

Australian Standard®

**Implementation of Health Level
Seven (HL7) Version 2.2**

**Part 1: Admission, discharge and
transfer**

This Australian Standard was prepared by Committee IT/14, Health Informatics. It was approved on behalf of the Council of Standards Australia on 28 January 1997 and published on 5 March 1997.

The following interests are represented on Committee IT/14:

Australian Health Insurance Association
Australian Hospital Association
Australian Institute of Health and Welfare
Australian Medical Association
Australian Private Hospitals Association
Central Queensland University
Commonwealth Department of Health and Family Services
Department of Defence
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Additional interests participating in preparation of Standard:

Health Department of Western Australia
Health informatics consultants
Health network consultants
Information modelling consultants
Information technology communication consultants
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First published as AS 4700.1—1997.

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/14, Health Informatics, in response to requests from the health informatics community. It covers implementation of Chapter 3 of the Health Level Seven (HL7) Version 2.2 protocol, for intrahospital application communications within Australian public and private hospitals. The Standard covers the functions of patient admission, discharge and transfer as these form the basis for all HL7 messages.

This Standard is the result of a consensus among Australian and New Zealand representatives on the Joint Committee to produce it as an Australian Standard.

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 hospital and departmental 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 internationally. There are international HL7 initiatives in countries such as Australia, Canada, the United Kingdom, Germany, Japan, the Netherlands and New Zealand.

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 2.2 protocol in the Australian health environment requires a common and consistent approach.

This is not a stand-alone document for review 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 2.2 protocol. Further information on the HL7 protocol is available from Standards Australia.

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FOREWORD

This Standard was prepared by the IT/14/6/3 HL7 Working Group under direction from the IT/14 Health Informatics Committee.

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 admission, discharge and transfer (ADT) functions as these form the common basis for all HL7 messages. Generally, information entered into an ADT 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.

The other functions of HL7 will be addressed similarly in the near future. However, more specialist input and review will be sought to develop Standards for such areas as prescriptions, radiology and pathology covering requests and results, messages and data.

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 Standards Australia Committee IT/11 on Electronic Commerce and UN/EDIFACT health 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 2.2

Part 1: Admission, discharge and transfer

1 SCOPE This Standard defines a uniform implementation of Chapter 3 of the Health Level Seven (HL7) Version 2.2 protocol, for intrahospital communication of HL7 messages between computer application systems in Australian public and private hospitals. It covers the functions of patient admission, discharge and transfer (ADT), as these functions form the basis for all HL7 messages. The Standard provides interpretation and guidance on which HL7 trigger events, segments and data elements are mandatory (required), 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.

2 APPLICATION This Standard is a guide for use by Australian health authorities, health providers and 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.

For the purposes of this Standard, only human patients are considered.

3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

HL7 Health Level Seven Version 2.2. Detroit: Health Level Seven, 1994

NHDD National Health Data Dictionary Version 5.0. National Health Data Committee, Canberra: Australian Institute of Health and Welfare, 1996

4 DEFINITIONS For the purpose of this document, the definitions below apply.

4.1 Admitted patient—a patient who undergoes a hospital's formal admission process (NHDD).

4.2 Non-admitted patient—a patient who does not undergo a hospital's formal admission process. This includes emergency department patient, outpatient, and other non-admitted patient (NHDD).

4.3 Trigger event—action that takes place in an application, based on some predefined condition such as an admission, ward transfer, or placement of an order and the like. The action usually results in the compilation and transmission of a data message.

4.4 Visit—an admitted patient visit is the hospital stay from date of admission to the date of discharge. A non-admitted patient visit is the attendance for which one or more services are provided to that patient.