
**Health Informatics - Methodology for
analysis of business and information
needs of health enterprises to support
standards based architectures**

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/TS 22272:2021](https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021)

<https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/TS 22272:2021](https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021)

<https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Why the BIA methodology is useful in healthcare	2
5 Efforts to achieve the business vision	4
5.1 The business mission, vision, holistic view and strategies	4
5.2 Different steps in analysis work and change management	7
5.3 Fundamental areas within healthcare as a system	9
5.4 Time dimensions in the BIA methodology	10
5.5 Focus of the BIA methodology and business aspects	12
5.6 The basic concepts in the BIA methodology	14
6 The route to semantic interoperability	15
6.1 A mutual understanding of the business	15
6.2 Prerequisites for a semantic interoperability	16
6.3 Why is a common methodology for analysis needed?	17
7 Business and information needs analysis	17
7.1 General	17
7.2 Steps in the BIA methodology	17
7.3 Goals, objectives and stakeholder analysis	20
7.3.1 Purpose of stakeholders and objectives analysis	20
7.3.2 How do you do this?	22
7.3.3 Model notation	22
7.4 Process analysis	22
7.4.1 Analysis of processes from a value processing perspective	22
7.4.2 Types of processes	23
7.4.3 Dependencies	25
7.4.4 Value process components	26
7.4.5 Value process criteria	26
7.4.6 Quality aspects	27
7.4.7 Purpose of the process analysis	28
7.4.8 How do you do this?	28
7.4.9 Process model symbols	29
7.4.10 Analysis of processes from a collaborative perspective	30
7.4.11 Purpose of the method step	30
7.4.12 How do you do this?	30
7.4.13 Notation of a process model from a collaborative perspective	31
7.5 Concept analysis	31
7.5.1 Purpose of the method step	31
7.5.2 How do you do this?	32
7.5.3 Concept model notation	32
7.5.4 Concept analysis and terminology work	32
7.6 Information analysis	32
7.6.1 Two parts of an information analysis	32
7.6.2 Information needs analysis	33
7.6.3 Purpose of the method step	33
7.6.4 Notation in the model for information needs	33
7.6.5 Information structure analysis	33
7.6.6 Purpose of the method step	34
7.6.7 How do you do this?	34
7.6.8 Information model notation	34

7.7	Analysis of code systems, classifications and terminologies.....	34
7.7.1	Purpose of the method step	34
7.7.2	How do you do this?	35
8	BIA methodology supports standards based business and information architectures.....	35
8.1	BIA methodology supports creating branch frameworks	35
8.2	ISO 13940 as a conceptual basis for the business architecture in healthcare	39
8.3	EN 15224 as a basis for a clinical process oriented business architecture	41
8.4	Combining ISO 13940 and EN 15224 as a common basis for creation of a business architecture in healthcare	42
8.5	Standards based information architecture.....	43
8.6	ISO 13606-3 as a basis of content of the information architecture.....	43
9	BIA methodology as a driver for an effective requirements-settings work.....	45
9.1	Methodology and development process.....	45
9.2	Business-driven ICT development.....	46
9.3	General development process overview.....	46
9.4	Business and information analysis deliverables.....	48
9.5	A development process using BIA methodology through BIA function	49
9.5.1	General.....	49
9.5.2	Information.....	49
9.5.3	Introduction.....	49
9.5.4	Reconciliation.....	50
9.5.5	Examination.....	51
9.5.6	Delivery receipt.....	52
Annex A (Informative)	Examples of notation in the different model types	54
Annex B (Informative)	Ogden's triangle approach as a bases of concept analysis	59
Annex C (Informative)	Business and information analysis on Healthcare guide 1177 by phone.....	60
Bibliography		72

ISO/TS 22272:2021

<https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021>

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).

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.

ISO/TS 22272:2021

<https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021>

Introduction

Healthcare organizations need to have coordinated and systematic methodologies for business management, quality management and information management. These methodologies also support creating of a coherent business and information architectures as one of the prerequisites for achieving semantic interoperability in both the healthcare enterprises and their information and communications technology (ICT).

Healthcare is a business sector where high quality information is crucial for the quality of the services delivered. In healthcare it is critical to be able to share information between different healthcare providers regionally, nationally and sometimes also internationally. Therefore, business and information architectures should be coherent and based on standards. To achieve this, an appropriate methodology should be used for creation of such architectures.

This document describes the methodology for analysis of business and information needs of health enterprises to support standards based architectures, BIA methodology. The purpose of the methodology is to provide an efficient business and information needs analysis for an optimal healthcare enterprise description in order to create a standards based business and information architectures.

The BIA methodology starts with describing of the organization's mission and vision.

The organization's mission defines the type of business to be conducted and its extent. A defined business always has a purpose to state why it exists.

The business vision drives the business forward, stating the direction for streamlining and thereby development of the business.

There should be a comprehensive holistic overview that describes the current state and the target state of the business and its information management, as well as how to move from the current state to the target state, thereby allowing the vision to be more easily achieved.

The BIA methodology is used for the analysis and descriptions of a defined business. The resultant descriptions comprise the basis for decisions made for different purposes, ranging from the production of a holistic overview as a basis for the business development, information supply, ICT strategies as well as ICT requirements-setting.

The methodology consists of several steps that analyse and describe different aspects of a business. It also defines how these aspects relate to each other in order to achieve an effective and lean analysis of the business and its information needs. The analysis results in descriptions of:

- Goals - long-term, strategic, wider goal, not precisely quantifiable
- Objectives - more short-term, on operational level, specific measurable
- Stakeholders - roles/actors/target groups that directly interact in the business or have an interest that business is operative
- Concepts - the concepts that are fundamental and anchored in the business
- Process from value processing perspective - patterns for action that shall ensure that the objectives are achieved
- Process from a collaboration perspective - crystallizing of the processing perspective that shows the business roles in collaboration
- Information needs – what type of information that business roles are needed in their collaboration
- Information structure - a comprehensive and structured description of the type of information managed by the different roles in the process

- Codes, classifications and terminologies - agreed and predefined values which describe a certain type of information related to a specific attribute in the information structure

Using an established and specific for healthcare system methodology ensures that the result is fit for its purpose, maintaining quality at a high level. It also increases opportunities for comparing and re-using different analytical results as well as producing an optimal business description which can be used for different purposes.

The BIA methodology also points out a number of International Standards to use as reference models in development of the standards based coherent business and information architectures.

This document is targeted at experts working with strategic issues such as devising a business goals, objectives and strategies as well as those working with the production of industry frameworks, creating of standards based business and information architectures, business and information analyses, information structuring and requirements setting for ICT or their information supply.

iTeh Standards (<https://standards.iteh.ai>) Document Preview

[ISO/TS 22272:2021](https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021)

<https://standards.iteh.ai/catalog/standards/iso/9ec95376-6522-44c9-b0ef-5c9cb81285b6/iso-ts-22272-2021>