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Health informatics — Token-based health information sharing

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Foreword

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 www.iso.org/iso/foreword.html.

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The interexchange of patient health information between healthcare facilities is important for both patients and the facilities to ensure the continuity and safety of healthcare and to reduce unnecessary examinations. Exchange of health information using IHE XDS is known as an effective solution for accessing patient health information in real-time when needed to provide care.

NOTE 1 Integrating the Healthcare Enterprise (IHE) Cross-enterprise Document Sharing (XDS) architecture and specifications. See Annex A for more information.

However, the ability to share information using IHE XDS technologies tends to require high cost to build and maintain the necessary infrastructure, and it is sometimes difficult for each healthcare facility to create the operational policy for the interoperable exchange of patient health information using that infrastructure. Therefore, media such as CD / DVD continues to be used for exchanging images and other health information (e.g. examination report, lab results, prescriptions, etc.).

In token-based health information sharing, each HI-TOKEN (health information token) contains metadata of a health information document stored in a repository. The HI-TOKEN includes the document ID, which identifies the specific document to be shared. Therefore, there is no need to search for the document using, for example, patient identifying information as search keys. This saves time for the recipient to locate and retrieve the shared document.

A HI-TOKEN can be provided to the patient, who can provide it to the referred healthcare facility at his / her discretion. The referred healthcare facility can then use the HI-TOKEN to retrieve the shared document. This process has the additional advantage that it allows the patient to provide implicit consent for the information exchange in that they are in full control of providing the HI-TOKEN to the receiving care service provider.

Standardization of HI-TOKEN metadata and exchange formats minimizes the potential differences in interpretation between vendors implementing the corresponding systems, thereby contributing to the overall improvement of interoperability.

NOTE 2 Annex B provides an example implementation and data flow for a health information sharing system using HI-TOKEN based exchange, including data content and token format examples.

Health informatics — Token-based health information sharing

1 Scope

This document specifies the data element content and exchange format for tokens used in token-based health information sharing. It includes

a) the data items that may be contained in a health information token (HI-TOKEN),

b) the value representation for each data item,

c) the exchange formats allowed for HI-TOKEN sharing (electronic, machine-readable symbol, print), and

d) considerations when establishing governance policies specifying how HI-TOKENs can be used within a specific group of healthcare organizations.

Provision is made for both physical media and electronic exchange media.

This document addresses the overall conceptual architecture and process for token-based health information sharing, as well as the role of patients, referring healthcare facilities, referred healthcare service providers, and health research institutions. Provision is made for pseudonymization of patient data.

This document only defines the specification of the HI-TOKEN used in token-based health information sharing. Data exchange / transport architectures, encryption methods, and specific governance policy requirements are outside the scope of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

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 https://www.iso.org/obp

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

3.1
metadata
attributes and related information about a set of data