

Australian/New Zealand Standard™

**Implementation of Health Level Seven
(HL7) Version 2.4**

Part 1: Patient administration



AS/NZS 4700.1:2005

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Part 1: Patient administration

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PREFACE

This Standard was prepared by the Standards Australia/Standards New Zealand Committee IT-014, Health Informatics, in response to requests from the health informatics community. It covers implementation of Chapter 3 of the Health Level Seven (HL7) Version 2.4 protocol and is based on AS 4700.1—2002, *Implementation of Health Level Seven (HL7) Version 2.3.1*, Part 1: *Patient administration* and incorporates the differences between HL7 Version 2.3.1 and HL7 Version 2.4. AS 4700.1—2002, HL7 Version 2.3.1 and AS 4700.1—1998, HL7 Version 2.3 will remain current standards.

The objective of this Standard is enable the greatest degree of standardization possible in the exchange of patient administration data among various healthcare computer applications in Australia and New Zealand using HL7 Version 2.4.

HL7 is a health care application protocol accredited as a Standard by the American National Standards Institute (ANSI). ‘Level Seven’ refers to the highest level of the International Organization for Standardization (ISO) communications model for Open Systems Interconnection (OSI), the application level. Issues within the application level include definition of the data to be exchanged, the timing of the exchange and communication of certain errors to the application. This level supports such functions as security checks, identification of the participants, availability checks, negotiating exchange mechanisms and, importantly, structuring the data exchanges themselves.

HL7 focuses on the interface requirements of the entire health care organization. It allows development along the fastest possible track to the unique requirements of already installed health care systems, some of which use mature technologies.

Australia and New Zealand already have an existing base of health care institutions that use the HL7 protocol to exchange key sets of data between different computer application systems. While HL7 is concerned with addressing immediate needs, there is a very strong focus on convergence with other Standards development activities in the USA and international HL7 initiatives in countries such as Canada, Finland, Germany, India, Japan, the Netherlands, South Africa and the United Kingdom.

The HL7 protocol is a collection of standard formats that specify the implementation of interfaces between computer applications. It is not rigid. Flexibility is built into the protocol to allow compatibility for specialized data sets that have facility-specific needs. One of HL7’s strengths is its inbuilt flexibility. However, it is also one of its weaknesses. It is open to misinterpretation in its structure and format. HL7 is based on the health environment in the USA. Implementation of the HL7 Version 2.4 protocol in the Australian and New Zealand health environment requires a common and consistent approach.

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FOREWORD

This Standard was prepared by the IT-014-06-03, HL7 Messages Working Group under direction from Committee IT-014, Health Informatics.

The mission of this working group is to develop Australian and New Zealand Standards for patient electronic data communication between health care information systems based on the current release of the Health Level Seven (HL7) protocol.

The HL7 protocol covers a wide range of data interchange functions. However, this Australian and New Zealand implementation Standard focuses on the patient administration functions as these form the common basis for all HL7 messages. Generally, information entered into a patient administration system is passed to the nursing, ancillary and financial systems, either in the form of an unsolicited update or in response to a record-oriented query.

Other functions of HL7 being addressed include pathology orders and results, pathology results for registries, electronic messages for exchange of information on drug prescription, and referral and health service messaging. These Standards are being developed by combining HL7 technical expertise with specialist business knowledge.

Beyond developing Joint Australian and New Zealand Standards for patient electronic data communication between health care information systems, the working group has the following objectives:

- (a) To provide a single channel for Australian and New Zealand review and discussion of input for the development of the HL7 protocol.
- (b) To provide the infrastructure to —
 - (i) disseminate information on the HL7 protocol;
 - (ii) provide a forum for discussion and feedback;
 - (iii) expedite the information flows from Australia/New Zealand to the HL7 organization in the USA; and
 - (iv) liaise with the Standards Australia sub-committee IT-014-10 on electronic commerce and UN/EDIFACT message development.
- (c) To seek representation from all interested parties in any review and discussion.
- (d) To provide a focus for Australian and New Zealand input to the development of HL7 Version 3.0.

All efforts have been made to minimize divergence from the HL7 USA protocol to ensure maximum compatibility with future versions.

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Australian/New Zealand Standard
Implementation of Health Level Seven (HL7) Version 2.4

Part 1: Patient administration

1 SCOPE

This Standard defines a uniform implementation of Chapter 3 of the Health Level Seven (HL7) Version 2.4 protocol. It is primarily designed for use within and between Australian and New Zealand health care settings. It covers patient administration functions, as these form the basis for most clinical health care messages. It also provides interpretation and guidance on which HL7 trigger events, segments and data elements are mandatory (required), or optional or conditional (required, based on a condition), and gives relevant usage notes for the Australian and New Zealand health environment. The Standard provides for consistent use of data definitions as well as commentary and references to the National Health Data Dictionary and the International Organization for Standardization (ISO). This Standard is referenced by other Australian Standards on how to implement HL7 and is required by implementers of those Standards.

2 APPLICATION

Australia/New Zealand already has an existing base of health care institutions that use the HL7 protocol to exchange key sets of data between different computer application systems. However, because of HL7's inbuilt flexibility, it is open to misinterpretation in structure and format. Implementation of the HL7 Standard in the Australian and New Zealand health environment requires a common and consistent approach.

This is not a stand-alone document for application in isolation. A good understanding and, preferably, working knowledge of HL7 is essential, as this Standard is based on and frequently refers to the HL7 Version 2.4 Standard.

This Standard is a guide for use by Australian and New Zealand health authorities, health service providers, health institutions, health information technology vendors, health information technology consultants and the health informatics community who use the HL7 protocol to exchange key sets of data between different computer application systems.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

2632 Codes for the representation of names of countries and their subdivisions
 2632.1 Part 1: Country codes

4846 Health care provider identification

5017 Health care client identification

ISO

639 Codes for the representation of names of languages
 639-1 Part 1: Alpha-2 code