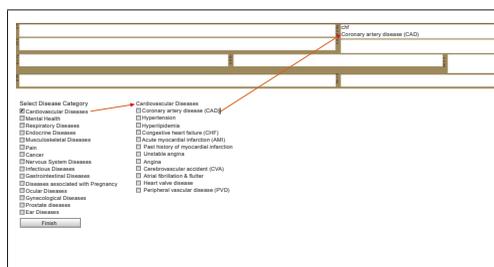# A Partnership Approach to Piloting the Primary Health Care EMR Content Standard:

CIHI and Team-Based Primary Health Care Organizations

eHealth CENTRE OF EXCELLENCE

CIHI ICIS Canadian Institute for Health Information — Institut canadien d'information sur la santé

Objectives

In collaboration with the Centre for Family Medicine FHT eHealth Centre of Excellence (CFFM), the Canadian Institute for Health Information (CIHI) is piloting aspects of the implementation of the pan-Canadian Primary Health Care Electronic Medical Record Content Standard (PHC EMR CS) through a demonstration project.

The goals of the demonstration project are to

- Gather implementation insights to inform future evolution of the PHC EMR CS; and
- Assess the quality of the resulting EMR data for calculation of clinical indicators and comparable reporting.

This initiative is also in partnership with the Connecting South West Ontario program and in alignment with the Ministry of Health and Long-Term Care's Primary Care Data Sharing Strategy.

Our vision
Better data. Better decisions. Healthier Canadians.

Our mandate
To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.
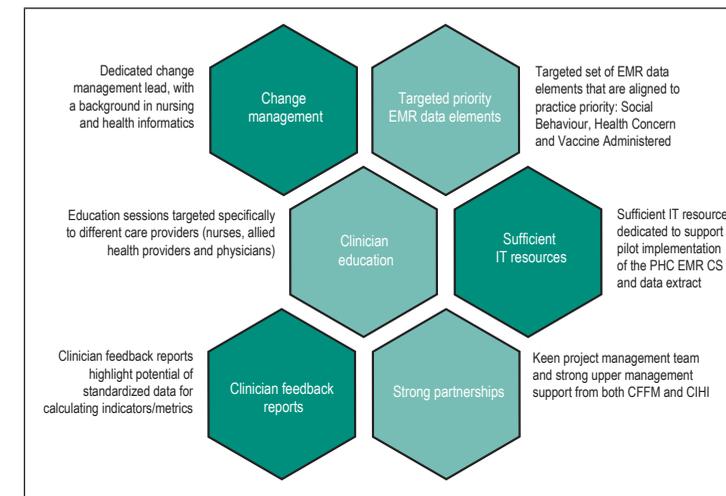
Our values
Respect, Integrity, Collaboration, Excellence, Innovation

Methodology

- CFFM and CIHI identified 30 of the 45 PHC EMR CS data elements for implementation; they are currently collected in the CFFM EMR (see Table 1).
- CIHI provided written documentation and expert advice on the pilot implementation and use of the PHC EMR CS.
- Supported by its IT team and clinical staff, the CFFM project team implemented 3 of 8 CFPLs (Health Concern, Social Behaviour and Vaccine Administered) into the EMR's Cumulative Patient Profile to enable consistent capture of data at the point of care (see Figure 1).
- The CFFM project team also implemented a practice-specific change management plan that included clinician education sessions and tools that were designed with an iterative approach in collaboration with clinicians.
- With implementation complete, de-identified data is extracted from the EMR system and submitted to CIHI for analysis; this will continue throughout the project.
- CIHI maps all data associated with CFPL terms to code sets.
- CIHI generates demonstration project reports — clinician feedback and data quality reports — and sends them to CFFM clinicians. These reports highlight the potential of the PHC EMR CS to create high-quality data and the usefulness of standardized data for indicator calculation.

