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 | | | | |
| Archit | 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 | | | Stew | ardship | Quality | | | | |
|--|----------------------|--|---|---|-------------------|------------|----------------------|-------------------------------------|--|--|
| | Fits Requirements | Im ple me nta tion Ty pe | Vendor Support | Canadian Steward | SDO Maintained | Complexity | Standard Maturity | Training, Support and Tooling | | |
| pan-Canadian Public Health Immunization Subsets (SNOMED- CT) | | Pro duc tion in Ca nad a | | Yes | Localized | | Normative | | | |
| iTerm ValueSet | | Cu sto m | | 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 | | | | ardship | 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. | | | | | |