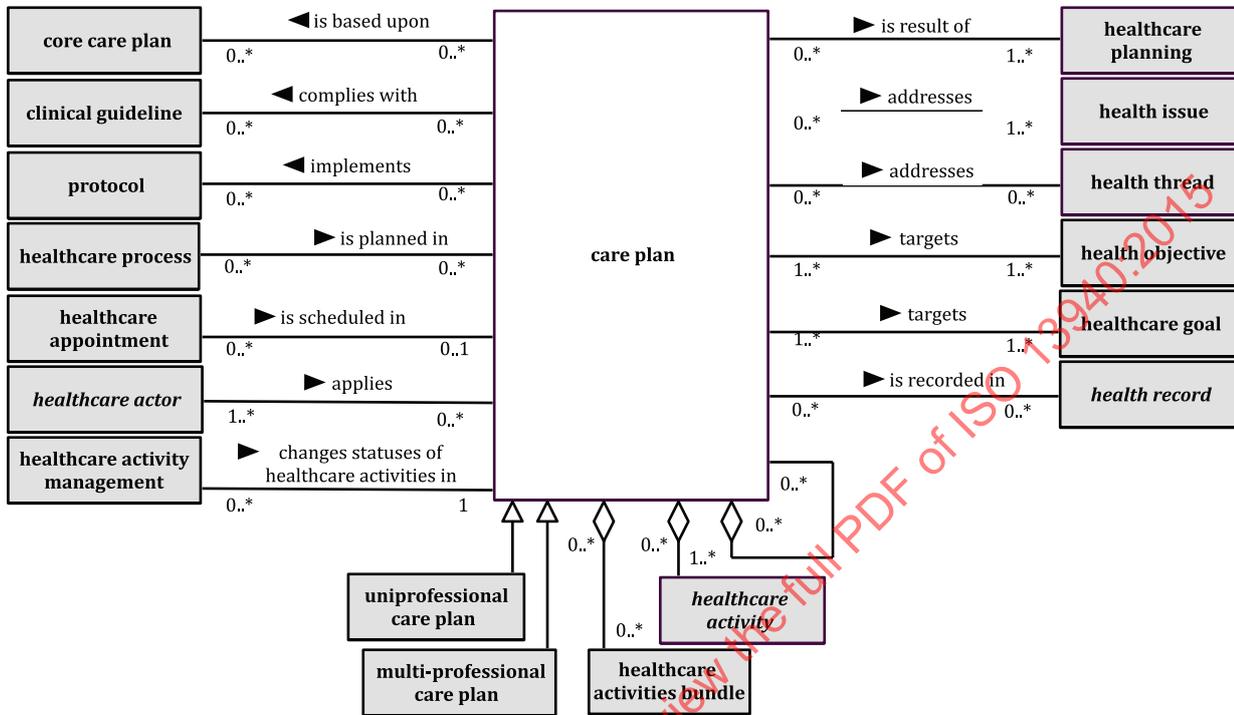


Figure 78 — Care plan (UML representation)

9.2.1 Uniprofessional care plan

**Term:** uniprofessional care plan

**Synonym:** uniprofessional healthcare plan

**Deprecated term:** care plan

**Definition:** care plan limited to those healthcare provider activities performed by healthcare professionals having the same healthcare professional entitlement

**NOTE** In EN 13940-1:2007 care plan was the preferred term for this concept.

**EXAMPLE** A nursing care plan.

Table 70 lists the associations of this concept; a UML representation of the concept is shown in Figure 79.

Table 70 — Associations of uniprofessional care plan

Specialization of	Generalization of
care plan	

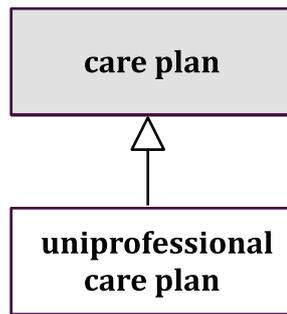


Figure 79 — Uniprofessional care plan (UML representation)

9.2.2 Multi-professional care plan

**Term:** *multi-professional care plan*

**Synonyms:** multi-professional healthcare plan, multi-disciplinary care plan

**Definition:** *care plan* encompassing *healthcare provider activities* performed by *healthcare professionals* having different *healthcare professional entitlements*

Table 71 lists the associations of this concept; a UML representation of the concept is shown in Figure 80.

Table 71 — Associations of *multi-professional care plan*

Specialization of	Generalization of
care plan	

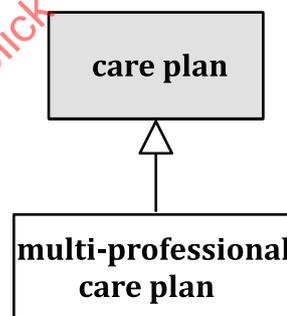


Figure 80 — Multi-professional care plan (UML representation)

9.2.3 Core care plan

**Term:** *core care plan*

**Synonym:** standardized care plan

**Definition:** reusable content and structure for a potential *care plan* for a specified set of circumstances

NOTE 1 A *core care plan* is usually based upon knowledge in *clinical guidelines* (including protocols).

NOTE 2 *Core care plans* can be applied in care planning as a *clinical process* management method.

NOTE 3 A *core care plan* may include advanced formulated schemes for recommended *healthcare activities*.

Table 72 lists the associations of this concept; a UML representation of the concept is shown in Figure 81.

Table 72 — Associations of *core care plan*

Association from		Association name	Association to	
0..1	clinical pathway	informs	1..*	core care plan
1..*	healthcare organization	adopts	0..*	core care plan
0..*	care plan	is based upon	0..*	core care plan

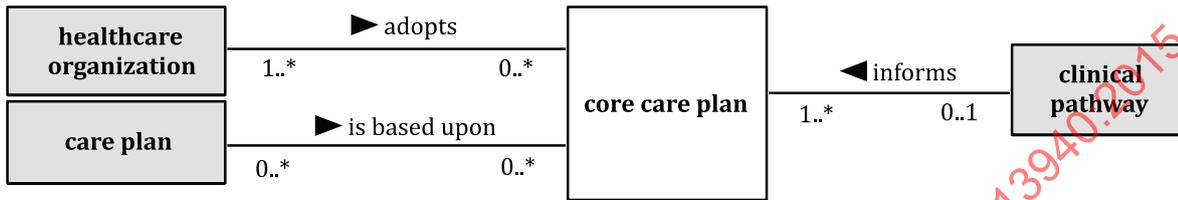


Figure 81 — Core care plan (UML representation)

9.2.4 Clinical guideline

**Term:** *clinical guideline*

**Synonym:** care guideline

**Definition:** set of systematically developed statements to assist the decisions made by *healthcare actors* about *healthcare activities* to be performed with regard to specified *health issues*

NOTE 1 *Clinical guidelines* are usually rather generic and they concern no actual *subject of care* in particular. While they generally reflect a broad statement of good practice, they may sometimes include multiple operational details.

NOTE 2 *Clinical guidelines* should be structured and contain standard criteria and indicators for measurement.

EXAMPLES *Clinical guidelines* related to hypertension, diabetes, pregnancy follow-up, Caesarean section; pressure area management, exercise programmes, social intervention programmes for people with a learning disability

Table 73 lists the associations of this concept; a UML representation of the concept is shown in Figure 82.

Table 73 — Associations of *clinical guideline*

Specialization of		Generalization of	
		protocol	
Association from		Association name	Association to
0..*	clinical guideline	is centred on	1..* health issue
0..*	clinical pathway	refers to	1..* clinical guideline
0..*	healthcare actor	makes decisions assisted by	0..* clinical guideline
0..*	healthcare planning	is based upon	0..* clinical guideline
0..*	care plan	complies with	0..* clinical guideline

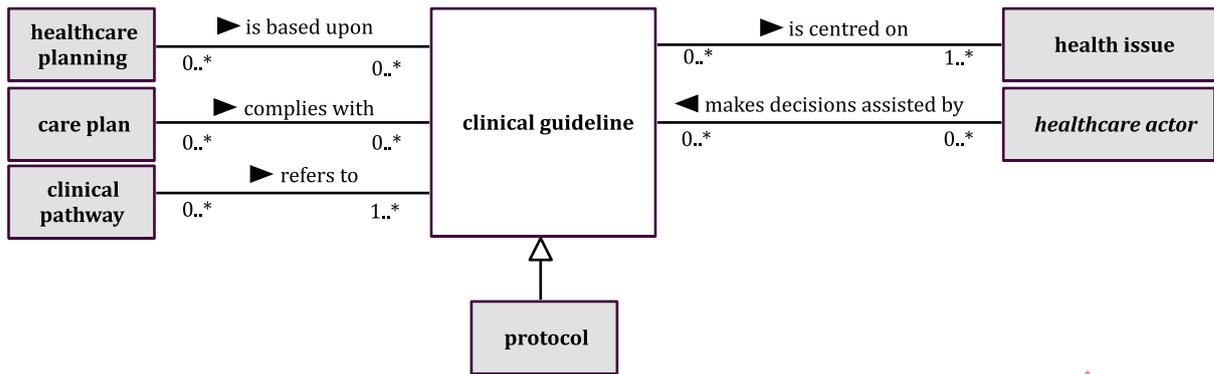


Figure 82 — Clinical guidelines (UML representation)

9.2.4.1 Protocol

Term: *protocol*

Definition: customized *clinical guideline*

NOTE 1 A *protocol* is more precise than a *clinical guideline*.

NOTE 2 *Protocols* are often presented in a formal manner with respect to the expected behaviours and roles of *healthcare actors*.

EXAMPLES A *protocol* for a heart failure in an emergency department, a protocol for treatment and follow-up of urinary infections in children in a health centre.

Table 74 lists the associations of this concept; a UML representation of the concept is shown in Figure 83.

Table 74 — Associations of *protocol*

Specialization of		Generalization of	
clinical guideline			
Association from	Association name	Association to	
0..*   care plan	implements	0..*   protocol	

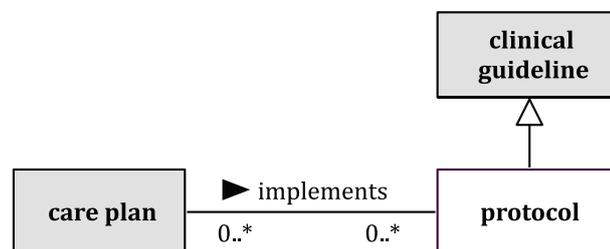


Figure 83 — Protocol (UML representation)

9.2.4.2 Clinical pathway

Term: *clinical pathway*

Synonyms: care pathway, care map, pathway of care

**Definition:** pathway for the *healthcare activities* informing the content of *core care plans*

NOTE 1 The concept *clinical pathway* includes subtypes, for example, ‘integrated care pathways’, ‘multidisciplinary pathways of care’, ‘collaborative care pathways’.

NOTE 2 *Clinical pathways* are designed to support *healthcare administration* and *healthcare resource management*. They provide detailed guidance for each stage in the management of a patient (treatments, interventions, etc.).

Table 75 lists the associations of this concept; a UML representation of the concept is shown in Figure 84.

**Table 75 — Associations of *clinical pathway***

Association from		Association name	Association to	
0..*	clinical pathway	refers to	1..*	clinical guideline
0..1	clinical pathway	informs	1..*	core care plan
0..*	clinical pathway	addresses	1..*	health condition
1..*	health condition	governs the choice of	0..*	clinical pathway



**Figure 84 — Clinical pathway (UML representation)**

**9.2.5 Health objective**

**Term:** *health objective*

**Synonym:** intended outcome

**Definition:** desired ultimate achievement of a *healthcare process* addressing *health needs*

NOTE A *health objective* could be expressed as one or several *target conditions* to be reached within a specified date and time.

**EXAMPLES**

To increase the survival of a *subject of care* with breast cancer in a breast cancer screening programme.

To reduce a *subject of care* risk of morbidity and mortality from tobacco related diseases in a smoking cessation programme.

To decrease a *subject of care* risk of secondary effects to diabetes

Table 76 lists the associations of this concept; a UML representation of the concept is shown in Figure 85.

**Table 76 — Associations of *health objective***

Association from		Association name	Association to	
0..*	health objective	addresses	1..*	health need
1..*	healthcare goal	contributes to achievement of	1..*	health objective

Table 76 (continued)

0..*	target condition	represents	0..*	health objective
1..*	care plan	targets	1..*	health objective



Figure 85 — Health objective (UML representation)

### 9.2.6 Healthcare goal

**Term:** *healthcare goal*

**Definition:** desired achievement of one or more *healthcare activities*, considered as an intermediate operational step to reach a specific *health objective*

NOTE A *healthcare goal* could be expressed as one or several *target conditions* to be reached within a specified date and time.

