

Primary Care Data Sharing Project

Digital Health Week: Clinical Value of Standardizing Primary Care Information Through the Use of EMR Tools

November 15, 2018

Overview: PCDS Proof-of-Concept

- The project will demonstrate the ability for electronic medical records (EMRs) to contribute primary care data to the Electronic Health Record.
- Four family health teams in south west Ontario (SWO) participated in a “**Proof of Concept**” (POC) to help identify the value, challenges and feasibility of sharing primary care data. An additional eight primary care sites have been engaged to participate in **data quality activities**.
- Lessons learned and preliminary recommendations have been compiled to **inform the provincial primary care data sharing strategy**.
- This is a **regional and provincial priority project** that is being supported by the Ministry of Health and Long-Term Care, eHealth Ontario, OntarioMD, the cSWO Program and the Waterloo Wellington, cSWO Change Management and Adoption Delivery Partner, eHealth Centre of Excellence.



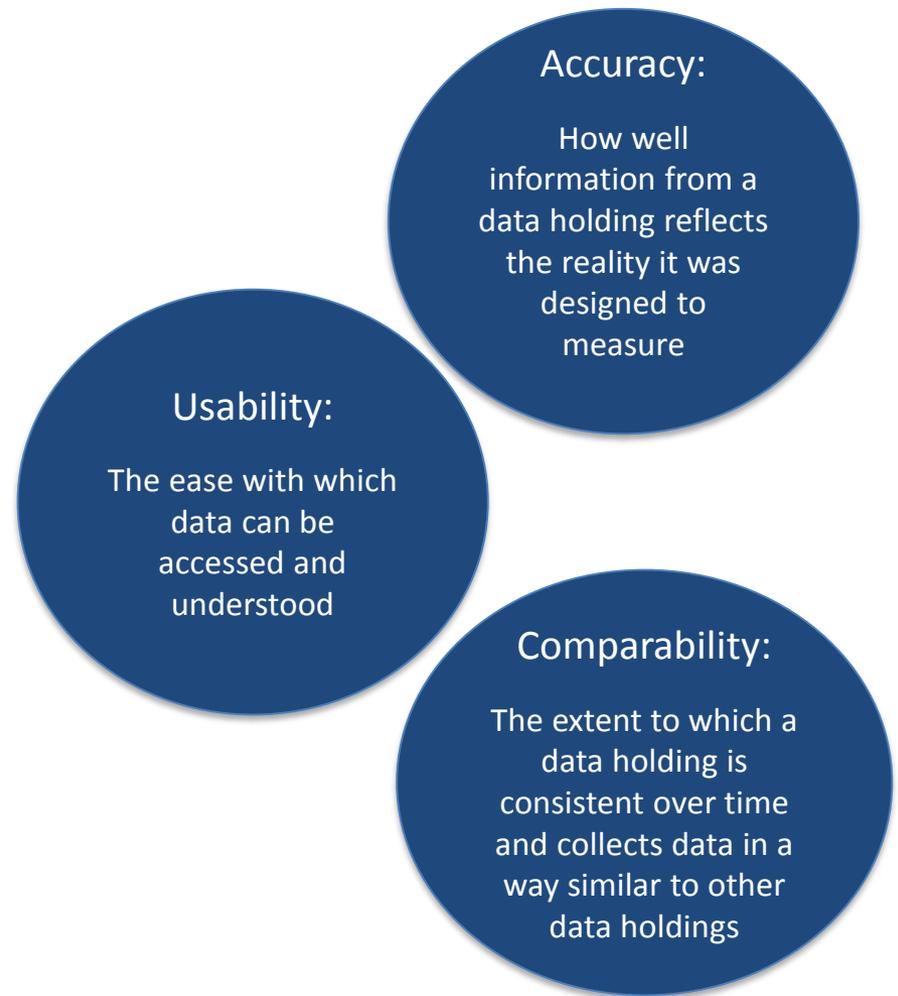
Key Outcomes

1. **Better understand how to manage the sharing of primary care data** (identifying the clinically driven data set, when to share, who to share with, etc.).
2. Better understand how to improve **EMR data quality** and **present data consistently** (for the purposes of improving patient care).
3. **‘Test’ the processes** that need to be in place to support primary care data sharing (resources/capacity, change management, data sharing agreements etc.).
4. **‘Test’ the technology and integration points:** Primary Care Clinical Data Repository (pcCDR), EMR integration, integration with the cSWO Program’s Regional Clinical Viewer, ClinicalConnect™.
5. Assess the **clinical value of sharing primary care data** (benefits realization).

