

Digital Health Availability, Use & Benefits Ontario Data



Purpose

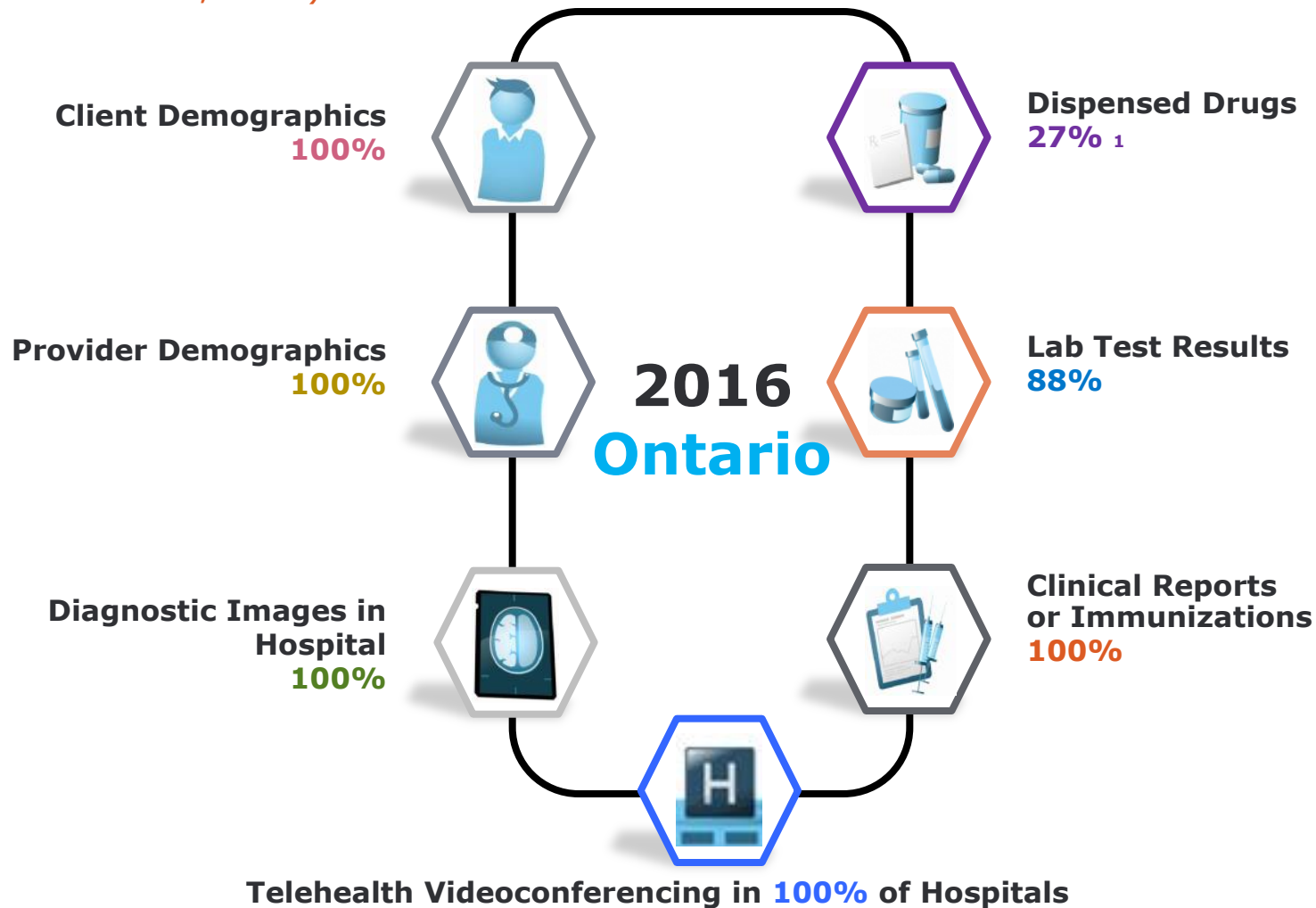
- To share recent findings on the availability, use and benefits of digital health solutions, with a focus on data and estimates from Ontario

Background

- To monitor digital health progress across the country, Inforoute collects and analyzes data on availability and use from the provinces and territories, as well as data from surveys, evaluations, literature and other sources. Some of this data allows for comparisons of progress across provinces.

