



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

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Canada Health Inforoute





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

- Help
- Logout

GP Details



GME0000 Smith, Caroline

Sex: Female
DOB: 1940/01/01
Next of kin: John Smith

Phone: 365-565-9090
Address: 19 Provincial Rd. Edmonton AB T6M 1R7

GP: Niles, Evans
Phone: 333-465-5545
Address: 11 Terrence Ave. Edmonton, AB T4Y 8U9

Other Healthcare Providers

Name	Disp.	Last Encounter	At encounter	Right of Access
Diaz, Ellen	Cardiology	01/2006	07/2006	Y
Fournier, Janice	RN	08/2005		N
Cohen, Richard	Dermatology	08/2005		N

Medications

Date	Medication	Prescriptions	Last Filled
11/1989	Hydrochlorothiazide 25 mg	One tab at breakfast	12/2005
03/1999	Lisinopril 5 mg	One tab twice daily	12/2005
01/2001	Metformin 500 mg	Two tabs twice daily	12/2005
03/2001	Atorvastatin 20 mg	One tab at supper	12/2005
02/2002	Atenolol 50 mg	One tab at breakfast	12/2005
02/2002	ECASA 325 mg	One tab at breakfast	12/2005
02/2006	Ramipril 10mg	One tab at supper	02/2006
06/2005	Cloxacillin 500 mg	Discontinued	
05/2004	Beclomethasone Cream	Discontinued	

Encounter History

Date	Facility	Speciality	Clinician	Reason	Type
02/2006	GP			Hypertension	-
01/2006	Cardio Assoc	Cardiology	Diaz, E.	CAD	Outpatient
12/2005	GP			Diabetes	-
10/2005	General Hosp	Dietician	Johnson, H.	Diabetes teaching	Outpatient
08/2005	GP			Diabetes	-
08/2005	GP			Cellulitis	-
08/2005	Home Visit	RN	Fournier, J.	Cellulitis	-
08/2005	GP			Cellulitis	-
07/2005	Polyclinic	Dermatology	Cohen, R.	Stasis dermatitis	Outpatient

Immunizations

Type	Most Recent	Number Received
Influenza	11/2005	7
Pneumovax	03/2005	1
Twinrix	08/2002	3
Td	04/1996	1

Diabetic indices

Type	Value	Most Recent
A1C	0.071	12/2005
LDL	2.41	12/2005
BP	135/75	02/2006
Urine Microalb	0.02	08/2005
Eye Exam		05/2005
Home Gluc (average)	7.4	01/2006

Patient Record

- Summary
- Lab Results
- Diagnostic Images
- Details
- Notes or Comments

Alerts

Allergies – Sulfa Drugs

- Pap smear due
- Td due
- A1C above target

Diagnosis

Diagnosis	State	Status
Hypertension	11/1989	Ongoing
Diabetes	05/1996	Ongoing
Coronary Artery Disease	02/2002	Ongoing
Fasting lipids	12/2005	
Exercise stress test	1/2005	
Coronary angiogram / Cellulitis	02/2005	Resolved
Cholecystectomy	05/1981	Resolved
Cesarian section	01/1967	Resolved

