BRITISH STANDARD

BS EN
1068:2005

Health informatics — Registration of coding systems

The European Standard EN 1068:2005 has the status of a British Standard

ICS 11.020; 35.240.01

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 1068:2005.

The UK participation in its preparation was entrusted to Technical Committee IST/35, Health informatics, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

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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.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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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;

4)* the minimum period that may elapse between the withdrawal of a code value and its reallocation. This shall be 100 years unless a different period is agreed between the Submitting Organisation and Responsible Organisation;

5) the name, postal address, telephone number, facsimile number, electronic mail address, Universal Resource Link – URL – (if existing) of the Responsible Organisation and the name of any individual in the Responsible Organisation with particular responsibility for the coding system;

6) the name, address, telephone number facsimile number and any electronic mail address of the Submitting Organisation and the name of any individual in the Submitting Organisation with particular responsibility for the coding system;

7) a statement of the types of information and application areas for which it is intended to be used;

8) the languages used in the health coding system specification.

b) The following information shall, where appropriate, be provided in a request for registration or for amendment of a registration entry and if provided shall be included in the Register:

1) notes on the use of the coding system;

2) the HCD assigned to any previous versions of the coding system;

3) any alternative names or abbreviations used to refer to the coding system.

c) The Register of Health Coding Systems shall also contain the following information which shall be added or amended by the Registration Authority:

1)* the HCD value assigned to the coding system;

2)* the date of the issue of the HCD value;

3) the date of the latest amendment to the register;

4) any additional comments made by the Submitting Organisation or added by the Registration Authority.

d) If the coding system ceases to be supported, or is superseded by a new registration, the Registration Authority shall add or amend the following information in the Register:

1) the date on which the Registration Authority determines that the Responsible Organisation is no longer maintaining the coding system in accordance with the requirements of this document;

2) the reason the system ceased to be supported;

3) the HCD assigned to any subsequent versions of the coding system.

7.2 Language of the Register

The Register of Health Coding Systems shall be maintained in English. At the request of a Submitting Organisation entries submitted in one of the other official languages of CEN shall be accepted and maintained in that language. The Registration Authority shall also conduct all business relating to the Register in English or such other languages as the Registration Authority and the corresponding party may find mutually convenient.

7.3 Availability of the Register

The Register of Health Coding Systems and its indexes shall be available at no charge on a web site maintained by the Registration Authority.

The Register of Health Coding Systems shall be made downloadable from the above mentioned web site in those formats that, evolving with time, are currently the most commonly used for electronic documents with personal computers.

7.4 Order of the Register

The Register of Health Coding Systems shall facilitate the retrieval of entries in order of HCD or in alphabetical order of the name of the health coding system. If the Register is maintained in one of these

orders, an index shall be provided in the other. If the Register is not maintained in either of these orders, indexes shall be provided in both of these orders.

If it is necessary to use an extended character set within the Register, the Registration Authority shall select an appropriate ISO Standard character set and shall explicitly inform those accessing the Register of the set chosen and the effect of this upon the order of entries in the Register and its indices.

7.5 Copyright of the Register

The copyright for the Register of Health Coding Systems shall belong to the organisation that appoints the Registration Authority.

8 Submitting Organisations

8.1 General

Requests to the Registration Authority shall be forwarded by a recognised Submitting Organisation. However a Submitting Organisation shall not forward a request to the Registration Authority in respect of a coding system of which it is the Responsible Organisation but shall submit such requests through another recognised Submitting Organisation.

8.2 Recognition of Submitting Organisations

Any of the following bodies or organisations shall be recognised as Submitting Organisations for the purposes of this document:

a) ISO Technical Committee or Subcommittee;

b) Member Body of ISO;

c) International Organisation having a liaison status with ISO or with any of its Technical Committees or Subcommittees (for example: CEN TC251).

d) body recognised by the organisation that appoints the Registration Authority as having responsibility for the provision or control of health on a national or international scale.

