

Immunizations - MR

Standards Selection Guide

Standards Selection Guide

Represents a collection of the recommended Standards, Resources, Implementation Guides created to satisfy a specific set of Clinical Requirement *at a moment in time*, following the discovery process presented in the guidance section of this site.

Maturity Level

☐ Under Development

☐ Pilot

☐ Draft For Use

☒ Normative

☐ Superseded (by...)

☐ Retired

Market Guidance

PAN-CANADIAN STANDARD

Guide Status:

☐ Draft

☒ Published

Effective Date

August, 2012

Table of Contents

- Standards Selection Guide
 - Key Contributors
 - Purpose
 - Business Context
 - Typical Use Cases
 - Evaluated Standards
 - Recommended Standards
 - Implementation Resources
 - Existing Implementations

Maturity	Normative
Status	Published
Standards	HL7® v3
Domain	Public Health
Jurisdiction	National

Key Contributors

The following individuals/organizations contributed to the creation of this resource:

Name	Title	Organization

Purpose

This document provides an overview of available standards and a recommended approach to support the requirements identified below. The intent is to simplify standards selection decisions in future projects and, in turn, to promote standardization of solutions across projects by providing useful information to support decision making in a readily consumable format.

Content in this guide was generated through a document review of immunization related messaging in different versions of the pan-Canadian messaging specifications and HL7 v2 to provide an accessible overview of the standards considered and selected to support the Immunization related requirements.

Business Context

This guide relates to standards used to track and manage of immunizations records for public health purposes. Given the various settings where immunizations can be administered, the migration of people between jurisdictions and certain public health needs, immunization data is often collected retrospectively and may be collected or used outside of traditional care settings such as hospitals or physicians' offices.

Typical Use Cases

The use cases outlined below are intended to provide additional context and frame the needs that the candidate standards must meet. The use cases here are summarized and excerpted from a discussion document of the HL7 v3 pan-Canadian Messaging Standards Implementation Guide (Volume 10 – Immunization).

The use cases identify different activities related to immunization events and access to an immunization record:

Table of Contents

- [UC-1 Determining Immunization Status](#)
- [UC-2 Immunization Forecast](#)
- [UC-3 Record an Immunization Event](#)
- [UC-4 Querying an Immunization Repository](#)
- [UC-5 Revising an Immunization Record](#)

UC-1 Determining Immunization Status

The purpose of this use case is to describe the activities involved in determining immunization status.

Trigger: A healthcare provider wishes to assess eligible, at-risk candidates' immunization status.

- A healthcare provider wants to check the immunization profile of a group of clients, as some may have received their flu shot somewhere other than at this particular clinic.
- The healthcare provider queries the immunization repository, specifying influenza vaccine for her candidates.
- The immunization repository responds with a list of the influenza immunizations associated with each of the candidates. Results were reviewed to determine who has not yet received the influenza vaccine.
- The healthcare provider compiles a list of immunization candidates and begins calling them to come in for this week's flu shot clinic.

UC-2 Immunization Forecast

The purpose of this use case is to describe activities involved in retrieving a client's immunization forecast from an immunization repository for an identified client.

Trigger: A healthcare provider wishes to obtain patient-specific immunization forecast information.

- A healthcare provider calls John Smith to let him know about the flu clinic next week and to advise him to attend for his flu shot.
- The healthcare provider notices that John turned 65 this year, and decides to query the repository to determine if there are any additional vaccines John is now eligible for and has not yet received.
- The repository returns the recommended schedule for John, which includes pneumococcal vaccine.

UC-3 Record an Immunization Event

The purpose of this use case is to describe the activities involved in recording an immunization event.

Trigger: Immunization has been administered

- A healthcare provider administers the influenza and pneumococcal vaccines to John Smith at a medical clinic.
- The healthcare provider records the two events in the clinic's EMR System; she sends messages with the immunization event details, including the vaccine types and the reason for immunization to the immunization repository.