Medication history

Interactions

Problem list

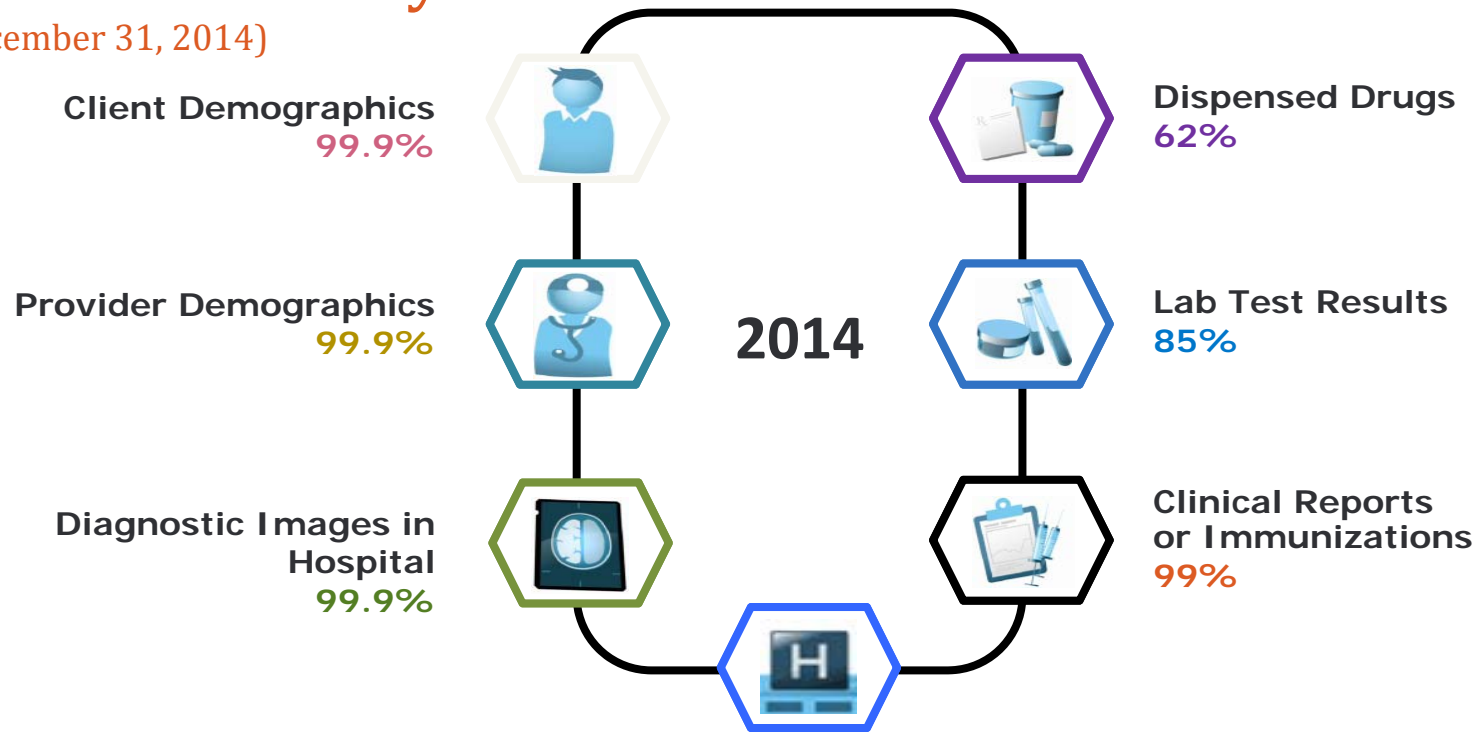
Immunization

EHR



EHR Availability

