

HISO 10013:2015 HL7 Standards Endorsement

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Document information

HISO 10013:2015 HL7 Standards Endorsement is a statement of endorsement for the use of Health Level Seven® (HL7®) standards for interoperability in the New Zealand health and disability sector

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Health Information Standards Organisation (HISO) is the expert advisory group on standards to the National Health IT Board

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Keeping standards up-to-date

HISO standards are regularly updated to reflect advances in health information science and technology. See our website for information about the standards development process. We welcome your ideas for improving this standard. Email standards@health.govt.nz or write to Health Information Standards, Ministry of Health, PO Box 5013, Wellington 6145.

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1 Introduction

This document presents a statement of endorsement for the use of HL7 standards for interoperability in the New Zealand health and disability sector. This revised statement of endorsement updates the original statement published in August 2005.

1.1 Purpose

HL7 standards for interoperable health information systems are implemented around the world. The purpose of this statement of endorsement is to provide clear direction on the particular HL7 standards adopted for use in New Zealand.

This new statement of endorsement is shaped by advances in health information technology over the past decade and new standards for interoperability.

HL7 standards remain essential as interface standards for the clinical and administrative information systems operated by health providers.

The connected health ecosystem will also increasingly serve consumers who are now beginning to use patient portals and personal health apps to manage their own health affairs and communicate with health professionals. Consumers will expect seamless access to their own information and a positive digital experience.

Personal health apps will connect to patient portals via interfaces built on new HL7 standards for data services, complemented by other industry standards for access control.

1.2 Scope

The statement of endorsement pertains to standards published by the HL7 International standards development organisation. These are standards for point-to-point messaging, structured documents and data services.

The endorsement extends to industry standards for identity, authentication, authorisation and delegation that closely complement HL7 standards.

1.3 HL7 intellectual property

HL7, CDA, and FHIR are registered trademarks of HL7 International.

HL7 standards are published by and remain the intellectual property of HL7 International. HL7 standards are licensed free of charge to registered users.

HL7 New Zealand is the local affiliate of HL7 International.

2 Background

This section presents the original statement of endorsement for HL7 standards and describes how HL7 standards have been applied in New Zealand since the statement was published.

2.1 Original statement of endorsement

A national statement of endorsement for HL7 messaging standards was first published in August 2005 by the Ministry of Health.

The statement read as follows:

- *Health care practitioners and organisations need to be able to exchange vast amounts of health care data, including patient information and various lab reports, on a daily basis.*

Such data can be extremely complicated, because of the abundance of clinical terminology as well as structural complexities in the way information is presented. Thus such information needs to be presented in a standardised format if it is to be universally understood. In order to achieve this, a specialised health care messaging language is required. HL7 is that language.

The implementation of HL7 messaging standards helps reduce or eliminates incompatibilities between systems, encouraging the speedy and consistent flow of patient information between hospitals, general practitioners and other health professionals.

HL7 is also the name given to the international organisation which develops the HL7 messaging standards.

HISO endorses the use of HL7 as the preferred New Zealand standard for health information communications.

2.2 Point-to-point messaging

The original statement reflected the health information technology of that era when point-to-point messaging predominated over other approaches to interoperability.

HL7 version 2.4 was selected as the standard for referral, discharge summary and laboratory test result messaging applications in New Zealand.

HL7 version 2.4 underpins the two key national messaging standards current today:

- HISO 10008 Pathology and Radiology Messaging Standard (first published in 2008 and updated in 2015)
- HISO 10011 Referrals, Status and Discharge Messaging Standard (published in 2007)

Point-to-point messaging is now contained to a small number of applications, while newer applications share information via clinical data repositories and integrated electronic health record systems.

HL7 version 3.0 was the attempted successor to HL7 version 2.x but failed as a messaging standard.

2.3 Structured documents

HL7 Clinical Document Architecture (CDA) is the part of the HL7 version 3.0 standard with proven value and CDA is implemented widely around the world. CDA was first endorsed in New Zealand as the national standard for structured documents as one of the architectural building blocks of the HISO 10040 Health Information Exchange Architecture.

