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PD ISO/TS 17938:2014



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Health informatics — Semantic network framework of traditional Chinese medicine language system

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee IST/35, Health informatics.

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

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ISBN 978 0 580 79376 9

ICS 35.240.80

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 June 2014.

Amendments issued since publication

Date	Text affected

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PD ISO/TS 17938:2014

TECHNICAL SPECIFICATION

ISO/TS 17938

First edition
2014-06-15

Health informatics — Semantic network framework of traditional Chinese medicine language system

Informatique de santé — Cadre de réseau sémantique du système de langage de la médecine traditionnelle chinoise

Reference number
ISO/TS 17938:2014(E)

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Published in Switzerland

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Terms and definitions **1**
3 Semantic networks **2**
3.1 General 2
3.2 Principles of terminology naming and definition 2
3.3 Semantic types 2
3.4 Semantic relationship 8
Annex A (informative) **Semantic types structure** **12**
Annex B (informative) **Semantic relationship structure** **14**
Bibliography **15**

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Foreword

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The committee responsible for this document is ISO/TC 215, *Health informatics*.

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Introduction

This Technical Specification constitutes preparatory work for the development of a standard for semantic network framework of the Traditional Chinese Medicine Language System.

This Technical Specification is based on the needs of semantic networks of the Traditional Chinese Medicine Language System (TCMLS). This Technical Specification describes the semantic relations of traditional Chinese medicine associated with the semantic concepts, terminology, and the definition of semantic networks.

Historically, the application and development of traditional Chinese medicine (TCM) has continued for a long period of time and the terms used vary in different geographical contexts over time. In the past, it was less problematic for information processing because information exchange and integration were rare. But recently, there has been a greater need for information integration processing and exchange between different organizations, while still maintaining the accurate and unified meaning of messages. Automated machine-aided information processing is now becoming more important, and so the establishment of standardized concepts and relationships of TCM terms becomes important.

TCMLS consists of TCM terms, language translation, natural language processing, and language standardized tools. The core of TCMLS is the semantic network of TCM concepts, which facilitates machine processing.

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1 Scope

This Technical Specification defines the structure of the semantic network by describing the semantic types and semantic relations of TCM language system.

This Technical Specification is intended to:

a) support establishment of Unified Semantic Modelling TCM Language System;

b) support develop of standardized TCM concepts and relationships of concepts;

c) provide a conceptual framework for the concept representation of TCM Language;

d) support improvement in the processing of natural language by computer systems.

This Technical Specification has been developed for the first time. The initial content described below is intended to be used as a starting point for the application of the content in the information system.

2 Terms and definitions

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

2.1
traditional Chinese medicine
traditional medicine that originated in China, and is characterized by holism and treatment based on pattern identification/syndrome differentiation

Note 1 to entry: Adapted from WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region.

2.2
Traditional Chinese Medicine Language System
TCMLS
language system that is designed to facilitate the development of computer systems that understand the meaning of the natural language of traditional Chinese medicine, containing two sections in TCMLS, TCM terms dictionary, and the semantic network

2.3
semantic networks
modelling framework that consists of (1) a set of broad subject categories, or semantic types, that provide a consistent categorization of all concepts represented in the TCMLS, and (2) a set of useful and important relationships, or semantic relations, that exist between semantic types

Note 1 to entry: The semantic network contains 96 semantic types and 58 relationships.

2.4
semantic type
node in the semantic network, which helps to organize concepts in hierarchy and assign at least one attribute for every concept

Note 1 to entry: A semantic type is mainly classified into entity and event.

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