

Promoting Widespread Use of Clinical Analytics in Canada's Primary Care Sector





“

Data collection might be the single greatest advantage that new technologies can offer to health care.

In the past, providers have been totally divorced from the results of their work.

If you were to ask a family physician how many people they've helped quit smoking they'd never be able to tell you, and that's probably the most effective thing a clinician can do (for a patient's health).

”

Dr. Sanjeev Goel

Wise Elephant Family Health Team, Brampton, ON

Can you perform these tasks within your EMR to support patient care?

- List patients who are due or overdue for tests or preventive care (e.g., flu vaccine)
- Generate reminder notices when it is time for regular preventive or follow-up care (e.g., HbA1c tests for patients with diabetes)
- Generate reminders for guideline-based interventions and/or screening tests



69%



48%

49%

18%

69%

26%



Does your EMR support performance measurement and quality improvement analysis?

- Review clinical performance against targets at least annually
- Routinely receive information on how the clinical performance of their practice compares with that of other practices
- Measure patient outcomes or experiences



52%



41%

37%

17%

51%

23%



NET



NZ



UK



NOR



US



CAN



SWIZ



GER



AUS



SWE



A lot of
data, but
limited
information

What value can be created through the analysis of EMR data?



Population

Surveillance



Practice

Outcomes



Patient

Alerts

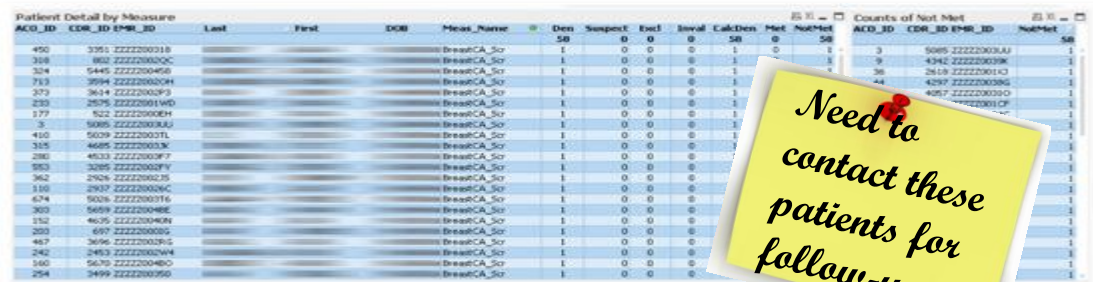
An analytics example

Descriptive

The simplest type of analytics is focused on **what has happened** in the past

Example

A query that produces a summarized list of patients with diabetes that haven't been seen by their primary care team in more than 1 year for the management of their condition



The screenshot shows a table titled 'Patient Detail by Measure' with columns: ACD_ID, CDR_ID, EPR_ID, Last, First, DCM, Meas_Name, Den, Suspect, Eval, Inval, CalcDen, Met, NotMet. The table lists 254 patients. A yellow sticky note with a red pushpin is overlaid on the right side of the table, containing the text: 'Need to contact these patients for follow-up'.

ACD_ID	CDR_ID	EPR_ID	Last	First	DCM	Meas_Name	Den	Suspect	Eval	Inval	CalcDen	Met	NotMet
490	3351	ZZZZ200318				DiabeticCA_Sor	1	0	0	0	1	0	1
218	1802	ZZZZ20020C				DiabeticCA_Sor	1	0	0	0	1	0	1
324	5445	ZZZZ200450				DiabeticCA_Sor	1	0	0	0	1	0	1
713	3994	ZZZZ200204				DiabeticCA_Sor	1	0	0	0	1	0	1
273	3614	ZZZZ200209				DiabeticCA_Sor	1	0	0	0	1	0	1
230	2575	ZZZZ200190				DiabeticCA_Sor	1	0	0	0	1	0	1
177	522	ZZZZ2000E1				DiabeticCA_Sor	1	0	0	0	1	0	1
3	5005	ZZZZ2000AJ				DiabeticCA_Sor	1	0	0	0	1	0	1
410	5039	ZZZZ2003TL				DiabeticCA_Sor	1	0	0	0	1	0	1
315	4685	ZZZZ20033K				DiabeticCA_Sor	1	0	0	0	1	0	1
286	4533	ZZZZ2000FF				DiabeticCA_Sor	1	0	0	0	1	0	1
503	3295	ZZZZ2002FY				DiabeticCA_Sor	1	0	0	0	1	0	1
362	2906	ZZZZ2002J5				DiabeticCA_Sor	1	0	0	0	1	0	1
110	2937	ZZZZ20020C				DiabeticCA_Sor	1	0	0	0	1	0	1
474	5038	ZZZZ2003T6				DiabeticCA_Sor	1	0	0	0	1	0	1
303	5659	ZZZZ20040E				DiabeticCA_Sor	1	0	0	0	1	0	1
132	4635	ZZZZ20040N				DiabeticCA_Sor	1	0	0	0	1	0	1
303	607	ZZZZ200309				DiabeticCA_Sor	1	0	0	0	1	0	1
487	3696	ZZZZ20032G				DiabeticCA_Sor	1	0	0	0	1	0	1
242	2453	ZZZZ2002N4				DiabeticCA_Sor	1	0	0	0	1	0	1
160	5670	ZZZZ20040D				DiabeticCA_Sor	1	0	0	0	1	0	1
254	3499	ZZZZ200350				DiabeticCA_Sor	1	0	0	0	1	0	1

A second example of analytics ...