HISO standards based on CDA now include:

- *HISO 10040.3 Structured Documents* – positioning standardised CDA document types as a currency of information exchange for naturally document-oriented applications such as electronic prescription brokering and communicating electronic discharge summaries
- *HISO 10043 CDA Common Templates* – providing a set of reusable templates and describing a suitably constrained approach to developing standard CDA document types
- *HISO 10041.1 CDA Templates for Medications, Allergies and Adverse Reactions* – a standard for communicating the output of medicines reconciliation and medication use reviews at transfer of care
- *HISO 10047 Comprehensive Clinical Assessments for Older People* – for communicating the output of interRAI home care and residential care assessments
- *HISO 10050 Maternity Care Summary Draft Standard* – used to support transfer of care between community and hospital provided maternity services
- *HISO 10052 Ambulance Care Summary Standard* – used to support transfer of care from ambulance services to hospital emergency departments, accident and GPs.

In addition to these published standards, implementation guides exist for the CDA document types transacted by the GP2GP medical records transfer and New Zealand ePrescription Service applications.

2.4 Emerging standards for data services

HL7 Fast Healthcare Interoperability Resources (FHIR) has emerged in recent years as the best candidate for a data services standard for health information exchange. FHIR is based on the RESTful web services approach where methods of the Hypertext Transfer Protocol (HTTP) are used to convey requests to create, retrieve, update and delete information resources across a network.

FHIR resource types are defined for the most commonly transacted data sets about individuals and their care. For example, a resource type exists to represent each of the patient's allergies and intolerances. Composite resource types can be defined and resource types can be extended or constrained to accommodate local requirements.

FHIR is essentially a data services standard and needs to be complemented by authentication and authorisation services in order to provide a complete web services solution.

3 Endorsed HL7 standards

Particular HL7 standards for point-to-point messaging, structured documents and data services are endorsed here for communicating clinical and administrative health information.

HL7 standards remain central to the implementation of clinical data repository, clinical workstation and patient portal solutions. Emergent standards support mobile apps and their connections to these data sources.

3.1 Point-to-point messaging

HL7 version 2.4 remains the endorsed standard for legacy point-to-point messaging applications.

These applications include messaging (1) laboratory test results and (2) transfer of care documents.

The respective HISO standards are:

- HISO 10008.2:2015 Pathology and Radiology Messaging Standard
- HISO 10011.4:2015 eDischarge Messaging Standard

The use of HL7 version 2.4 is contained to applications where the client systems cannot consume web services.

3.2 Structured documents

HL7 CDA Release 2 remains the endorsed standard for structured documents.

The document-oriented approach is suited to some applications but not others. The use of the CDA is contained to applications that involve such document types as shared health summaries, health event summaries and electronic prescriptions, where the information communicated has characteristics of wholeness, persistence and attestation.

3.3 Data services

HL7 Fast Healthcare Interoperability Resources (FHIR) is endorsed as the emerging standard that provides access to personal health information via RESTful data services.

FHIR has the promise to be widely adopted around the world as a standard for application programming interfaces (APIs) serving clinical data repositories, mobile clinical apps, patient portals, personal health apps and medical devices.

FHIR was first released as a draft standard for trial use in January 2014. Publication of a normative edition is expected in 2017. IHE and openEHR standards development organisations are supportive of the development of FHIR.

Implementers are recommended to use the draft standard but should be prepared to absorb periodic change to the specification while its development continues.

Implementers are encouraged to deal directly with HL7 International and to participate in development of FHIR. HL7 New Zealand will deliver local education and workshops on FHIR.

Companion standards to FHIR include OAuth2 based standards for authentication, authorisation and controlled delegation, including SMART on FHIR, Open ID Connect, User Managed Access (UMA) and Health Relationship Trust (HEART). Implementers are recommended to follow these standards as they develop.