



BSI Standards Publication

Ageing societies — Accessibility and usability considerations for home healthcare products, related services and environments

National foreword

This Published Document is the UK implementation of ISO/TR 25555:2024.

The UK participation in its preparation was entrusted to Technical Committee CH/314.

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

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

This publication is not to be regarded as a British Standard.

© The British Standards Institution 2024
Published by BSI Standards Limited 2024

ISBN 978 0 539 22394 1

ICS 11.020.10; 13.180

Compliance with a Published Document cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 January 2024.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------



Technical Report

ISO/TR 25555

Ageing societies — Accessibility and usability considerations for home healthcare products, related services and environments

*Vieillesse de la population — Considérations relatives à
l'accessibilité et à l'usabilité des produits de soins de santé à
domicile, services et environnements connexes*

**First edition
2024-01**

Reference number
ISO/TR 25555:2024(en)

Full document details: PD ISO/TR 25555:2024

© ISO 2024  **Documents**
Document Sharing Hub



COPYRIGHT PROTECTED DOCUMENT

© ISO 2024

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

© ISO 2024 – All rights reserved

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General considerations for increasing accessibility and usability	2
4.1 Safety and security	2
4.2 Cleanliness, disinfection and sterilization	3
4.3 Independence and autonomy of care recipients	3
4.4 Accessibility in general	3
5 Considerations on home healthcare products for increasing accessibility and usability	4
5.1 Operation	4
5.1.1 General considerations	4
5.1.2 Specific considerations	5
5.2 Information and marking	6
5.2.1 General considerations	6
5.2.2 Specific considerations	7
6 Considerations on services related to use of home healthcare products for increasing accessibility and usability	10
6.1 General considerations	10
6.2 Specific considerations	11
7 Considerations on environments for use of home healthcare products for increasing accessibility and usability	12
7.1 General considerations	12
7.2 Specific considerations	12
7.2.1 Lighting environment	12
7.2.2 Sound environment	13
7.2.3 Thermal and air quality environment	13
7.2.4 Others	13
Annex A (informative) Major home healthcare products and users	15
Annex B (informative) Examples of home healthcare products	18
Bibliography	24

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 314, *Ageing societies*.

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

With the increasing need for community-based integrated care to meet rapidly ageing societies, medical activities and healthcare services carried out at a home or a domestic environment have become commonplace. These activities and services can be referred to as home healthcare, whose aim is to provide quality of life that includes independence, autonomy, safety and security for older persons.

Various types of products, medical or non-medical, and their related services and environments are being used in home healthcare. Many older persons and non-professional caregivers are now users of these products. The variety of products and users can create challenges that are unseen in professional healthcare facilities. The biggest challenge of them all is that it is difficult to find relevant information from the existing design fields to accommodate, apply and use home healthcare products.

There is much information on accessibility and usability in existing international standards and guidelines involving major products' fields including medical products. However, these documents do not fully cover the home healthcare products and related services and environments. The problem, in particular, is that it is difficult and time consuming to locate relevant information from those design fields to accommodate and to apply home healthcare products.

This document summarizes and catalogues this information into one document for practical use. The information was obtained from existing International Standards, regional or global guidelines for products and medical equipment, and also is based on empirical feedback from home healthcare product users.

This document also provides caregivers and care recipients and those who develop and distribute home healthcare products with information useful for:

- solving problems regarding the use of these products by caregivers and care recipients who might lack sufficient expertise and skills in handling medical products and activities, and
- solving problems regarding the use of home healthcare products outside of medical facilities.

Ageing societies — Accessibility and usability considerations for home healthcare products, related services and environments

1 Scope

This document provides a collection of design considerations from existing international standards as well as best practices and observations obtained from the home healthcare field. This document is intended to be used as a reference for designing accessibility and usability of home healthcare products and associated services, and environments designed for non-professional users.

This document does not provide information on the use of home healthcare products by healthcare professionals regardless of the place and facility of use.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

accessibility

extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of *user* (3.9) needs, characteristics and capabilities to achieve identified goals in identified contexts of use

Note 1 to entry: Context of use includes direct use or use supported by assistive technologies.

[SOURCE: ISO 9241-112:2017, 3.15]

3.2

caregiver

person who provides physical and mental healthcare

3.3

care recipient

person who receives physical and mental healthcare

3.4**home healthcare**

healthcare provided in a dwelling place in which a *care recipient* (3.3) lives or other places where care recipients are present, excluding professional healthcare facility environments where operators with medical training are continually available when care recipients are present

Note 1 to entry: Professional healthcare facilities include hospitals, physician offices, freestanding surgical centres, dental offices, freestanding birthing centres, limited care facilities, first aid rooms or rescue rooms, multiple treatment facilities and emergency medical services.