AVAILABILITY

Full availability for most domains in Ontario (December 31, 2014)



Telehealth Videoconferencing in 100% of Hospitals

Note: Digitization does not measure the extent of use by providers, but rather the information and systems that are in place.
1 - based on % of citizens with a comprehensive drug profile. Increase anticipated with deployment of Digital Health Drug Repository

Standards conformance for most domains in Ontario

	CLIENT REGISTRY	PROVIDER REGISTRY	DIAGNOSTIC IMAGING	DRUG INFORMATION SYSTEMS	LABORATORY INFORMATION SYSTEMS	CLINICAL REPORTS
BC	Conformant	Conformant	(+)	Conformant	Conformant	Conformant
AB	Conformant	Conformant	(+)	Conformant	(+)	Conformant
SK	Conformant	Conformant	Conformant	Conformant	Conformant	Conformant
MB	Conformant	Conformant	Conformant	Partially conformant*	Partially conformant*	Conformant
ON	Conformant	Conformant	Conformant	1	Partially conformant*	Conformant
QC	Conformant	Conformant	Conformant	Conformant	Conformant	Not applicable
NB	Conformant	Not applicable	Partially conformant*	Conformant	Partially conformant*	Conformant
NS	Conformant	Conformant	Conformant	Conformant	Conformant	Conformant
PE	Conformant	Conformant	Conformant	Conformant	Conformant	Conformant
NL	Conformant	Conformant	Conformant	Conformant	(+)	Conformant
YK	Indicated commitment	Indicated commitment	Conformant	(+)	(+)	Indicated commitment
NT	Conformant	Partially conformant*	(+)	Conformant	Conformant	(+)
NU	Conformant	Conformant	(+)	Conformant	Conformant	(+)

March 2016

- Conformant
- Partially conformant*
- Implementation in progress
- Indicated commitment
- Solution development predates pan-Canadian standards
- Not applicable

*Partially Conformant: Jurisdiction is using some aspects of the pan-Canadian standard as part of a live solution or has some aspects of a pan-Canadian standards capable solution in place.

1 As of September 2016, Ontario Drug Information System is classified as "implementation in progress"

Electronic Health Records are accessible in multiple settings with a rich set of data

Jurisdiction	Go-Live	Setting	Clinical Domain accessible
British Columbia	2010	Hospitals	Labs, DI reports
Alberta	2006	Hospitals, pharmacies, primary care, ambulatory	Lab, DI reports, drug profile, immunization, allergies, clinical reports
Saskatchewan	2013	Hospitals, primary care	labs, drug profile, DI reports, clinical reports, immunizations
Manitoba	2011	Hospitals, primary care	Labs, DI reports, drug profile, immunization, clinical reports
Ontario	2011	Hospitals , primary care, community/home care	Labs, DI reports, drug profile*, allergies, clinical reports
Quebec	2013	Hospitals, primary care, pharmacies	Labs, DI reports, drug profile, immunization
New Brunswick	2010	Hospitals	Encounter History, labs, DI reports, cardiology
Prince Edward Island	2008	Hospitals, primary care	Labs, DI reports, drug profile
Nova Scotia	2010	Hospitals, primary care	Labs, DI reports, clinical reports
Newfoundland	2014	Hospitals	Med Profile, allergies/ADEs, Clinical Reports, Discharge Summaries, labs, DI Reports
Northwest Territories	2010	Hospital, primary care	Labs, DI reports, clinical reports, consults
Nunavut	2011	Selected hospitals	Labs, DI reports, drug profile, clinical reports

*Limited to drug products dispensed under the Ontario Drug Benefit program and the Trillium Drug Program

