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AMENDMENT 1
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Health informatics — Point-of-care medical device communication —

Part 10101: **Nomenclature**

AMENDMENT 1: Additional definitions

Informatique de santé — Communication entre dispositifs médicaux sur le site des soins —

Partie 10101: Nomenclature

AMENDEMENT 1: Définitions supplémentaires

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IEEE Std 11073-10101a™-2015
(Amendment to
ISO/IEEE 11073-10101:2004)

Health informatics—Point-of-care medical device communication

Part 10101: Nomenclature

Amendment 1: Additional Definitions

Sponsor

IEEE 11073™ Standards Committee
of the
IEEE Engineering in Medicine and Biology Society

Approved 5 December 2015

IEEE-SA Standards Board

Abstract: Within the context of the ISO/IEEE 11073 family of standards for point-of-care (POC) medical device communication (MDC), the nomenclature defined by the base ISO/IEEE 11073-10101:2004 nomenclature standard is extended by this amendment. Significant extensions to support haemodynamics, respiration, ventilation and anesthesia monitoring, blood gas, urine, fluid-related metrics, and neurology, as well as units of measurements and measurement sites, are included. Formal definitions for observation identifiers used by the IEEE 11073 Personal Health Device standards and additional attributes for reporting their regulatory and certification status are also captured and provided. Information attributes to support alert communication and accurate medical device time synchronization and timekeeping are also defined.

Keywords: alert communication, anesthesia, blood gas, codes, Continua, fluid-related metrics, haemodynamics, IEEE 11073-10101a, IHE PCD, information model, ISO/IEEE 11073-10101, measurement sites, medical device certification, medical device communication, neurology, nomenclature, NTP, ontology, patient, PCHA, Personal Connected Health Alliance, POC, point-of-care, respiration, semantics, service model, terminology, time synchronization, timekeeping, units of measure, urine, ventilation

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The following members of the individual balloting committee voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

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Introduction

This introduction is not part of IEEE Std 11073-10101a™-2015, Health informatics—Point-of-care medical device communication—Part 10101: Nomenclature—Amendment 1: Additional Definitions.

ISO/IEEE 11073 standards enable communication between medical devices and external computer systems. They provide automatic and detailed electronic data capture of patient vital signs information and device operational data. The primary goals are to:

— Provide real-time plug-and-play interoperability for patient-connected medical devices

— Facilitate the efficient exchange of vital signs and medical device data, acquired at the point-of-care, in all health care environments

This amendment extends the nomenclature originally defined by the base IEEE Std 11073-10101:2004 nomenclature standard. It reflects the continued innovation in medical device and system design for the past decade and is based on a highly successful collaboration with the following organizations:

— Integrating the Healthcare Enterprise (IHE) Patient Care Devices (PCD) domain

— Personal Connected Health Alliance (PCHA, formerly Continua Health Alliance)

— ISO/TC 121, Anaesthetic and respiratory equipment, Subcommittee 4, Terminology and semantics

In addition, other vendors and standards development and profiling organizations have contributed to and have recognized the value of this work and the benefit it provides to the user and provider communities and to the patients that we ultimately serve.

This nomenclature amendment includes significant extensions to support:

— haemodynamics

— respiratory, ventilation and anesthesia monitoring

— blood gas, urine, fluid chemistry and other fluid-related metrics

— neurology

— units of measurements and measurement sites

— new medical device types, including infant warmers and incubators

This amendment also provides:

— formal definitions for observation identifiers used by IEEE 11073 Personal Health Devices

— attributes for reporting medical device regulatory and certification status

— attributes to support alert communication

— attributes to support accurate medical device time synchronization and timekeeping

NOTES as used in this amendment (preceding editorial instructions) are not meant to be included in the rollup or part of the editorial instructions. They are used solely to provide informative guidance and background to the reader as to why certain changes were made.

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NOTE—The editing instructions contained in this **amendment** define how to merge the material contained therein into the existing base standard and its amendments to form the comprehensive standard.

The editing instructions are shown in ***bold italic***. Four editing instructions are used: change, delete, insert, and replace. ***Change*** is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using ~~strikethrough~~ (to remove old material) and underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this NOTE will not be carried over into future editions because the changes will be incorporated into the base standard.

4. Terms and definitions

Replace the boilerplate paragraph (and its footnote) with the following sentence as shown. Renumber footnotes accordingly.

For the purposes of this document, the following terms and definitions apply. The *IEEE Standards Dictionary Online* should be consulted for terms not defined in this clause.[1]

Insert the following new terms and definitions in alphabetical order:

base term: A fundamental semantic concept.

co-constraint: A rule describing a constraint whose scope is inclusive of more than one term.

constraint: A restriction on the set of values being assigned.

discriminators: A mechanism to provide additional semantic refinement to multiple base terms.

domain information model (DIM): The model describing common concepts and relationships for a problem domain.

electronic health records: A longitudinal collection of electronic health information about individual patients or populations. It is a record in digital format that is capable of being shared within or across different health care settings by being embedded in network-connected enterprise-wide information system.

reference ID (REFID): A unique, symbolic, and programmatic form for the term. The form is correlated to the context-free code (i.e., terms are by definition context-free with respect to all other terms); in this standard, terms are prefixed with "MDC_" for consistency.

systematic name: An organization of differentiating, relational descriptors that are unique for each term.

terminology: A synonym for nomenclature.

5. Symbols (and abbreviated terms)

Insert the following abbreviated terms into the existing list, in alphabetical order:

aka	also known as
DIM	domain information model
ECG	electrocardiogram
HL7	Health Level Seven
ID	identifier

[1] IEEE Standards Dictionary Online subscription is available at: http://www.ieee.org/portal/innovate/products/standard/standards_dictionary.html.

IHE PCD	Integrating the Healthcare Enterprise Patient Care Devices
MDC	Medical Device Communication
PCHA	Personal Connected Health Alliance (formerly Continua Health Alliance)
PHD	IEEE 11073 Personal Health Device series of communication standards, including the IEEE Std 11073-20601 base standard and -104XX Device Specializations
REFID	IEEE 11073 reference identifier
typ	typical