Evaluating a new tool for identifying and sharing innovative practices in Canada

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Presentation Agenda

- Health Council of Canada
- Health Innovation Portal:
  - Overview
  - Evaluation Methods
  - Evaluation Results
  - Next Steps

About the Health Council of Canada

- Mandated to identify and spread information on innovation in health care across the country – the practices, policies, programs, and services that are improving health outcomes and/or the way health care is delivered
  - Reports
  - Health Innovation Portal

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Canadian Health Innovation Landscape

Innovating and Piloting

Awareness Gap

Identifying and Sharing

Adaptation Gap

Implementing

Evaluation Gap

Lifecycle of Health Innovation

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Search for innovative practices | Search

ADVANCED SEARCH OPTIONS

Theme | Jurisdiction | Source | Category

-From | -To | Apply

Publication Date (Start → End)

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eMedication Reconciliation (The Ottawa Hospital)

JURISDICTION:	Ontario	HEALTH THEME:	Pharmaceuticals Management
FRAMEWORK CATEGORY:	Emerging	PUBLICATION DATE:	May 2013
ORIGINAL SOURCE:	Progress Report 2013: Health care renewal in Canada		

PRACTICE DESCRIPTION:

The Ottawa Hospital piloted a new electronic medication reconciliation (Med Rec) module from November 2011 to February 2012, as one component of its broader Medication Transformation Strategy. The pilot was limited to the medical service units at the hospital's Civic Campus and included 80 patients. It focused on patient flow from the Emergency Department to the inpatient units. Since the pilot ended, work has been done to reconfigure the technology based on feedback that was received from the pilot. The revised electronic medication reconciliation module is being re-piloted on the same units as of January 2013, with a plan to do a staged roll out across the entire ~1,100 bed hospital by June 2013. The goal of this initiative is to reduce the risk of adverse drug events, as well as ensure accurate and comprehensive medication information is accessible and communicated consistently to clinicians across points of care. It alters the way in which the health care system documents patient medications and follows the patient's medication longitudinally from outside the hospital to inside the hospital to their return to the community. This initiative was implemented because medication reconciliation became an Accreditation Canada requirement. Moreover, it became a corporate priority because there were significant challenges with the paper-based medication reconciliation process. In particular, there was wide variability in how diligent physicians were in completing the paper-based forms, and it was difficult to audit the process to determine and manage compliance.

The hospital's electronic medication reconciliation module, which is seamlessly integrated with the hospital's electronic he
record, allows pharmacists or pharmacy technicians to complete the Best Possible Medication History (BPMH), and physi
to complete the admission, transfer, and discharge medication reconciliation, all using a mobile iPad or desktop applicatio
The solution also features alerts for clinicians and automatically populates the discharge summary with prescriptions and
information for the pharmacist and primary care provider.

The Best Possible Medication History (BPMH) is collected by a pharmacist or pharmacy technician at the bedside where
medication information is entered directly into the electronic Med Rec application. The clinician provides complete
documentation for each prescription and non-prescription drug (including herbal supplements) the patient is currently taki
This includes the drug name, dosage, route of administration and frequency, as well as the source of information used to
the medication history. The physician writes the admission medication orders on paper and they are entered into the pha
computer system. The electronic Admission Medication Reconciliation (AMR) worksheet displays the BPMH and the cu
medication list. The physician is responsible for reconciling both of these lists and must set a specific disposition for each
medications that are listed. A confirmation feature allows the physician to make only a single reconciliation decision whe
exact match exists between the BPMH and the current medication the patient is receiving in hospital. The physician goes
through the same basic steps to complete Medication Reconciliation at transfer (TMR) and discharge (DMR). The electro
discharge prescription is generated from the DMR. This prescription identifies BPMH drugs that should continue after
discharge, BPMH drugs that have been discontinued and should not be resumed after discharge, and new medications th
were started in the hospital. For new medications that were started in the hospital that were not on the BPMH list, the
application prompts the physician to specify the prescribed quantity, number of refills, and allows free text for dispensing
instructions. The prescription is then printed and signed.

It takes on average 15 minutes to complete a BPMH, and approximately 5 minutes for physicians to complete each of the
electronic medication reconciliation activities.

This initiative is funded through The Ottawa Hospital's operational budget. As well, Canada Health Infoway has provided
financial support that contributes to the hospital's overall electronic infrastructure.