Highlights on Availability

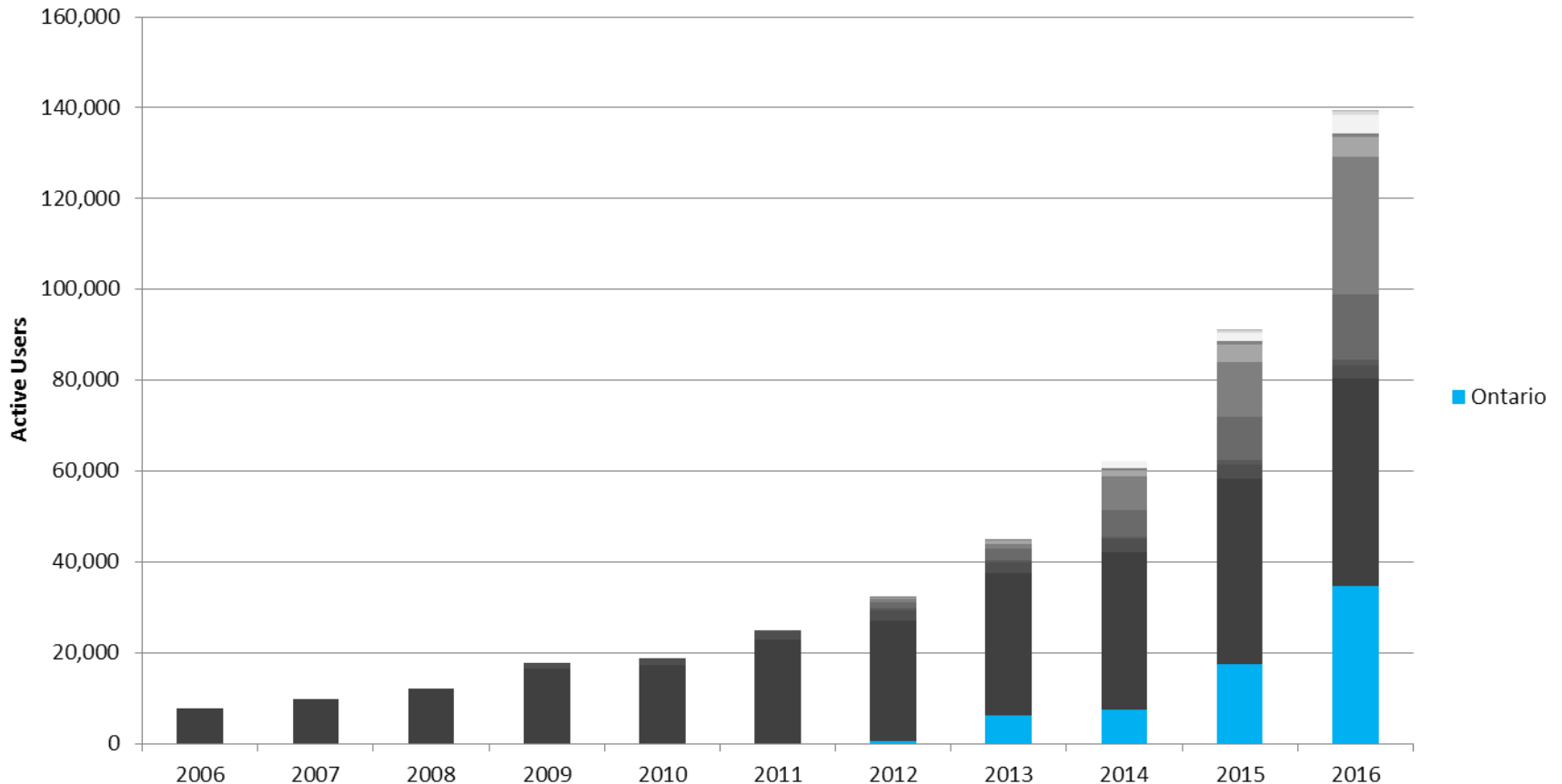
- Patient health information is highly available in Ontario, with 6 of 7 types of information assessed in Infoway's analysis either fully available or nearly fully available, ranging from 88% to 100% (Slide 4).
 - Further work is needed to make drug information available, and this is being actively addressed by the ministry through the Comprehensive Drug Profile Strategy.
- Compared to other provinces and territories, patient health information is available in multiple care settings, including hospitals, community care and primary care (Slide 6).

USE

Active users are a good indicator of adoption progress

- Access to two or more integrated provincial data assets (e.g., lab information system, drug information system, diagnostic imaging repository, etc.)
- Users access system at least once a month or three times per quarter
- Users can be clinical (e.g., nurses, physicians) and/or non-clinical (e.g., hospital or clinic administrators, ward clerks, etc.)
- Users of point of care systems with data feeds from provincial assets are deemed to be active users of the EHR