Predictive

An advanced form of analytics that is focused on forecasting **what may happen** in the future

Example

The analysis may use structured and unstructured data from the EMR as well as other sources to **predict** which patients may be at risk of a serious health setback leading to costly interactions with the health care system





Canadian Primary Care Sentinel Surveillance Network
Réseau canadien de surveillance sentinelle en soins primaires



Environmental scan of practices

- the Health Information Privacy Group (HIPG) Secondary Use Governance Sub-Committee.
 - environmental scan looked at existing secondary use governance approaches across Canada.
 - Key findings:
 - there is considerable variation among jurisdictions
 - each jurisdiction has a different mix of legislation, policies and practices for governing its secondary uses
 - formal policies/guidelines for defining and de-identifying record level data are not yet common in Canada

Common Understandings for Secondary Use

- the Health Information Privacy Group (HIPG) Secondary Use Governance Sub-Committee.
 - Developed a series of Common Understandings
 - principles which HIPG members generally agree should be adopted to enable secondary use of health information that respects privacy principles.
 - The focus for the Common Understandings is on secondary use of Electronic Health Records, but could apply to other information systems, including Electronic Medical Records of other Point of Service systems
 - Common understandings are grouped under three themes:
 - Foundational Principles
 - Governance for Secondary Use
 - Processes to Support Secondary Uses

Common Understandings – Foundational Principles

1. *Authorities for Secondary Uses*

- Jurisdictions should establish policy to guide and support secondary uses of PHI.
- Where there are no authorities for jurisdictions to share information with pan-Canadian organizations, jurisdictions should establish policy to set strategic directions or priorities on authorities for information sharing with pan-Canadian organizations or for pan-Canadian initiatives.

2. *Clear Purpose for Secondary Use*

- All secondary uses must have a clearly articulated purpose

3. *Sharing Information for Secondary Use Across Jurisdictions*

- Jurisdictions should have appropriate mechanisms to instill confidence in information sharing for secondary use across jurisdictions. These mechanisms should include policy frameworks that clearly identify legal authorities, management/privacy practices, and governance structures, and should be supported by appropriate communications strategies.

Common Understandings – Governance for Secondary Use

4. *Governance/Stewardship Bodies*

- Jurisdictions should have governance for secondary use which is structured, has clear roles and responsibilities, and is composed of appropriate representatives, with the necessary skills and knowledge.

5. *Pan-Canadian Secondary Use Coordination*

- A coordinating group, such as the one proposed in the HIPG's 2012 Common Understanding #52, could address, as part of its agenda, the following items related to secondary use: the need for the development of a multi-lateral information sharing agreement template and endorsement of standards and best practices for privacy-protective information sharing.

Common Understandings – Governance for Secondary Use (Continued)

6. *Processes for Secondary Use – Health System Planning, Delivering, and Management*

- Jurisdictions should have clear processes to support secondary use that are commensurate with privacy risks of that collection, use, or disclosure.
- To support this, jurisdictions should clearly delineate what constitutes planning, delivering, or managing of the health system, rather than research.

7. *Definition of "De-identified"*

- The term "de-identified" should be supported by use of widely-accepted methodologies/tools for de-identification which would result in a data set with a very low risk of re-identification.

8. *Practices to Minimize the Risk of Re-identification*

- Jurisdictions should adopt evidence-based processes (e.g., threat modeling) to rigorously determine re-identification risk, and risk tolerance should be determined on a case-by-case basis.

Common Understandings – Governance for Secondary Use (Continued)

9. *Data-Sharing Agreements for De-Identified Information*

- Jurisdictions should consider using data-sharing agreements to mitigate the risk associated with sharing de-identified information

10. *Shareable Data Sets*

- Jurisdictions should develop data sets that have been prepared and are ready to be broadly shared in support of secondary use by third parties.
- Timely privacy impact assessments should be conducted for developing technologies, such as data warehousing and other business intelligence tools.

Common Understandings – Processes to Support Secondary Use

11. *Auditing of and Compliance with Information Agreements Governing Secondary Use*

- Jurisdictions should clearly outline terms and expectations, including the ability to audit when sharing information for secondary purposes.
- Jurisdictions should have processes by which compliance with these terms/conditions is audited and these should be commensurate with the determined level of privacy risk.

12. *Assessment of 'Secondary Use Maturity'*

- Jurisdictions should regularly assess and set targets related to secondary use maturity, including governance.

13. *Public Awareness Concerning Secondary Use*

- Jurisdictions should consider clearly communicating to the public about the secondary use of PHI as a means to improve transparency and accountability.

Next Steps

- The *Common Understandings on Secondary Use Governance* will be incorporated into the *Privacy and EHR Information Flows in Canada: Common Understandings of the Pan-Canadian Health Information Privacy Group* version 3

Questions



Connect with and follow us

E-mail: mnenadovic@infoway-inforoute.ca

Website: www.infoway-inforoute.ca

Blog: <http://infowayconnects.infoway-inforoute.ca/>

Twitter: @Infoway <https://twitter.com/infoway>

Facebook: <https://www.facebook.com/CanadaHealthInfoway>

LinkedIn: <https://www.linkedin.com/company/canada-health-infoway>



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Thank you