8.3 Responsibilities of Submitting Organisations

The responsibilities of a Submitting Organisation are to:

a) receive requests for additions or amendments to the Register of Health Coding Systems from Responsible Organisations within their country or organisations;

b) rationalise or co-ordinate these requests so that unnecessary proliferation of health coding systems is minimised;

c) satisfy itself that Responsible Organisations understand and accept the responsibilities specified in Clause 9;

d) forward to the Registration Authority those requests that have its support;

e) submit requests in the form requested by the Registration Authority. This may involve translation into a language acceptable to the Registration Authority;

f) make known within their country or organisations the decisions transmitted to them by the Registration Authority;

g) advise the Registration Authority should it become aware of a change in circumstances that renders incorrect any of the information shown in the Register. This includes but is not limited to receiving and forwarding appropriate requests for amendment of register entries;

h) advise the Registration Authority should it become aware that an Responsible Organisation has breached any of its responsibilities or undertakings specified in Clause 9;

i) in case of cessation of existence of an Responsible Organisation, seek agreement with the Registration Authority about whether, and under which conditions, in particular with regard to the registration fees, a registered coding system has to be kept included in the Register.

8.4 Evaluation criteria to be applied by Submitting Organisations

Before forwarding a request to the Registration Authority a Submitting Organisation shall evaluate it against the following criteria;

a) a valid need exists in health for the interchange of information which may be coded using the coding system;

b) the coding system is either in common usage within at least one country or satisfies a need not met satisfactorily by an existing registered health coding system;

c) the Responsible Organisation is of good national or international standing and has the resources to undertake the responsibilities specified in Clause 9;

d) the information provided by the Responsible Organisation is adequate for and appropriate to the request being made (see 7.1, and Clause 3 “Evaluation of requests“ of the supporting document to this document (“Health Informatics – Registration of Coding Systems – The Registration Authority“)).

8.5 Coding systems registered with other authorities

The existence of another international registration authority under which a coding system either is or could be registered shall not necessarily preclude registration to obtain a HCD. Such requests for registration shall be considered in accordance with the responsibilities described in 8.3 and the evaluation criteria in 8.4.

9 Responsible Organisations

9.1 Responsibilities of Responsible Organisations

For each health coding system to which this document applies the Responsible Organisation shall be responsible for:

a) providing the information specified in 7.1 a), and if appropriate in 7.1 b), in the form required by the Submitting Organisation dealing with the request;

b) providing any additional information that may reasonably be required by the Submitting Organisation to enable it to perform its responsibilities as specified in Clause 8;

c) maintaining a health coding system specification as specified in 9.2;

d) the assignment of code values to code meanings;

e) ensuring that, when the relationship between a code value and a code meaning has been promulgated in any way, the relationship is not changed within the period specified in 7.1 a) 5);

- This shall not preclude the promulgation of proposed codes values and associated code meanings for consultation provided that they are incorporated within a communication which makes this clear and includes a warning that the codes are subject to change and must not be used.

f) without charge and without request making the health coding system specification and every updated version of it, or change to it, available to the Registration Authority and to the Submitting Organisation and permitting these authorities to distribute copies, to member bodies and liaison organisations of ISO/IEC, for their reference only;

g) making the coding system specification available at reasonable charge to any other person that has a justifiable need for it;

- The provisions of 9.1 f) and 9.1 g) shall apply to any language in which the coding system specification is maintained but shall not be interpreted as imposing an obligation to provide translations of the specification in any other languages.

h) paying fees annually on request of the Registration Authority, to cover all charges related to the maintenance of the Register and the cost of making it available to users.

9.2 The health coding system specification

Each health coding system specification shall contain the following information:

a) the preferred name of the health coding system;

b) the interchange format of the code values used in the coding system. This shall include

i) the maximum length of the code values used expressed either as a number of characters or as a number of bits;

ii) the presence, position and significance of any separator characters used in the code value;

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

d) the name, address, telephone number, facsimile number and any electronic mail address of the Responsible Organisation;

e) a statement of the types of information and application areas for which it is intended to be used;

f) notes on the use of the coding system;

g) the HCD assigned to any previous versions of the coding system;

h) any alternative names or abbreviations used to refer to the coding system;

i) the date of the current version of the specification;

j) if appropriate, a description of the manner in which the code values are derived or constructed including the algorithm used to calculate any check characters the system may use;

If the system is based on a finite list of code values, rather than an algorithm by which the code value is determined dynamically from the characteristics of the subject being coded, the specification shall also contain:

k) if the list contains more than 100 code values the order in which the entries are listed;

l) for each assigned code value:

1) the code value;

2) the code meaning;

3) any additional information appropriate to the code value including equivalent code values in other coding systems or an indication that a code value may be assigned a meaning by the interchanging parties.

