

Australian Standard<sup>®</sup>

**Implementation of Health Level Seven  
(HL7) Version 2.5**

**Part 1: Patient administration**



This Australian Standard® was prepared by Committee IT-014, Health Informatics. It was approved on behalf of the Council of Standards Australia on 15 November 2006.  
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## PREFACE

This Standard was prepared by the IT-014-06-03, HL7 Messages Working Group under direction from Standards Australia 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 2.5 protocol and is based on AS 4700.1—2005 *Implementation of Health Level Seven (HL7) Version 2.4, Part 1: Patient administration* and incorporates the differences between HL7 Version 2.4 and HL7 Version 2.5. AS 4700.1—2005 (Version 2.4), AS 4700.1—2001 (Version 2.3.1) and AS 4700.1—1998 (Version 2.3) will remain current Standards.

The objective of this Standard is to enable the greatest degree of standardization possible in the exchange of patient administration data among various healthcare computer applications in Australia using HL7 Version 2.5.

HL7 is a health care application protocol accredited as a Standard by the American National Standards Institute (ANSI). ‘Level Seven’ refers to the highest layer of the International Organization for Standardization (ISO) communications model for Open Systems Interconnection (OSI), the application layer. 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 layer 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 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. 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 2.5 protocol in the Australian health environment requires a common and consistent approach.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

Standards Australia wishes to thank the Department of Health and Ageing for their continued financial support in helping us to achieve our aims.

## CONTENTS

	<i>Page</i>
FOREWORD.....	4
1 SCOPE.....	5
2 APPLICATION .....	5
3 REFERENCED DOCUMENTS.....	5
4 CHANGES IN THIS VERSION .....	6
5 GENERAL GUIDANCE.....	8
6 DEFINITIONS.....	10
7 TRIGGER EVENTS .....	10
8 MESSAGE SEGMENTS .....	29
9 BATCHING OF TRANSACTIONS .....	64
APPENDICES	
A ISSUES IN HL7 V2.4 GLOBAL AND NOT FIXED IN HL7 V2.5 GLOBAL.....	68
B LIST OF HL7 V2.5 DATATYPES AND SUBCOMPONENTS.....	69

## FOREWORD

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

The mission of this working group is to develop Australian 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 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 Australian 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 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 to the HL7 organization in the USA; and
  - (iv) liaise with the Standards Australia Subcommittee 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 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.

## STANDARDS AUSTRALIA

### Australian Standard Implementation of Health Level Seven (HL7) Version 2.5

#### Part 1: Patient administration

## 1 SCOPE

This Standard defines a uniform implementation of Chapter 3 of the Health Level Seven (HL7) Version 2.5 protocol. It is primarily designed for use within and between Australian 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 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.

#### NOTES:

- 1 Appendix A lists issues in HL7 Version 2.4 that have not been fixed in HL7 Version 2.5.
- 2 Appendix B lists the datatypes in HL7 Version 2.5.

## 2 APPLICATION

Australia 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 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 2.5 Standard.

This Standard is a guide for use by Australian 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	Code for the representation of names of languages
639-1	Part 1: Alpha-2 code