#### EXAMPLES

To increase the *subject of care's* adherence to the treatment in a hypertension programme. To stabilize the *subject of care's* systolic and diastolic pressure in a hypertension programme.

To increase the *subject of care's* knowledge of their disease through an educational programme for diabetics.

Table 77 lists the associations of this concept; a UML representation of the concept is shown in Figure 86.

Table 77 — Associations of *healthcare goal*

Association from		Association name	Association to	
1..*	healthcare goal	contributes to achievement of	1..*	health objective
1..*	healthcare activity	targets	1..*	healthcare goal
1..*	care plan	targets	1..*	healthcare goal
0..*	target condition	represents	0..*	healthcare goal
0..*	health approach	addresses	1	healthcare goal

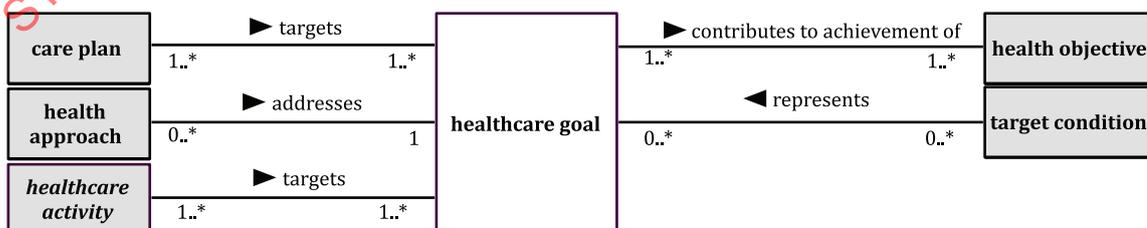


Figure 86 — Healthcare goal (UML representation)

### 9.2.7 Healthcare activities bundle

**Term:** *healthcare activities bundle*

**Definition:** set of *healthcare activities*

**NOTE** A healthcare activity bundle may be delineated using a health thread comprising healthcare activities.

**EXAMPLE** All *healthcare activities* provided to a *subject of care* in provision of, during and in the aftermath of a planned surgical operation, in relation to that operation.

Table 78 lists the associations of this concept; a UML representation of the concept is shown in Figure 87.

Table 78 — Associations of *healthcare activities bundle*

Specialization of		Generalization of	
		needed healthcare activity	
Component of		Aggregation of	
0..*	healthcare activities bundle	0..*	healthcare activities bundle
0..*	care plan	1..*	healthcare activity

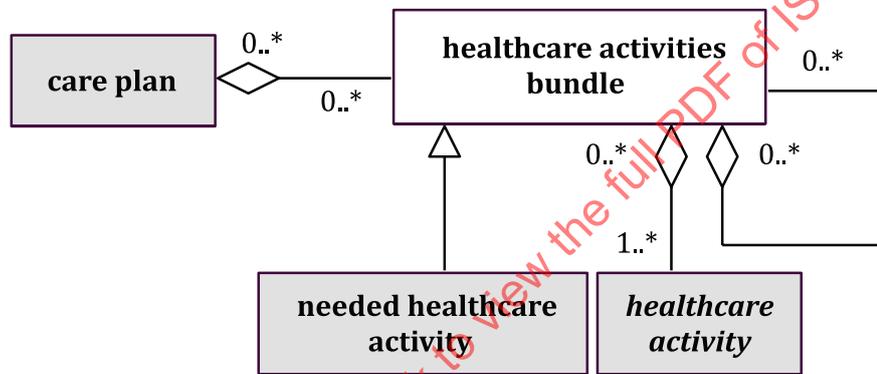


Figure 87 — Healthcare activities bundle (UML representation)

9.2.8 Needed healthcare activity

**Term:** *needed healthcare activity*

**Synonyms:** needed care activity, healthcare need, care need

**Definition:** *healthcare activities bundle* which includes those *healthcare activities* assessed as needed to address specified *health need*

**NOTE 1** *Needed healthcare activity* is the *healthcare activity* that is assessed by *healthcare professionals* to be motivated/indicated by the *health need*.

**NOTE 2** *Needed healthcare activity* is the outcome of *healthcare needs assessments* performed by *healthcare professionals*. *Needed healthcare activity* can be identified by any mandated *healthcare professional* performing *healthcare needs assessment* for a subject of care.

**NOTE 3** *Needed healthcare activity* is managed in a *care plan*.

Table 79 lists the associations of this concept; a UML representation of the concept is shown in Figure 88.

Table 79 — Associations of *needed healthcare activity*

Specialization of	Generalization of
healthcare activities bundle	

Table 79 (continued)

Association from		Association name	Association to	
0..*	healthcare needs assessment	identifies	0..*	needed healthcare activity
1..*	needed healthcare activity	addresses	1..*	health need

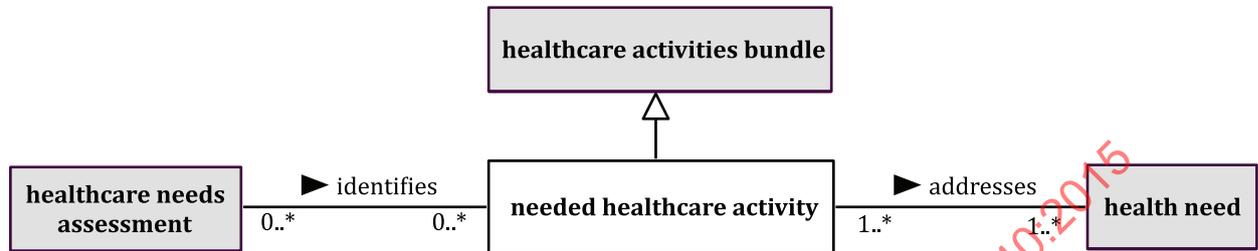


Figure 88 — Needed healthcare activity (UML representation)

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**Definition:** time interval related to the health of a *subject of care* and/or the provision of healthcare for that *subject of care*

NOTE 1 A *health related period* may be specialized in relation to a number of situations – a specific *clinical process*, *healthcare professional*, a specific department, a specific *health issue*, etc.

NOTE 2 A *health related period* is delineated by a ‘start date and time’ and an ‘end date and time’. While the statement of the start date is generally easy by definition, the identification of the end date may be subject to specific rules that have to be agreed upon locally.

Table 80 lists the associations of this concept; a UML representation of the concept is shown in Figure 90.

Table 80 — Associations of *health related period*

Specialization of	Generalization of
	mandated period of care
	healthcare activity period
	healthcare activity delay
	episode of care
	clinical process episode
	health condition period
Component of	Aggregation of
0..1   health related period	0..*   health related period

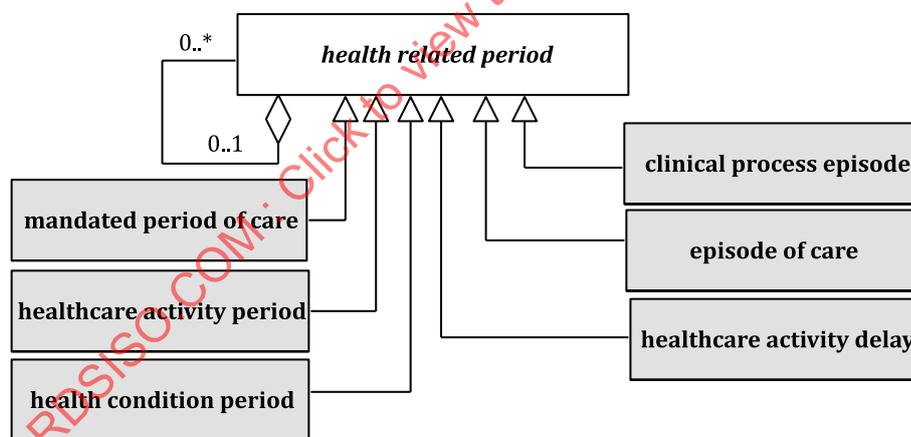


Figure 90 — Health related period (UML representation)

### 10.2.1 Mandated period of care

**Term:** *mandated period of care*

**Synonym:** commissioned period of care

**Deprecated terms:** period of care, period of healthcare

**Definition:** set of *healthcare activity periods* where a *healthcare provider* is mandated to perform the *healthcare activities* required to address specific *health needs*

NOTE 1 The *mandated period of care* is focused upon the framework of a care commitment of the provider as well as the mandate from the *subject of care*, which means that the roles and responsibilities of both the interacting parts are respected.

NOTE 2 Whenever the *healthcare provider* considered in a *mandated period of care* is a *healthcare organization*, this *mandated period of care* encompasses all *healthcare activity periods* with *healthcare professionals* who have a role in that *healthcare organization*.

NOTE 3 A *mandated period of care* may be part of another *mandated period of care*.

NOTE 4 In EN 13940-1:2007 *period of care* was the preferred term for this concept.

NOTE 5 The relevant information describing and produced during the *healthcare activities* performed as a part of a *mandated period of care* is recorded in one or more *professional health records*.

EXAMPLES A hospital stay, a series of radiotherapy sessions at an outpatient clinic.

Table 81 lists the associations of this concept; a UML representation of the concept is shown in Figure 91.

Table 81 — Associations of *mandated period of care*

Specialization of		Generalization of	
health related period			
Component of		Aggregation of	
		1..*	healthcare activity period
		0..*	healthcare activity delay
Association from	Association name	Association to	
1	care period mandate	1	mandated period of care
1..*	mandated period of care	1..*	professional health record
1..*	clinical process	1..*	mandated period of care
1	healthcare provider	1..*	mandated period of care
1	healthcare provider	1..*	mandated period of care
1..*	discharge report	1	mandated period of care

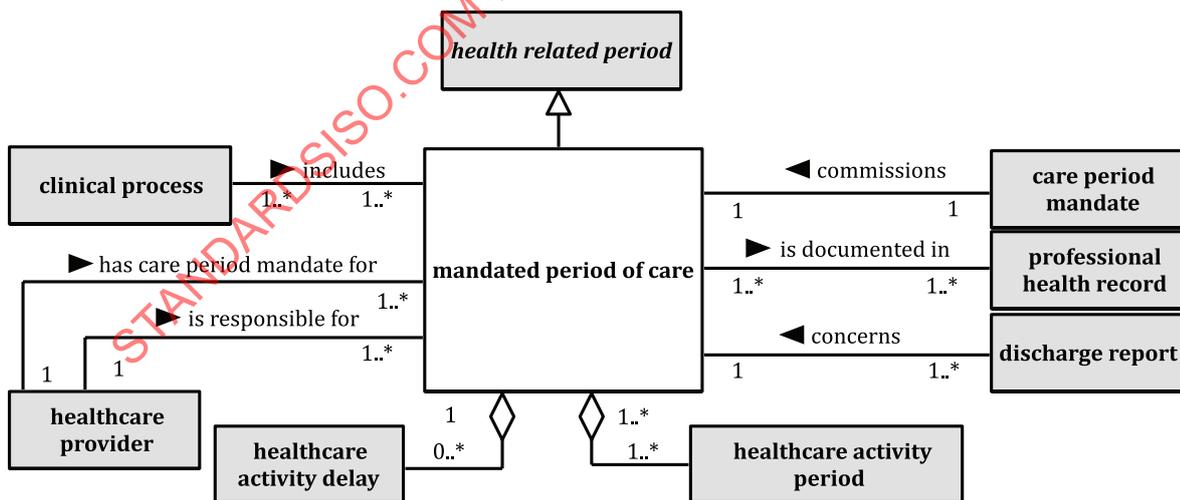


Figure 91 — Mandated period of care (UML representation)

10.2.2 Healthcare activity period

Term: *healthcare activity period*

Deprecated term: contact

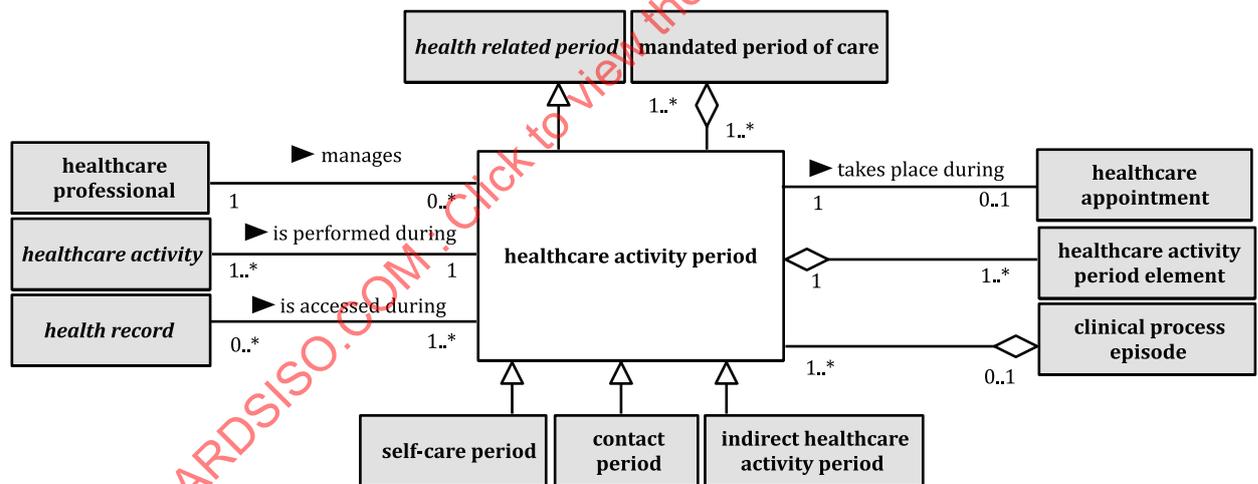
**Definition:** time interval during which *healthcare activities* are performed for a *subject of care*

**NOTE** In EN 13940-1:2007 contact was the preferred term for this concept.

[Table 82](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 92](#).