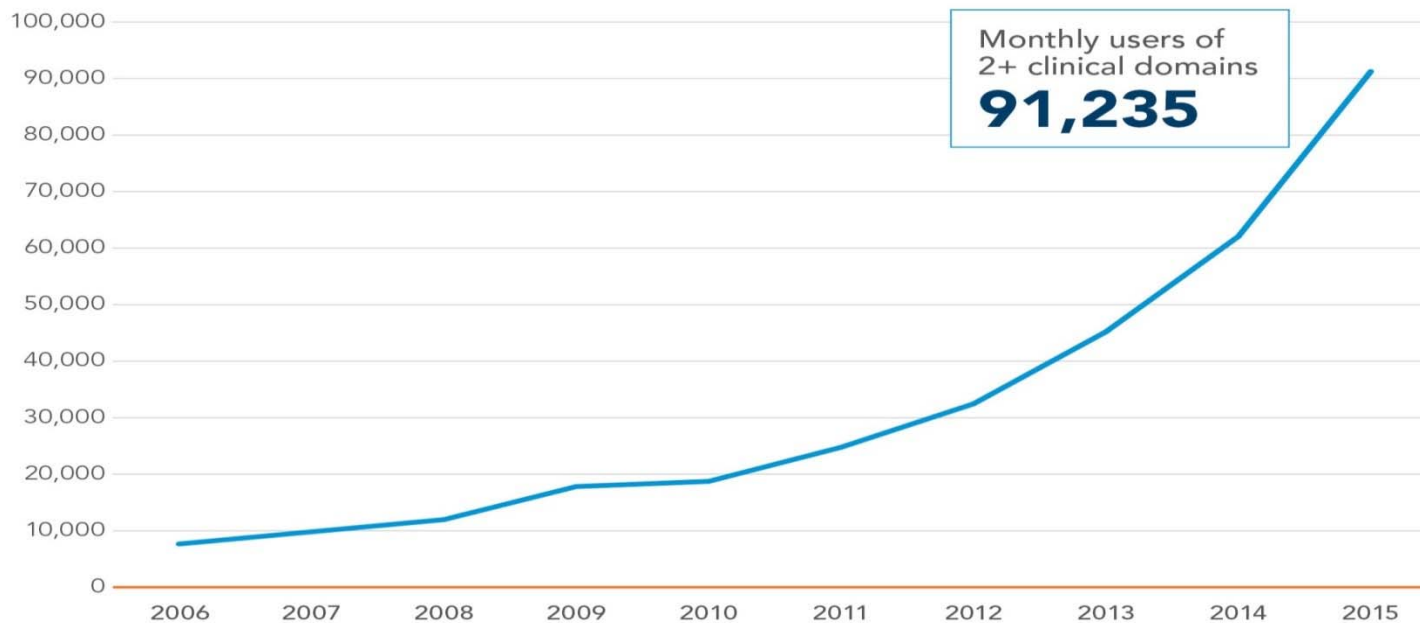
(December 31, 2014)



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)