IMPACT:

An audit of ~70 medical charts was conducted to examine compliance with the electronic medication reconciliation proces
the end of the pilot, there was 100% compliance among pharmacists and pharmacy technicians in obtaining the BPMH w
hours of admission because the system provides an alert on any outstanding history's that have not been completed.
Physician compliance with doing electronic medication reconciliation was similarly very high in the pilot, close to 100%, h
the physicians were not always able to perform their reconciliation activities within 24 hours of admission because they h

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wait for the med history (BPMH) to be completed first. The physicians felt, and continue to feel, that this performance target is inappropriate due to the delays inherent in the process. This issue existed with the old paper process but went unaudited. Since the pilot was initiated, there has been a drop in the number of unexplained medication discrepancies at discharge from an average of 3 per patient to 0.7.

The Ottawa Hospital was the first place recipient of Canada Health Infoway's 2012 ImagineNation Outcomes Challenge Trailblazer Award in the Medication Reconciliation category.

One of the key lessons learned from the pilot was that taking a diligent medication history requires time which has an impact on the organization's resources due to increased workload. There was a lot of physician resistance to using the electronic medication reconciliation process because it involved a more time consuming process. The hospital leadership team needs to be involved in communicating expectations to physicians that electronic medication reconciliation is a corporate priority.

APPLICABILITY/TRANSFERABILITY:

The electronic medication reconciliation process at The Ottawa Hospital has not been implemented elsewhere, and the results have not been replicated in any other settings. However, the initiative is theoretically applicable and replicable elsewhere.

Content was adapted from the following sources and relevant websites:

CONTACT INFORMATION:

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Information last updated on: April 2, 2013

External Source: http://www.imaginenationchallenge.ca/outcomes-challenge/medication-reconciliation-2/

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Innovative Practices Evaluation Framework™ Matrix

EVALUATION CRITERIA	FRAMEWORK CATEGORIES		
	EMERGING PRACTICE	PROMISING PRACTICE	LEADING PRACTICE
Quality of Evidence	There is information from personal accounts and/or informal observations that has evaluated the practice and/or formal evaluation is ongoing.	There is preliminary research that has evaluated the practice (e.g., pilot studies).	There is high quality research that has evaluated the practice (e.g., appropriate and rigorous evaluative methods, publication in a peer-reviewed academic journal).
Impact	Results are emerging and indicate the practice can have a positive impact on health outcomes and/or health care system performance.	Results (with some variability) demonstrate the practice has a positive impact on health outcomes and/or health care system performance.	Results consistently demonstrate that the practice has a positive impact on health outcomes and/or health care system performance.
Applicability	The practice has only been implemented in one setting but is theoretically applicable to other settings.	The practice has been implemented in at least one other setting.	The practice has been implemented in multiple additional settings.
Transferability	The results have not been replicated in another setting but are theoretically replicable elsewhere.	The results have been replicated in at least one other setting.	The results have been replicated in multiple settings.

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Value Add of the Health Innovation Portal

- Appropriate/Transparent Evaluation Criteria
- Content Breadth
- Content Utility
- Site Usability/Functionality

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Evaluation Overview

1. What is the **awareness** of the HIP's existence?
2. Who is the **user**? Who should the user be?
3. What is the **role/purpose** of the HIP? What should the role/purpose of the HIP be?
4. Is the HIP adding **value** to the user? What can be changed about the HIP to add value to the user?
5. What do users like/dislike about the HIP's **functionality/ usability**? What would they like to see in terms of functionality/ usability?

Evaluation Targets and Methods

METHODS

TARGET	**Google Analytics/ CMS Reports** (Oct 24, 2012 – Apr 30, 2013)	**Online Quantitative Survey** (Apr 8 – May 6, 2013) 34 respondents	**Qualitative Interviews via Telephone** (Apr 8 - 24, 2013) 14 interviewees
Awareness	✓	✓	✓
User		✓	✓
Purpose		✓	✓
Value		✓	✓
Functionality	✓	✓	✓

Awareness

How Respondents First Hear about the Health Innovation Portal

Through word of mouth
HCC website
HCC Twitter feed
Through another organization's website, newsletter or email
HCC email
HCC report or other publication
HCC e-newsletter
HCC conference presentation
Other

0 2 4 6 8 10 12 14 16

Number of Respondents

I will visit the Health Innovation Portal again.

Number of Respondents

18 16 14 12 10 8 6 4 2 0

Very Unlikely	Unlikely	Likely	Very Likely
0%	3%	48%	48%

Users

*based on survey respondents

Survey Respondents : Professional Role

Health Care Provider / Clinician
Senior Management (e.g., CEO, VP, Director)
Program Lead (e.g., Manager)
Policy Analyst / Project Coordinator
Student
Researcher
Other

0 1 2 3 4 5 6 7 8

Number of Respondents

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Purpose

"I wanted to see what other jurisdictions were doing"

– Informant from CADTH

"I don't believe in reinventing the wheel*."* - Informant from the Victorian Order of Nurses (VON)