**Table 82 — Associations of *healthcare activity period***

Specialization of		Generalization of	
health related period		contact period	
		indirect healthcare activity period	
		self-care period	
Component of		Aggregation of	
1..*	mandated period of care	1..*	healthcare activity period element
0..1	clinical process episode		
Association from	Association name	Association to	
1	healthcare activity period	0..1	healthcare appointment
1	healthcare professional	0..*	healthcare activity period
1..*	healthcare activity	1	healthcare activity period
0..*	health record	1..*	healthcare activity period



**Figure 92 — Healthcare activity period (UML representation)**

### 10.2.2.1 Contact period

**Term:** *contact period*

**Synonym:** encounter

**Definition:** *healthcare activity period* during which a *contact* occurs

**NOTE 1** Since during a *contact*, more than one *health issue* may be addressed, it may relate to more than one *healthcare process* and more than one *episode of care*.

**NOTE 2** In EN 13940-1:2007 the concept encounter was defined as ‘*contact* in the course of which *healthcare activities* are delivered to a *subject of care* in her or his presence’.

**EXAMPLES** Face to face contact with a GP, telephone contact, telemedicine contact.

Table 83 lists the associations of this concept; a UML representation of the concept is shown in Figure 93.

Table 83 — Associations of *contact period*

Specialization of		Generalization of	
healthcare activity period			
Association from	Association name	Association to	
1   contact	takes place during	1   contact period	

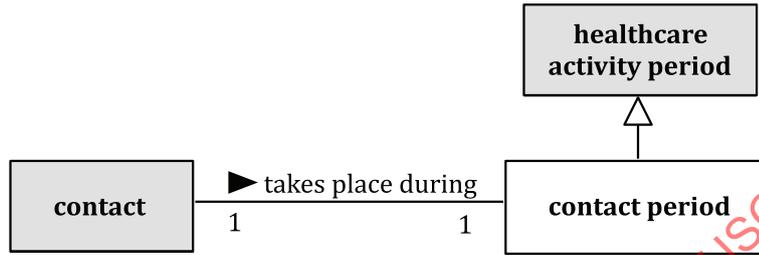


Figure 93 — Contact period (UML representation)

10.2.2.1.1 Contact

**Term:** *contact*

**Synonym:** healthcare contact

**Definition:** interaction between a *subject of care* and one or more *healthcare personnel*

Table 84 lists the associations of this concept; a UML representation of the concept is shown in Figure 94.

Table 84 — Associations of *healthcare contact*

Specialization of		Generalization of	
		initial contact	
Association from	Association name	Association to	
1   contact	takes place during	1   contact period	
1   subject of care	participates in	0..*   contact	
1..*   healthcare personnel	participates in	0..*   contact	
0..1   referral	initiates	0..1   contact	
0..1   healthcare appointment	is appointment for	1   contact	

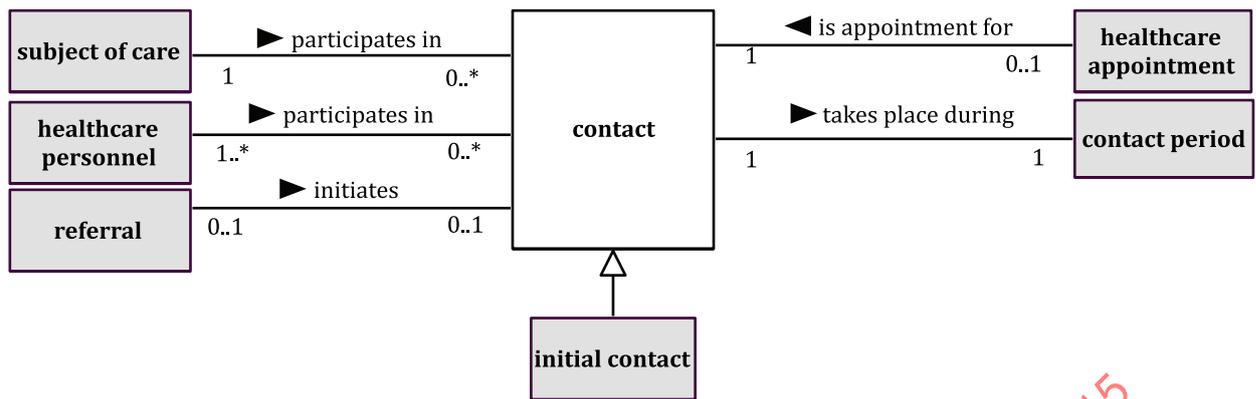


Figure 94 — Contact (UML representation)

10.2.2.1.2 Initial contact

**Term:** *initial contact*

**Definition:** *contact* during which a *clinical process* is initiated

[Table 85](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 95](#).

Table 85 — Associations of *initial contact*

Specialization of		Generalization of	
contact			
Association from	Association name	Association to	
0..1 initial contact	establishes	1	clinical process
0..1 demand for initial contact	results in	0..1	initial contact
1 healthcare provider	arranges	0..*	initial contact

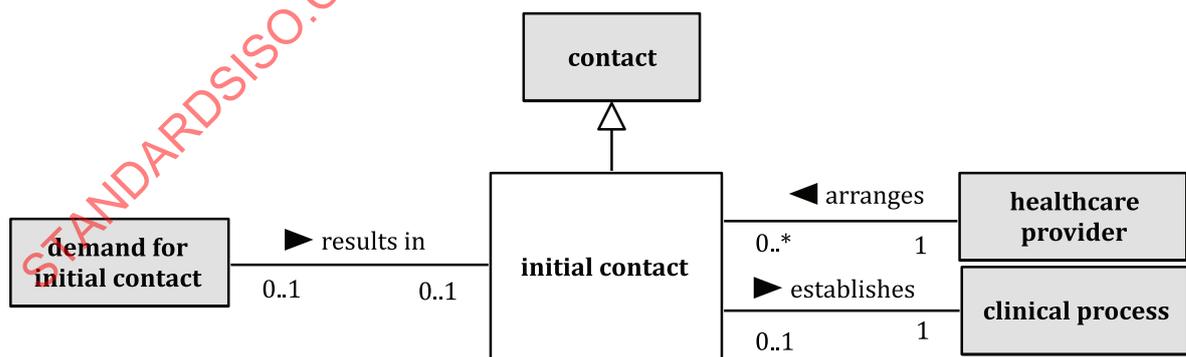


Figure 95 — Initial contact (UML representation)

10.2.2.2 Indirect healthcare activity period

**Term:** *indirect healthcare activity period*

**Deprecated term:** record contact

**Definition:** *healthcare activity period* without the involvement of the *subject of care*

NOTE 1 In EN 13940-1:2007 the concept record contact was defined as ‘*contact* restricted to the access to the *professional health record* of a *subject of care* by a *healthcare professional* for its management, out of the presence of that *subject of care*’.

EXAMPLE 1 The period where *healthcare activities* are performed without the presence of the *subject of care* in order to decide whether a *referral* or a *demand for initial contact* should be accepted or not

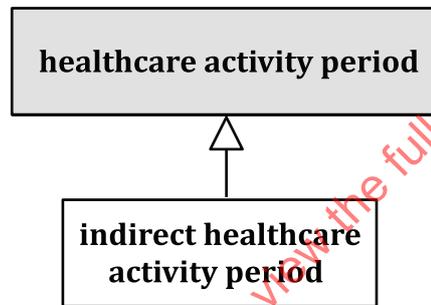
EXAMPLE 2 Time spent working on laboratory or tissue specimens taken from a subject of care

EXAMPLE 3 Period taken for the planning of care

Table 86 lists the associations of this concept; a UML representation of the concept is shown in Figure 96.

**Table 86 — Associations of *indirect healthcare activity period***

Specialization of	Generalization of
healthcare activity period	



**Figure 96 — Indirect healthcare activity period (UML representation)**

**10.2.2.3 Self-care period**

**Term:** *self-care period*

**Definition:** *healthcare activity period* where *prescribed self-care* is performed

Table 87 lists the associations of this concept; a UML representation of the concept is shown in Figure 97.

**Table 87 — Associations of *self-care period***

Specialization of	Generalization of	
healthcare activity period		
Association from	Association name	Association to
1..*   prescribed self-care	takes place during	1   self-care period

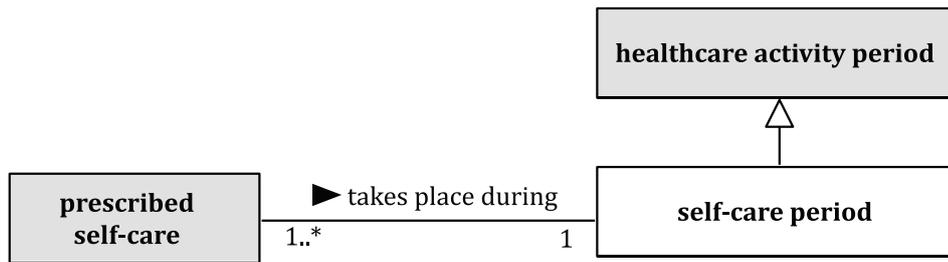


Figure 97 — Self-care period (UML representation)

10.2.2.4 Healthcare activity period element

**Term:** *healthcare activity period element*

**Deprecated term:** contact element

**Definition:** part of a *healthcare activity period* during which one *health issue* is specifically addressed

NOTE 1 Several *healthcare activity period elements* may take place during the course of a *healthcare activity period*.

NOTE 2 A *healthcare activity period element* is part of only one *healthcare activity period* and of only one *episode of care*.

NOTE 3 In EN 13940-1:2007 contact element was the preferred term for this concept.

EXAMPLE The part of a consultation that addresses the follow-up of a hypertension treatment, but not the other part of the same consultation that is devoted to the treatment of diabetes mellitus.

Table 88 lists the associations of this concept; a UML representation of the concept is shown in Figure 98.

Table 88 — Associations of *healthcare activity period element*

Component of		Aggregation of	
1	healthcare activity period		
1	episode of care		

Association from		Association name	Association to	
1	health issue	determines	0..*	healthcare activity period element

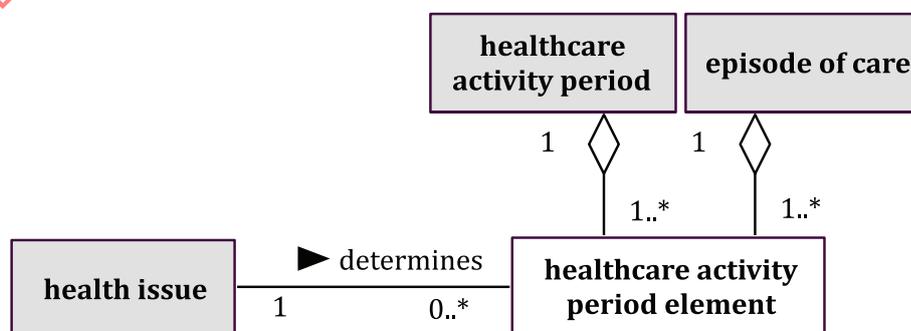


Figure 98 — Healthcare activity period element (UML representation)

10.2.2.5 Healthcare appointment

**Term:** *healthcare appointment*

**Definition:** appointment for a *contact*

[Table 89](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 99](#).

