SLOVENSKI STANDARD
SIST ENV 12537-1:2003

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Medicinska informatika – Registracija informacijskih objektov v elektronski izmenjavi podatkov (EDI) v zdravstvenem varstvu – 1. del: Register

Medical informatics - Registration of information objects used for EDI in healthcare - Part 1: The Register

Medizinische Informatik - Registrierung von Informationsobjekten für den elektronischen Datenaustausch (EDI) im Gesundheitswesen - Teil 1: Register

Informatique de santé - Enregistrement d'objets d'information utilisés pour l'échange de données informatisé dans le domaine de la santé - Partie 1: Registre

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Prestandard has been prepared by Technical Committee CEN/TC 251 "Medical informatics", the secretariat of which is held by IBN.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this European Prestandard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The standard is published in two parts. This part specifies the information to be registered for information objects used in electronic data interchange (EDI) in healthcare.

Part 2 specifies the procedures for the operation of registration authorities. It incorporates a description of the software required to support the practical application of this European Prestandard.

Annex A of this Part is normative. Annexes B, C, D, E, F, G are informative.

Introduction

The following Introduction wording is also used in Part 2.

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 healthcare increases it is essential to provide appropriate data interchange standards.

All the methods of electronic data interchange (EDI) currently in use require the division of the information to be interchanged into suitable components, which are then identified in some way so that the receiving system can recognize them and process them appropriately. The components are assembled into messages, each message representing a transaction or being equivalent to a form in paper based working methods.

In the context of this European Prestandard a component may range from a data element, which is a unit of data normally considered to be indivisible, through logically associated groups of data elements, to complete messages. All are information objects.

The rapid growth in EDI is resulting in the almost simultaneous development of systems each designed to satisfy the requirements of a particular application area. Unfortunately these uncoordinated developments also result in unnecessary variations in the manner in which information is represented, identified, named and described. The use of identical identifiers and names for different data concepts introduces a serious risk of misunderstanding and confusion when data is exchanged between application areas which have developed independently. In the English

language the term "date of delivery", for example, may represent entirely different concepts for gynaecologists and couriers.

This European Prestandard describes a procedure by which the components and messages required to facilitate the use of EDI in support of healthcare may be registered and allocated an internationally unique identifier. This European Prestandard also specifies how components when registered may be included in a widely available International Register which is so indexed and constructed that those designing EDI messages can ascertain easily whether a component or message which is suitable for their purposes already exists.

If it is established that new components or messages are essential the procedures for registration specified in this European Prestandard are designed to encourage their derivation from existing entries with appropriate modifications thus avoiding unnecessary variations in the way similar data concepts are represented. Registration will also enable synonyms, i.e. two or more information objects serving an identical function, to be identified. Perhaps most importantly, it will highlight the situations where similar or identical names are in use for EDI information objects which are significantly different in one or more respects.

The procedures specified in this European Prestandard recognize that the development of EDI messages is a dynamic and fast moving process and may involve the use of more than one syntax. They are therefore designed to be syntax independent and also to minimize administrative delay.

This European Prestandard is based on work within CEN TC 251 which uses a domain information model (DIM) as a basis for the design of EDI messages. It also draws on work within ISO.

1 Scope

This part of the European Prestandard specifies the information to be registered for information objects used in EDI for the purpose of information interchange related to healthcare.

The information objects and the information relating to them are recorded in a way which is designed to be independent of interchange format and to facilitate the use of the information objects to construct implementable message specifications.

This European Prestandard does not cover the registration of information objects which fall within layers 1-7 of the Basic Reference Model of Open Systems Interconnection ISO 7498, nor does it specify the data base software, programming languages, file organization, storage media, etc., to be used for the establishment and maintenance of the Register.

> NOTE: Although the scope of this European Prestandard is confined to EDI in support of healthcare the provisions are intended to be capable of application to EDI universally.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this European Prestandard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the

standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7498:1994, *Information Technology - Reference Model -Part 1: Basic Reference Model.*

ISO/IEC 8824:1990, *Information technology - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1).*

3 Definitions, symbols and abbreviations

For the purposes of this European Prestandard, the following definitions apply.

3.1 information object: A well defined piece of information, definition or specification which requires a name in order to identify its use in an instance of communication. [ISO/IEC 8824:1990]

3.2 object identifier: A value (distinguishable from all other such values) which is associated with an information object. [ISO/IEC 8824:1990]

3.3 requesting organization: An organization recognized by a sponsoring authority as having a requirement to register EDI information objects for use in inter-organizational electronic data interchange for the purposes of healthcare

3.4 the Register: The register of information objects maintained in accordance with this European Prestandard

3.5 Registration Authority (RA): The body responsible for maintaining the Register of information objects and for the issue of Numeric EDI Information Object Identifiers (NOIs).

