

Australian Standard™

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

Part 5: Immunization messages



This Australian Standard was prepared by Committee IT-014, Health Informatics. It was approved on behalf of the Council of Standards Australia on 2 August 2005.
This Standard was published on 9 September 2005.

The following are represented on Committee IT-014:

Australian and New Zealand College of Anaesthetists
Australian Association of Pathology Practices
Australian Health Care Association
Australian Health Insurance Association
Australian Information Industry Association
Australian Institute of Health & Welfare
Australian Institute of Radiography
Australian Medical Association
Australian Private Hospitals Association
Central Queensland University
Commonwealth Department of Health and Aging
Consumers' Federation of Australia
Consumers' Health Forum of Australia
Department of Health (South Australia)
Department of Health Western Australia
Department of Human Services, Victoria
Engineers Australia
General Practice Computing Group
Health Informatics Society of Australia
Health Information Management Association of Australia
Health Insurance Commission
Health Professions Council Of Australia
HL7 Australasia Users Group
Medical Industry Association of Australia
Medical Software Industry Association
National Health Information Management Group
NSW Health Department
Pharmaceutical Society of Australia
Pharmacy Guild of Australia
Queensland Health
Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Royal Australian and New Zealand College of Radiologists
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 University of Sydney

Additional Interests:

Alfred Hospital
Association of Pharmacy Registering Authorities
Australian Dental Association
Cerner Corporation
Commonwealth Department of Veterans' Affairs
eClinic
Gillogley Services
HealthLink
HL7 System Integration Services
IBA Health
Medicine Pharmacy
Medical Communications Associates
Medicines Australia
New Zealand Health Information Foundation
Pharmacy Board of Victoria
See Beyond
Victoria Avenue Medical Centre

Keeping Standards up-to-date

Standards are living documents which 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 which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to the Chief Executive, Standards Australia, GPO Box 476, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 04432.

Australian Standard™

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

Part 5: Immunization messages

Originally published as AS 4700.5—2002.
Second edition 2005.

COPYRIGHT

© Standards Australia

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.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 6864 4

PREFACE

This Standard was prepared by the IT-014-06-04 Prescription Messages Working Group under the direction of the Joint Standards Australia/Standards New Zealand Committee IT-014, Health Informatics, in response to requests from the health informatics community. It covers implementation of the Health Level Seven (HL7) Version 2.4 protocol and is based on AS 4700.5—2002, *Implementation of Health Level Seven (HL7) Version 2.3.1, Part 5: Immunization messages*, and incorporates the differences between HL7 Version 2.3.1 and HL7 Version 2.4. AS 4700.5—2002, HL7 Version 2.3.1 will remain a current Standard.

This Standard was prepared by the members of the Joint Standards Australia/Standards New Zealand Committee IT-014, Health Informatics. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian rather than an Australian/New Zealand Standard.

The objective of this Standard is to cover implementation of the Health Level Seven (HL7) Version 2.4 protocol, for communication of immunization messages between immunization service providers and registries.

In this document, frequent reference is made to AS/NZS 4700.1:2005: *Implementation of Health Level Seven (HL7) Version 2.4, Part 1: Patient administration* which covers the implementation of HL7 Version 2.4 for patient administration within and between Australian health care settings. AS/NZS 4700.1:2005 provides an important foundation for the building of most clinical health care messages.

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.

This Standard utilizes notes to some of the clauses. They are designated Note 1, Note 2, and so on, and are set in smaller point size immediately following the clause. These Notes are for information and guidance only and compliance with them is not a requirement of the Standard.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

CONTENTS

	<i>Page</i>
FOREWORD.....	4
1 SCOPE	5
2 APPLICATION	5
3 REFERENCED AND RELATED DOCUMENTS	6
4 CHANGES IN THIS VERSION.....	7
5 DEFINITIONS	7
6 USAGE OF IMMUNIZATION MESSAGES.....	8
7 BATCHING OF TRANSACTIONS.....	8
8 QUERIES FOR IMMUNIZATION RECORDS (QR) SEGMENTS).....	9
9 IMMUNIZATION TRIGGER EVENTS.....	10
10 MESSAGES.....	12
11 BATCH AND MESSAGE SEGMENT STRUCTURE.....	16
12 FILE SEGMENTS.....	17
13 BATCH SEGMENTS.....	17
14 MESSAGE SEGMENTS.....	18
APPENDIX A VACCINE CODE TABLE.....	25

FOREWORD

The starting point for the HL7 2.3.1 version of this Standard was a document prepared by the Health Insurance Commission, on proposed immunization messages for the Australian Childhood Immunization Register. This Standard is a version upgrade to permit contracts specifying HL7 version 2.4 to reference an appropriate Australian Standard.

Benefits from standards development will be achieved through:

- (a) Improvements in data quality standards and consistency.
- (b) Improved timeliness of notification and surveillance.
- (c) Reduction in duplication through improved patient identification.
- (d) Reduction in health care information system costs.

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

The IT-014-06-04, Prescription Messages working group has recognized a need for an Australian body/authority to represent/make Australian submissions to the Centres for Disease Control and Prevention (CDC) Atlanta.

The intended audience for this Standard includes health authorities, immunization service providers, immunization registries, health institutions, health information technology vendors, health information technology consultants and the health informatics community.

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 definitions 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 with international HL7 initiatives in countries including 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 Standard in the Australian health environment requires a common and consistent approach.

STANDARDS AUSTRALIA

Australian Standard

Implementation of Health Level Seven (HL7) Version 2.4

Part 5: Immunization messages

1 SCOPE

This Standard covers implementation of communications between immunization service providers and immunization registries, using the HL7 Version 2.4 protocol. The Standard covers the events that trigger communication, the batching of transactions, together with the structure and content of electronic messages. This includes the data segments and data elements that are mandatory (required), optional or conditional (required, based on a condition), and relevant usage notes in the Australian health environment. The Standard provides consistent use of data definitions as well as commentary and references to the International Organization for Standardization (ISO), *National Health Data Dictionary (NHDD)*.

2 APPLICATION

2.1 General

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 Standard applies to messages between immunization service providers and immunization registries throughout Australia. It is for use by Australian health authorities, health service providers, health institutions, health information technology vendors, health information technology consumers and the health informatics community.

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

This is not a stand-alone document, i.e. for review in isolation. A good understanding and working knowledge of HL7 is essential, as this Standard is based on and frequently refers to the HL7 V2.4 protocol.

Frequent reference is made to AS/NZS 4700.1:2005, which covers the implementation of patient administration messages and provides an important foundation for the building of most clinical health care messages.

2.2 Changes between HL7 Versions 2.3.1 and 2.4

The most important substantive changes to AS 4700.5 between HL7 Versions 2.3.1 and 2.4 are that the base HL7 Version 2.4 standard permits longer field lengths than HL7 Version 2.3.1 for several fields. (See AS/NZS 4700.1:2005 Table 1, row 4)

HL7 Version 2.3.1 conformant systems are immediately conformant to HL7 Version 2.4 for sending Immunization messages.

To be fully conformant for receiving Immunization messages in HL7 2.4, HL7 2.3.1 systems may need to be modified to accept longer field lengths in the data types listed in AS/NZS 4700.1:2005 Table 1, row 4.