**Table 89 — Associations of *healthcare appointment***

Association from		Association name	Association to	
0..*	healthcare appointment	is scheduled in	0..1	care plan
1	healthcare activity period	takes place during	0..1	healthcare appointment
0..1	healthcare appointment	is appointment for	1	contact



**Figure 99 — Healthcare appointment (UML representation)**

10.2.3 Healthcare activity delay

**Term:** *healthcare activity delay*

**Definition:** *health related period* during which a *healthcare activity* is planned but not started

[Table 90](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 100](#).

**Table 90 — Associations of *healthcare activity delay***

Specialization of		Generalization of	
health related period		health condition delay	
		resource delay	
		subject of care preference delay	
Component of		Aggregation of	
1	mandated period of care		

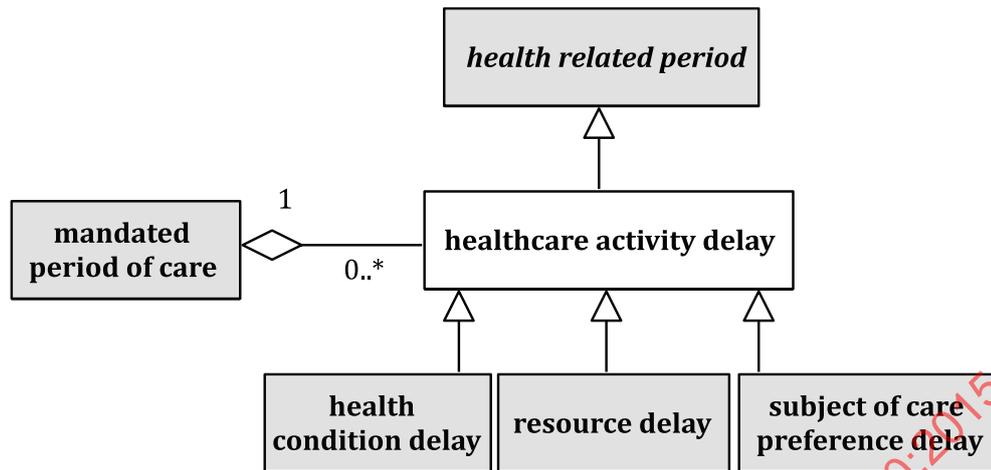


Figure 100 — Healthcare activity delay (UML representation)

10.2.3.1 Health condition delay

**Term:** *health condition delay*

**Definition:** *healthcare activity delay* caused by a *health condition*

EXAMPLE 1 surgery delayed because the *subject of care* is pregnant

EXAMPLE 2 cervical examination delayed during menstruation

Table 91 lists the associations of this concept; a UML representation of the concept is shown in Figure 101.

Table 91 — Associations of *health condition delay*

Specialization of	Generalization of
healthcare activity delay	

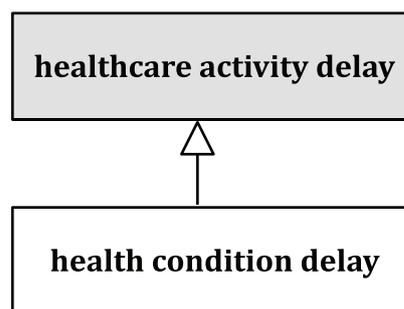


Figure 101 — Health condition delay (UML representation)

10.2.3.2 Resource delay

**Term:** *resource delay*

**Definition:** *healthcare activity delay* caused by resource constraints where there is no *health condition delay*

EXAMPLE 1 *healthcare activity* scheduled later than clinically indicated to allow resources to be deployed on other *subjects of care* (a waiting list)

EXAMPLE 2 *healthcare activity* postponed while necessary financial resources are identified

Table 92 lists the associations of this concept; a UML representation of the concept is shown in Figure 102.

Table 92 — Associations of *resource delay*

Specialization of		Generalization of	
healthcare activity delay			
Association from	Association name	Association to	
1 healthcare provider	is responsible for	0..*	resource delay

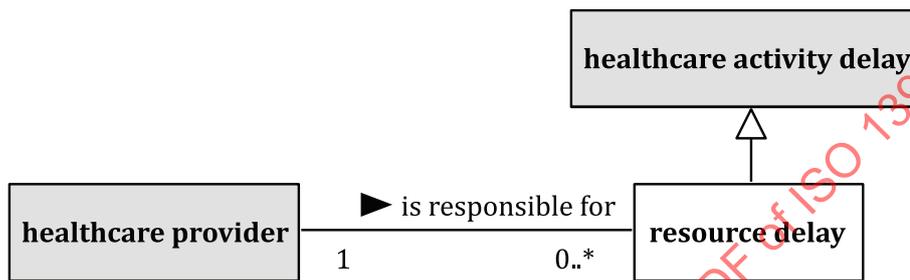


Figure 102 — Resource delay (UML representation)

10.2.3.3 Subject of care preference delay

**Term:** *subject of care preference delay*

**Definition:** *healthcare activity delay* by the preference of the *subject of care*, where there is neither a *health condition delay* nor a *resource delay*

EXAMPLE 1 surgery delayed to enable the *subject of care* to undertake seasonal work

EXAMPLE 2 investigation delayed to support the *subject of care's* scheduling choice

Table 93 lists the associations of this concept; a UML representation of the concept is shown in Figure 103.

Table 93 — Associations of *subject of care preference delay*

Specialization of		Generalization of	
healthcare activity delay			
Association from	Association name	Association to	
0..* subject of care preference delay	is caused by	1	subject of care

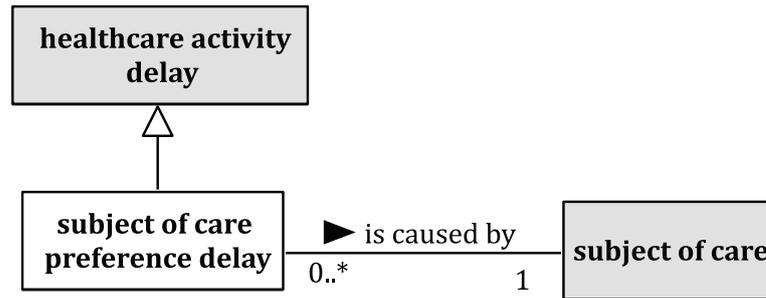


Figure 103 — Subject of care preference delay (UML representation)

### 10.2.4 Clinical process episode

**Term:** *clinical process episode*

**Definition:** *health related period that includes all healthcare activity periods in one clinical process*

Table 94 lists the associations of this concept; a UML representation of the concept is shown in Figure 104.

Table 94 — Associations of *clinical process episode*

Specialization of		Generalization of	
health related period			
Component of		Aggregation of	
		1..*	healthcare activity period
Association from	Association name	Association to	
1 clinical process episode	is time interval for	1	clinical process

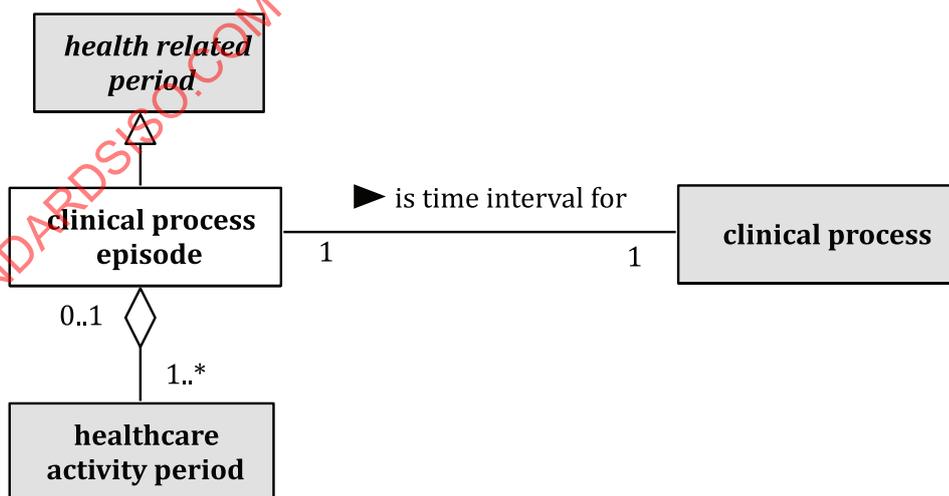


Figure 104 — Clinical process episode (UML representation)

### 10.2.5 Health condition period

**Term:** *health condition period*

**Definition:** *health related period* during which a *health condition* has been observed

NOTE 1 Observation of a *health condition* may lead to an *episode of care*

NOTE 2 *Health condition period* refers only to the observation of the *health condition*, for example, the time interval during which a *subject of care* has observed a bleeding. The concept *episode of care* is referring to the *healthcare activities*.

Table 95 lists the associations of this concept; a UML representation of the concept is shown in Figure 105.

Table 95 — Associations of *health condition period*

Specialization of		Generalization of	
health related period			
Association from	Association name	Association to	
1   observed condition	has been observed during	1   health condition period	

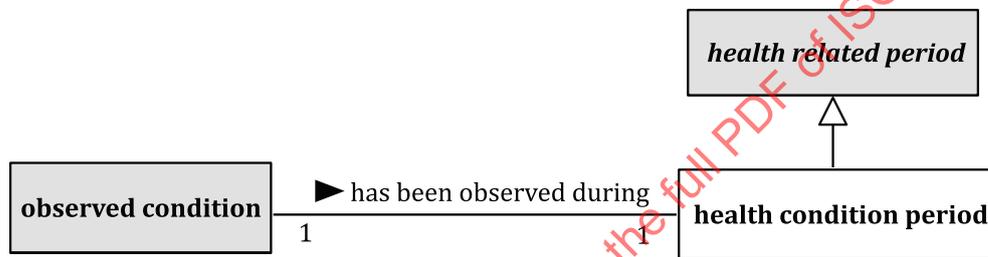


Figure 105 — Health condition period (UML representation)

10.2.6 Episode of care

**Term:** *episode of care*

**Synonyms:** episode of healthcare, health issue related episode

**Definition:** *health related period* during which *healthcare activities* are performed to address one *health issue* as identified by one *healthcare professional*

NOTE 1 An *episode of care* encompasses all *healthcare activity period elements* related to the same *health issue*.

NOTE 2 An *episode of care* starts with the very first *contact* with a *healthcare provider* for a *health issue* and it ends after the completion of all *healthcare activities* related to the last *contact* with that *healthcare provider* for the same *health issue*.

NOTE 3 For practical reasons (e.g. the need to state start and end dates) and also because it relates specifically to a *health issue* defined by a given *healthcare professional*, an *episode of care* does not necessarily coincide with an 'episode of illness' (or of disease, or of any other kind of *health issue*).

NOTE 4 During a *mandated period of care* several *health issues* may be handled and as such be linked to several *episodes of care*. These *episodes of care* are said to be 'concurrent'.

EXAMPLES An episode of urinary tract infection, an episode of cholecystectomy.

Table 96 lists the associations of this concept; a UML representation of the concept is shown in Figure 106.

Table 96 — Associations of *episode of care*

<b>Specialization of</b>		<b>Generalization of</b>	
health related period		health approach	
<b>Component of</b>		<b>Aggregation of</b>	
0..*	episodes of care bundle	1..*	healthcare activity period element
<b>Association from</b>	<b>Association name</b>	<b>Association to</b>	
0..*	episode of care	1	health issue
1	healthcare provider	0..*	episode of care

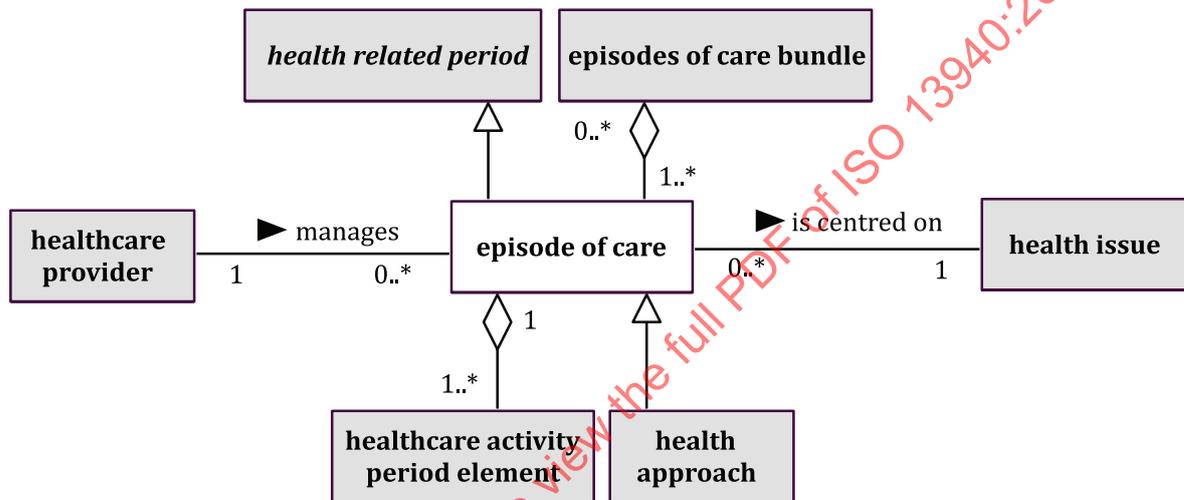


Figure 106 — Episode of care (UML representation)

10.2.6.1 Health approach

**Term:** *health approach*

**Synonyms:** healthcare approach, goal-addressing episode of care

**Definition:** *episode of care* during which the *healthcare activities* performed address one specific *healthcare goal*

Table 97 lists the associations of this concept; a UML representation of the concept is shown in Figure 107.