When practicable each coding system shall also contain:

m) the HCD value assigned by the Registration Authority to the coding system;

n) the minimum period that may elapse between the withdrawal of a code value and its reallocation. This shall be 100 years unless a different period is agreed between the Submitting Organisation and Responsible Organisation.

A Responsible Organisation may, with the agreement of the Submitting Organisation, withhold from the coding system specification the information described under j), k) and l) above on the grounds of confidentiality.

9.3 Multiple Registration

A health coding system which covers more than one type of information may at the option of the Responsible Organisation be submitted for registration as several separate systems each covering one type of information. For such a registration to be acceptable the coding system for each type of information must be capable of being used independently and must be allocated a distinguishing name.

Specified combinations of health coding systems may be registered and allocated a single HCD. For such a registration to be acceptable each of the coding systems that form part of the combination must itself be registered or must be fully specified in the coding system specification in accordance with 9.2.

Annex C provides examples of the operation of this Clause.

10 Disputes

If any dispute arises between the authorities and organisations defined by this document in connection with the operation of the procedures specified in this document the parties shall attempt to resolve it among themselves. If they are unable to resolve the dispute among themselves they shall try to appoint an arbitrator. If they are unable to agree on a single arbitrator they shall each appoint an arbitrator who shall appoint a single umpire. Each party shall bear their own costs. Unless the parties otherwise agree the arbitration proceedings shall be conducted in accordance with the law of the country in which the Registration Authority is domiciled.

Annex A
(normative)

Specification of the Health Coding System Designator

For the purposes of this document, the technical specification of the Health Coding System Designator is given in this Annex. It shall be assigned by the Registration Authority and shall be implemented by those developing or using any method of information interchange in health involving the interchange of coded information.

Name:	**Health Coding System Designator**
Abbreviated name:	**HCD**
Definition:	**Unique permanent identifier of a health coding system registered for use in information interchange under the terms of this document.**
Permissible instances:	**All coding systems registered for information interchange in health.**
Representation category:	**Alphanumeric:** **A-Z (upper case only), 0-9**
Maximum number of characters:	**9**
Minimum number of characters:	**9**
Layout of representation:	**XXXXXXYYY**
Validity category for usage:	**Information interchange in health.**
Comments/remarks:	**Layout of representation**
	XXXXXXYYY shall be a sequence of nine characters, assigned by the Registration Authority, which is unique to the health coding system registered in accordance with this document.
	XXXXXX shall be a sequence of six characters, to play the role of the "Data Identifier" (DI), as per ISO/IEC 6523-1, and ISO/IEC 11179-6.
	YYY shall be a sequence of three characters, to play the role of the "Version Identifier" (VI), as per ISO/IEC 6523-1, and ISO/IEC 11179-6.
	The character sequence assigned shall have no significance other than as a unique reference for the coding system.
	Instances of the HCD in which both the first and second characters are the
	digit "9" (nine) shall not be assigned by the Registration Authority and shall be available for use in user agreements as specified by Clause 5 of this document.
	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.

Annex B
(informative)

Illustration of terms used in this document

Figure B.1 illustrates the relationship between the terms coding system, code element set, coded set, code value and code meaning using the example of the International Classification of Diseases 9th Revision (ICD-9) coding system.