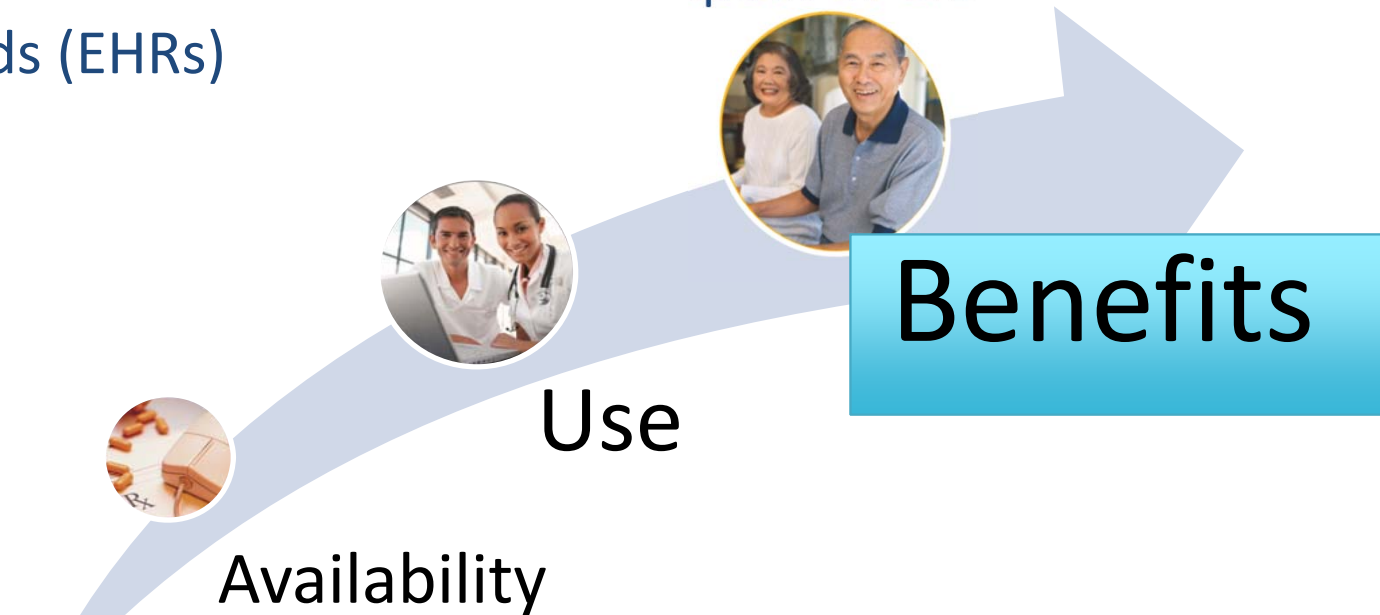


Notes:

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)





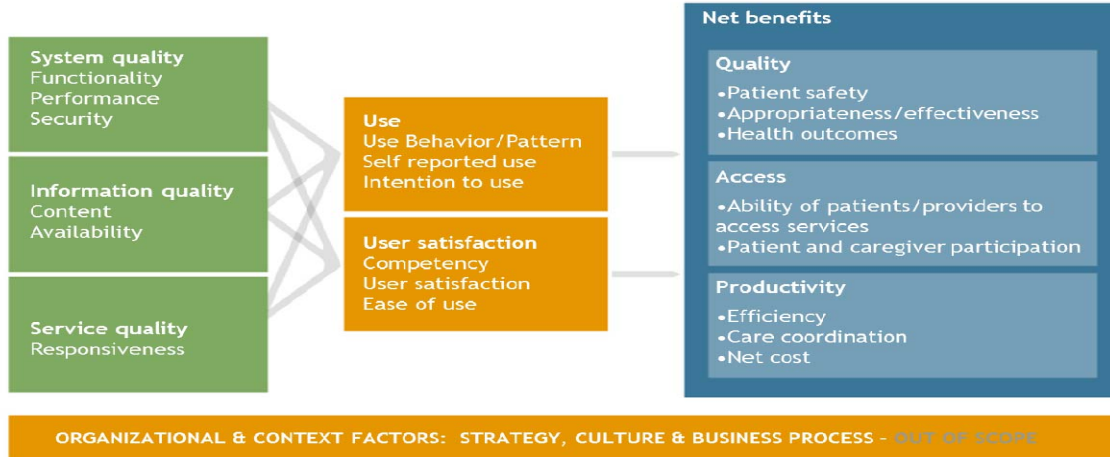
Canada Health Infoway
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Approach