Table 97 — Associations of *health approach*

<b>Specialization of</b>		<b>Generalization of</b>	
episode of care			
<b>Association from</b>	<b>Association name</b>	<b>Association to</b>	
0..*	health approach	1	healthcare goal

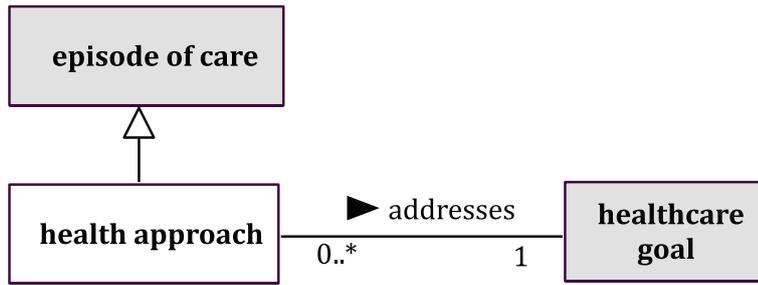


Figure 107 — Health approach (UML representation)

10.2.6.2 Episodes of care bundle

**Term:** *episodes of care bundle*

**Synonyms:** episodes of healthcare bundle, cumulative episode of care

**Definition:** group of *episodes of care* delineated by a *health thread*

NOTE 1 An *episodes of care bundle* starts with the very first *contact* with a *healthcare provider* for a *health issue* considered in a *health thread* and ends after the completion of all *healthcare activities* related to the last *contact* with any *healthcare provider* for a *health issue* encompassed in the same *health thread*.

NOTE 2 As different *health threads* may be considered that reconcile the perspectives of different *healthcare actors* (e.g. a care team manager, or a health authority) or sets of *healthcare actors*, there may exist different *health threads* according to the specific perspectives of those sets of *healthcare actors* that justify building up such *health threads*. As a consequence there may exist as many *episodes of care bundles* as there are such *health threads*.

NOTE 3 From the *electronic health record* point of view, an *episodes of care bundle* shows the overall *healthcare activity period elements* related to those *health issues* that are linked by the same *health thread*.

NOTE 4 In EN 13940-1:2007 cumulative episode of care was the preferred term for this concept.

EXAMPLES A cumulative episode of diabetes mellitus, a cumulative episode of breast cancer.

Table 98 lists the associations of this concept; a UML representation of the concept is shown in Figure 108.

Table 98 — Associations of *episodes of care bundle*

Component of		Aggregation of	
		1..*	episode of care
Association from	Association name	Association to	
1 health thread	delineates	0..1	episodes of care bundle



Figure 108 — Episodes of care bundle (UML representation)

## 11 Concepts related to responsibilities

### 11.1 General

A model showing the associations between the concepts related to responsibility in continuity of care and the other concepts defined in this International Standard is shown in Figure 109. For further detail about the diagram notation, please refer to 0.7 in the Introduction.

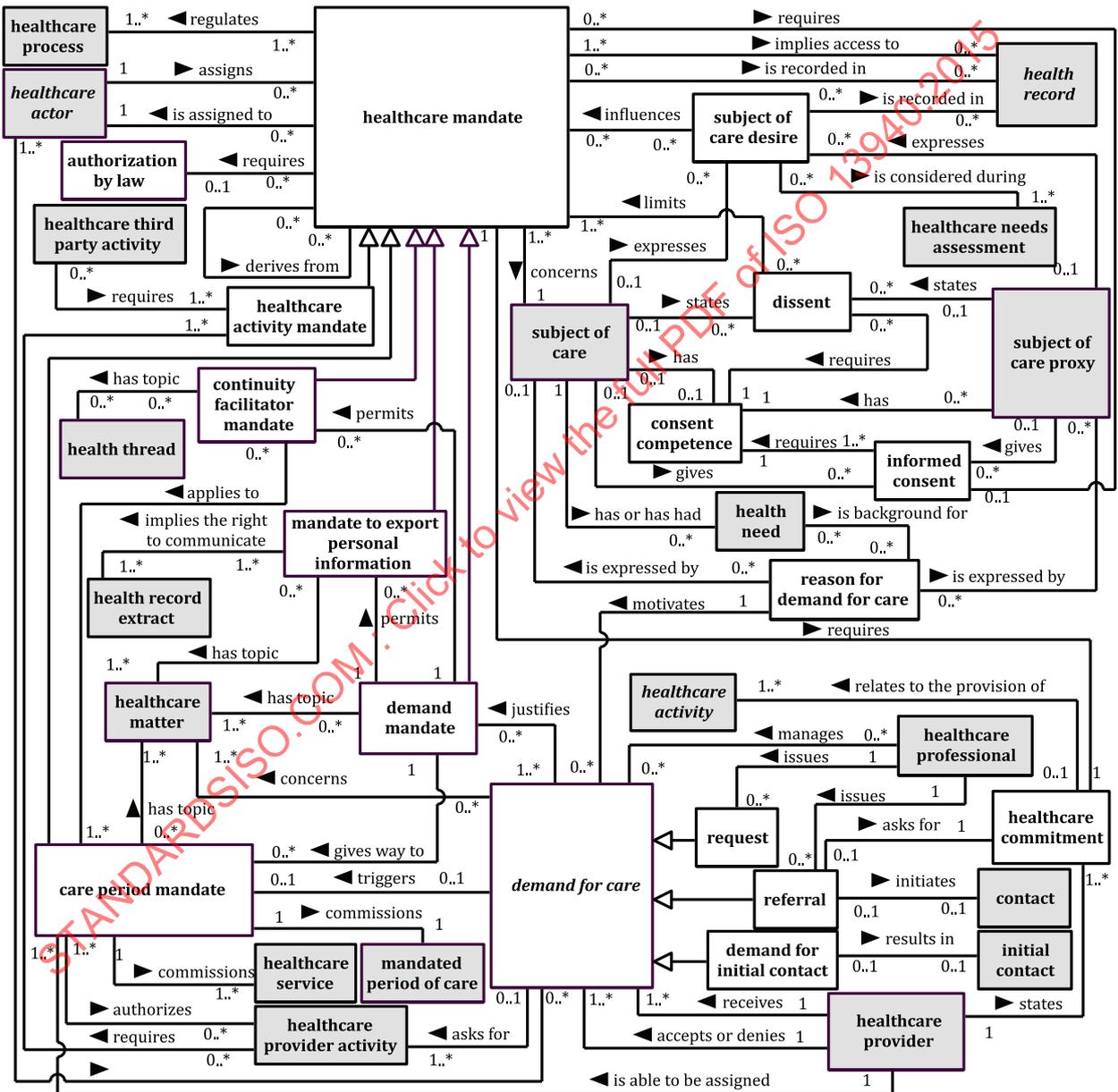


Figure 109 — Comprehensive UML-diagram of the concepts related to responsibilities

### 11.2 Healthcare mandate

**Term:** *healthcare mandate*

**Synonym:** healthcare commission

**Definition:** mandate (commission) based on a commitment and either an *informed consent* or an *authorization by law*, defining the rights and obligations of one *healthcare actor* with regard to his involvement in *healthcare processes* performed for a specific *subject of care*

NOTE 1 A *healthcare mandate* can be explicit or implicit

NOTE 2 Relevant information related to *healthcare mandates* (including *demands for care*, *informed consents*, *dissents*, *healthcare commitments*, etc.), is recorded in *health records* where the information is made available for concerned *healthcare actors* as *health concerns*.

NOTE 3 Typically a *healthcare mandate* is assigned by one *healthcare actor* to another.

NOTE 4 In EN 13940-1:2007 health mandate was the preferred term for this concept.

[Table 99](#) lists the associations of this concept; a UML representation of the concept is shown in [Figure 110](#).

**Table 99 — Associations of *healthcare mandate***

Specialization of		Generalization of	
		demand mandate	
		care period mandate	
		continuity facilitator mandate	
		healthcare activity mandate	
		mandate to export personal information	
Association from		Association name	Association to
1..*	healthcare mandate	concerns	1 subject of care
1..*	healthcare mandate	regulates	1..* healthcare processes
0..*	healthcare mandate	requires	0..1 informed consent
0..*	healthcare mandate	requires	0..1 authorization by law
0..*	healthcare mandate	is recorded in	0..* health record
1..*	healthcare mandate	implies access to	0..* health record
1	healthcare mandate	requires	1 healthcare commitment
0..*	healthcare mandate	derives from	0..* healthcare mandate
0..*	healthcare mandate	is assigned to	1 healthcare actor
1	healthcare actor	assigns	0..* healthcare mandate
0..*	dissent	limits	1..* healthcare mandate
0..*	subject of care desire	influences	0..* healthcare mandate

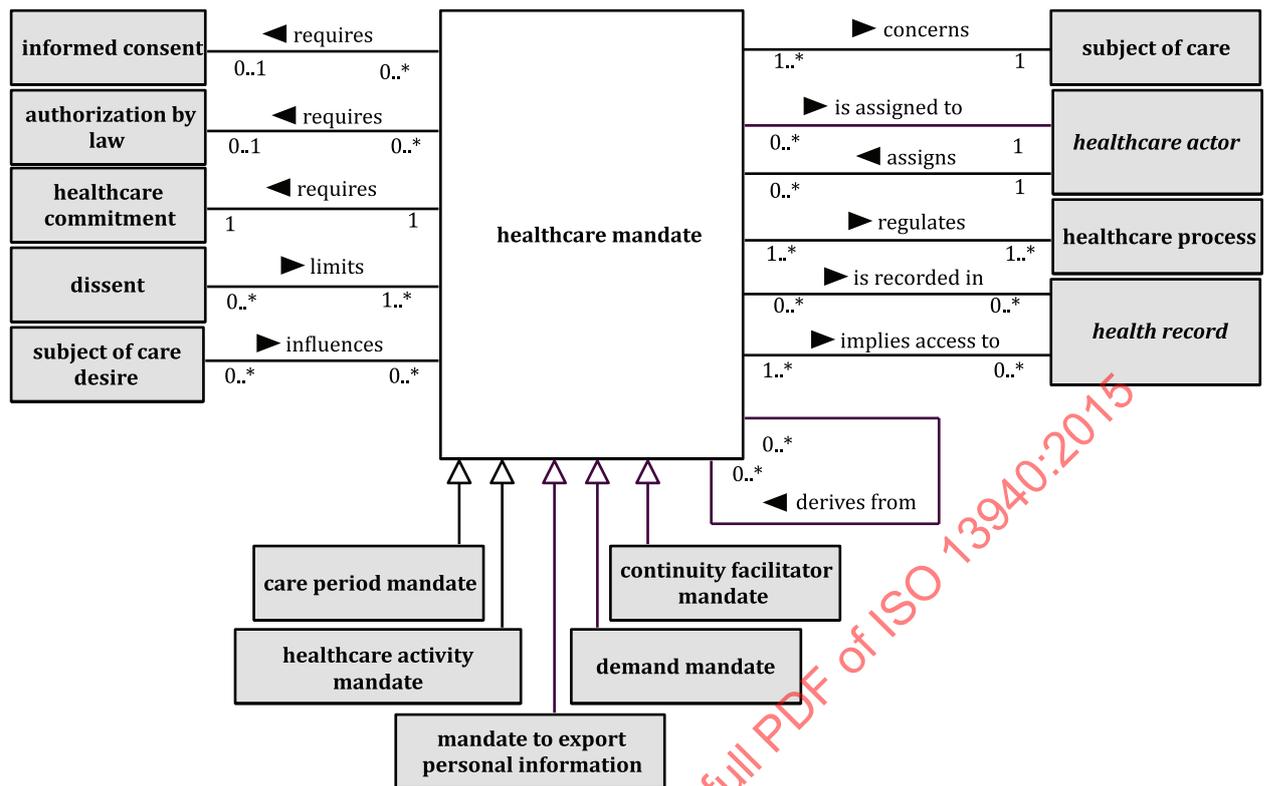


Figure 110 — Healthcare mandate (UML representation)

11.2.1 Demand mandate

**Term:** *demand mandate*

**Synonym:** demand commission

**Definition:** *healthcare mandate* implying the right and obligation to demand *healthcare activities*

NOTE 1 A *demand for care* is usually made by a *subject of care* him/herself, but there are circumstances where the *subject of care* is not in the position of making a *demand for care*. In that case, it has to be made on their behalf by another person.

