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Standards

Irish Standard
I.S. EN ISO 13940:2016

Health informatics - System of concepts to support continuity of care (ISO 13940:2015)

I.S. EN ISO 13940:2016

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National Foreword

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EUROPEAN STANDARD

EN ISO 13940

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2016

ICS 35.240.80

Supersedes EN 13940-1:2007

English Version

Health informatics - System of concepts to support continuity of care (ISO 13940:2015)

Informatique de santé - Système de concepts en appui
de la continuité des soins (ISO 13940:2015)

Medizinische Informatik - Begriffssystem zur
Unterstützung der Kontinuität der Versorgung (ISO
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EN ISO 13940:2016 (E)

Contents

Page

European foreword..... 3

European foreword

This document (EN ISO 13940:2016) has been prepared by Technical Committee ISO/TC 215 "Health informatics" in collaboration with Technical Committee CEN/TC 251 "Health informatics" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2016, and conflicting national standards shall be withdrawn at the latest by July 2016.

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INTERNATIONAL STANDARD

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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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Contents

	Page
Foreword	vi
0 Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
3.1 Healthcare.....	1
3.2 Concepts and terms.....	2
3.3 Actors.....	2
3.4 Resources.....	3
3.5 Management.....	4
3.6 Process management.....	5
3.7 Time.....	6
3.8 Responsibility.....	7
3.9 Information management.....	7
4 Symbols and abbreviations	8
5 Concepts related to healthcare actors	9
5.1 General.....	9
5.2 Healthcare actor.....	10
5.2.1 Subject of care.....	12
5.2.2 Next of kin.....	14
5.2.3 Healthcare provider.....	15
5.2.4 Healthcare third party.....	21
6 Concepts related to healthcare matters	24
6.1 General.....	24
6.2 Healthcare matter.....	25
6.3 Health issue.....	27
6.4 Health condition.....	28
6.4.1 Observed condition.....	29
6.4.2 Potential health condition.....	31
6.5 Health state.....	37
6.5.1 Input health state.....	38
6.5.2 Output health state.....	39
6.5.3 Health need.....	39
6.6 Health thread.....	40
6.6.1 Clinical process interest.....	41
6.6.2 Health problem list.....	42
6.6.3 Health condition evolution.....	42
7 Concepts related to activities	44
7.1 General.....	44
7.2 Healthcare activity.....	45
7.2.1 Healthcare provider activity.....	47
7.2.2 Healthcare activity directory.....	48
7.2.3 Self-care activity.....	48
7.2.4 Prescribed self-care.....	49
7.2.5 Healthcare third party activity.....	50
7.2.6 Prescribed third party activity.....	51
7.2.7 Healthcare activity element.....	51
7.2.8 Automated healthcare.....	60
7.2.9 Healthcare resource.....	61
7.2.10 Healthcare funds.....	63
8 Concepts related to process	65

ISO 13940:2015(E)

8.1	General.....	65
8.2	Healthcare process.....	65
8.2.1	Clinical process.....	66
8.2.2	Healthcare quality management.....	68
8.2.3	Healthcare administration.....	68
8.2.4	Adverse event.....	69
8.2.5	Adverse event management.....	69
8.2.6	Healthcare service.....	70
8.2.7	Healthcare service directory.....	70
9	Concepts related to healthcare planning.....	72
9.1	General.....	72
9.2	Care plan.....	73
9.2.1	Uniprofessional care plan.....	74
9.2.2	Multi-professional care plan.....	75
9.2.3	Core care plan.....	75
9.2.4	Clinical guideline.....	76
9.2.5	Health objective.....	78
9.2.6	Healthcare goal.....	79
9.2.7	Healthcare activities bundle.....	79
9.2.8	Needed healthcare activity.....	80
10	Concepts related to time.....	82
10.1	General.....	82
10.2	Health related period.....	82
10.2.1	Mandated period of care.....	83
10.2.2	Healthcare activity period.....	84
10.2.3	Healthcare activity delay.....	90
10.2.4	Clinical process episode.....	93
10.2.5	Health condition period.....	93
10.2.6	Episode of care.....	94
11	Concepts related to responsibilities.....	97
11.1	General.....	97
11.2	Healthcare mandate.....	97
11.2.1	Demand mandate.....	99
11.2.2	Care period mandate.....	100
11.2.3	Healthcare activity mandate.....	101
11.2.4	Continuity facilitator mandate.....	102
11.2.5	Mandate to export personal information.....	102
11.2.6	Informed consent.....	103
11.2.7	Dissent.....	104
11.2.8	Consent competence.....	104
11.2.9	Authorization by law.....	105
11.2.10	Healthcare commitment.....	105
11.2.11	Subject of care desire.....	106
11.3	Demand for care.....	106
11.3.1	Demand for initial contact.....	108
11.3.2	Referral.....	108
11.3.3	Request.....	109
11.3.4	Reason for demand for care.....	110
12	Concepts related to information management.....	111
12.1	General.....	111
12.2	Health record.....	111
12.2.1	Professional health record.....	113
12.2.2	Personal health record.....	114
12.2.3	Health record component.....	114
12.2.4	Electronic health record component.....	115
12.3	Sharable data repository.....	116