Approach

- Infoway's Benefit Evaluation Framework**



- Data Sources:**



Approach – available survey data



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

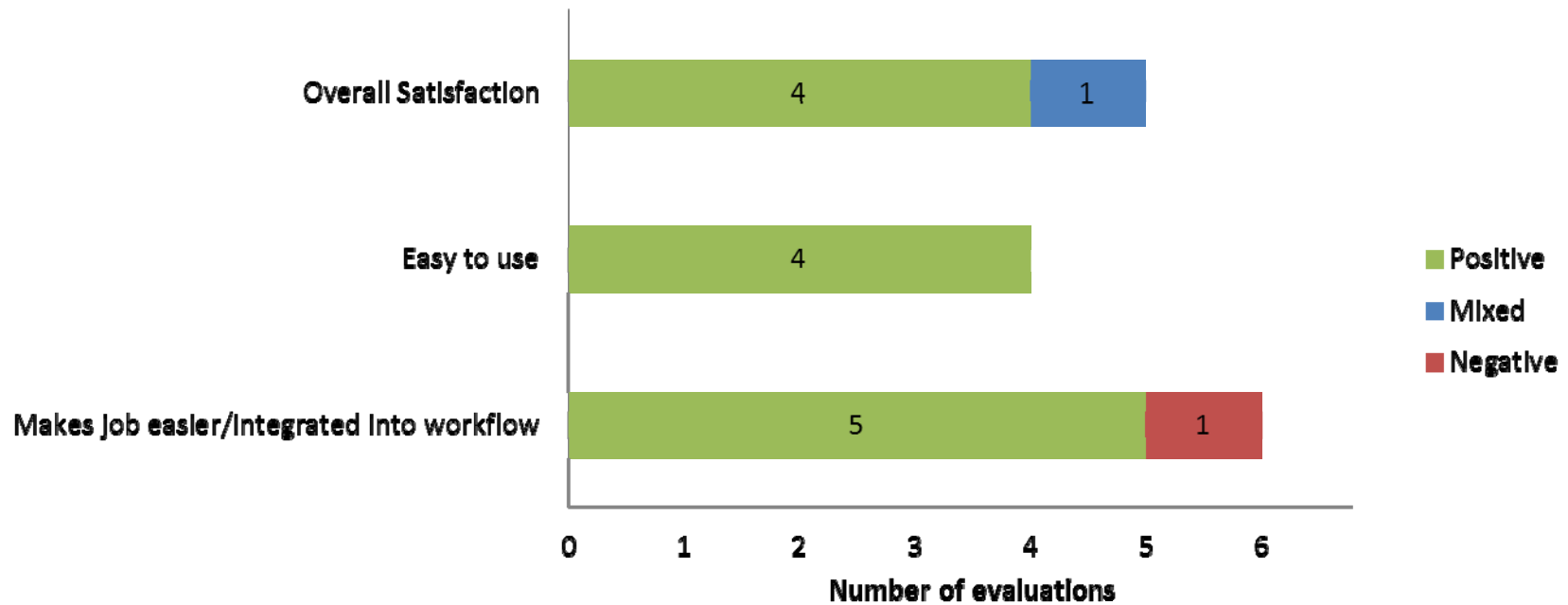


Results

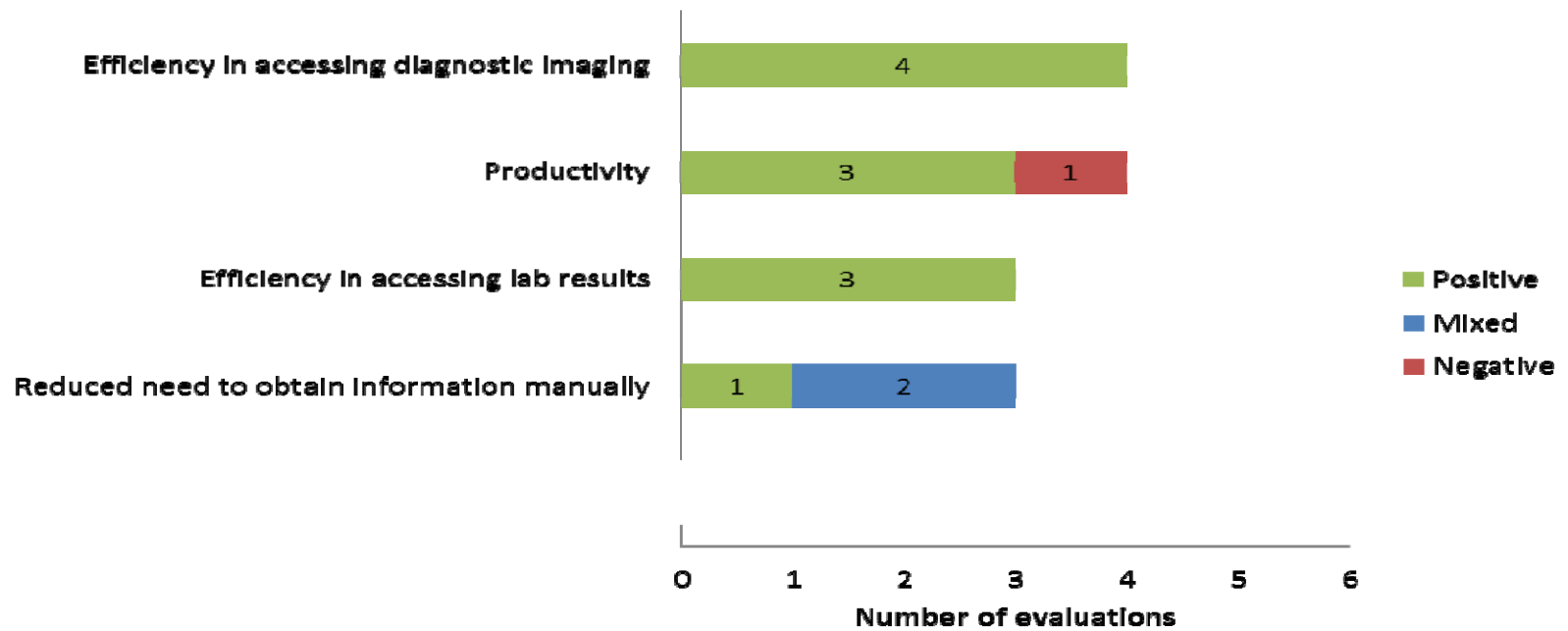
Respondent Profile

- 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

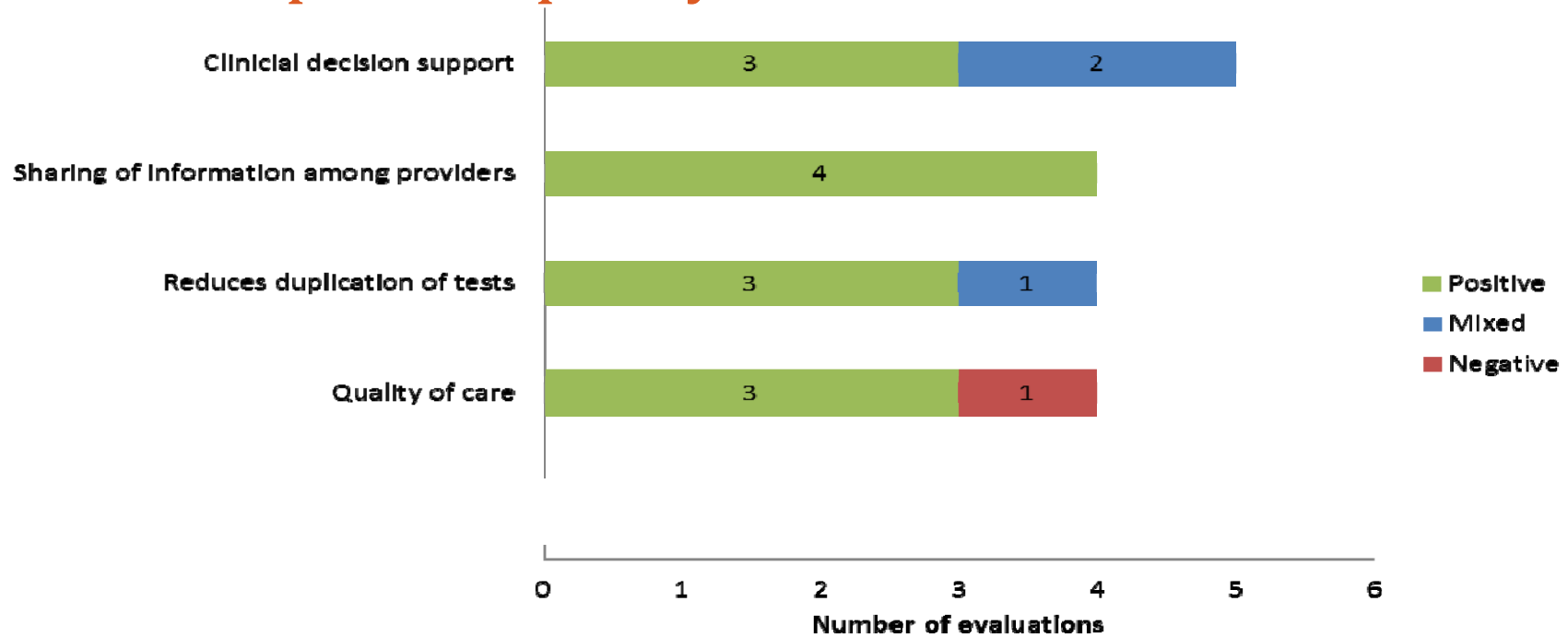
Overall acceptance of EHRs