NOTE 2 Within certain jurisdictions a generic *demand mandate* may be explicitly or implicitly assigned to certain categories of citizens on the basis of their specific roles. It may also be directly or indirectly made necessary by law that such generic mandates are explicitly established.

EXAMPLES

A *subject of care* requesting *healthcare* from a GP.

Care for a child requested by a parent.

A passer-by may in some jurisdictions be obliged to seek care for any endangered person, for example unconscious after a road accident.

Table 100 lists the associations of this concept; a UML representation of the concept is shown in Figure 111.

Table 100 — Associations of *demand mandate*

Specialization of	Generalization of
healthcare mandate	

Table 100 (continued)

Association from		Association name	Association to	
1..*	demand for care	justifies	0..*	demand mandate
0..*	demand mandate	has topic	1..*	healthcare matter
1	demand mandate	gives way to	0..*	care period mandate
1	demand mandate	permits	0..*	continuity facilitator mandate
1	demand mandate	permits	0..*	mandate to export personal information

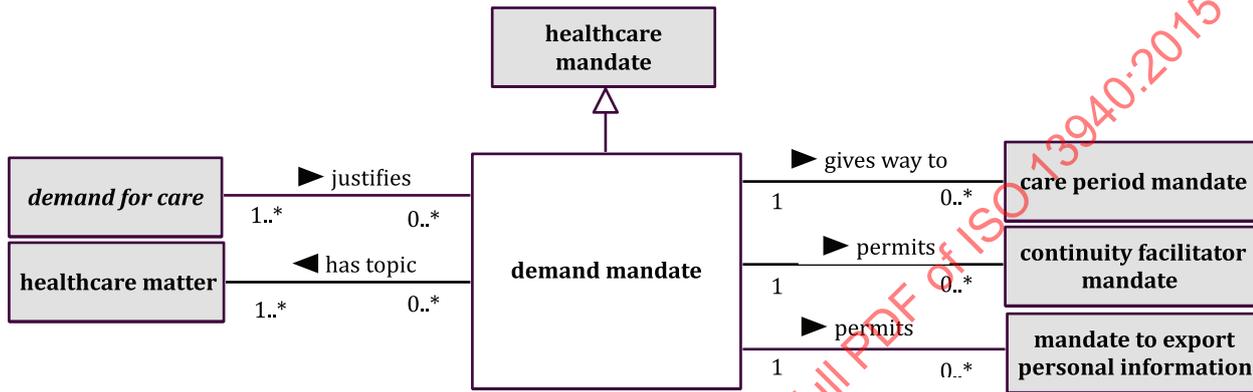


Figure 111 — Demand mandate (UML representation)

11.2.2 Care period mandate

**Term:** *care period mandate*

**Synonym:** healthcare period mandate

**Deprecated term:** care mandate

**Definition:** *healthcare mandate* commissioning a *mandated period of care*

NOTE 1 A *care period mandate* may be an agreement between the *subject of care* and a *healthcare provider* to provide specified *healthcare services* in a *mandated period of care*.

NOTE 2 In EN 13940-1:2007 care mandate was the preferred term for this concept.

Table 101 lists the associations of this concept; a UML representation of the concept is shown in Figure 112.

Table 101 — Associations of *care period mandate*

Specialization of		Generalization of		
healthcare mandate				
Association from		Association name	Association to	
0..*	care period mandate	has topic	1..*	healthcare matter
1..*	care period mandate	authorizes	0..*	healthcare provider activity
1	demand mandate	gives way to	0..*	care period mandate
0..1	demand for care	triggers	0..1	care period mandate
1	care period mandate	commissions	1..*	healthcare services
1	care period mandate	commissions	1	mandated period of care

Table 101 (continued)

0..*	continuity facilitator mandate	applies to	1..*	care period mandate
1	healthcare provider	is able to be assigned	1..*	care period mandate

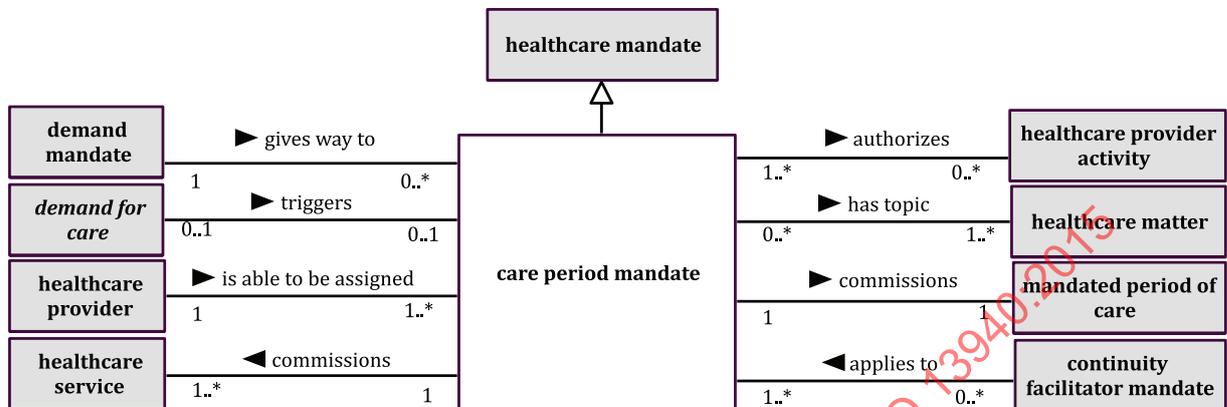


Figure 112 — Care period mandate (UML representation)

### 11.2.3 Healthcare activity mandate

**Term:** *healthcare activity mandate*

**Synonym:** healthcare activity commission

**Definition:** *healthcare mandate* assigning the right and obligation to perform specific *healthcare activities*

Table 102 lists the associations of this concept; a UML representation of the concept is shown in Figure 113.

Table 102 — Associations of *healthcare activity mandate*

Specialization of		Generalization of	
healthcare mandate			
Association from	Association name	Association to	
0..*	healthcare provider activity	requires	1..* Healthcare activity mandate
0..*	healthcare third party activity	requires	1..* Healthcare activity mandate

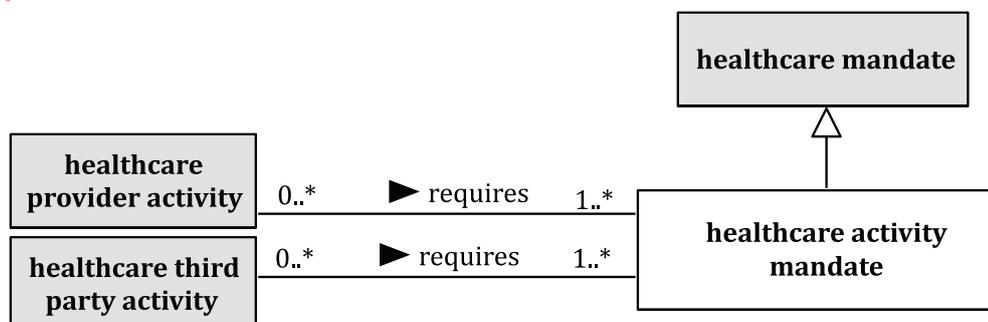


Figure 113 — Healthcare activity mandate (UML representation)

11.2.4 Continuity facilitator mandate

**Term:** *continuity facilitator mandate*

**Synonym:** continuity facilitator commission

**Definition:** *healthcare mandate* assigning the right and obligation to monitor and coordinate the delivery of care described in those *care period mandates* related to *healthcare matters* linked by specific *health threads*

NOTE 1 Beyond solely assuming the function described above, a continuity facilitator may also assume the function of a lead and/or coordinator of *healthcare activities* delivered to the *subject of care*

NOTE 2 A continuity facilitation can be fulfilled only if the involved healthcare actors have the information needed to perform their tasks in healthcare activities

NOTE 3 For continuity of care the *continuity facilitator mandates* for *complete clinical processes* are of special importance from the *subject of care's* perspective.

EXAMPLE A mandate assigned to a coordinating nurse, to a lead GP, key-worker, etc. to coordinate care

Table 103 lists the associations of this concept; a UML representation of the concept is shown in Figure 114.

Table 103 — Associations of *continuity facilitator mandate*

Specialization of		Generalization of	
healthcare mandate			
Association from	Association name	Association to	
0..*	continuity facilitator mandate	has topic	0..* health thread
1	demand mandate	permits	0..* continuity facilitator mandate
0..*	continuity facilitator mandate	applies to	1..* care period mandate

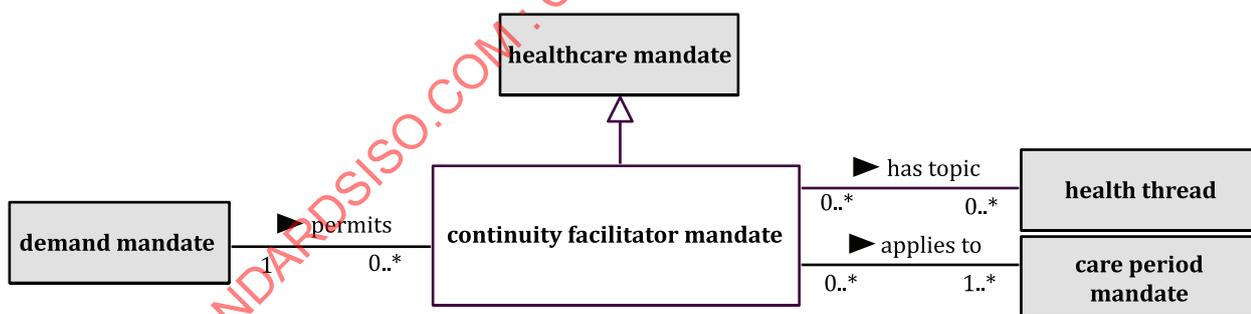


Figure 114 — Continuity facilitator mandate (UML representation)

11.2.5 Mandate to export personal information

**Term:** *mandate to export personal information*

**Synonym:** commission to export personal information

**Definition:** *healthcare mandate* implying the right to communicate *health record extracts*

EXAMPLE 1 A request to a doctor to write a letter to a medical specialist stating the reasons of a *referral*

EXAMPLE 2 A request to a GP by a *subject of care* for the transfer of his or her *health record* to another GP, when that *subject of care* moves to another part of the country.

Table 104 lists the associations of this concept; a UML representation of the concept is shown in Figure 115.

Table 104 — Associations of *mandate to export personal information*

Specialization of		Generalization of	
healthcare mandate			
Association from	Association name	Association to	
0..*	mandate to export personal information	1..*	healthcare matter
1..*	mandate to export personal information	1..*	health record extracts
1	demand mandate	0..*	mandate to export personal information

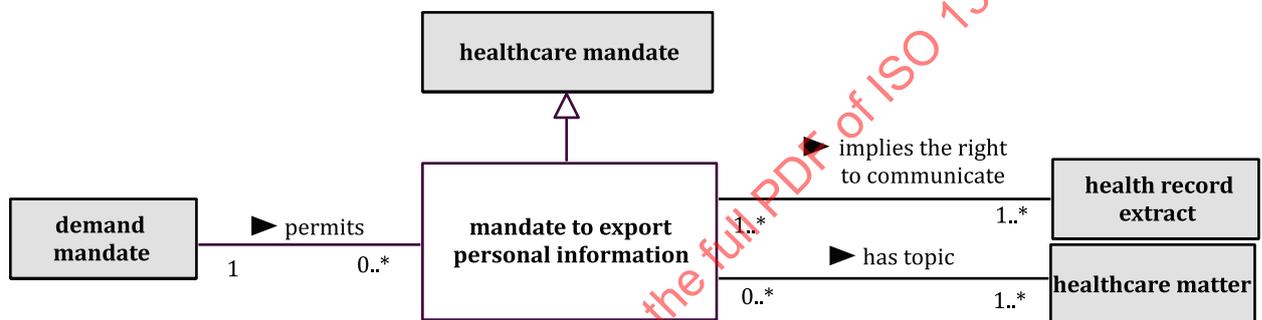


Figure 115 — Mandate to export personal information (UML representation)

### 11.2.6 Informed consent

**Term:** *informed consent*

**Definition:** permission to perform *healthcare activities*, voluntarily given by a *subject of care* having *consent competence*, or by a *subject of care proxy*, after having been informed about the purpose and the possible results of the *healthcare activities*

NOTE A *healthcare mandate* requires either *informed consent* or *authorization by law*.

