

Interim Australian Standard[®]

Health records

Part 2: Digitized (scanned) health record system requirements



This Interim Australian Standard® was prepared by Committee IT-014-02, Health Informatics. It was approved on behalf of the Council of Standards Australia on 7 June 2012.

This Interim Standard was published on 29 June 2012.
The following are represented on Committee IT-014-02:

- Aged Care Association Australia
- Allied Health Professions Australia
- Australasian College of Health Informatics
- Australian and New Zealand College of Anaesthetists
- Australian Association of Pathology Practices
- Australian Commission on Safety and Quality in Healthcare
- Australian Healthcare and Hospitals Association
- Australian Industry Group
- Australian Information Industry Association
- Australian Institute of Health and Welfare
- Australian Institute of Radiography
- Australian Medical Association
- Australian Private Hospitals Association
- Central Queensland University
- Commonwealth Department of Health and Ageing
- Consumers' Federation of Australia
- Consumers' Health Forum of Australia
- CSIRO e-Health Research Centre
- Department of Health and Ageing
- Department of Health, SA
- Department of Health, Vic.
- Department of Health, WA
- Department of Human Services
- Edith Cowan University
- Engineers Australia
- GS1 Australia
- Health Informatics Society of Australia
- Health Information Management Association of Australia
- HL7 Australia
- Integrating the Healthcare Enterprise Australia
- Medical Software Industry Association
- National E-Health Transition Authority
- National Health Information Management Group
- National ICT Australia
- NSW Ministry of Health
- Pharmaceutical Society of Australia
- Queensland Health
- Royal Australian College of General Practitioners
- Royal Australian College of Medical Administrators
- Royal College of Nursing, Australia
- Royal College of Pathologists of Australasia
- Society of Hospital Pharmacists of Australia
- The Pharmacy Guild of Australia
- The Royal Australian and New Zealand College of Radiologists
- The University of Sydney
- University of Western Sydney

Additional Interests:

- 3M Australia
- ACT Government Health
- Ambulance Service of New South Wales
- Australian Health Practitioner Regulation Agency
- Casprel
- Core Medical Solutions
- Department of Health, NSW
- DH4
- Djerriwarrh Health Services, Vic.
- Eastern Health, Vic.
- Edith Cowan University
- eHealth Education
- HIMAA
- HIMAA Mental Health Advisory Group, Victorian Branch
- HIMAA Scanning Special Interest Group
- Holmes Health Information
- InfoMedix
- Laughing Mind
- Llewelyn Grain Informatics
- Mater Health Services
- McCauley Software
- National E-Health Transition Authority
- Northern Health, Vic.
- NSW Health State Forms Management Committee
- Queensland Health
- Rolls Printing
- Royal Prince Alfred Hospital
- South Australia Health
- South Eastern Sydney Local Health District
- Southern NSW Local Health District
- Sydney West Area Health Service
- Western Sydney Local Health District

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Interim Standard through their representation on the Committee.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Interim Australian Standard[®]

Health records

Part 2: Digitized (scanned) health record system requirements

First published as AS 2828.2(Int)—2012.

COPYRIGHT

© Standards Australia Limited

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 74342 177 2

PREFACE

This Interim Standard was prepared by Standards Australia Subcommittee IT-014-02, Health Concept Representation, and forms part of a set to be known as Health Records, as follows:

AS

2828 Health records

2828.1 Part 1: Paper-based health records

2828.2 Part 2: Digitized (scanned) health record system requirements

These documents should be read as a set to gain a better appreciation of the context.

This Interim Standard is intended to cover the requirements of systems that digitize (scan) paper-based health records into electronic versions that may form part of the electronic health record (EHR).

In writing this Interim Standard, concepts from ISO/TR 13028, *Information and documentation—Implementation guidelines for digitization of records*, published in December 2010 by ISO/TC/46, Information and documentation, Subcommittee SC 11, Archives/records management, and S-6, Archives New Zealand's *Digitisation Standard*, published in January 2006, were included.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

This Interim Standard will have a currency of two years from its date of publication. At the conclusion of that period it will be superseded by another Standard, confirmed as an Interim Standard in its present form for a further two year period or withdrawn.

During the life of the document, the Committee will monitor all comment as it is received.

Funding for this publication has been provided by the Commonwealth Department of Health and Ageing. The Commonwealth makes no representation or warranty that the information in this publication is correct or accurate.

Standards Australia wishes to thank the Department of Health and Ageing for their continued financial support in helping us develop this Interim Standard.

CONTENTS

	<i>Page</i>
FOREWORD.....	5
SECTION 1 SCOPE, OBJECTIVE, REFERENCED DOCUMENTS AND STAKEHOLDERS	
1.1 SCOPE.....	6
1.2 OBJECTIVE.....	6
1.3 REFERENCED DOCUMENTS.....	7
1.4 STAKEHOLDERS	7
SECTION 2 DEFINITIONS	
2.1 GENERAL.....	9
2.2 FORMAT OF RECORD.....	9
2.3 EXTENT OF COVERAGE OF CONTENT OF RECORD	10
2.4 OTHER DEFINITIONS.....	10
SECTION 3 OVERVIEW	
3.1 DIGITIZING HEALTH RECORD SYSTEM.....	13
3.2 BENEFITS OF DIGITIZED HEALTH RECORDS	14
3.3 RELATIONSHIPS TO CLINICAL INFORMATION SYSTEMS.....	14
SECTION 4 SYSTEM REQUIREMENTS	
4.1 GENERAL.....	15
4.2 LEGIBILITY	15
4.3 METADATA AND INDEXING REQUIREMENTS.....	15
4.4 AUDIT TRAIL METADATA.....	17
4.5 INFORMATION EXCHANGE	17
4.6 TECHNICAL DIGITIZATION REQUIREMENTS.....	17
4.7 SOFTWARE AND HARDWARE	18
4.8 BARCODING OF DOCUMENTS.....	22
4.9 OPTICAL AND INTELLIGENT CHARACTER RECOGNITION (OCR)	23
4.10 AUDIT TRAILS AND USER LOG-ON REPORTING	24
SECTION 5 PROCESS REQUIREMENTS	
5.1 STRUCTURE AND PRESENTATION IN THE DIGITIZING HEALTH RECORD SYSTEM	25
5.2 CONVERSION PROCESS	25
5.3 OFF-SITE ACCESS	26
5.4 PROCESS AND CHANGE MANAGEMENT	26
5.5 QUALITY ASSURANCE AND CONTROL.....	27
5.6 IMPLEMENTATION PERFORMANCE INDICATORS	28
SECTION 6 LEGAL PRINCIPLES	
6.1 LEGAL REQUIREMENTS	29
6.2 DISPOSAL OF SOURCE DOCUMENTS.....	29