UC-4 Querying an Immunization Repository

The purpose of this use case is to describe the activities involved in retrieving immunization records from an immunization repository.

Trigger: Immunization information needs to be retrieved from an immunization repository.

- Neville Nuclear has accepted a new job as a healthcare worker. His employer has asked for a copy of his hepatitis B vaccinations. Neville completed the entire 3 dose series six months ago at the public health travel clinic.
- A healthcare provider queries the immunization repository and is presented with a list of immunization events that note Neville has received three hepatitis B administrations.
- The healthcare provider retrieves the details of each hepatitis B administration and prints an official vaccination report for Mr. Nuclear.

UC-5 Revising an Immunization Record

The purpose of this use case is to describe the activities involved in revising an immunization record.

Trigger: Nurse needs to add additional information on an immunization event to a record.

- Nurse notices that she forgot to include the influenza vaccine lot number in John Smith's record.
- Nurse Nightingale adds the lot number to the record and sends the detail to the Immunization Repository to update the record.

Evaluated Standards

This guide focuses on the selection of messaging standards to support the in scope use cases.

Messaging

The following standards were considered to communicate Vaccination Events and to Query Immunization Repositories.

Standard	Fit for Purpose			Stewardship		Quality		
	Fits Requirements	Implementation Type	Vendor Support	Canadian Steward	SDO Maintained	Complexity	Standard Maturity	Training, Support and Tooling
Immunization HL7 V3.0	<div><div></div></div>	Production in Canada	<div><div></div></div>	Yes	Yes	<div><div></div></div>	Med	<div><div></div></div>
CeRx HL7 V3.0	<div><div></div></div>	Production in Canada	<div><div></div></div>	Yes	Yes	<div><div></div></div>	High	<div><div></div></div>
HL7 v2	<div><div></div></div>	No known implementations in Canada	<div><div></div></div>	No	Yes	<div><div></div></div>	High	<div><div></div></div>
Architectural Constraints and Considerations				Secondary Benefits				
The HL7 V3 immunization specification was designed to support the immunization use cases in a manner consistent with the design principles of Canada's digital health blueprint and supercedes the CeRx specification.				Version 3 uses rigorous analytic and message building techniques and eliminates areas of optionality that could negatively impact semantic interoperability.				
Recommendation				Supporting Rationale				
It is recommended that new implementations adopt Immunization HL7 V3.0 for immunization.				The specification was designed to meet the in-scope use cases and conforms with the architectural design of Canada's digital health blueprint.				

Recommended Standards

The following standards and related specifications were identified as the recommended approach to support the in-scope requirements. The table lists the summary with the rationale.

Standardization Requirement	Options	Choice	Rationale
Messaging	Immunization HL 7 V3.0	X	The specification was designed to meet the in-scope use cases and conforms with the architectural design of Canada's digital health blueprint.
	CeRx 4.4 HL7 V3.0		The CeRx specification has been superseded by the Immunizations Specification for vaccine event messaging.
	HL7 v2		Inconsistent with Canada's blueprint. No known implementations in Canada.

Implementation Resources

Community Pages

Matters related to immunization messaging in Canada are handled through a active Communities on InfoCentral.

InfoCentral - Community Page
Public Health Surveillance - Community Site
Health Level Seven International (HL7) - Community Site

Clinical Requirements

Material from the Canadian Public Health community can be found on the Public Health Surveillance community site on InfoCentral.

Implementation Guides

The latest Implementation Guide can be found on InfoCentral.

Technical Resources

The Infoway Message Builder allows developers to focus on their business problem by providing APIs that foster quick and easy creation, population and access to HL7 v3 requests and responses and CDA documents.

For further technical support please contact project teams listed in the header section or seek support through the community site.

Existing Implementations

The following Canadian jurisdictions have implemented HL7 v3 Immunizations - MR.

Implementing Jurisdiction	Notes
Manitoba	Currently in production with legacy immunization system.