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**Medizinische Informatik –
Integration eines Referenz-Terminologiemodells für die Pflege
(ISO 18104:2003);
Deutsche Fassung EN ISO 18104:2003, Text Englisch**

Health Informatics –

Integration of a reference terminology model for nursing (ISO 18104:2003);

German version EN ISO 18104:2003, text in English

Informatique de santé –

Intégration d'un modèle de terminologie de référence pour les soins infirmiers
(ISO 18104:2003);

Version allemande EN ISO 18104:2003, texte en anglais

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Die Europäische Norm EN ISO 18104:2003 hat den Status einer Deutschen Norm.

Nationales Vorwort

Diese Norm enthält unter Berücksichtigung des Präsidialbeschlusses 13/1983 den englischen Originaltext der Internationalen Norm EN ISO 18104, Ausgabe 2003. Diese Norm wurde von der WG 3 „Health Concept Representation“ des ISO/TC 215 „Health Informatics“ erarbeitet. Die Norm wurde in Parallelumfrage zwischen ISO/TC 215 und CEN/TC 251 abgestimmt. Der Arbeitsausschuss G 3 „Terminologie“ des Fachbereich G „Medizinische Informatik“ des Normenausschusses Medizin im DIN hat an der Erarbeitung mitgewirkt.

Deutsche Fassung

Medizinische Informatik – Integration eines Referenz-Terminologiemodells für die Pflege (ISO 18104:2003)

Health Informatics – Integration of a reference terminology
model for nursing (ISO 18104:2003)

Informatique de santé – Intégration d'un modèle de
terminologie de référence pour les soins infirmiers
(ISO 18104:2003)

Diese Europäische Norm wurde vom CEN am 2. Dezember 2003 angenommen.

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Vorwort

Dieses Dokument EN ISO 18104:2003 wurde vom Technischen Komitee CEN/TC 251 „Health Informatics“, dessen Sekretariat vom SIS gehalten wird, in Zusammenarbeit mit dem Technischen Komitee ISO/TC 215 „Health Informatics“ erarbeitet.

Diese Europäische Norm muss den Status einer nationalen Norm erhalten, entweder durch Veröffentlichung eines identischen Textes oder durch Anerkennung bis Juni 2004 (DOP), und etwaige entgegenstehende nationale Normen müssen bis Juni 2004 (DOW) zurückgezogen werden.

Dieses Dokument ersetzt ENV 14032:2001.

Entsprechend der CEN/CENELEC-Geschäftsordnung sind die nationalen Normungsinstitute der folgenden Länder gehalten, diese Europäische Norm zu übernehmen: Belgien, Dänemark, Deutschland, Finnland, Frankreich, Griechenland, Irland, Island, Italien, Luxemburg, Malta, Niederlande, Norwegen, Österreich, Portugal, Schweden, Schweiz, Slowakei, Spanien, Tschechische Republik, Ungarn und Vereinigtes Königreich.

Anerkennungsnotiz

Der Text der ISO 18104:2003 wurde vom CEN als EN ISO 18104:2003 ohne irgendeine Änderung genehmigt.

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 18104 was prepared by Technical Committee ISO/TC 215, *Health informatics*. Through a work item proposal initiated by the International Council of Nurses and the Nursing Informatics Special Interest Group of the International Medical Informatics Association, the work related to this International Standard takes forward, under the Vienna Agreement, the efforts initiated in ENV 14032, *Health Informatics — System of concepts to support nursing*.

Introduction

Terminology development in nursing has been motivated by multiple factors including

- implementation of computer-based systems in clinical settings,
- quest for reimbursement for nursing services delivered,
- documentation of nursing contributions to patient care outcomes,
- teaching students, and
- enhancing the body of nursing knowledge.

Nursing terminologies, in either paper-based or computer-based form, have been designed as enumerated classifications and implemented both as interface terminologies at the point of care and as administrative terminologies to examine nursing data across settings. At the present time, many standardized terminologies exist and no single standardized terminology is complete for the domain in terms of breadth or granularity. Moreover, there is currently no concept-oriented terminology that integrates the domain concepts of nursing in a manner suitable for computer processing.