EHRs impact on efficiency in care



EHRs impact on quality of care



Impact of training, support and workflow integration

Example from one Jurisdiction

High/Moderate satisfaction

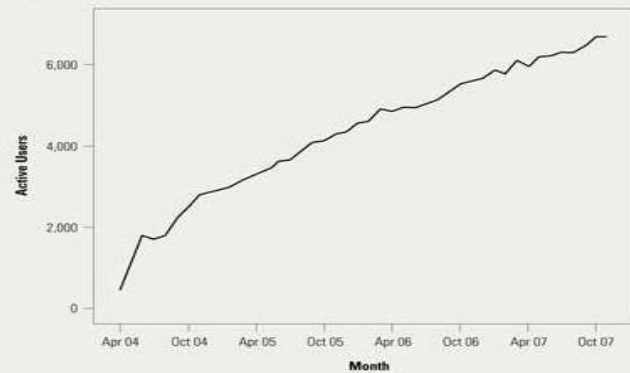
- 58% Acceptable level of technical support and training
- 78% Integrated into workflow

High/Moderate dissatisfaction

- 22% Acceptable level of technical support and training
- 24% Integrated into workflow

Importance of time

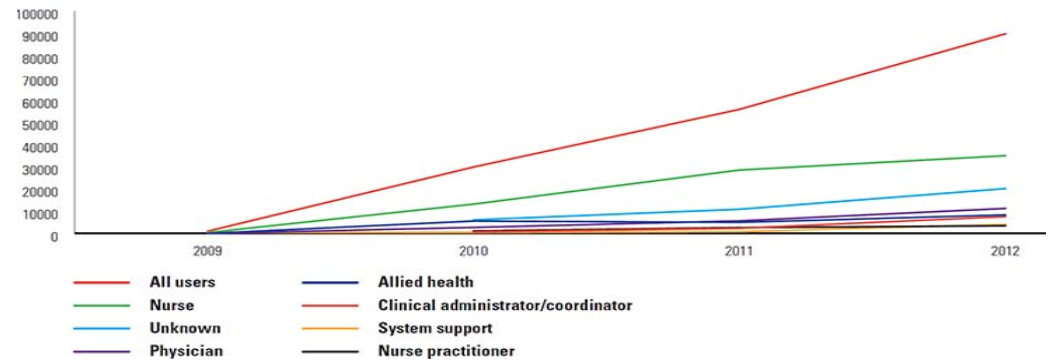
Figure 1. Active netCARE users



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

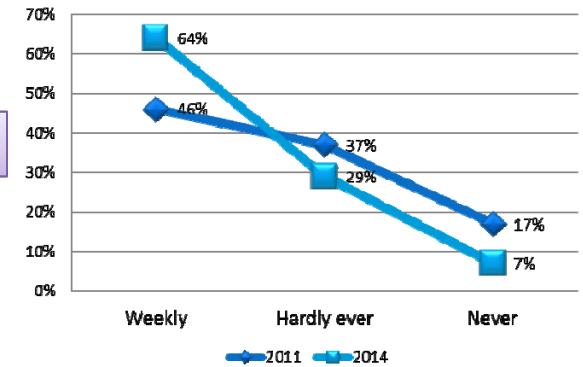
Growth in active users of since rollout in 2009

FIGURE 2. Clinical reports accessed by professional group



Manitoba eChart

Frequency of Use



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