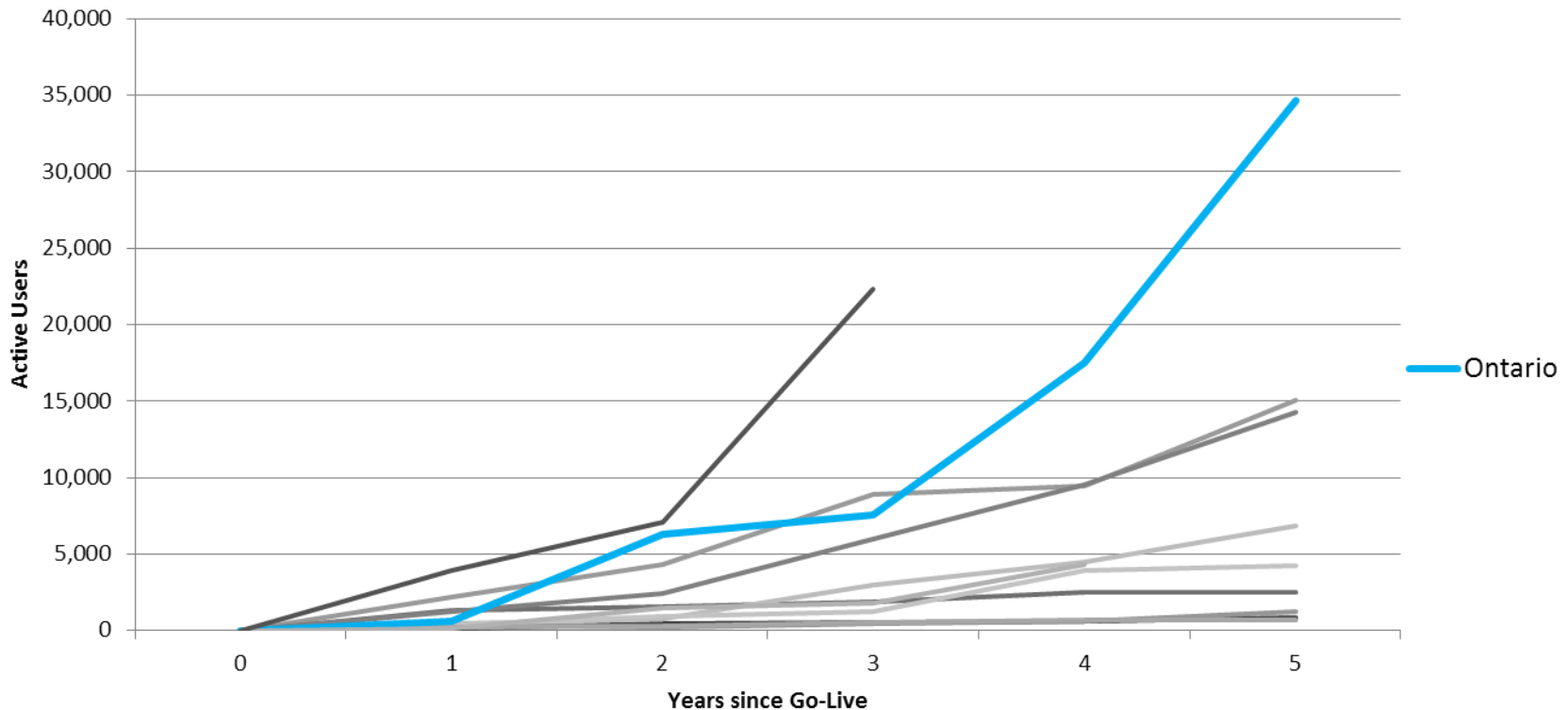
Active use of multiple clinical domains is accelerating