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Data Quality Approach

- Key objective: “better understand how to improve EMR data quality and present data consistently for the purposes of improving patient care.”
- The PCDS project team works with primary care organizations to improve the quality of their EMR data for sharing by:
 - Improving data capture (e.g. helping them code their chronic conditions, identifying areas of the CPP that need to be updated, etc.).
 - Linking data quality efforts to their organizational priorities (e.g. identifying complex patients).
 - Determining how good quality EMR data can support these priorities (e.g. using coded chronic conditions to identify complex patients, resource planning, etc.).



NOTE: Key principles from CIHI’s Data Quality Framework were used as a foundation

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Linking Data Quality to Internal Value

- Clinicians are able to rely on the data because it has been coded, search results are more accurate, and data is more reliable.
- Examples include:
 1. *Generating lists for most complex patients for high value proactive care interventions, such as medication reconciliation or referral to Health Links.*
 2. *Generating patient lists with certain conditions for appropriate chronic disease care.*
 3. *Determining the distribution of chronic conditions to better understand the patient population and direct resources to where they will have the most impact.*

DQ improvement initiatives

Improved documentation and accuracy of patient health information in the EMR

Increased capacity to perform searches on patient population

Improved ability to utilize EMR tools that incorporate best practice guidelines at the point of care

Evidence-based proactive management of patient population

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Two Approaches to Standardizing the Problem List

- 1) Use EMR searches to back code free texted diseases and/or conditions that are listed in the Problem List.
- 2) Use established algorithms inside the EMR to identify patients who have certain diseases and/or conditions but have not been diagnosed (i.e. not listed in the Problem List).

Tool: How to Standardize the Problem List in PSS

The screenshot shows the PSS interface with a navigation bar containing links: QBIC, CHF, CKD, COPD, **Problem List EA**, SOAP, WT, HT, BMI, View Labs, and CMA Guidelines. The 'Problem List EA' link is highlighted with a red box.

Below the navigation bar are two windows:

- zEncounter - Problem_List**: A window with a 'File' menu and a list of disease categories. The categories are: Cancer, Cardiovascular Diseases, Ear Diseases, Endocrine Diseases, Gastrointestinal Diseases, Gynecological Diseases, Hematologic Diseases, Infectious Diseases, Kidney Diseases, Mental Health, Musculoskeletal Diseases, Neurological Diseases, Ocular Diseases, Pain, Diseases associated with Pregnancy, Respiratory Diseases, Urologic Diseases. At the bottom, there are buttons for 'Discard', 'Finish Later', and 'Finish'. A note at the bottom says: 'Please click 'Discard' button when finished'.
- zEncounter - PL_cardiovascular diseases**: A window with a 'File' menu and a list of cardiovascular diseases. The diseases are: Acute myocardial infarction (AMI), Angina, Aortic Root Dilatation, Atrial Fibrillation, Congestive Heart Failure (CHF), Coronary artery disease (CAD), Heart valve disease, Hypertension, Hyperlipidemia, Left Ventricular Hypertrophy, Past history of myocardial infarction, Peripheral vascular disease (PVD), and Unstable angina. Each disease has a checkbox next to it. At the bottom, there are buttons for 'Discard', 'Finish Later', and 'Finish'.

Example: Identifying Complex Patients for Proactive Care

Identification process

Primary Care Sites can run an algorithm on their EMR coded data to pull a list of their most complex patients.

Results

Primary care can generate a list of patient for high value proactive care interventions, such as medication reconciliation

Who made the list?

Patients who are ≥ 55 years of age, with 4+ chronic conditions, and 5+ active medications.

Importance of data quality

Coded chronic conditions in the EMR increase the accuracy of the search and make it easier to modify.

- There is the option to include risk factors as part of the algorithm: current smoker and/or has 5 or more alcoholic drinks per week

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Identifying Complex Patients for Proactive Care

