Evaluated Standards

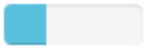
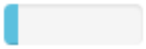
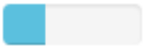
Immunization use cases cover three main areas requiring standardization:

- Messaging
- Terminology
- Single Sign On (SSO)

Listed below are the available standards considered for each standardization category, the chosen alternative being highlighted.

Messaging

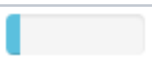
The following messaging standards were evaluated to support the exchange of information between front end applications and Panorama.

Standard	Fit for Purpose			Stewardship		Quality		
	Fits Requirements	Implementation Type	Vendor Support	Canadian Steward	SDO Maintained	Complexity	Standard Maturity	Training, Support and Tooling
FHIR Immunization		Pilot in Canada		No	Yes		Draft for Use	
pan-Canadian Immunization Messaging Standard (Public Health MR 02.05)		Production in Canada		Yes	Localized		Normative	

Architectural Constraints and Considerations	Secondary Benefits
FHIR's modular components, foundation on web standards and support for RESTful architectures make the standard generally less complex and more accessible to developers of client applications than the pan-Canadian standards which are based on HL7 v3.	No notable secondary benefits.
Recommendation	**Supporting Rationale**
It is recommended that Panorama based new implementations adopt FHIR.	FHIR supports the use cases described above without further extension or localization. In the event that extension is required to support future requirements, FHIR provides a straightforward mechanism for creating extensions. Canada-specific terminology value sets can be used while remaining "FHIR conformant", as the FHIR Immunization resource only specifies examples; implementers are free to use any value set they choose. FHIR has significant momentum among vendors and developers, meaning the long-term sustainability of FHIR-based implementations will likely be superior. There is a substantial ecosystem of open-source tools and reference implementations for FHIR that implementers can leverage to accelerate their projects.

Terminology

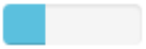
The following terminology standards were evaluated to support the exchange of information between front end applications and Panorama.

Standard	Fit for Purpose			Stewardship		Quality		
	Fits Requirements	Implementation Type	Vendor Support	Canadian Steward	SDO Maintained	Complexity	Standard Maturity	Training, Support and Tooling
pan-Canadian Public Health Immunization Subsets (SNOMED-CT)		Production in Canada		Yes	Localized		Normative	
iTerm ValueSet		Custom		Yes	No		N/A	

Architectural Constraints and Considerations	Secondary Benefits
Both options were designed to support Panaroma's data model.	Using pan-Canadian terminology subsets supports inter-jurisdictional interoperability. SNOMED CT's terminology model can be leveraged to support aggregation and analysis of the information captured within vaccination records.
Recommendation	**Supporting Rationale**
It is recommended that new implementations adopt the custom reference value sets developed by Ontario.	The pan-Canadian Public Health Immunization Subsets reflect Canadian requirements (e.g. Canadian vaccine lists), and is aligned with the PHAC Canadian Immunization Guide. It is being adopted in additional projects across Canada (including AB, SK, MB, Canadian Forces, CIHI), so additional implementations that adopt the Ontario standard will be well positioned for interoperability with these groups or organizations.

Single Sign On (SSO)

The following security frameworks were considered to provide SSO access to protected data through via FHIR resources.

Standard	Fit for Purpose			Stewardship		Quality		
	Fits Requirements	Implementation Type	Vendor Support	Canadian Steward	SDO Maintained	Complexity	Standard Maturity	Training, Support and Tooling
OAuth 2.0		Production		No	Yes		Normative	
SAML 2.0		Production		No	Yes		Normative	

Architectural Constraints and Considerations	Secondary Benefits
OAuth 2.0 provides better support for mobile applications.	

Recommendation	Supporting Rationale
It is recommended that OAuth 2.0 be used to provide SSO access to protected data through FHIR resources.	Better support for mobile applications.