There isn't a lot of ***cross-jurisdictional conversation.***

– Informant from the Government of Manitoba

"An easy searchable (tool) that you ***wouldn't find*** *necessarily doing the standard literature search of just journal articles, or pub med or something is helpful"*

- Informant from the University Health Network

"It's that ***one stop shop****, that repository of innovative ideas that people could be exposed to…."*

-Informant from Canadian Nurses Association

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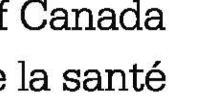
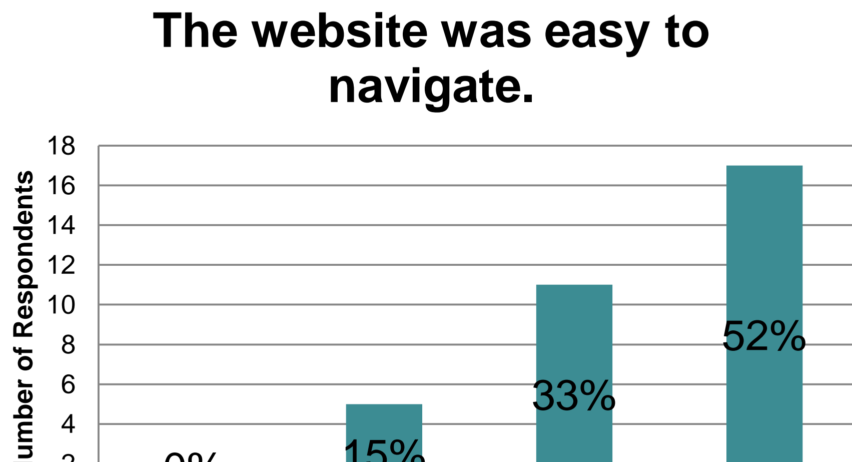
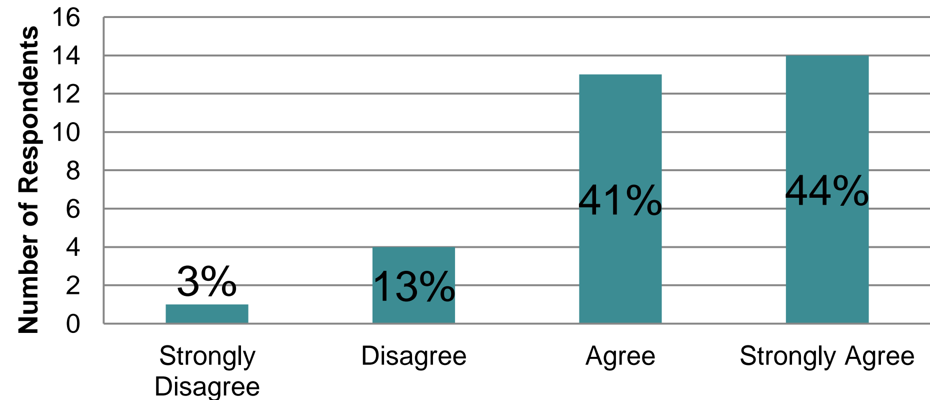
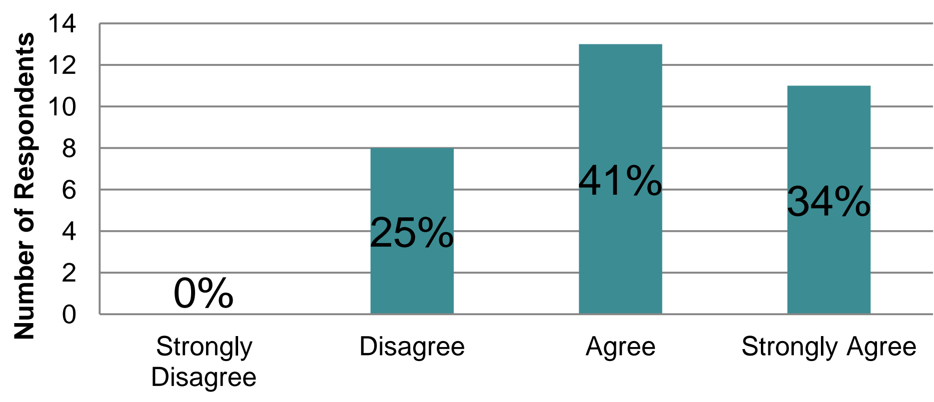


Functionality







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The not so good…

- Search functionality isn't clear
- Search results were confusing
- Would like more information about cost/human resources in descriptions
- More collaboration with others doing similar work

Next Steps

- Ongoing website refinements
  - Search Functionality
  - Strengthening Partnerships
  - Adding Content

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Final Thought

"Many ideas grow better when transplanted into another mind than the one where they sprang up."

— Oliver Wendell Holmes

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