In recent years, however, significant advances have been made toward the development of concept-oriented reference terminologies that support the domain concepts of nursing. Among the remaining major challenges are the development of a reference terminology model that supports the representation of nursing concepts and the integration of the reference terminology model with other models for the health-care domain [1]. A number of efforts have focused on addressing these challenges. Prominent among these is the work within the European Standardization Committee (CEN TC 251) that brought together the efforts of the International Classification for Nursing Practice (ICNP[®]) Programme, Telenurse ID, and other European efforts (e.g., nursing activities within the Galen programme) into a Prestandard — ENV 14032 [2], [3], [4], [5], [6]. Also of relevance to this International Standard are activities related to the International Medical Informatics Association Nursing Informatics Special Interest Group, Nursing Terminology Summits, Systematized Nomenclature of Medicine (SNOMED[®]) Convergent Terminology Group for Nursing, Health Level 7, and Clinical Logical Observation Identifiers, Names, and Codes (LOINC) [3], [7], [8], [9].

In contrast to the CEN Prestandard that broadly addressed categorial structures for nursing diagnoses and nursing actions, this International Standard focuses specifically on the conceptual structures that are represented in a reference terminology model rather than in other types of information models. Moreover, toward the goal of integration with other health-care models, the reference terminology models for nursing diagnoses and nursing actions in this International Standard reflect attempts at harmonisation with evolving terminology and information model standards outside the domain of nursing.

Health informatics — Integration of a reference terminology model for nursing

1 Scope

1.1 Main purpose

The purpose of this International Standard is to establish a nursing reference terminology model consistent with the goals and objectives of other specific health terminology models in order to provide a more unified reference health model. This International Standard includes the development of reference terminology models for nursing diagnoses and nursing actions and relevant terminology and definitions for its implementation.

The potential uses for this reference terminology model are to

- support the intensional definition of nursing diagnosis and nursing action concepts reflective of a broad range of roles and practice settings,
- facilitate the representation of nursing diagnosis and nursing action concepts and their relationships in a manner suitable for computer processing,
- provide a framework for the generation of compositional expressions from atomic concepts within a reference terminology,
- facilitate the construction of nursing terminologies in a regular form which will make mapping among them easier,
- facilitate the mapping among nursing diagnosis and nursing action concepts from various terminologies including those developed as interface terminologies and statistical classifications,
- enable the systematic evaluation of terminologies and associated terminology models for purposes of harmonization, and
- provide a language to describe the structure of nursing diagnosis and nursing action concepts in order to enable appropriate integration with other reference terminology models and with information models.

1.2 Target groups

The target groups for this International Standard are

- developers of coding systems and terminologies that include nursing diagnosis and nursing action concepts, to assist in the development, refinement, and maintenance of a particular terminology, as well as for comparisons among different systems,
- developers of reference terminology models for other health-care domains, to explicate the relationships and overlap with nursing concepts,
- information modellers, knowledge engineers, and standards developers building models for health-information management systems such as electronic health records and decision support systems, to describe the expected content of terminological value domains for particular attributes and data elements in the information models,
- developers of information systems that require an explicit system of concepts for internal organization, data warehouse management and middleware services,

- developers of software for natural language processing, to facilitate harmonisation of their output with coding systems, and
- developers of mark-up standards for representation of health-care documents.

1.3 Topics considered outside scope

Topics considered outside the scope of this International Standard include

- a comprehensive categorial structure for nursing diagnoses and nursing interventions,
- a detailed classification, nomenclature, or reference terminology of nursing diagnoses or nursing actions,
- descriptors and guidelines to represent contextual information for the recording of information within an electronic health record,
- an exhaustive list of all the potential details that could appear in expressions of nursing diagnoses and nursing actions,
- an exhaustive thesaurus with the complete list of descriptors to be used to describe nursing diagnoses and nursing actions,
- relationships among health professionals, and
- communication of nursing diagnosis and nursing action concepts between electronic health records.

