

Use of FHIR APIs to Fight COVID-19 in Ontario, Canada

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Who am I?

- Igor Sirkovich
- Senior FHIR Implementation Consultant, Xperterra
- Associate, SmileCDR
- Co-chair, Canadian FHIR Solution Architecture group
- Lead, Canadian FHIR Baseline Medications and Immunizations profiles
- Co-author, CARIN Consumer Directed Payer Data Exchange (CARIN for Blue Button®) FHIR Implementation Guide



Objectives of this Presentation

- Share experience of using FHIR APIs for COVID-19 related projects in Ontario, Canada
 - Lab Results for Public Health
 - Patient Identity Resolution
 - Access to COVID-19 Lab Data
 - Access to COVID-19 Immunization Data
 - Submission of Immunization Data
 - Submission of Adverse Events Following Immunization
 - Proof of Vaccination / Verifiable Digital Credentials

FHIR API for Lab Results for Public Health

- Query FHIR API to get COVID-19 Lab results from the provincial Laboratory System into the Public Health Case & Contact Management System
 - <https://simplifier.net/guide/OntarioLaboratoriesInformationSystemProviderQuery1.1.0/DiagnosticReportSearch-COVIDQuery>
- Identify positive results: create new case investigations and contact tracing
- Update lab results and status of the existing cases
- Identify variants of concern

FHIR API for Patient Identity Resolution

- Query FHIR API for the Provincial Client Registry
 - <https://simplifier.net/guide/ca-on-pcr-r4-query-iguide-v2.0>
- Search Patient's Provincial Health Number by MRN
- Search Patient's Provincial Health Number by demographic data
- Augment patient's data (e.g. postal code) from the golden record

FHIR API for Access to COVID-19 Lab Data

- FHIR API to enable access to COVID-19 lab results by patients and healthcare provide
 - Patient access:
<https://simplifier.net/guide/ontariolaboratoriesinformationsystemconsumerquery>
 - Provider access:
<https://simplifier.net/guide/OntarioLaboratoriesInformationSystemProviderQuery1.1.0>

FHIR API for Access to COVID-19 Immunization Data

- FHIR API to enable access to COVID-19 Immunization data by patients and healthcare provide
 - IG is temporarily hosted at <http://sirkovich.com/covax>
 - Will be move to Simplifier.net in the near future
- Use SNOMED CT codes defined in the Canadian Vaccine Catalogue: <https://cvc.canimmunize.ca>
 - Vaccine Tradename and Agent/Generic codes (many are in the Canadian SNOMED CT extension)
 - Route of Administration, Anatomical Site, Reporting Source, Target Disease

FHIR API for Submission of Immunization Data

- FHIR API to enable submission of COVID-19 Immunization records by external parties (e.g. doctors' offices and pharmacies) to the provincial immunization repository
 - IG is temporarily hosted at <http://sirkovich.com/covax-submission>
 - Will be move to Simplifier.net in the near future
- Use SNOMED CT codes defined in the Canadian Vaccine Catalogue: <https://cvc.canimmunize.ca>
 - Vaccine Tradename and Agent/Generic codes (many are in the Canadian SNOMED CT extension)
 - Route of Administration, Anatomical Site, Reporting Source, Target Disease

FHIR API for Submission of Adverse Events

- FHIR API to enable submission of AEFI (Adverse Event Following Immunization) data by external parties to the provincial Public Health Case & Contact Management System
 - IG is temporarily hosted at <http://sirkovich.com/aefi>
 - Will be moved to Simplifier.net in the near future
- Questionnaire / QuestionnaireResponse for data collection along with a Patient, Immunization & Practitioner resources submitted as a clinical document / Composition Bundle

Proof of Vaccination / Verifiable Digital Credentials

- Design in progress
- Some references:
 - SMART Health Cards: <https://smarthealth.cards>
 - SMART Health Cards: Vaccination & Testing Implementation Guide: <http://build.fhir.org/ig/dvci/vaccine-credential-ig>
 - W3C Vaccination Certificate Vocabulary: <https://w3c-ccg.github.io/vaccination-vocab>

Contact

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Q&A

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