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Health software

Part 1: General requirements for product safety



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- Australian Commission on Safety and Quality in Health Care
- Australian Digital Health Agency
- Australian Healthcare and Hospitals Association
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- Medical Software Industry Association
- Monash University
- NSW Ministry of Health
- Queensland Health
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Preface

This Standard was prepared by the Standards Australia Committee IT-014, Health Informatics.

The objective of this document is to provide requirements for the safety and security of health software products designed to operate on general computing platforms and intended to be placed on the market without dedicated hardware, with a primary focus on the requirements for manufacturers. It covers the entire lifecycle including design, development, validation, installation, maintenance, and disposal of health software products.

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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HEALTH SOFTWARE –

Part 1: General requirements for product safety

FOREWORD

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International Standard IEC 82304-1 has been prepared by subcommittee 62A: Common aspects of electrical equipment used in medical practice, of IEC technical committee 62: Electrical equipment in medical practice, and ISO technical committee 215: Health informatics.

It is published as a double logo standard.

The text of this standard is based on the following documents of IEC:

FDIS	Report on voting
62A/1140/FDIS	62A/1151/RVD

Full information on the voting for the approval of this part of this standard can be found in the report on voting indicated in the above table. In ISO, the standard has been approved by 21 P members out of 22 having cast a vote.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

Terms defined in Clause 3 of this standard are printed in SMALL CAPITALS.

For the purposes of this standard:

- “shall” means that compliance with a requirement is mandatory for compliance with this standard;
- “should” means that compliance with a requirement is recommended but is not mandatory for compliance with this standard;
- “may” is used to describe a permissible way to achieve compliance with a requirement; and
- “establish” means to define, document, and implement.

An asterisk (*) as the first character of a title or at the beginning of a paragraph or table title indicates that there is guidance or rationale related to that item in Annex A.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

NOTE The attention of National Committees is drawn to the fact that manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC or ISO publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests. It is the recommendation of the committee that the content of this publication be adopted for mandatory implementation nationally not earlier than 3 years from the date of publication.

INTRODUCTION

HEALTH SOFTWARE PRODUCTS, within the context of this document, are software-only products. These products are intended to be used with computing equipment not explicitly developed for running the software. HEALTH SOFTWARE PRODUCTS may require specified platforms.

HEALTH SOFTWARE PRODUCTS are intended by their MANUFACTURER for managing, maintaining or improving health of individual persons, or the delivery of care. Some HEALTH SOFTWARE can contribute to a HAZARDOUS SITUATION. Accordingly, Clause 5 requires a RISK MANAGEMENT process for all HEALTH SOFTWARE. For HEALTH SOFTWARE that can contribute to a HAZARDOUS SITUATION, RISK CONTROL is needed to prevent HARM or reduce the likelihood of HARM occurring. Testing of the finished product is not, by itself, adequate to address the SAFETY of HEALTH SOFTWARE. Therefore, requirements for the processes by which the HEALTH SOFTWARE is developed are necessary. This document relies heavily on IEC 62304:2006 and IEC 62304:2006/AMD1:2015 for the software development process which can be applied to HEALTH SOFTWARE PRODUCTS.

Whether a HEALTH SOFTWARE PRODUCT has to meet regulatory requirements is a matter of national legislation. This document makes no attempt to determine whether a HEALTH SOFTWARE PRODUCT is or should be regulated.

This document aims to provide requirements for the SAFETY and SECURITY of HEALTH SOFTWARE PRODUCTS; it can only provide such requirements for software-only products. Situations where HEALTH SOFTWARE is a part of—or embedded in—a physical device are outside the scope of this document as these combined products are considered separately in, for example, IEC 60601-1 and associated collateral and particular standards.

This document understands health in a meaning similar to the WHO definition: “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946). This definition appears not highly suitable for practical purposes: “a state of complete well-being” or the inclusion of social well-being could be interpreted more widely than seems reasonable. For example dating software, games, or flight simulator software could be considered within the scope of the standard. That is clearly not the intent. However, a precise definition – or even delineation – of “health” for practical use in “HEALTH SOFTWARE” is not available.

HEALTH SOFTWARE refers to software that contributes to the health of individual people as observed and/or demonstrated using measurable health parameters or clinical expertise. This is a subset of “health” as defined by the WHO. The requirements of the standard apply to the software that impacts such health parameters, and/or to software where SECURITY violations would undermine privacy or confidentiality of health and wellbeing information.

The reader is kindly referred to the Table A.1 for examples of what is in the scope and what is outside the scope of this document.

HEALTH SOFTWARE –

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1 Scope

1.1 Purpose

This Part of 82304 applies to the SAFETY and SECURITY of HEALTH SOFTWARE PRODUCTS designed to operate on general computing platforms and intended to be placed on the market without dedicated hardware, and its primary focus is on the requirements for MANUFACTURERS.

1.2 Field of application

This document covers the entire lifecycle including design, development, VALIDATION, installation, maintenance, and disposal of HEALTH SOFTWARE PRODUCTS.

In each referenced standard, the term “medical device” or “medical device software” is to be substituted by the term “HEALTH SOFTWARE” or “HEALTH SOFTWARE PRODUCT”, as appropriate.

Where the term “patient” is used, either in this document or in a referenced standard, it refers to the person for whose health benefit the HEALTH SOFTWARE is used.

IEC 82304-1 does not apply to HEALTH SOFTWARE which is intended to become part of a specific hardware designed for health use. Specifically, IEC 82304-1 does not apply to:

- a) medical electrical equipment or systems covered by the IEC 60601/IEC 80601 series;
- b) in vitro diagnostic equipment covered by the IEC 61010 series; or
- c) implantable devices covered by the ISO 14708 series.

NOTE This document also applies to HEALTH SOFTWARE PRODUCTS (e.g. medical apps, health apps) intended to be used in combination with mobile computing platforms.

1.3 Compliance

Compliance with this document is determined by inspection of all documentation required by this document.

Assessment of compliance is carried out and documented by the MANUFACTURER. Where the HEALTH SOFTWARE PRODUCT is subject to regulatory requirements, external assessment may take place.

Where this document normatively references parts or clauses of other standards focused on SAFETY or SECURITY, the MANUFACTURER may use alternative methods to demonstrate compliance with the requirements of this document. These alternative methods may be used if the process results of such alternative methods, including traceability, are demonstrably equivalent and the RESIDUAL RISK remains acceptable.

NOTE The term “conformance” is used in ISO/IEC 12207 where the term “compliance” is used in 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