2 Normative references

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

ISO/TS 17117:2002, *Health informatics — Controlled health terminology — Structure and high-level indicators*

ENV 12264:1997, *Medical informatics — Categorial structures of systems of concepts — Model for representation of semantics*

ENV 14032:2001, *Health Informatics — System of concepts to support nursing*

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply. Only key terms and definitions are provided in this section. Additional background terms and definitions from ISO 1087-1:2000 [27] are provided in Annex A. Definitions for the specific reference terminology model components are provided in Clauses 4 and 5.

3.1
domain concept model
set of formal categories, semantic links and sanctions describing potential characteristics for representing concepts in a domain

[ISO 17115]

3.2
reference terminology model
domain concept model (3.1) that is optimised for terminology management

3.3
dissection
systematic representation of a phrase according to a predefined domain concept model

4 Reference terminology model for nursing diagnoses

4.1 General

For the purposes of this International Standard, a nursing diagnosis is considered either as a <<judgement>>¹⁾ on a <<focus>> or as a <<judgement>> on a particular <dimension>²⁾ (e.g. ability, knowledge) of a <<focus>> (see ENV 14032). A graphical representation of the reference terminology model for nursing diagnoses is shown in Figure 1. A descriptor for <<focus>> and a descriptor for <<judgement>> are mandatory for the intensional definition of a nursing diagnosis. In some special instances, a single descriptor (e.g., anxiety) can serve the role of both <<focus>> and <<judgement>>. In contrast to ENV 14032, no base category is specified; the decision is at the discretion of the terminology developer and/or implementer. Annex C includes examples of three styles of dissection: <<focus>> as the base category, <<judgement>> as the base category, and a single descriptor for <<focus>> and <<judgement>>. Descriptors for other semantic domains, semantic categories, and qualifiers described in 4.4 to 4.6 should be used as necessary to support the intensional definition of a specific nursing diagnosis.

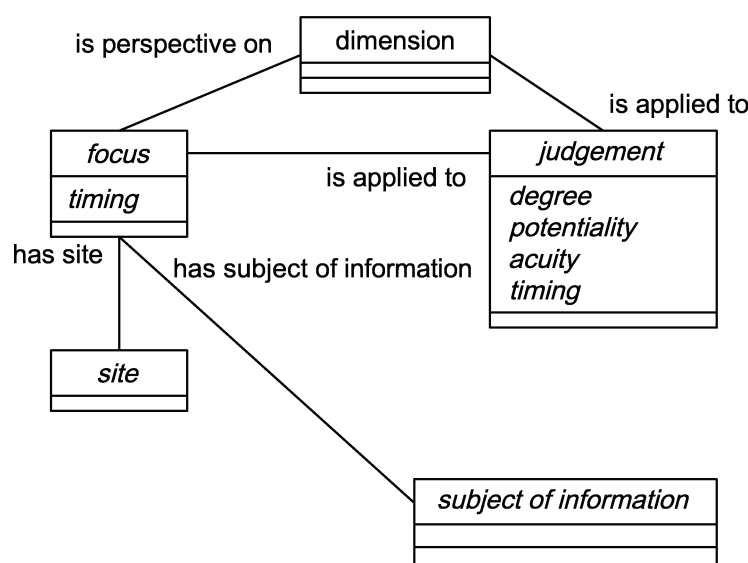


Figure 1 — Reference terminology model for nursing diagnoses

4.2 Focus

4.2.1 Definition

Focus is defined as an area of attention [10]. <<Focus>> may be qualified by timing.

4.2.2 Examples of semantic categories

Semantic categories for the domain of <<focus>> include, but are not limited to: <property>, <process>, <structure>, and <state>. In the case of <altered process>, <altered state> and <altered structure>, the descriptor of <<focus>> is pre-coordinated with the descriptor of <<judgement>>, e.g., anxiety. Categories of <<focus>> may also take the role of <<target>> in the reference terminology model for nursing actions.

1) Semantic domains are considered as abstract classes of UML that are used as organising categories to simplify the models. Semantic domains are italicised in the diagrams and their labels are enclosed in double angle brackets << >> throughout the document.

2) Semantic categories are considered as instantiable classes in UML and their labels are in plain font in the diagrams. They are enclosed in angle brackets < > throughout the document.