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

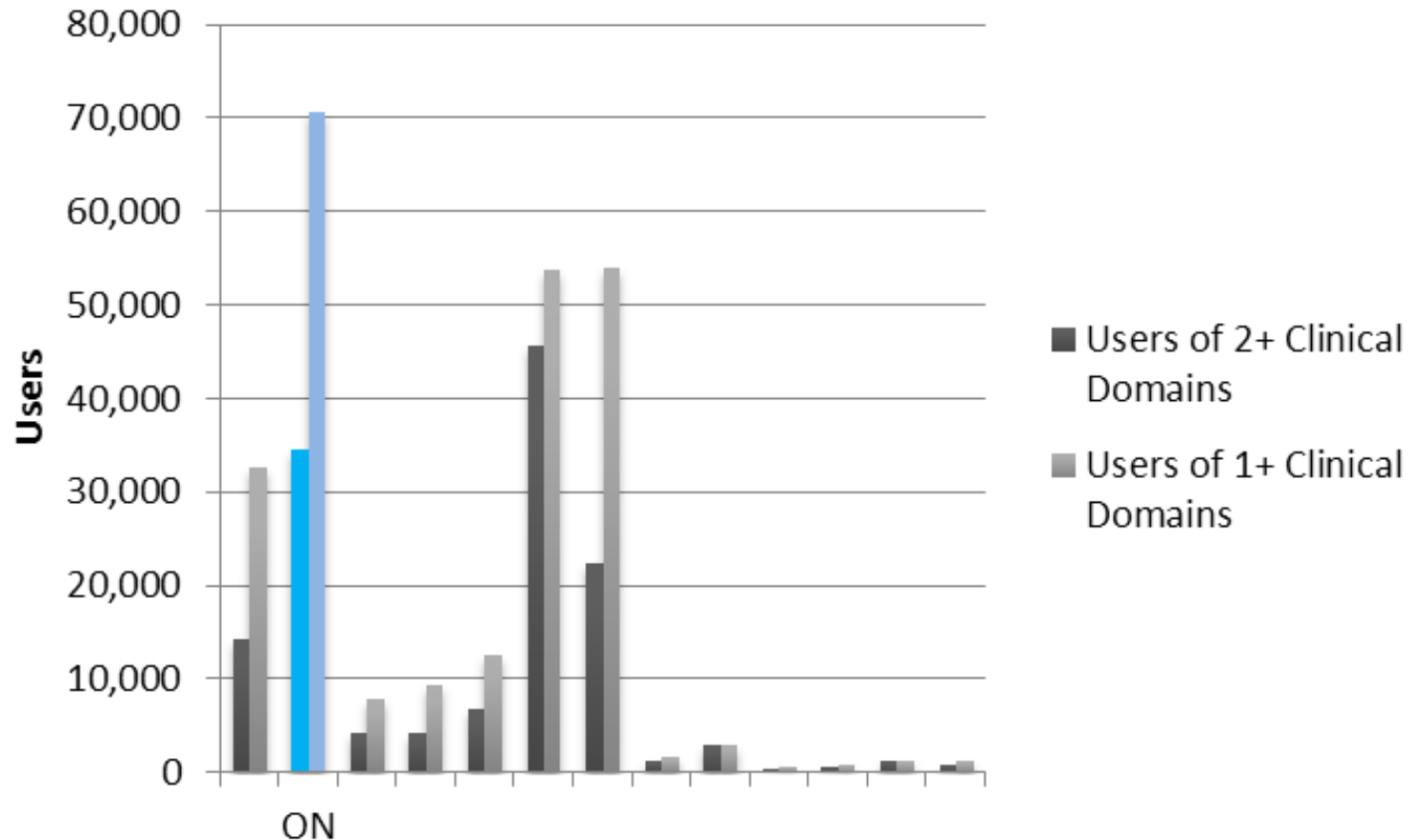
Ontario has made rapid progress in the years following initial EHR launch, compared to others