– Sample Output

	A	B	C	D	E	F	G
1	Patient #	Age	num_chronic_conditions	num_active_treatments	smoking	alcohol_risk	
2	#	85	4	25	FALSE	FALSE	
3	#	60	7	23	TRUE	FALSE	
4	#	61	4	25	FALSE	FALSE	
5	#	64	4	22	FALSE	FALSE	
6	#	85	4	21	FALSE	FALSE	
7	#	56	4	22	FALSE	FALSE	
8	#	82	6	21	FALSE	FALSE	
9	#	85	6	22	FALSE	FALSE	
10	#	71	6	23	FALSE	FALSE	
11	#	75	4	22	FALSE	FALSE	
12	#	66	5	21	FALSE	TRUE	
13	#	69	4	27	FALSE	FALSE	
14	#	87	4	22	FALSE	FALSE	
15	#	60	4	23	TRUE	FALSE	
16	#	91	4	21	FALSE	FALSE	
17	#	78	5	28	FALSE	FALSE	
18	#	80	7	22	FALSE	FALSE	
19	#	73	4	27	FALSE	FALSE	
20	#	87	5	22	FALSE	FALSE	
21	#	80	5	23	FALSE	FALSE	
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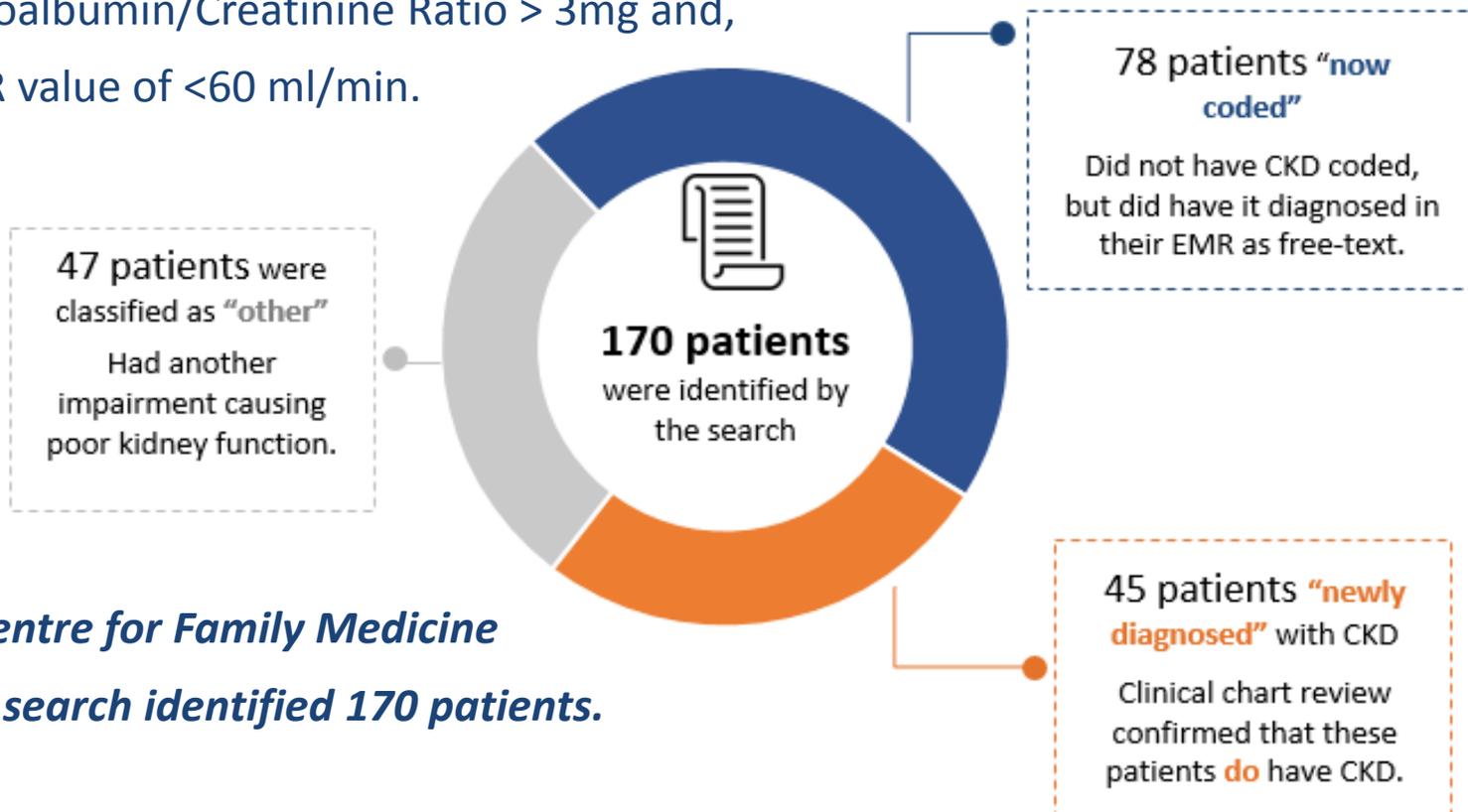
Navigation: Physician A | **Physician B** | (+)

READY

Example: An EMR search that identifies undiagnosed CKD patients

In order to identify patients who may have CKD but have not been diagnosed or coded in the EMR, an EMR search was developed based on:

- Microalbumin/Creatinine Ratio > 3mg and,
- eGFR value of <60 ml/min.



*At the Centre for Family Medicine
FHT, the search identified 170 patients.*

Questions