3.6 sponsoring authority: A body recognized in accordance with the requirements of this European Prestandard to receive proposals for the registration of information objects and to submit applications to the Registration Authority.

4 Registration of EDI information objects

4.1 Requirement for registration

The requirement for the registration of EDI information objects is discussed in informative Annex D and the information to be registered is specified in normative Annex A.

4.2 Provision of information in the Register

Electronic Data Interchange Information Objects registered under the provisions of this European Prestandard shall each be assigned a Numeric (EDI) Information Object Identifier (NOI) by the Registration Authority. The information specified in A.2.16 to A.2.18, and A.2.20 to A.2.25 of Annex A is generated during the process of registration. All the other information specified in Annex A shall be provided by the requesting organization.

4.3 Character set

Except as provided in the following paragraph an entry in the Register shall consist of the following characters only. They constitute the PrintableString specified in ISO/IEC 8824 and they have been selected because they are consistently rendered on a wide range of equipment.

Capital letters	A to Z
Small letters	a to z
Digits	0 to 9
Space	(space)
Apostrophe	'
Left parenthesis	(
Right parenthesis	)
Plus sign	+
Comma.	,
Hyphen	-
Full stop	.
Solidus	/
Colon	:
Equal sign	=
Question mark	?

4.4 Extending the character set

Where it is required to specify the value of another character string all the characters of the defined character string shall appear in the Register surrounded by the characters " whether they occur in the above set or not. However, it is important to recognize that such characters may not be displayed or printed in the same way on all equipment, e.g. £ and $ frequently share the same bit encoding. The possibility of an inconsistent rendering of the Register occurring when it is distributed in machine readable form shall therefore be carefully considered if characters not forming part of the above set are included in Register entries.

5 Numeric EDI Information Object Identifier (NOI)

5.1 The NOI value

The NOI value shall be numeric and have a fixed length of six unsigned digits. It shall conform to the specification of A.2.1 of normative Annex A.

The omission of leading zeros is permitted if the values are used as identifiers for EDI information objects when used to interchange data.

5.2 Assignment of the NOI

The NOI values shall be assigned to EDI information objects by the Registration Authority in accordance with the procedure specified in Part 2 of this European Prestandard. Every NOI shall be unique within the Register.

5.3 Reallocation of NOI values

To guarantee unique identification of each EDI information object a NOI value once assigned shall not be reallocated during the period in which the previously assigned value might be in use. In the absence of specific information this period shall be assumed to be fifty years.

6 EDI Information Object Name (ION)

6.1 Naming the EDI Information object

The ION is a name provided by the requesting organization which is designed to aid human recognition of the EDI information object. Guidance on the formulation of names is given in informative Annex E.

6.2 Renaming EDI information objects

Once an information object has appeared in a published version of the Register the ION shall not be changed. 'Published', for this purpose, shall mean distributed and made available in such a manner that the information object may have been used.

6.3 Alternative names for EDI information objects

The ION developed in accordance with informative Annex E may appear inconveniently long or user unfriendly particularly in application areas where another name, which is well understood, is usually used for the concept. The name then does not need to reflect the concept in detail for those familiar with the application area. However, it may be preferable to use an alternative name in such circumstances rather than develop a simplified ION which omits characteristics of the EDI information object and may be misleading for those that are not familiar with the application area.

Whilst the use of the ION is to be preferred as the name of the EDI information object, it may not be compatible with all EDI syntaxes. An alternative name which is compatible with the particular syntax may then have to be used for the purposes of message design.

This European Prestandard permits the use of one or more alternative names as specified in A.2.3 of normative Annex A.

7 Definition of EDI Information Objects

7.1 Guidance on the definition of EDI information objects

Guidance on the definition of EDI information objects is given in informative Annex F.

8 Keywords

8.1 Function of keywords

The keywords are provided by the requesting organization. Their provision is optional. Their function is to assist the retrieval of the entry during computerised searches where the ION and

alternative names may not reflect all the concepts embodied in the object or where the object may be described in alternative terms.

9 Child EDI information objects

9.1 Definition of a child EDI information object.

A child information object is an EDI information object which is based on another EDI information object, the parent object. The child shall have an identical composition to the parent except that the minimum and maximum values of occurrences of components of the child may vary but only within the range of occurrences specified in the equivalent component of the parent.