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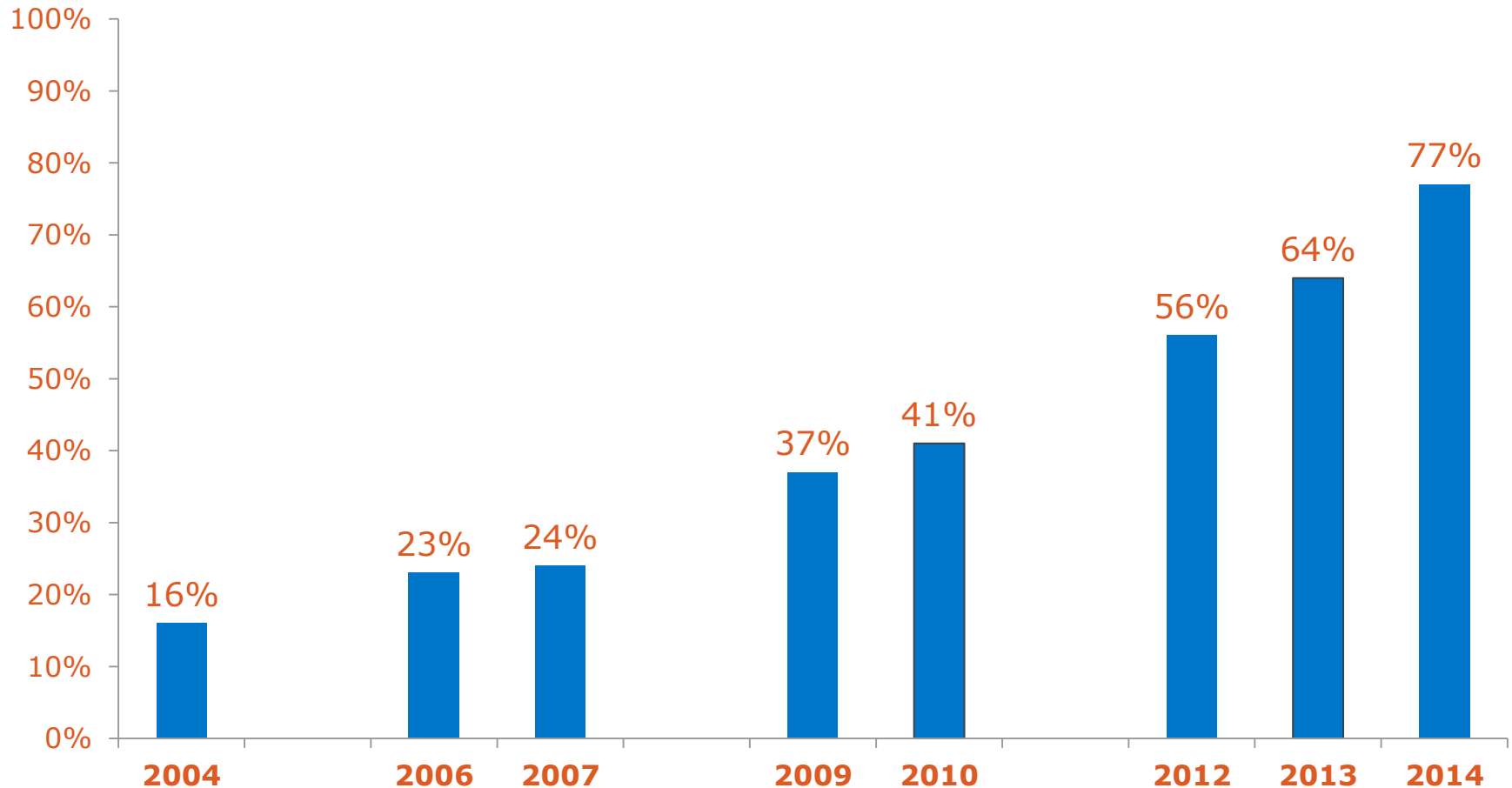
Additional users have access to a single domain



