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Health infomatics — Medication management concepts and definitions

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 215, *Health informatics*.

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Introduction

The approach of this document is first to explain the logical steps in a medication therapy of a patient and to state which data elements are required at that step and what is done with the data. The best definition that would fit at that stage of medication therapy was identified. It was noticed that where a listing of definitions that the interpretations of the various terms were to be made, this would lead to endless discussion of the meaning of the terms.

IHE pharmacy, HL7 Pharmacy and ISO/TC 215 have been convening frequently and noticed that each individual had a different interpretation of the terms used. As SDOs where communication of medication information is the core purpose of these organizations, it is of course vital to understand what a noun means so that all persons have a common understanding of the words used. Terms that have composite ingredients are to a certain extent arbitrarily defined, but this document contains the definitions that are agreed on by HL7 pharmacy, IHE Pharmacy and ISO/TC 215.

The scope in the first stage will be on the definitions of composite information, such as lists. This will be set against the workflow and process in medication therapy.

Communicating information by means of IT can be separated into four layers:

1) The conceptual meaning of terms

2) The content and characteristics of terms

3) The container of information.

4) The communication of information.

The fourth and bottommost layer is the physical distribution of the information, such as pull or push mechanisms. The logistical aspects are not in the scope of this document, nor is the method or required infrastructure to obtain the information part of this document.

The third layer defines how the content is formatted so that senders and receivers can recognize the elements of the content. Examples are CDA documents, HL7v3 or HL7v2 messages. This document is not intended to go into this matter.

The second layer from the top is also called the syntax layer. It defines the content of a term. Some of these elements in the content will be optional. In the context of this document the term syntax refers to the rules governing the composition of meaningful elements. As an example the geographical coordinates (i.e. 41°24′12.2”N 2°10′26.5”E) could have been chosen as the syntax for a location, but it could as well be a street, number, postal code and city as the preferred notation of a logical address. This document is not intended to dive into the syntax of the medication terms.

The top layer is also called the semantic layer. This document focuses on this layer. The intention is to understand the meaning of a term. The result should be, that when a term as “unreconciled medication list” is used, that all readers should interpret the term in the same manner. The context in which the information is exchanged is also of importance for the concept. As an example a medication list for an intake into a mental ward could put more emphasis on other data than a medication list for discharge at a general hospital.

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Health infomatics — Medication management concepts and definitions

1 Scope

The purpose of this document is to define the various concepts and terminologies used in the pharmacy domain when applied to the topic of creating medication lists from existing data.

2 Normative references

There are no normative references in this document.

NOTE For future considerations, the terms from ISO 13940 will be considered.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
contraindication
contra-indication
condition or factor that increases the risk involved in using a particular drug, carrying out a medical procedure, or engaging in a particular activity

Note 1 to entry: Pursuing the intention is inadvisable.

[SOURCE: IHE Pharmacy, Standard terminology, modified]

3.2
dispensing
process of validation of the electronic prescription, preparation of the medicinal product, labelling, informing and handing the medication to the patient or administering healthcare professional

[SOURCE: ISO 17523:2016, 3.2]

3.3
health concern
health-related matter about a patient that is of interest, importance or worry to someone

Note 1 to entry: This someone may be the patient, the patient's family or a patient's healthcare provider.

Note 2 to entry: A health concern is sometimes called a problem concern. A difference is that a problem concern is mostly related to one diagnosis, while a health concern can change overtime as the situation of the patient aggravates, for example from a simple cough, to pneumonia ending in COPD.

[SOURCE: HL7 929, Health Concern Domain Analysis Model v.3, September 2015]

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3.4
medication administration
application of medicine to a subject of care

Note 1 to entry: In general only the medication administration that is registered in a system is taken into consideration.

[SOURCE: IHE Pharmacy: Standard terminology, modified]

3.5
medication
substance that has an intended therapeutic effect on a patient and may influence the medication safety of a patient

Note 1 to entry: This would include prescribed, but also non-prescribed medication such as cough syrups. A placebo has the intent of a therapeutic effect and is thus considered medication. Alcoholic beverages however also influence medication safety, but are not considered to be medication because they do not have the intent of giving therapy.

3.6
medication management
act of exercising directives on the medication of a patient

Note 1 to entry: It includes reviewing the medication profile of a patient, providing new medication therapies, adjusting or stopping existing therapies and evaluating its outcome.

3.7
medication statement
declaration given by the subject of care or a third party about the usage or non-usage of medicine by the subject of care

Note 1 to entry: The primary information is about the medication, but it may include supporting information about observations and conclusions, for example reasons for diverging from the intended dosage.

[SOURCE: IHE Pharmacy, Standard Terminology]

3.8
prescription
set of values or attributes that is produced as the output of a prescription act

Note 1 to entry: A prescription is a set of instructions written by a prescriber that authorizes a medicinal product or treatment to be given to a patient. It is a) an instruction by an authorized healthcare professional, b) a request to dispense by an authorized healthcare professional and c1) advice to a patient on his/her medication treatment, or c2) an instruction to administer by an authorized healthcare professional.

Note 2 to entry: The word “prescription” is sometimes used when referring to the act of prescribing - “prescription process”. To avoid confusion with the term “prescription” as an information object, throughout this document the word “prescription” is reserved for the information object. For the act of prescribing, the term “prescribing” is used.

Note 3 to entry: An older definition of prescription can also be found in ENV 13607: “Direction created by an authorized healthcare person, to instruct a dispensing agent, regarding the preparation and use of a medicinal product or medicinal appliance to be taken or used by a subject of care”. This definition is more appropriate when referring to the act of prescribing.

[SOURCE: ISO 17523:2016, 3.7]

3.9
sex
biological background of a patient

Note 1 to entry: This is as opposed to gender, which is the preference of the patient.

Note 2 to entry: The biological background is considered to be more relevant for the purpose of medication management.

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