Table 105 lists the associations of this concept; a UML representation of the concept is shown in Figure 116.

Table 105 — Associations of *informed consent*

Association from	Association name	Association to	
1..*	informed consent	1	consent competence
0..1	subject of care	0..*	informed consent
0..1	subject of care proxy	0..*	informed consent
0..*	healthcare mandate	0..1	informed consent

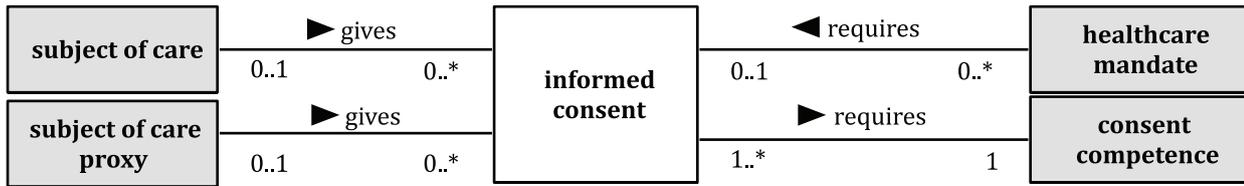


Figure 116 — Informed consent (UML representation)

11.2.7 Dissent

Term: *dissent*

Definition: refusal to permit specific *healthcare activities* to be performed

Table 106 lists the associations of this concept; a UML representation of the concept is shown in Figure 117.

Table 106 — Associations of *dissent*

Association from		Association name	Association to	
0..*	dissent	requires	1	consent competence
0..*	dissent	limits	1..*	healthcare mandate
0..1	subject of care	states	0..*	dissent
0..1	subject of care proxy	states	0..*	dissent

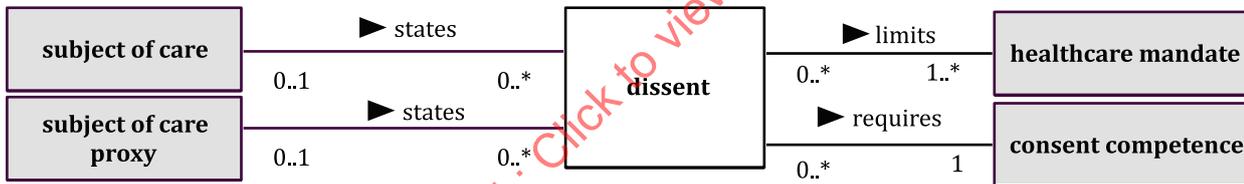


Figure 117 — Dissent (UML representation)

11.2.8 Consent competence

Term: *consent competence*

Definition: capability of the *subject of care* and/or the *subject of care proxy* to give *informed consent* or *dissent*

Table 107 lists the associations of this concept; a UML representation of the concept is shown in Figure 118.

Table 107 — Associations of *consent competence*

Association from		Association name	Association to	
1..*	informed consent	requires	1	consent competence
0..*	dissent	requires	1	consent competence
0..*	subject of care proxy	has	1	consent competence
0..1	subject of care	has	0..1	consent competence



Figure 118 — Consent competence (UML representation)

11.2.9 Authorization by law

Term: *authorization by law*

Definition: provision in legislation that in certain circumstances may overrule the need for *informed consent*

NOTE A *healthcare mandate* requires either *informed consent* or *authorization by law*.

Table 108 lists the associations of this concept; a UML representation of the concept is shown in Figure 119.

Table 108 — Associations of *authorization by law*

Association from	Association name	Association to
0..*   healthcare mandate	requires	0..1   authorization by law

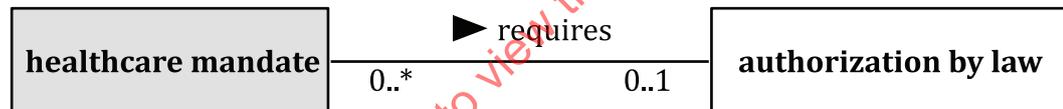


Figure 119 — Authorization by law (UML representation)

11.2.10 Healthcare commitment

Term: *healthcare commitment*

Synonym: care commitment

Definition: acceptance of a *healthcare mandate* by the *healthcare actor* to whom it is assigned

NOTE 1 The *healthcare commitment* is the promise by the *healthcare actor* to perform *healthcare activities*. This also means that the *healthcare provider* accepts and confirms the pending *healthcare mandate* issued through the proposed care plan. It is only once the *healthcare commitment* has been stated that an effective *healthcare mandate* exists and will be the legal framework for all *healthcare activities* of the subsequent *healthcare process*.

NOTE 2 Implicitly, a *healthcare commitment* results from a dialogue with the *subject of care* or someone on behalf of the *subject of care* within a *healthcare needs assessment*

Table 109 lists the associations of this concept; a UML representation of the concept is shown in Figure 120.

Table 109 — Associations of *authorization by law*

Association from	Association name	Association to
0..1   healthcare commitment	relates to the provision of	1..*   healthcare activity
1   healthcare mandate	requires	1   healthcare commitment

Table 109 (continued)

1	healthcare provider	states	1..*	healthcare commitment
0..1	referral	asks for	1	healthcare commitment



Figure 120 — Healthcare commitment (UML representation)

11.2.11 Subject of care desire

**Term:** *subject of care desire*

**Definition:** desire expressed by the *subject of care* or the *subject of care proxy* regarding the performance of certain *healthcare activities*

**NOTE** In quality management [ISO 9000:2015] requirement is defined as “needs and expectations that is stated generally implied or obligatory”. The expectations reflect the *subject of care’s* desires.

**EXAMPLES** No blood transfusion, cultural or religious preference, do not resuscitate, allow natural death

Table 110 lists the associations of this concept; a UML representation of the concept is shown in Figure 121.

Table 110 — Associations of *subject of care desire*

Association from		Association name	Association to	
0..1	subject of care	expresses	0..*	subject of care desire
0..1	subject of care proxy	expresses	0..*	subject of care desire
0..*	subject of care desire	influences	0..*	healthcare mandate
0..*	subject of care desire	is considered during	1..*	healthcare needs assessment
0..*	subject of care desire	is recorded in	0..*	health record

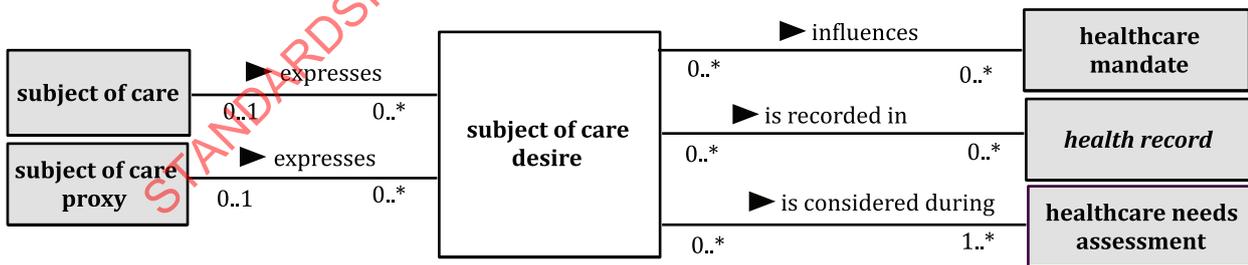


Figure 121 — Subject of care desire (UML representation)

11.3 Demand for care

**Term:** *demand for care*

**Synonym:** demand for healthcare

**Definition:** demand for *healthcare provider activities* expressed by a *healthcare actor*

NOTE 1 A *demand for care* may be expressed either by the *subject of care* or on their behalf.

NOTE 2 A *healthcare provider* may accept or decline a *demand for care*.

NOTE 3 A *demand for care* could result in a *healthcare assessment* concluding that no other *healthcare activity elements* (as *healthcare investigations* and/or *healthcare treatments*) should be performed.

EXAMPLES

An emergency call to a GP for a home visit at night.

A request for an appointment at a cardiology outpatient department.

A request for the intervention of a community nurse.

Table 111 lists the associations of this concept; a UML representation of the concept is shown in Figure 122.

Table 111 — Associations of demand for care

Specialization of		Generalization of	
		referral	
		request	
		demand for initial contact	

Association from	Association name	Association to
1..* demand for care	justifies	0..* demand mandate
0..1 demand for care	asks for	1..* healthcare provider activity
0..* demand for care	concerns	1..* healthcare matter
1 reason for demand for care	motivates	0..* demand for care
1..* healthcare actor	expresses	0..* demand for care
1 healthcare provider	receives	1..* demand for care
1 healthcare provider	accepts or denies	1..* demand for care
0..* healthcare professional	manages	0..* demand for care
0..1 demand for care	triggers	0..1 care period mandate

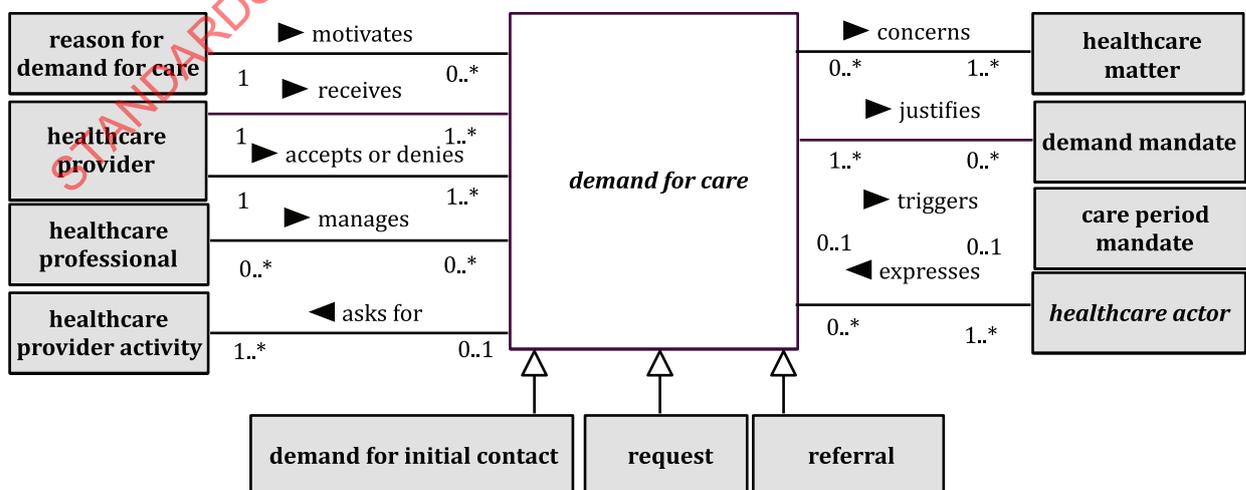


Figure 122 — Demand for care (UML representation)

11.3.1 Demand for initial contact

**Term:** demand for initial contact

**Definition:** first *demand for care* concerning one or more specific *health issues* to be assessed by a *healthcare provider*

Table 112 lists the associations of this concept; a UML representation of the concept is shown in Figure 123.

Table 112 — Associations of *demand for initial contact*

Specialization of		Generalization of	
demand for care			
Association from	Association name	Association to	
0..1 demand for initial contact	results in	0..1	initial contact



Figure 123 — Demand for initial contact (UML representation)

11.3.2 Referral

**Term:** referral

**Definition:** *demand for care* where a *healthcare professional* asks a *healthcare provider* to state a *healthcare commitment* for a *care period* mandate

NOTE An accepted *referral* transfers the continuity responsibility for the *health issues* specified in the *referral*.

EXAMPLE A *referral* from an orthopaedic surgeon to a rehabilitation service.

Table 113 lists the associations of this concept; a UML representation of the concept is shown in Figure 124.

