



# Provincial eForms Solution For Forms used by Community- based Providers

## Status Update for Oscar BC

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Information Management / Information Technology Services, PHSA  
Serving BC Health Authorities and the BC Ministry of Health

# Purpose of Presentation

1. Solution Vision
2. Product Overview
3. Provide update on progress to date
  - Product Status
  - Form Onboarding Status
  - Form User Onboarding Status
  - Form Recipient Onboarding Status
4. EMR Value Proposition



# Solution Overview and Vision



All healthcare forms\*

Always up-to-date

All points of service

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Pre-populated where possible

Delivered electronically

\*Scope is forms used by community-care providers which are required by HAs, MoH and other organizations that require health-related content (ie: RoadSafetyBC, ICBC)

# Business Problem

- Our Health System is addicted to our inefficient paper-based forms and fax process



- All stakeholders (MDs, EMRs, Form Owners, Patients) are extremely dissatisfied with the current process



- The current system is costing the entire system significant operational \$

- Large risk with status quo (i.e. misdirected or misplaced faxes, lack of traceability)

- Fax is a considerable barrier to improving the efficiency of our healthcare system



<i>Top Pain Points identified by Physicians and EMR Vendors</i>	Governance	Form Standards	PDF Repository	Electronic Repository
Anyone can create a form, resulting in too many forms (many which are redundant)	✓			✓
No single source of truth	✓		✓	✓
Poor quality of forms sent to vendors (ie: hard to get clean pdf)		✓	✓	✓
Lack of information for each form (owner, contact info, version, etc)		✓	✓	✓
Unrealistic expectations by physicians for having forms developed in the EMR		✓		✓
Forms are not easily translated into electronic format		✓		✓
Frequent requests for updates				✓
Lack of funding to support form creation				✓
No acknowledgement by Health Authorities about effort to create forms in EMRs	✓			✓
Physicians are the middle-main between EMR Vendors and form owners				✓

# Solution Vision

- ✓ Clinician works either exclusively in their EMR of choice, or uses Form Launcher (web-based form access) to search, complete and send forms
  - ✓ *Support efficient workflow, including 'save to drafts'*
- ✓ EMR/Launcher queries a central repository which contains form definition for all Health forms
  - ✓ *Form Owners can easily and quickly update their forms*
  - ✓ *Provider always uses most up-to-date form*
  - ✓ *Reduce wasted time re-submitting forms completed on the wrong version*
- ✓ EMR/Launcher auto-populate data into form (EMR provides Client and Provider; Launcher includes search of EMPI (Enterprise Master Patient Index - all BC citizens) and PLRc (Provider Location Registry - all BC Providers))
  - ✓ *Reduces data-entry time and effort*
- ✓ Form guides user in completion and enforces required fields
  - ✓ *Mandatory fields significantly reduce incomplete forms*
  - ✓ *Improved user experience*
- ✓ Completed form sent in a message format that can be consumed by another clinical / business system
  - ✓ *No need to manually re-enter data, saving time and reducing data-entry errors*
  - ✓ *The ability to provide automated back-end processing responses to the end user*

✓ Scalable standards-based architecture  
➤ Avoid proprietary solution and vendor lock in  
➤ Avoid custom one-off solution



