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Health informatics – Registration of coding schemes

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English version

Health informatics - Registration of coding systems

Informatique de santé - Enregistrement des systèmes de codage

Medizinische Informatik - Registrierung von Kodierungsschemata

This European Standard was approved by CEN on 17 April 2005.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Contents

Foreword

This European Standard (EN 1068:2005) has been prepared by 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of an identical text or by endorsement, at the latest by December 2005, and conflicting national standards shall be withdrawn at the latest by December 2005.

This European Standard supersedes ENV 1068:1993.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The increased use of data processing and telecommunications capabilities has made possible the interchange of information in machine readable and machine processable formats. As automated interchange of information in health increases it is essential to provide the appropriate information interchange standards. Representation of information in coded form facilitates its processing by computer and enables it to be expressed with a precision and independence from language that may be difficult to achieve in other forms. Coded representation is therefore frequently used in information interchange for all types of application.

There are many coding systems in use in health. In the development of this European Standard it was recognised that immediate international adoption of a single coding system for each type of health information is impracticable. Therefore, when interchanging information, it is necessary to identify unambiguously the coding systems used for its representation. This European Standard recognises existing coding systems and provides a means for using them in a uniform way in health information interchange. It allows an occurrence of health information to be represented by more than one coding system. However the registration procedure is also intended to discourage the unnecessary proliferation of coding systems used for the interchange of health information.

The use of the procedures in this European Standard will:

a) facilitate the representation of health information in coded form for all purposes;

b) reduce the potential ambiguity of information in coded form;

c) reduce the need for human intervention in information interchange between applications;

d) diminish the time required for the introduction of information interchange agreements;

e) provide independence from language;

f) in consequence of the foregoing, reduce the cost of information interchange.

It has been produced by the European Body because, to date, there has been no successful implementation of an International Standard addressing the same needs, while it is urgently required to facilitate information interchange in health within Europe. It is nevertheless recognised that the subject is a matter for world-wide co-operation. This European Standard has therefore been written in conformance with the ISO/IEC Directives and every attempt has been made to avoid introducing regional bias.

In the situation resulting from the instatement of ISO/IEC 11179-6, this European Standard should be considered as providing a mean for a sectorial – for health –, and regional – at least for Europe – implementation of the International Standard. As a consequence, the Registration Authority meant by this European Standard should eventually refer to the Central Registration Authority planned in the International Standard.

As per this European Standard, a comprehensive international register of health coding systems will be created and will be made available to all those who may benefit from the information it contains. It might also occur that organisations outside Europe submit health coding systems for registration in accordance with it.

The role to be played by the Registration Authority as per this European Standard, (referred to in Clause 6, and elsewhere in this European Standard), and its basic rules of procedure, are the subject for a separate supporting document (“Health Informatics – Health Information Interchange – Registration of Coding Systems – The Registration Authority“).

1 Scope

This European Standard specifies a procedure for the registration of coding systems used in health for any purpose. It also specifies the allocation of a unique Health Coding System Designator to each registered coding system. A code value can thus be given an unambiguous meaning by association with a HCD.

The method by which a HCD and a code value are associated is not defined by this European Standard. The association is achieved in any manner appropriate to the syntax used.

This European Standard does not specify the coding systems to be used in health, give guidance on their selection nor describe methods of representing information in coded form.

Coding systems maintained by different Responsible Organisations may also be used in combinations. Such combinations can be considered as templates, and as such they lie outside the scope of the current document.

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/IEC 6523-1:1999 *Information technology -- Structure for the identification of organizations and organization parts*

ISO/IEC 11179-6:2005 *Information Technology — Metadata registries (MDR) — Part 6: Registration*

3 Terms, definitions and abbreviations

For the purposes of this European Standard, the following terms and definitions apply:

3.1
bit; binary digit
either of the digits 0 or 1 when used in the pure binary numeration system
[ISO/IEC 2382-4:1999]

3.2
character
member of a set of elements that is used for the representation, organisation or control of data [ISO/IEC 2382-4:1999]

3.3
character set
finite set of different characters that is complete for a given purpose
[ISO/IEC 2382-4:1999]

3.4
coded set
set of elements which is mapped on to another set according to a coding scheme
[ISO/IEC 2382-4:1999]

3.5
code meaning
element within a coded set

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

3.6
code value
result of applying a coding scheme to a code meaning

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

(based on ISO 2382-4, modified to use preferred terms defined above: *coding system* for *code* and *code meaning* for an element of a *coded set*.)

NOTE 1 The definition provided by ISO 2382-4:1999 is modified in order to use the preferred (synonymous) terms coding scheme (instead of the deprecated 'code'), and code

NOTE 2 A diagrammatic illustration of the terms defined in 3.4, 3.5, 3.6 and 3.8 is provided in annex B.

3.7
coding scheme
collection of rules that maps the elements of one set on to the elements of a second set
[ISO/IEC 2382-4:1999]

NOTE NOTE: The two sets considered here are (1) a set of 'code meanings' (or 'coded set'), and (2) a set of 'code values' (or 'code set').

3.8
coding system
combination of a set of code meanings and a set of code values, based on a coding scheme

3.9
data element
unit of data for which the definition, identification, representation, and permissible values are specified by means of a set of attributes

[ISO/IEC 11179-6:2005]

3.10
Data Identifier (DI)
identifier assigned to a data within a Registration Authority

[ISO/IEC 11179-6:2005]

3.11
health coding system
coding system used in health

NOTE According to ISO/IEC 11179, a health coding System is a data element.