Table 113 — Associations of *referral*

Specialization of		Generalization of	
demand for care			
Association from	Association name	Association to	
0..1 referral	initiates	0..1	contact
1 healthcare professional	issues	0..*	referral
0..1 referral	asks for	1	healthcare commitment

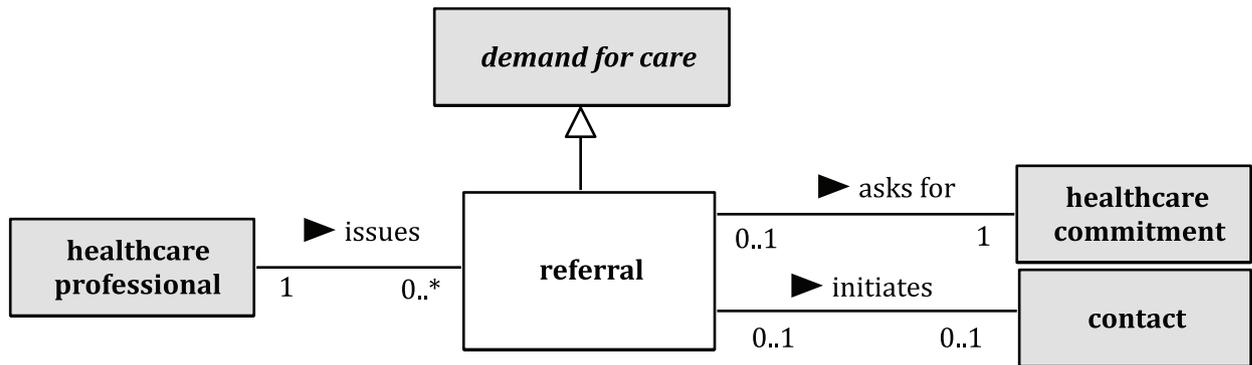


Figure 124 — Referral (UML representation)

### 11.3.3 Request

**Term:** *request*

**Synonyms:** order, healthcare provider activity request

**Definition:** *demand for care* where a *healthcare professional* asks a *healthcare provider* to perform one or more *healthcare provider activities*

NOTE 1 A request is put forward by a *healthcare professional* within a *healthcare process*.

NOTE 2 The responsibility for the requested *healthcare provider activities* is held by the performer but they will be performed under the *care period mandate* of the requester.

NOTE 3 A *healthcare provider* may accept or decline a *request* (order) to perform *healthcare activities*.

EXAMPLE *Request for a healthcare assessment, an operation, a wheelchair, etc.*

Table 114 lists the associations of this concept; a UML representation of the concept is shown in Figure 125.

Table 114 — Associations of request

Specialization of		Generalization of	
demand for care			
Association from	Association name	Association to	
1 healthcare professional	issues	0..* request	

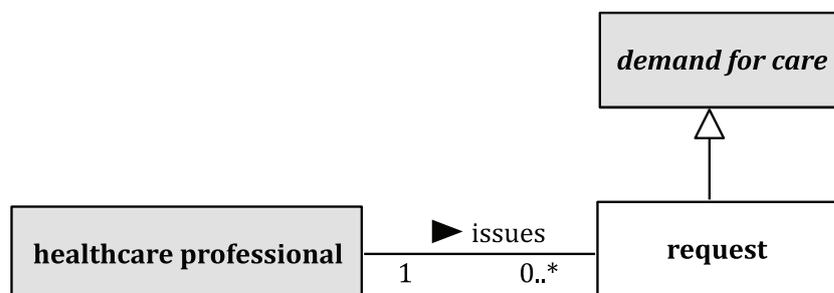


Figure 125 — Request (UML representation)

11.3.4 Reason for demand for care

**Term:** *reason for demand for care*

**Definition:** *subject of care or a subject of care proxy's perception of health needs motivating a demand for care*

**NOTE** There are needs for both direct (*healthcare investigating and healthcare treatment*) and indirect (*healthcare assessments, healthcare planning, healthcare evaluation, etc.*) healthcare activities.

Table 115 lists the associations of this concept; a UML representation of the concept is shown in Figure 126.

Table 115 — Associations of *reason for demand for*

Association from		Association name	Association to	
1	reason for demand for care	motivates	0..*	demand for care
0..*	health need	is background for	0..*	reason for demand for care
0..*	reason for demand for care	is expressed by	0..1	subject of care
0..*	reason for demand for care	is expressed by	0..*	subject of care proxy



Figure 126 — Reason for demand for care (UML representation)



**Definition:** *data repository* regarding the health and healthcare of a *subject of care*

NOTE 1 The term electronic health record may be used for a *health record* where all information is stored on electronic media. However, this concept is not formally defined in this International Standard.

NOTE 2 A *health record* may include, for example, medical records, dental records, social care records.

Table 116 lists the associations of this concept; a UML representation of the concept is shown in Figure 128.

**Table 116 — Associations of *health record***

Specialization of		Generalization of		
data repository		professional health record		
		personal health record		
Component of		Aggregation of		
		1..*	health record component	
Association from		Association name	Association to	
1..*	health record	concerns	1	subject of care
0..*	health record	is accessed during	1..*	healthcare activity period
0..*	health record	is accessed during	1..*	healthcare activity
0..*	health record	is stored on	1..*	medium
1..*	healthcare activity	is recorded in	0..*	health record
0..*	healthcare mandate	is recorded in	0..*	health record
1..*	healthcare mandate	implies access to	0..*	health record
0..*	health record extract	is extracted from	1	health record
0..*	non-ratified healthcare information	is recorded in	0..*	health record
1..*	healthcare documenting	maintains	1..*	health record
1..*	healthcare process	is documented in	0..*	health record
0..*	care plan	is recorded in	0..*	health record
0..*	subject of care desire	is recorded in	0..*	health record

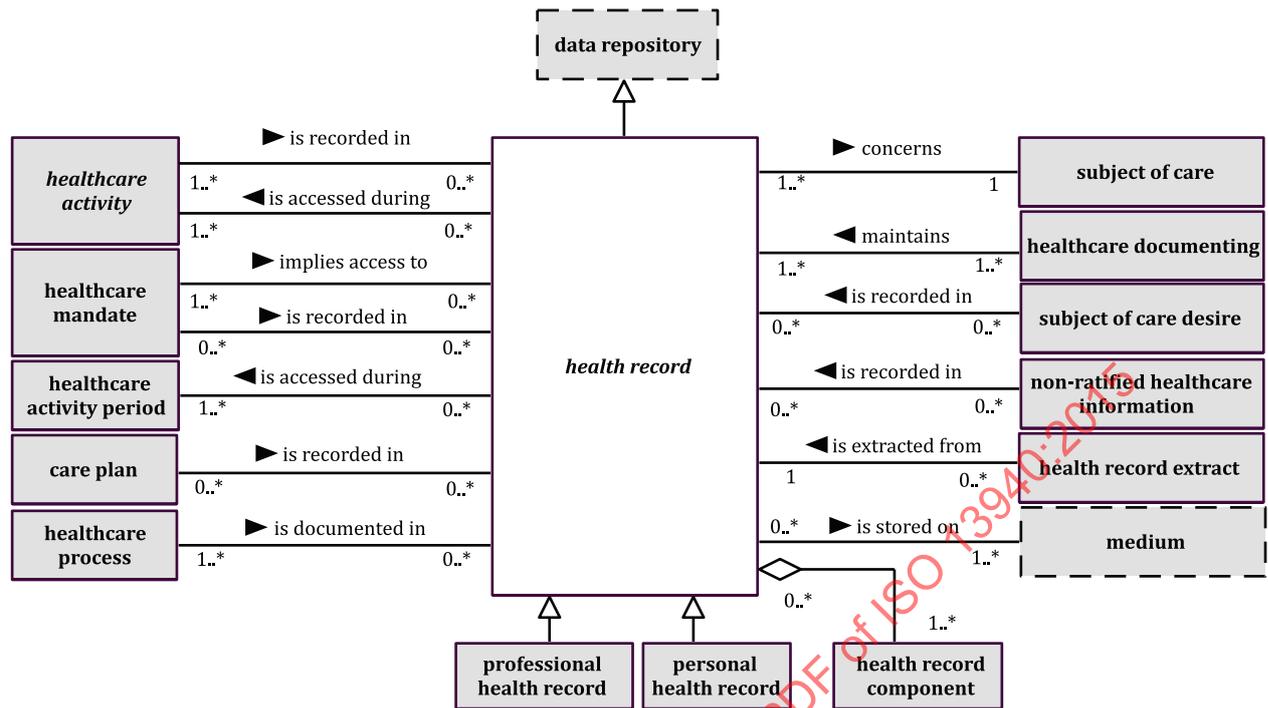


Figure 128 — Health record (UML representation)

12.2.1 Professional health record

**Term:** professional health record

**Definition:** health record held under the responsibility of one healthcare provider and maintained by one or several healthcare professionals

**NOTE** The responsible healthcare provider may allow the subject of care to access and/or offer contributions to the professional health record.

**EXAMPLES** Health records held at their surgery or at a health centre by a GP, by a medical specialist, by a nurse, in a hospital department at a patient’s bedside, by a care team in an integrated clinical network, by a dentist.

Table 117 lists the associations of this concept; a UML representation of the concept is shown in Figure 129.

Table 117 — Associations of professional health record

Specialization of		Generalization of	
health record			
Association from	Association name	Association to	
1	healthcare provider	is responsible for	0..*
1..*	healthcare professional	maintains	0..*
1..*	mandated period of care	is documented in	1..*
0..*	healthcare information for import	is imported into	1

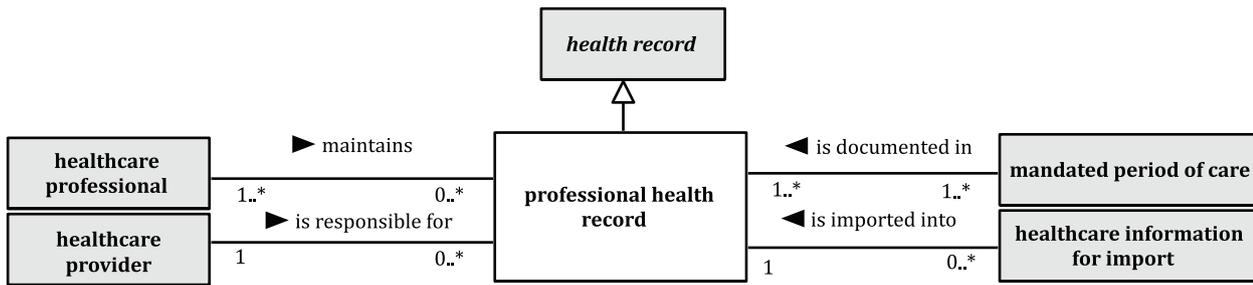


Figure 129 — Professional health record (UML representation)

12.2.2 Personal health record

**Term:** *personal health record*

**Abbreviation:** PHR

**Definition:** *health record* held and maintained by the *subject of care* or a *subject of care proxy*

NOTE A *subject of care* may allow any *healthcare actor* to access and/or offer contributions to the *personal health record*.

Table 118 lists the associations of this concept; a UML representation of the concept is shown in Figure 130.

Table 118 — Associations of *personal health record*

Specialization of		Generalization of	
health record		health record	
Association from	Association name	Association to	
0..1 subject of care	maintains	0..*	personal health record
0..* subject of care proxy	maintains	0..*	personal health record

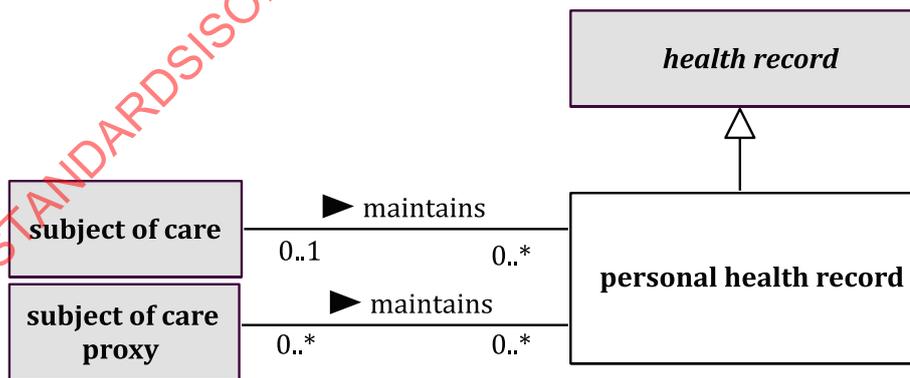


Figure 130 — Personal health record (UML representation)

12.2.3 Health record component

**Term:** *health record component*