# Product Overview



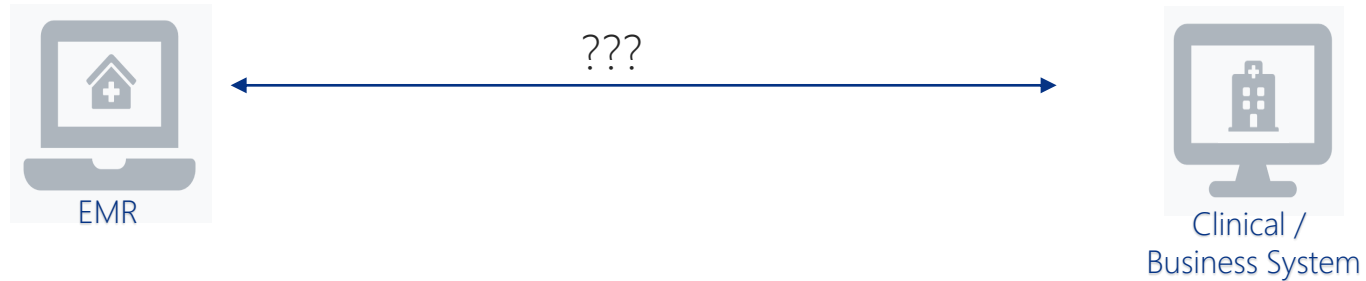
# Technical Challenges

## 1. Sharing 'Discrete' Data



1. Data entry (costly, slow, prone to errors)
2. Inability to respond effectively

## 2. Integration

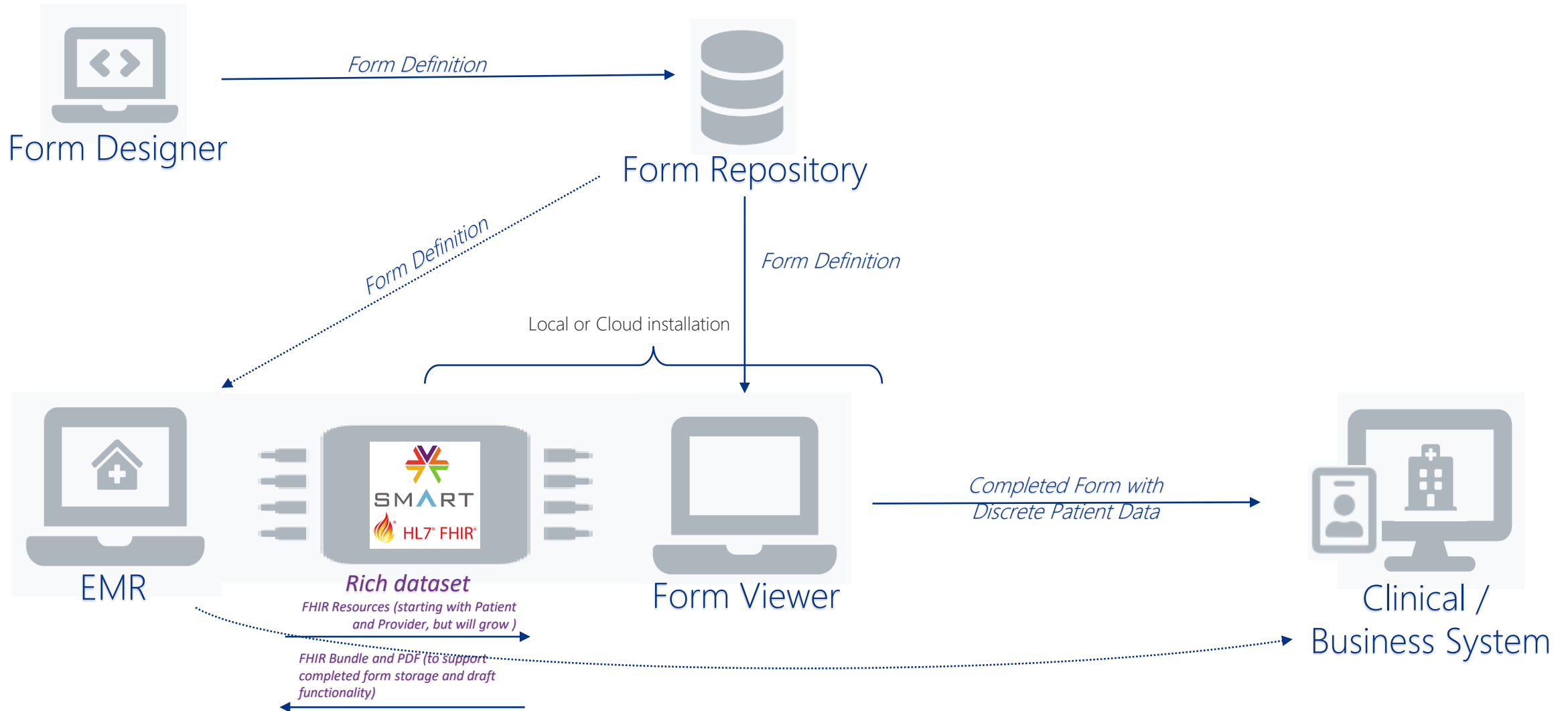


# Technology Foundation



- What is FHIR?
  - Fast Healthcare Interoperability Resources (FHIR), is an international standard for exchanging healthcare information
  - Language for exchanging Discrete Clinical Data
  - A Core Health Level 7 standards (HL7)
  - In wide international use; US has recently mandated use of FHIR APIs for key use cases including patient access to data
- What is SMART?
  - Substitutable Medical Applications, Reusable Technologies (SMART), is a standard framework that allows the development of healthcare applications that can be run across many different vendors
  - Integration framework between an EMR and an Application
  - SMART provides the framework authentication, privacy, security, data exchange rules, etc
  - Once vendors have implemented the SMART on FHIR framework, it's simple for any SMART on FHIR application to easily "plug and play" into their software

# High-Level Architecture



# Privacy and Security Considerations

- Based on International Standard that has been adopted by a significant number of large Healthcare organizations
- Deployment can be in local or cloud environment
- Extensive Privacy Impact Assessment (PIA) and rigorous Security Threat Framework Assessment (STRA) processes conducted on the solution, including specific re-reviews for changes as the solution evolves
- Data only in transit and is not held for analytics purposes
- The Provincial eForm solution is funded by Ministry of Health and managed by PHSA

# Seeing it in action

Click for Fake EMR

CBT Program Referral:

<https://phsaehealth-eformsweb.azurewebsites.net/cbtskillsgroup/form/6053c4165a305bbae3e97aa1>

Immunizations eForm:

<https://phsaehealth-eformsweb.azurewebsites.net/qa/form/5fd5008345f08cc7e50f64c4>

RoadSafety DMER Wizard:

<https://phsaehealth-eformsweb.azurewebsites.net/roadsafetybc/form/5e6baff84b53d0823c54474a>