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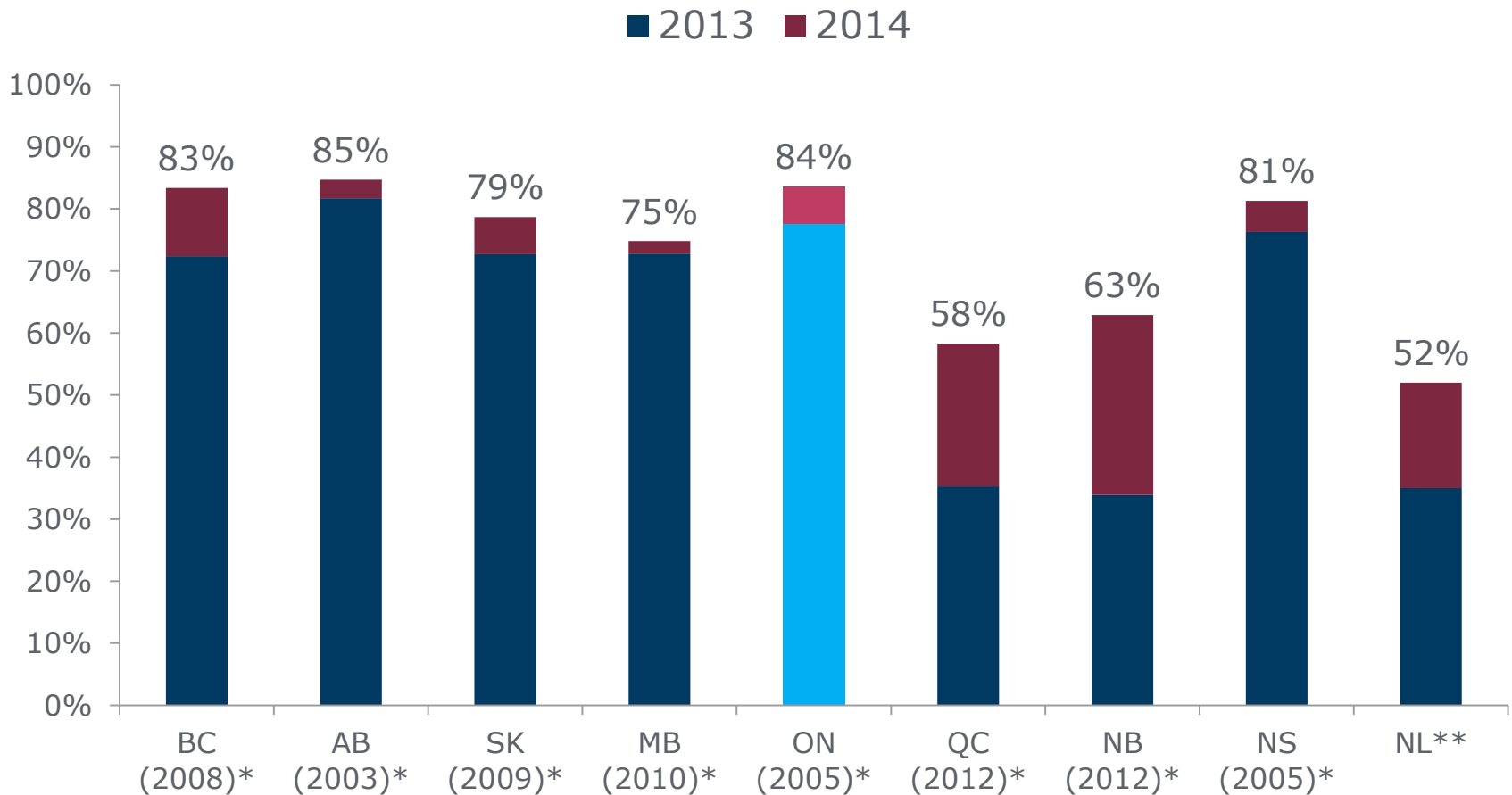
Strong growth nationally in use of electronic medical records in primary care