Figure 1: Screenshot of CFPL implementation in EMR's Cumulative Patient Profile

Table 1: CFFM's list of 30 PHC EMR CS priority data elements for submission to CIHI

CIHI data element number	CIHI data element name	CFFM data table
A1	Patient Identifier	Demographics
A2	Patient Identifier Type	Demographics
A3	Patient Identifier Assigning Authority	Demographics
A4	Patient Date of Birth	Demographics
A5	Patient Gender	Demographics
A9	Patient Status	Demographics
A14	Patient Postal/Zip Code	Demographics
B4	Clinician Identifier	Doctor information
B5	Clinician Identifier Type	Doctor information
C1	Service Delivery Identifier	N/A
C4	Service Delivery Postal Code	N/A
D1	Appointment Creation Date	Appt
D3	Visit Date	Appt/progress notes
E11	Health Concern	PROB field
E12	Health Concern Date of Onset	PROB field
E14	Social Behaviour	RISK field
E23	Systolic Blood Pressure	Progress notes
E24	Diastolic Blood Pressure	Progress notes
E28	Height	Progress notes
E30	Weight	Progress notes
F2	Intervention (Treatment) Date	Progress notes
G1	Lab Test Ordered	Custom form
G2	Lab Test Ordered Date	Progress notes
H3	Lab Test Result Value	Progress notes
H4	Lab Test Result Unit of Measure	N/A
I1	Diagnostic Imaging Test Ordered	Custom form
M1	Prescribed Medication	Rx field
M2	Prescription Date	Rx field
O1	Vaccine Administered	Immunizations
O2	Vaccine Administered Date	Immunizations

Note
Highlighted data elements have an associated CFPL.

Figure 2: Key enablers for pilot implementation of PHC EMR CS

Dedicated change management lead, with a background in nursing and health informatics — Change management

Targeted set of EMR data elements that are aligned to practice priority: Social Behaviour, Health Concern and Vaccine Administered — Targeted priority EMR data elements

Education sessions targeted specifically to different care providers (nurses, allied health providers and physicians) — Clinician education

Sufficient IT resources dedicated to support pilot implementation of the PHC EMR CS and data extract — Sufficient IT resources

Clinician feedback reports highlight potential of standardized data for calculating indicators/metrics — Clinician feedback reports

Keen project management team and strong upper management support from both CFFM and CIHI — Strong partnerships

Conclusions and next steps

A multifaceted approach is being taken to pilot test the implementation of the PHC EMR CS in CFFM. Key enablers include targeting priority EMR data elements, clinician education/change management, IT resources, content standards expertise and strong partnerships (see Figure 2).

Several types of feedback reports will be provided to the CFFM clinicians at the end of the demonstration project. Data quality reports will highlight data elements that can benefit from the use of pick-lists, as well as records with missing or invalid values, dates or units of measure. The PHC indicator report will showcase the potential uses of structured information for the calculation of indicators/performance measures for clinical and health system use. These include chronic disease management metrics, priority indicators such as childhood immunization and obesity, and access and wait time metrics.

Insights and lessons learned from this project may inform how other team-based practices can implement and use the PHC EMR CS as well as its evolution.

Table 2: Clinician-friendly pick-lists

- Health Concern
- Clinician Assessment
- Social Behaviour
- Reason for Visit
- Intervention
- Diagnostic Imaging
- Referral
- Vaccine Administered

About the pan-Canadian PHC EMR CS

The PHC EMR CS v3.0 was developed with input from clinicians, Canada Health Infoway and CIHI. It includes 45 structured priority data elements that are collected at the point of care through an EMR.

In addition, 8 clinician-friendly pick-lists (CFPLs) were developed for 8 EMR data elements to support a variety of needs at the practice and health system levels. Each CFPL consists of clinician-validated terms that are commonly used in PHC settings and that are mapped to code systems (i.e., SNOMED-CT, ICD-10-CA, CCI) at the back end; this mapping is invisible to CFPL users. The list of CFPLs is shown in Table 2.

Some benefits of the pan-Canadian PHC EMR CS include

- Alignment with jurisdictional priorities and primary health care information needs;
- Collection of comparable, structured data at the clinician and practice levels;
- Improved EMR data quality that can help provide additional insights for chronic disease management, quality of care and practice efficiencies; and
- Support for population health analysis and performance measurement that can inform policies surrounding quality, outcomes and access to care.

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At the heart of data

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