# But It's not just about forms

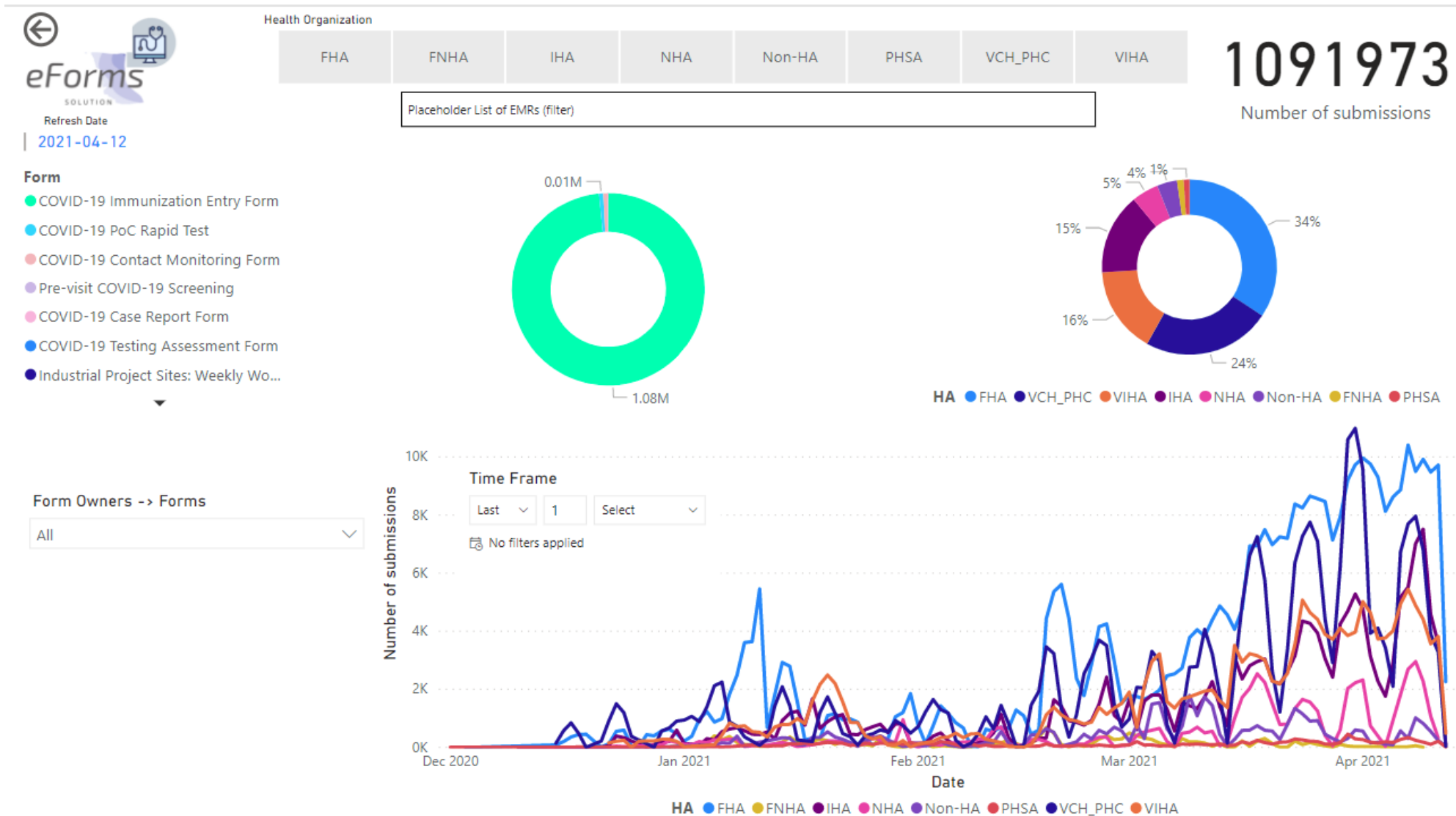
- It's a new development approach and connectivity model
- Smart on FHIR integration – enables your EMR to connect to any SMART APP
  1. We start with the Provincial eForms Viewer – address all concerns raised by EMR vendors through collaborative design process
  2. You can expand to many SMART App currently available, including those developed by Boston Children's Hospital, Cerner, and Surescripts



# EMR Implementation Consideration

- EMR chooses which forms to implement
  - ✓ Forms that aren't already in EMR
  - ✓ Forms that change frequently
  - ✓ Forms that provided real-time information post submission
  - × Forms included in EMR workflows
  - × Forms that support additional user-functionality

# We Are Live Today! (Stat as of April 12<sup>th</sup>, 2021)





# What about me!

- Provincial eForms Solution access is expected to be available in the OSCAR EMR before the end of 2021; currently in early stages of reviewing implementation options
- Forms available on go-live TBD in collaboration with the OSCAR community (via OSCAR BC) and individual OSPs
- While forms continue to be added to the Provincial eForms registry, OSCAR users can continue to use a mix of forms local to OSCAR and hosted within the Provincial eForms solution
  - As new hosted eForms are made available by the form owner, they can be enabled within the EMR





# Appendix

A decorative banner with a teal and dark blue background. It features various medical icons: a white medical bag with a cross, a caduceus, a stethoscope, an eye, a heart, a pill, and a DNA helix. There are also glowing light effects and a smartphone on the left.