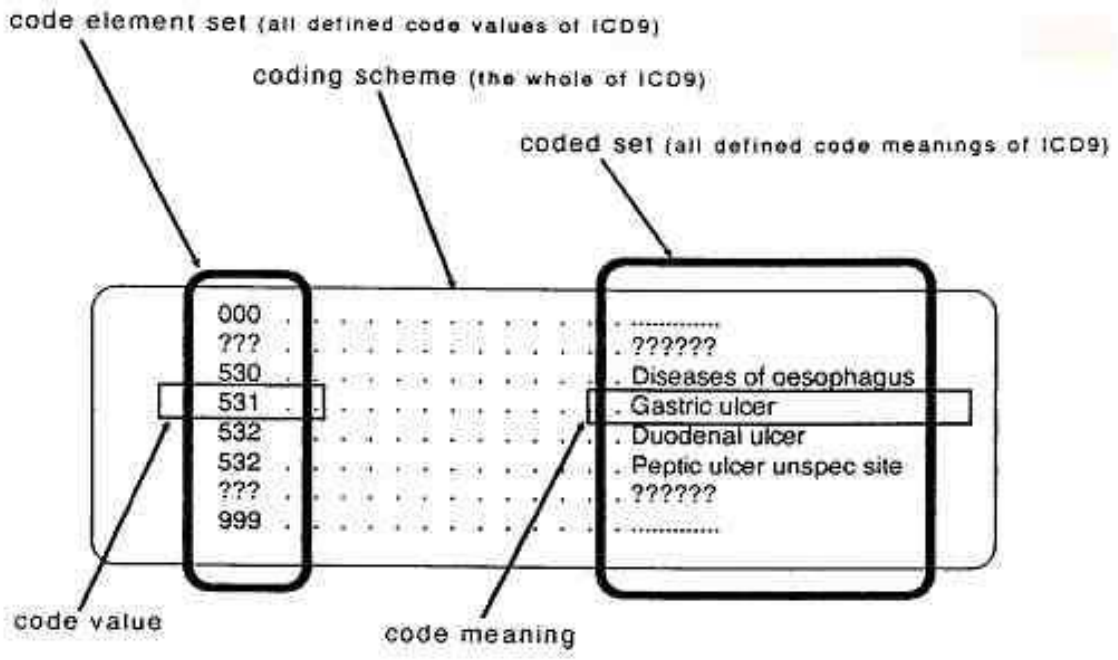

Figure B.1 – Relationship between a coding scheme, a code element set, code values and code meanings – The example of the International Classification of Diseases, 9th Revision (ICD-9) coding system.

Annex C
(informative)

Multiple registrations of health coding systems

This Annex illustrates the applicability of this document to those health coding systems that may benefit from multiple registration (see 9.3). The coding systems named in this Annex are examples only. The use of these examples does not imply endorsement of the coding systems named or that they will be registered in accordance with this document for use in any manner.

C.1 Levels of detail

The International Classification of Diseases 9th Revision (ICD-9) is an example of a coding system in which extending the significant length of the code values adds detail without changing the underlying meaning. A Responsible Organisation may choose to request registration of such a coding system at more than one level of detail.

EXAMPLE: The ICD-9 three character code value "531" has the code meaning "Gastric ulcer". ICD-9 provides for subdivision of gastric ulcers into ten categories by the addition of a fourth character. These categories include: "531.0" meaning "Gastric Ulcer - Acute with haemorrhage", "531.1" meaning "Gastric ulcer - Acute with perforation" etc. Both the three and four character versions may be eligible for registration under the terms of this document. One HCDs could be associated with a Register entry specifying a maximum of 3 characters in the code value while another would specify a maximum of 4 characters (or 5 if interchange format specified the inclusion of the separator).

C.2 Variants of a coding system

The ICD-9-CM coding system (International Classification of Diseases 9th Revision - Clinical Medicine) is a regional variant of the ICD-9 coding system. The first three characters of most of the code values have the same meanings as those in ICD-9. However ICD-9-CM supports two character extensions which differ from the single character extensions of ICD-9. A Responsible Organisation could apply for a separate registration for ICD-9-CM whether or not ICD-9 had already been registered. Requests for the registration of variants of a coding system will be subject to evaluation by a Submitting Organisation in accordance with 8.3 and 8.4.

C.3 Coding systems for several types of information

The EUCLIDES coding system for clinical laboratory information interchange is an example of a coding system that covers different types of information. Its version 2.10 covers eight different types of information:

1. Tests analytes, procedures, functions tests, ratios.
2. Specimen types
3. Specimen origins/sources
4. Specimen collection procedures
5. Basic methods
6. Numerators
7. Denominators
8. Kinds of quantity

For each of these information types the coding system has assigned code values and associated code meanings. Therefore under the terms of this document each of these eight parts of the coding system may be

registered as a separate coding system. Each would need to be given a unique name; these could be "EUCLIDES analyte", "EUCLIDES specimen types" etc. Each would be allocated a separate HCD. This is important because the code values allocated for one type of information may also be allocated for another type of information. The associated code meanings will differ according to the information type to which they apply.

NOTE The SNOMED coding system is another example of a coding system that covers different types of information and might be the subject of more than one registration.

Annex D
(informative)

Version control and changes to coding systems

This Annex describes the effect of the provisions of this document in respect of changes made to registered coding systems.

