Electronic health records’ (EHR) landscape in Canada: current state of adoption, benefit and factors driving them

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Outline

- Background
- Objective
- Approach
- Results
- Conclusions
Infoway’s vision

Healthier Canadians through innovative digital health solutions
Objectives

- Adoption of EHRs across Canada
- Benefits of EHRs (reported by users)
- Factors driving adoption and benefits
What is an EHR

• **Electronic Health Record**
  - An EHR refers to the systems that make up the secure and private lifetime record of a person’s health and health care history.
  - These systems store and share such information as lab results, medication profiles, key clinical reports (e.g., hospital discharge summaries), diagnostic images (e.g., X-rays), and immunization history. The information is available electronically to authorized health care providers.

• **EMR**
What are EHRs?

- **Results and images**
- **Patient information**
- **Medical alerts**
- **Medication history**
- **Interactions**
- **Problem list**
- **Immunization**
EHR Availability
(December 31, 2014)

Client Demographics 99.9%
Provider Demographics 99.9%
Diagnostic Images in Hospital 99.9%

Dispensed Drugs 62%
Lab Test Results 85%
Clinical Reports or Immunizations 99%

Telehealth Videoconferencing in 98% of Hospitals

Digitization does not measure the extent of use by providers, but rather the information and systems that are in place.
Active EHR Use Across Canada (Jan. 2015)

Notes:
1. Figures represent active users with access to two or more integrated provincial data assets (e.g., lab information system, drug information system, diagnostic imaging repository, etc.)
2. Active users have accessed the system a minimum of one time per month
3. This graph does not depict the number of users of individual data assets that are not integrated with other systems.
4. Users of point of care systems with data feeds from provincial assets are deemed to be active users of the EHR
EHR

- To synthesize evidence on the impact of electronic health records (EHRs)
Approach
Approach

• **Infoway’s Benefit Evaluation Framework**

- **System quality**
  - Functionality
  - Performance
  - Security

- **Information quality**
  - Content
  - Availability

- **Service quality**
  - Responsiveness

- **Use**
  - Use behavior/pattern
  - Self-reported use
  - Intention to use

- **User satisfaction**
  - Competency
  - User satisfaction
  - Ease of use

- **Net benefits**
  - **Quality**
    - Patient safety
    - Appropriateness/effectiveness
    - Health outcomes
  - **Access**
    - Ability of patients/providers to access services
    - Patient and caregiver participation
  - **Productivity**
    - Efficiency
    - Care coordination
    - Net cost

**Data Sources:**

- System data
- System & Use Survey data
Completed surveys of EHR users

Approach – available survey data

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Approach – data synthesis

- Survey response classification

**Positive outcomes**
Survey questions where 50% or more respondents reported a positive response/rating/experience

**Negative outcomes**
Survey questions where 50% or more respondents reported a negative response/rating/experience

**Mixed outcomes**
Survey questions with a mix of less than 50% or more respondents reported a positive or negative response/rating/experience
Results
Respondent Profile

- Pooled data from evaluations of EHR systems in six jurisdictions from 2006-14:
  - 2,316 respondents
  - Nurses: 34-44% of respondents
  - Physicians: 12-49% respondents

- All evaluations included an EHR system that provided at least demographic information, lab results and diagnostic imaging.

- Acute care and primary care facilities were the most common setting of EHR system use
Overall acceptance of EHRs

Overall Satisfaction

- Positive: 4
- Mixed: 1
- Negative: 1

Easy to use

- Positive: 4

Makes job easier/integrated into workflow

- Positive: 5
- Mixed: 1

Number of evaluations
EHRs impact on efficiency in care

- Efficiency in accessing diagnostic imaging: 4 positive evaluations
- Productivity: 3 positive evaluations, 1 negative evaluation
- Efficiency in accessing lab results: 3 positive evaluations
- Reduced need to obtain information manually: 1 positive evaluation, 2 mixed evaluations
EHRs impact on quality of care

- Clinical decision support
  - Positive: 3
  - Mixed: 2

- Sharing of information among providers
  - Positive: 4

- Reduces duplication of tests
  - Positive: 3
  - Mixed: 1

- Quality of care
  - Positive: 3
  - Negative: 1

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Impact of training, support and workflow integration
Example from one Jurisdiction

High/Moderate satisfaction

• 58% Acceptable level of technical support and training
• 78% Integrated into workflow

High/Moderate dissatisfaction

• 22% Acceptable level of technical support and training
• 24% Integrated into workflow
Importance of time

Active netCARE users saw 15-fold increase over a 2.5 year time frame.

Growth in active users of since rollout in 2009

Manitoba eChart
Login and integration barriers

- most discussed system issue by respondents was the log-in time and system performance (17%)

- Logging into viewer is acceptable -*disagree* (21%)

- Almost 1 in 10 makes survey comments related to log-in issues
Learnings

• Challenges of synthesizing health IT evaluations

• Evidence of EHRs benefits realization
  ➢ Use
  ➢ Efficiency
  ➢ Quality of care

• Critical success factors for achieving further value from EHRs
  ➢ Solution attributes
  ➢ User types
  ➢ Training, support, workflow integration
  ➢ Duration of use
  ➢ Logins & integration barriers
Thank you

visit booth #300 to learn about the recently launched Clinical Interoperability Action Plan and to play the giant connect four game