# Solution Status

# Form Onboarding Status

Status	HA Users	Community-based Providers	Patients
In Production	<ol style="list-style-type: none"> <li>Digital Vaccine Solution 1.0</li> <li>IHA Public Health (x2)</li> <li>BCCDC Case Form</li> <li>Point of Care Lab Test</li> </ol>		
In Development	<ol style="list-style-type: none"> <li>NHA Public Health</li> </ol>	<ol style="list-style-type: none"> <li>MoH Special Authority (~200 forms)</li> <li>LM MRI</li> <li>VCH Echo cardiology</li> </ol>	<ol style="list-style-type: none"> <li>Covid screening</li> </ol>
In Take	<ol style="list-style-type: none"> <li>Red Cross MEPP</li> <li>VCH Integrate Practice Unit</li> </ol>	<ol style="list-style-type: none"> <li>RoadSafetyBC Driver's Medical</li> <li>PHSA Post Covid Recovery Centre (x2)</li> <li>BCCH Complex Chronic Diseases Program</li> <li>VCH Cardiology Referral</li> <li>CBT Referral Form</li> <li>BC Cancer Referral Form</li> </ol>	<ol style="list-style-type: none"> <li>LM HIM Request for Information</li> <li>PHSA Post Covid Recovery Centre</li> </ol>
Early Discussions	• #s	• #s	• #s

# Form User Onboarding Status (Launching eForms)

Status	Health Authorities	Community-based Providers
In Production	<ul style="list-style-type: none"><li>• Launcher used by all HAs (includes internal and external access)</li></ul>	
In Development		<ol style="list-style-type: none"><li>1. iClinic – almost complete</li><li>2. IntraHealth –almost complete</li><li>3. Bright Health – development underway</li><li>4. Mustimuhw – development underway</li><li>5. QHR – development planning underway</li><li>6. OscarBC – development planning underway</li><li>7. Well Health (Oscar) – development planning underway</li></ol>
In Take	<ul style="list-style-type: none"><li>• VIHA Cerner</li></ul>	
Early Discussions	<ul style="list-style-type: none"><li>• New St. Paul's Hospital (CST Cerner)</li></ul>	<ol style="list-style-type: none"><li>8. Telus EMRs (Med Access, Wolf), InputHealth</li><li>9. Plexia</li></ol>

# Form Recipient Onboarding Status (Consuming eForms)

Status	Health Authorities	Community-based Providers
In Production	<ul style="list-style-type: none"><li>• Send to Restful API</li><li>• Send to 'our' Database, including sFTP to 'your' Database</li><li>• Clinical Systems: Provincial Immunizations Registry</li><li>• <i>Message sent to the eForms Viewer:</i><ul style="list-style-type: none"><li>• <i>generic ('Thank you')</i></li><li>• <i>customized ('Wait-times are ...')</i></li></ul></li></ul>	
In Development	<ul style="list-style-type: none"><li>• Send to 'your' Database</li><li>• Send to Network Drive, Email, fax</li><li>• Business Systems: Special Authority Transformation</li><li>• <i>Message sent to the eForms Viewer:</i><ul style="list-style-type: none"><li>• <i>Dynamic<sup>1</sup> ('Approved') message</i></li></ul></li></ul>	
In Take	<ul style="list-style-type: none"><li>• Clinical Systems: VIHA Cerner</li><li>• Clinical Systems: Sunset</li></ul>	
Early Discussions	<ul style="list-style-type: none"><li>• New St. Paul's Hospital (CST Cerner)</li></ul>	<ul style="list-style-type: none"><li>• iClinic</li></ul>

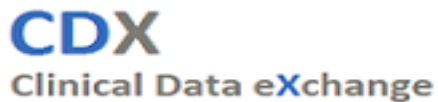
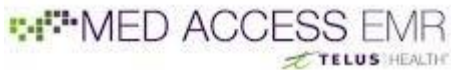
<sup>1</sup> Dynamic messages based on downstream system's response to form content

A decorative banner with a teal and dark blue background. It features various medical icons: a first aid kit, a caduceus, an eye, a stethoscope, a heart, a pill, and a DNA helix. The text "Our Partners" is centered in a white serif font.

# Our Partners



# Our Partners & Progress



BC Centre for Disease Control



Perinatal Services BC

Lower Mainland  
Medical Imaging