3.12
Health Coding System Designator [HCD]
unique permanent identifier of a health coding system registered for use in information interchange under the terms of this document

NOTE A formal specification of the health coding system designator is included in Annex A.

3.13
health coding system specification
source of information about a health coding system maintained and made available by the Responsible Organisation in accordance with the terms of this document

3.14
International Registration Data Identifier
internationally unique identifier for a data element
[ISO/IEC 11179-6:2005]

3.15
organisation
unique framework of authority within which a person or persons act, or are designated to act, towards some purpose
[ISO/IEC 6523-1:1999]

NOTE Groupings and subdivisions of an organisation may also be considered as organisations where there is a need to identify these in information interchange.

3.16
Register of Health Coding Systems
register that is maintained in accordance with the provisions of this document

3.17
Registration Authority (for health coding systems)
organisation responsible for assigning Health Coding System Designators and for maintaining the Register of Health Coding Systems as described in this document

Organisation authorised to register data elements

[ISO/IEC 11179-6:2005]

3.18
Registration Authority Identifier
identifier assigned to a Registration Authority
[ISO/IEC 11179-6:2005]

3.19
Responsible Organisation (of a health coding scheme)
organisation which assumes responsibility for the administration of a specific health coding scheme.

Organisation or unit within an organisation that is responsible for the contents of the mandatory attributes by which a data element is specified

[ISO/IEC 11179-6:2005]

3.20
Submitting Organisation (for health coding systems)
organisation recognised by the requirements of this document to receive requests for registration of health coding systems from Responsible Organisations and submit them to the Registration Authority.

Organisation or unit within an organisation that has submitted the data element for addition, change, or cancellation/withdrawal in the data element dictionary

[ISO/IEC 11179-6:2005]

NOTE The definitions of Registration Authority, Submitting Organisation and Responsible Organisation for health coding systems are based on the generic definitions of these authorities and organisations in ISO/IEC 6523-1, and ISO/IEC 11179-6:2005.

3.21
version
identification of an issue of a data element in a series of evolving data element specifications within a Registration Authority

[ISO/IEC 11179-6:2005]

3.22
Version Identifier (VI)
identifier assigned to a version under which a data element is submitted or updated

[ISO/IEC 11179-6:2005]

4 Identification of health coding systems

4.1 Purpose of the identification procedure

The procedure described in this Clause provides for the unambiguous identification of registered health coding systems when they are used for the purpose of information interchange in health. A code value is given an unambiguous meaning by association between:

a) Health Coding System Designator (HCD), and

b) code value.

4.2 Health Coding System Designator (HCD)

The HCD shall have a fixed length of 9 (nine) characters and shall conform to the formal specification in Annex A.

A HCD shall be allocated by the Registration Authority upon acceptance of a request for registration of a health coding system in accordance with Clause 4 “Processing of requests for new registrations“ of the supporting document to this document (“Health Informatics –Registration of Coding Systems – The Registration Authority “). A HCD once allocated shall be included in the Register of Health Coding Systems and the same HCD value shall not be reallocated or deleted.

Instances of the HCD in which both the third and fourth characters are the digit "9" (nine) shall not be allocated by the Registration Authority but shall be reserved for identification of non-registered coding systems within user agreements described in Clause 5.

Together with the Registration Authority Identifier (RAI, the HCD shall compose the International Registration Data Identifier (IRDI), as defined in ISO/IEC 6523-1, and ISO/IEC 11179.

4.3 Code Value

The code value shall conform to the interchange format and character set specified, in the entry identified by the associated HCD, in the Register of Health Coding Systems (see 7.1).

Code values not included in a registered health coding system specification may be used in an information interchange that is subject to a user agreement as described in Clause 5. Otherwise the code value shall represent a code meaning that can be ascertained by reference to the health coding system specification for the coding system identified by the associated HCD (see 9.2).

4.4 Methods of Association

The method by which a HCD and a code value are associated in an information interchange is not specified by this document. Possible methods include specification of the association:

a) within a prior agreement between the parties to the information interchange;

b) within message implementation guidelines applicable to all messages of a particular type;

c) within an information interchange in such a manner that it is applicable to several messages;

d) within individual messages;

e) within the representation of the code value.

5 User agreements

Health coding systems that have not been registered in accordance with this document may be used in health information interchange between parties who have entered into an appropriate agreement.

A non-registered coding system shall be identified by a HCD conforming to layout specification in Annex A, in which both the first and second characters are the digit "9" (nine) and the values of the third, fourth, fifth, sixth, seventh, eighth, and ninth characters are agreed between the parties to the agreement. (ie the HCD shall have the form 99XXXXXXX in which the characters represented by a "X" are agreed between the parties to the agreement).

The coding systems associated with HCD values in this series shall be determined by prior agreement between the parties using them. It shall be the responsibility of these parties to ensure that, in the environment in which they are operating, ambiguities do not occur.

6 The Registration Authority

The role to be played by the Registration Authority, and its basic rules of procedure, are the subject for a separate supporting document (“Health Informatics – Registration of Coding Systems – The Registration Authority“).

7 The Register of Health Coding Systems

7.1 Contents of the Register

The Register of Health Coding Systems shall contain the information described below in respect of each registered health coding system. Items marked with an asterisk (*) shall not be amended.

a) The following information shall be provided in every request for registration or for amendment of a registration entry and shall be included in the Register:

1)* the preferred name of the health coding system as advised by the Responsible Organisation;

2)* the interchange format of the code values used in the coding system including the maximum number of characters used in any code value if a character code or the maximum number of bits if binary;

3)* the character set required to express the full range of code values used by the coding system;