

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.
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Part 5: Immunization messages

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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.

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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 consultants 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.

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