Note 2 to entry: For the purpose of this document, nursing homes are considered dwelling places for home healthcare.

Note 3 to entry: Other places where a care recipient is present include the outdoor environments while working and in vehicles.

[SOURCE: IEC 60601-1-11:2015+AMD1:2020, 3.1, modified — The term “home healthcare environment” was replaced with “home healthcare”, “healthcare provided in a” was added at the beginning, “patient” was replaced with “care recipients”, EXAMPLE was deleted, in the Note 2 to entry “collateral standard” was replaced with “document” and “home healthcare environments” was replaced with “dwelling places for home healthcare”.]

3.5**home healthcare product**

product used in *home healthcare* (3.4), related to services and environments

Note 1 to entry: Major home healthcare products are listed and classified in [Annex A](#) together with their *users* (3.9) and places of use.

3.6**healthcare professional**

person who has a professional qualification for providing healthcare

3.7**medical product**

product and its accessory intended to use for medical activity

3.8**usability**

extent to which a product can be used by specified *users* (3.9) to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

[SOURCE: ISO 9241-11:2018, 3.1.1, modified — Notes to entry deleted.]

3.9**user**

person who uses *home healthcare products* (3.5)

Note 1 to entry: User includes *healthcare professional* (3.6), *caregiver* (3.2) and *care recipient* (3.3).

4 General considerations for increasing accessibility and usability**4.1 Safety and security**

Safety and security of home healthcare products, related services and environments are of primary importance in their use by the widest range of caregivers and care recipients, some of whom lack expert knowledge and skills in handling medical products, equipment and activities. Safety and security are also important for the widest range of use environments of home healthcare products where professional healthcare facilities are not available.

4.2 Cleanliness, disinfection and sterilization

Cleanliness, disinfection and sterilization of home healthcare products, related services and environments have been identified as essential to avoid any risk of disease for the widest range of users and context of use of them.

The following practices have proven particularly effective in handling home healthcare products.

- a) Avoidance of multiple uses of the products among different care recipients and caregivers is effective to reduce the risk of infection, in particular for some care recipients who are apt to be infected^[25].
- b) Zoning or partitioning of a space or a room for environments for use of home healthcare products and for related services is effective to reduce the risks of infection^[25].

NOTE There are some care recipients who are apt to be infected with diseases.

4.3 Independence and autonomy of care recipients

To support the independence and autonomy of care recipients is as important as providing means of self-use, on-demand-use, and consent-use of home healthcare products by care recipients.

4.4 Accessibility in general

Accessibility guidance in ISO/IEC Guide 71:2014^[1], when applied, increases accessibility of home healthcare products, related services and environments. Among the guidance, the following have proven particularly effective in using home healthcare products in general.

- a) Suitability for the widest range of users and diverse contexts of use.

Designing home healthcare products, related services and environments usable by diverse users as caregivers and care recipients and in diverse environments, except in professional healthcare facilities increases accessibility. See ISO/IEC Guide 71:2014, 6.2.1^[1].

- b) Providing multiple means of information presentation and user interaction.

Home healthcare products, related services and environments that have multiple means of information presentation and multiple means of operation for use increase accessibility. See ISO/IEC Guide 71:2014, 8.2.1^[1].

NOTE 1 Multiple means of information presentation include different sensory information such as seeing, hearing, and touch, and also different modes of information within one sense such as shape and colour in vision.

NOTE 2 Multiple means of operation for use include different types and modes of actions such as with one hand and both hands, in standing and sitting positions, or by voice and body movement.

- c) Ensuring compatibility.

Home healthcare products, related services and environments that have compatible use with assistive products and technology used by care recipients increase accessibility. See ISO/IEC Guide 71:2014, 8.2.7^[1]. Home healthcare products increase their accessibility for wheelchair users, if they are designed portable, mobile and compact in size for outdoor use in wheelchair.

Compatibility also concerns software and data transfer of ICT products and health monitoring or measuring systems. ICT products that can run under different operating systems or measured data that can be transferred and read by different systems increase accessibility and usability.

NOTE 3 ISO/IEEE 11073-10418 specifies a definition of communication between personal telehealth International Normalized Ratio (INR) devices and managers (e.g. cell phones, personal computers, personal health appliances) in a manner that enables plug-and-play interoperability.

- d) Harmonization with safety and security.