D.1 Changes that do not effect the Register

If a change to a coding system has no effect on the Register entry then there is no need to amend the Register. However there will be a need for a revised coding system specification to be made available in accordance with this document (see 9.1 f) 9.1 g) and 9.2).

D.2 Changes to contact details

If a change occurs which alters the contact details of the Responsible Organisation or changes the scope of the system in a way that does not invalidate existing uses this requires an amendment to the register (see Clause 5 “Processing of requests for amendment“ of the supporting document to this document (“Health Informatics – Registration of Coding Systems – The Registration Authority “)).

D.3 Changes to character sets and length of code values

If a change occurs which might invalidate existing messages using the old version of the coding system (e.g. changes in character sets or of maximum length of the *code value*) then the old registration is retained, though marked as superseded. A new registration has then to be made that incorporates the appropriate information, and a new HCD is issued for the new version.

D.4 Reallocation of code values

If a change results in the reallocation of a *code value* to a new and different *code meaning*, within less than the minimum period specified in the Register entry for such reallocation (see 7.1 a) 5), the old registration is retained but marked as superseded. A new registration must be made incorporating the appropriate information and a new HCD will be issued for the new version. This is necessary to ensure that messages including *code values* based on an earlier version of the coding system are not interpreted to have the new *code meanings*.

D.5 When is a change a reallocation of a code value?

This document is not concerned with standardising medical semantics. Therefore it does not seek to define whether a change of terminology constitutes a change in the *code meaning* associated with a *code value*. It is for the Responsible Organisation (under the oversight of it Submitting Organisation) to determine whether or not a correction or change in phraseology still represents the same conceptual meaning or constitutes a reallocation of the *code value* to a new *code meaning*.

D.6 Continually changing coding systems

It is recognised that some coding systems may require frequent reallocation of values (e.g.: systems based on a changing hierarchical classification, systems of an experimental nature and systems used in fast changing environments). A coding system which is undergoing constant change can with the agreement of its Submitting Organisation register a short period as the minimum that must elapse between withdrawal and reallocation of a *code value* (see 7.1 a) 5). This will be indicated in the Register entry and users of messages incorporating *code values* from such systems may need to take extra precautions when interpreting the *code value*.

D.7 Coding systems that date the validity of code values

Certain Responsible Organisations deal with changes to the meaning of *code values* within a coding system by allocating a start date (and subsequently an end date) to the validity of a particular *code meaning*. Registration of coding systems that use this approach may use the mechanism suggested above for *continually changing coding systems*. However, to allow a coding system based on validity dates to be registered as having the default *code value* reallocation period of not less than 100 years see 7.1 a) and Clause 4, it is recommended that the following mechanism is used.

The coding system specification should define each *code value* in the registered coding system as a combination of a *code value* allocated by the Responsible Organisation and the date on which it became valid for a particular *code meaning*. The representation of the date on which the code value became valid should be defined in the coding system specification and may be a partial date (for example month and year only) provided that the frequency of updates to the coding system could not result in ambiguity. This is in accord with the provisions of 9.2, sub-clauses j) and l) of the Standard.

In any information exchange in which a HCD indicates the use of a coding system registered in this way, each *code value* associated with that HCD will include the date of start of validity allocated by the Responsible Organisation. The representation of the date within the *code value* will be in accord with the coding system specification and therefore each *code value* will have an unambiguous association with the *code meaning* allocated to the code value on that date.

D.8 Extension of coding systems

Extending a coding system by allocating new *code values* which have not previously been associated with a *code meaning* constitutes a change which justifies a new registration. Applications may need to handle the exceptional case where a *code value* in a received message is not recognised but this does not constitute a threat of misinterpretation in the way that may occur with the allocation of a new *code meaning* to an existing *code value*.

In some health sectors several new terms come into use every month (e.g. new drugs, new procedures etc.). Coding systems (particularly in clinical and technical areas) need to incorporate these terms rapidly to avoid delaying or distorting data capture and representation. Insisting on new registration for each extension of every coding system would therefore be impractical. However there is nothing in the document that should prevent an Responsible Organisation from requesting a new registration and the allocation of a new HCD even when this is not necessary for compliance with this document.

Bibliography

ISO/IEC 2382-4:1999 *Information technology - Vocabulary - Part 4: Organisation of data*

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