SECTION 7 OTHER REQUIREMENTS

7.1	STORAGE.....	30
7.2	CONTINGENCY AND REDUNDANCY	30
7.3	OUTAGES POLICY.....	30
7.4	UPGRADES	30
7.5	ERGONOMIC WORK STATIONS.....	30
7.6	STAFFING AND SKILL SETS.....	31

APPENDICES

A	MATRIX OF HEALTH RECORD TYPES	32
B	TECHNICAL SPECIFICATIONS.....	33
C	IMAGE FORMATS—GLOSSARY OF TERMS.....	36

BIBLIOGRAPHY.....	37
-------------------	----

FOREWORD

The Australian Government's eHealth strategy indicates that clinical information will increasingly be held and interchanged using computers. Development of electronic health records (EHR) in Australia is proceeding, while there are parallel activities underway involving the introduction of digitizing health record systems. These systems are introduced to improve record-handling processes and to improve access to, and the quality of, paper-based health records. The introduction of digitizing health record systems is often done in functional and information silos separate to the information decisions that relate to the introduction of clinical information systems (CIS) and EHR. The systems are developed by different departments, sometimes without consideration of the need for harmonization between the processes. In many parts of the world, the introduction of digitized record systems is seen as a transitional phase between the paper record and EHR.

Digitized record systems have the capacity to progressively replace the scanned paper with screen-based data capture and presentation, thereby converting the record incrementally from a picture-based capture format that is not computable to a fully digitized format. Each data element has to be able to be accessed and queried, thereby supporting the progressive move towards electronic decision support and a more integrated approach to patient information exchange and care.

Digitization can involve extensive document preparation and requirements for indexing which, combined, can comprise the majority of a digitization budget. Digitization undertaken as a space-saving device is rarely justified, especially when the costs of future migration are factored into the project.

As digitized systems and EHRs are used together in many organizations, there is equally a need to ensure that multiple sources of patient information are integrated. The principles of the unit health record should apply irrespective of media and processes used to collect, maintain, access and archive the health record. The information should appear seamless, not fragmented to the extent that it increases the risks to both patient care and organizational decision-making.

There is also a strong acceptance that both digitizing health record systems and EHRs can be expensive. Information technology implementations around the world show that there are key methods to reduce costs and improve the success of system introduction. These include the following:

- (a) Having a clear understanding of system requirements as they relate to data and ensuring they are well aligned to business processes.
- (b) Considering the long-term desired direction for the system. It should not be determined on short-term imperatives. The implementation should align and support the organizational operational requirements into the future.
- (c) Ensuring that robust data migration processes exist when replacing or introducing new health record systems.

Healthcare, particularly in hospitals, continues to have a highly structured and hierarchical approach to system implementation which does not easily support cross-departmental system integration and functional performance. Healthcare has also suffered from information technology decision-making that is based on outmoded experiences of the last 20 years. In the current healthcare delivery environment there is a need to understand the direction in which organizations wish to move, and to provide progressive infrastructure to support that need. Digitized health record technologies are rapidly changing and will continue to be part of future EHR solutions.

STANDARDS AUSTRALIA

Interim Australian Standard
Health records

Part 2: Digitized (scanned) health record system requirements

SECTION 1 SCOPE, OBJECTIVE,
REFERENCED DOCUMENTS AND
STAKEHOLDERS

1.1 SCOPE

This Interim Standard specifies requirements for systems that digitize (scan) paper medical records into electronic versions, including image quality, retention of originals and conversion processes.

In addition, it provides guidelines on best practice for safe storage, retrieval and access to digitized health records.

This Interim Standard does not provide requirements for paper-based health records (covered by AS 2828.1), CIS, EHR, means of access control or data security, conversion of microfilm, or scanning from microfilm.

1.2 OBJECTIVE

This Interim Standard has been developed to assist those converting paper-based records to digitized health records to identify—

- (a) the system requirements necessary to digitize (scan) health records to support the transition to an EHR;
- (b) decisions appropriate to both good patient care and responsible management in the phased introduction of these systems;
- (c) legal requirements of the digitization process;
- (d) the relationship between digitized (scanned) records, CIS and the EHR to reduce the risks to patient care during the implementation of a digitizing health record system;
- (e) best practices for the management of scanned records and the implementation of replacement processes associated with paper records;
- (f) the requirements and processes necessary to support information exchange between digitizing health record systems and EHR systems;
- (g) best practice in conversion from a paper record to a digital record with/without an EHR or CIS;
- (h) best practice in management of off-site/remote or external access to the health record;
- (i) evaluation criteria for digitizing health record software and systems; and
- (j) performance criteria for digitizing health record systems.