9.2 Creation of child EDI information objects.

Child EDI information objects shall be created by entering the NOI of the selected parent EDI information object in the Parent NOI field of a new EDI information object which is otherwise blank except for its own NOI. The Parent NOI field is specified in A.2.10.1 of normative Annex A.

If the selected parent EDI information object is itself a child an error message shall be displayed otherwise the system shall bring forward all the information from the parent except its NOI and its own Parent NOI information thus creating a new born child. The new born child may be edited except for its NOI, its parent NOI and its composition which shall only be edited as follows.

The minimum and maximum occurrences of the components of a new born child may be edited except that no minimum occurrences shall be reduced and no maximum occurrences shall be increased. The composition shall not otherwise be edited.

When editing of the new born child is complete and it is stored as a new entry in the Register it shall be subject to the constraints on editing specified in the following sub-clause.

9.3 Amending child EDI information objects.

A child EDI information object may be amended in the Register subject to the same constraints as any other EDI information object. The items to which no changes shall be made are specified in 8.4 of Part 2 of this European Prestandard.

9.4 Printing and displaying child EDI information objects.

When child EDI information objects are printed or displayed any information in the parent EDI information object shall be brought forward and displayed if the equivalent area of the child is blank.

Information brought forward from the parent shall be distinguished from information held in the child in a manner to be determined by the Registration Authority. Suitable methods include, but are not confined to, the use of a different type face or background.

10 Formal definition of EDI information objects

10.1 Incorporation of a formal definition

The use of a formal notation to specify each EDI information object for inclusion in the Register is not mandatory but it is recommended.

Additional comment on this subject and the identification of EDI objects registered in accordance with this European Prestandard is given in informative Annex G.

Annex A (normative)

The Register of EDI Information Objects

A.1 Introduction.

The order in which items are listed in this annex shall not imply any constraint on the implementation of the Register or the order in which information is displayed or printed.

At the option of the Registration Authority the information specified in A.2.14.1, A.2.14.2, A.2.20 and A.2.21 may be omitted for the individual entries and be replaced by a reference to the information held elsewhere in the Register. The information specified in A.2.22 to A.2.25 may be omitted from distributed versions of the Register.

Where the descriptive specification omits reference to the permissible instances or maximum number of characters there shall be no fixed upper limit. The values shall be determined by the requirements of the entry.

If an entry includes a decimal value it shall be in accordance with ISO 31-0. This recognizes the use of either the comma [,] or full stop [.] as a decimal indicator. Of these the comma is the preferred symbol. If the number is less than unity the decimal sign shall be preceded by zero. Triad separators shall not be used.

The following terms shall have the meanings specified for the purposes of "Type of characters" as used in this annex

- alpha	the letters "a" through to "z" and "A" through to "Z", "space" and any other characters of the character set specified in 4.3 except those specified as numeric
- numeric	the figures "0" through to "9"
- Alphanumeric	the characters specified in both the foregoing types

Where characters or a range of characters is specified against "Type of characters" only those characters shall be used.

If Register entries are also specified in a formal notation there should be no difference in meaning between the textual and formal specification but if any discrepancies are detected in use the Registration Authority shall determine which shall prevail after consultation with the sponsoring authority and the requesting organization.

A.2 Register entries

Each register entry shall consist of the following:

A.2.1 Numeric EDI Information Object Identifier

Abbreviated name	NOI.
Definition	A unique identifier of an EDI information object which is allocated by the Registration Authority in accordance with the provisions of Parts 1 and 2 of this European Prestandard and is unique within the Register.
Obligation	Mandatory.
Permissible instances	1.
Type of characters	Numeric.
Number of characters	6.
Comments	See clause 5.

A.2.2 Registered EDI Information Object Name

Abbreviated name	ION.
Definition	A name determined by the requesting organization as the principal name to identify the EDI information object for the purpose of registration.
Obligation	Mandatory.
Permissible instances	1.
Type of characters	Alphanumeric.
Comment	Guidance on the determination of names is given in informative Annex E.

A.2.3 Alternative name for an EDI information object

Abbreviated name	None.
Definition	A name in common use to refer to the EDI information object appearing in another data directory or register or a recognized book of reference or an International or European Standard or in common use in the application area. It may also be a name included to comply with the requirements of a particular syntax or programming language together with the name of the syntax or language for which it is intended.