12.4	Summarized healthcare information repository.....	117
12.5	Health record extract.....	117
12.5.1	Electronic health record extract.....	118
12.5.2	Electronic patient summary.....	119
12.5.3	Clinical Report.....	120
12.5.4	Health concern.....	123
12.5.5	Healthcare information request.....	124
12.6	Certificate related to a healthcare matter.....	125
13	Conformance.....	126
Annex A (informative) Framework for the normative concepts in this International Standard ...		127
Bibliography.....		142

ISO 13940:2015(E)

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).

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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.

ISO 13940:2015(E)

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](#).

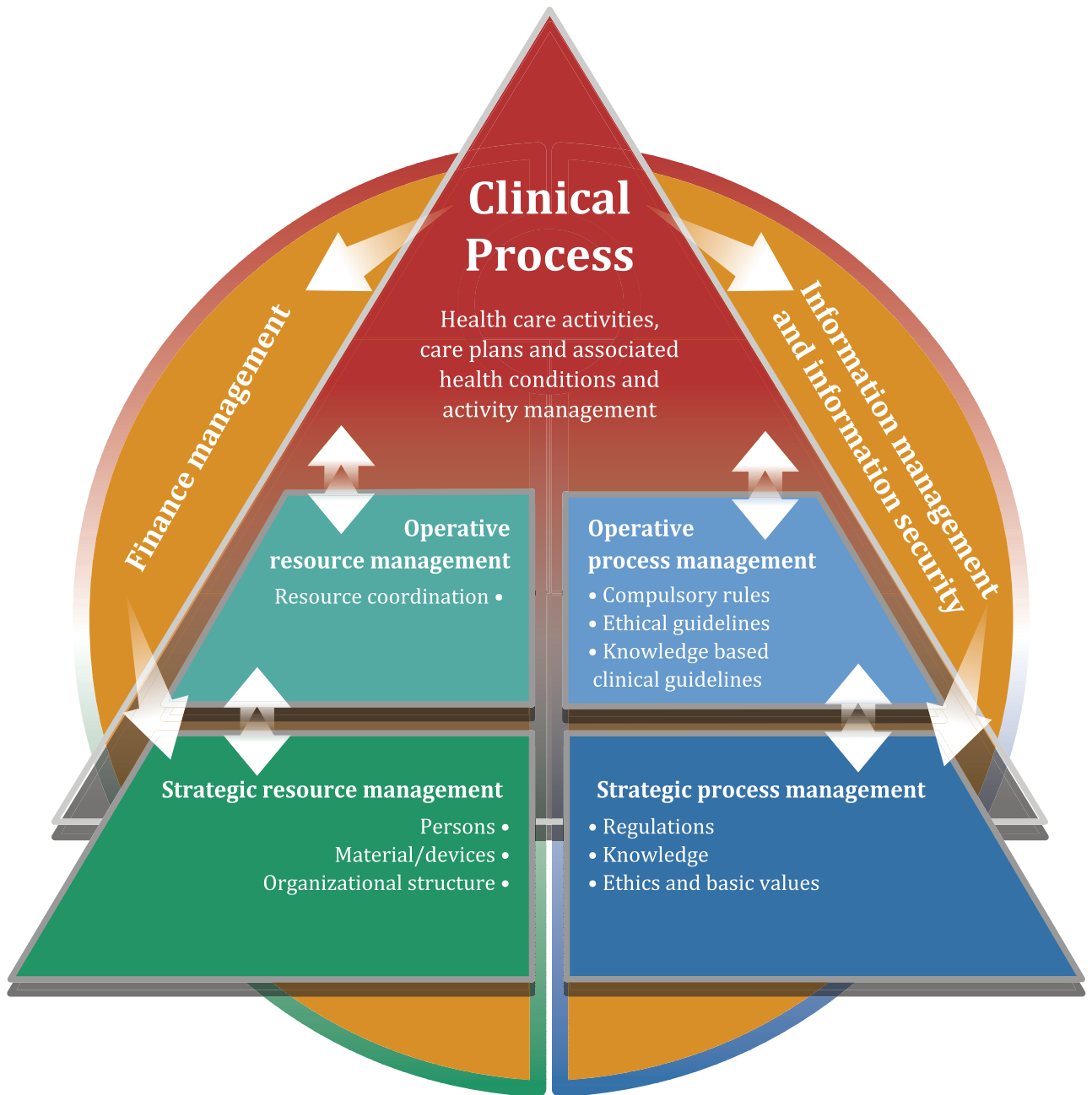


Figure 1 — Architecture of the concept areas

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.

ISO 13940:2015(E)

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.

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.

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