Notes:

1. Data from Commonwealth Fund (2006, 2009 & 2012) and National Physician Survey (2004, 2007, 2010, 2013 & 2014)

Ontario has been among the leaders in primary care electronic medical record adoption

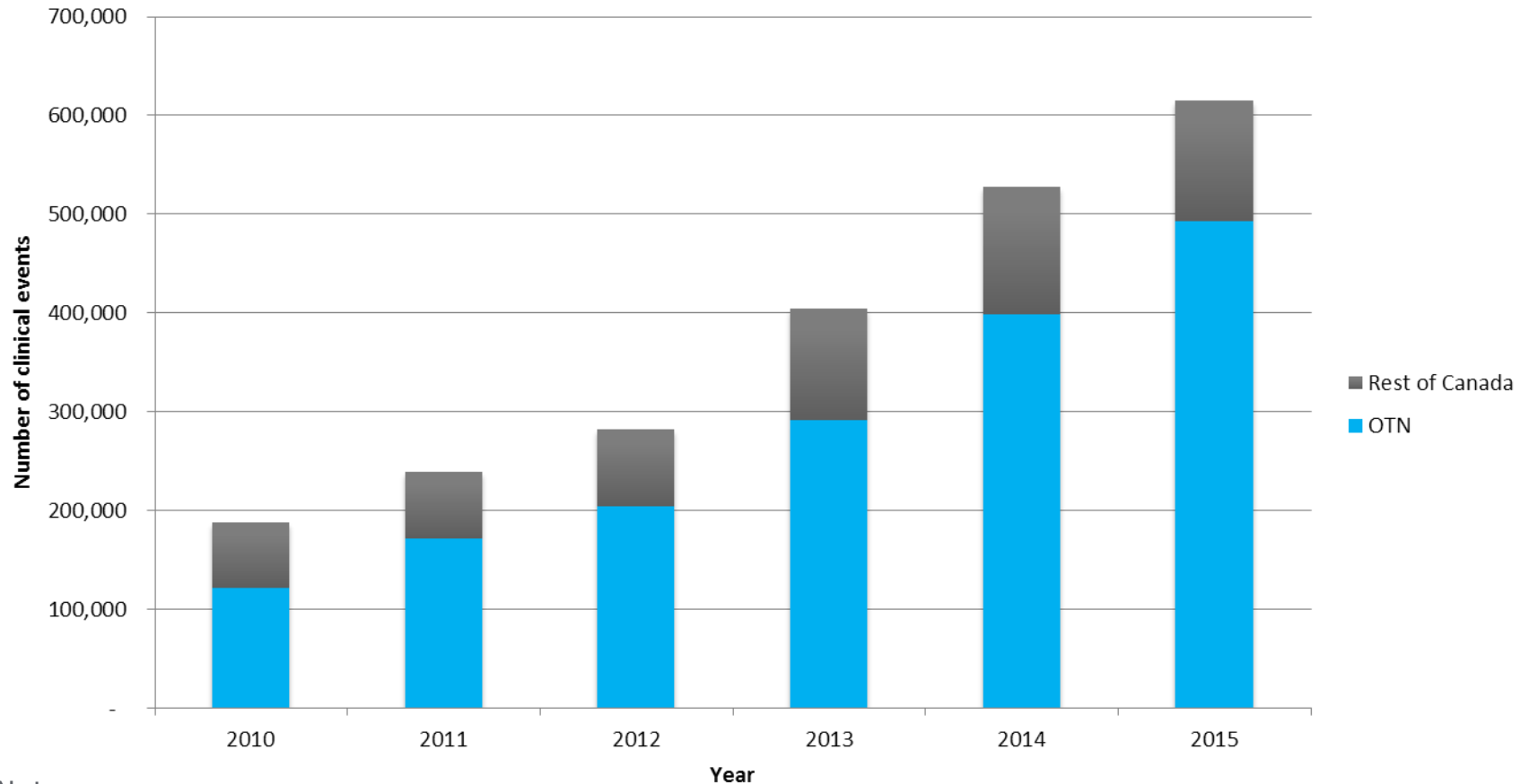


Do you use electronic records to enter and retrieve clinical patient notes in the care of your patients?

*Year in which jurisdictional EMR program began enrolling physicians

**No EMR program at time of NPS data collection; Sample sizes not sufficient for PEI or Territories

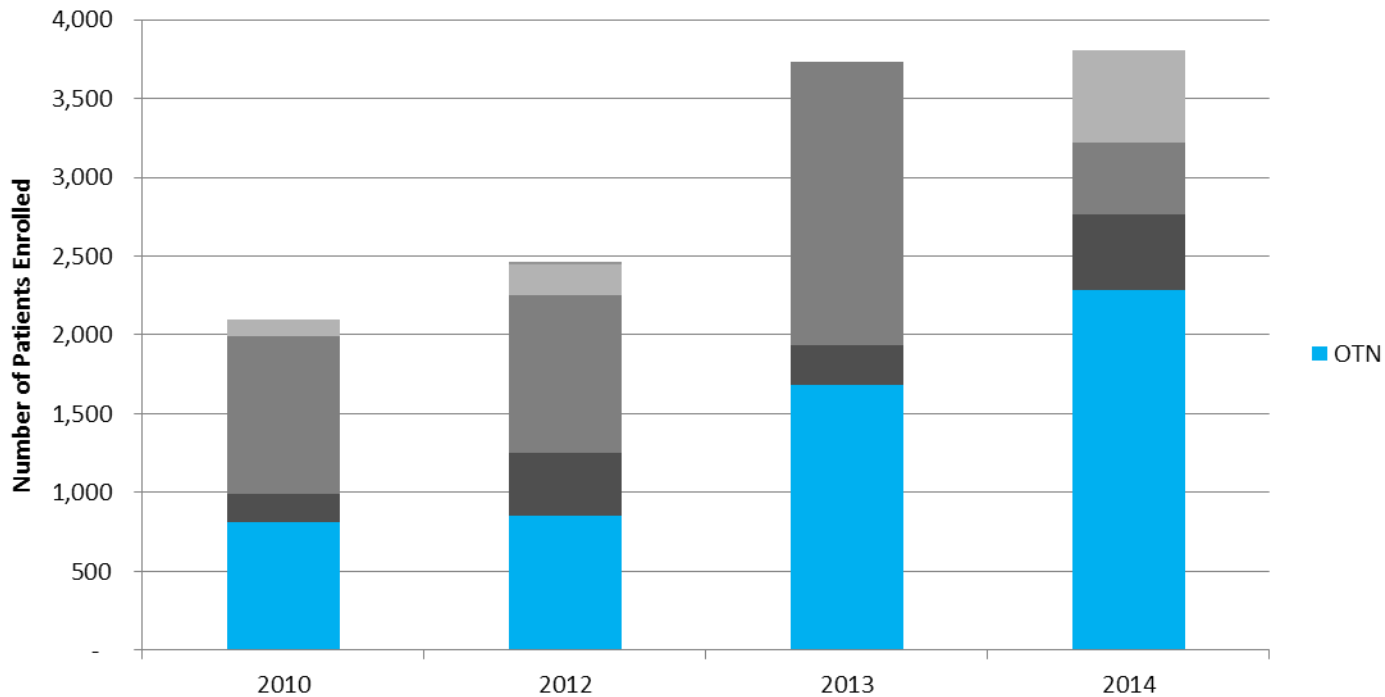
Ontario leads the country in clinical telehealth visits with sustained strong growth



Notes:

1. Source: Pan-Canadian Telehealth Survey 2010, 2012, and 2014 Canadian Telehealth Forum –COACH
2. Estimated values based on utilization data provided by the Ontario Telemedicine Network

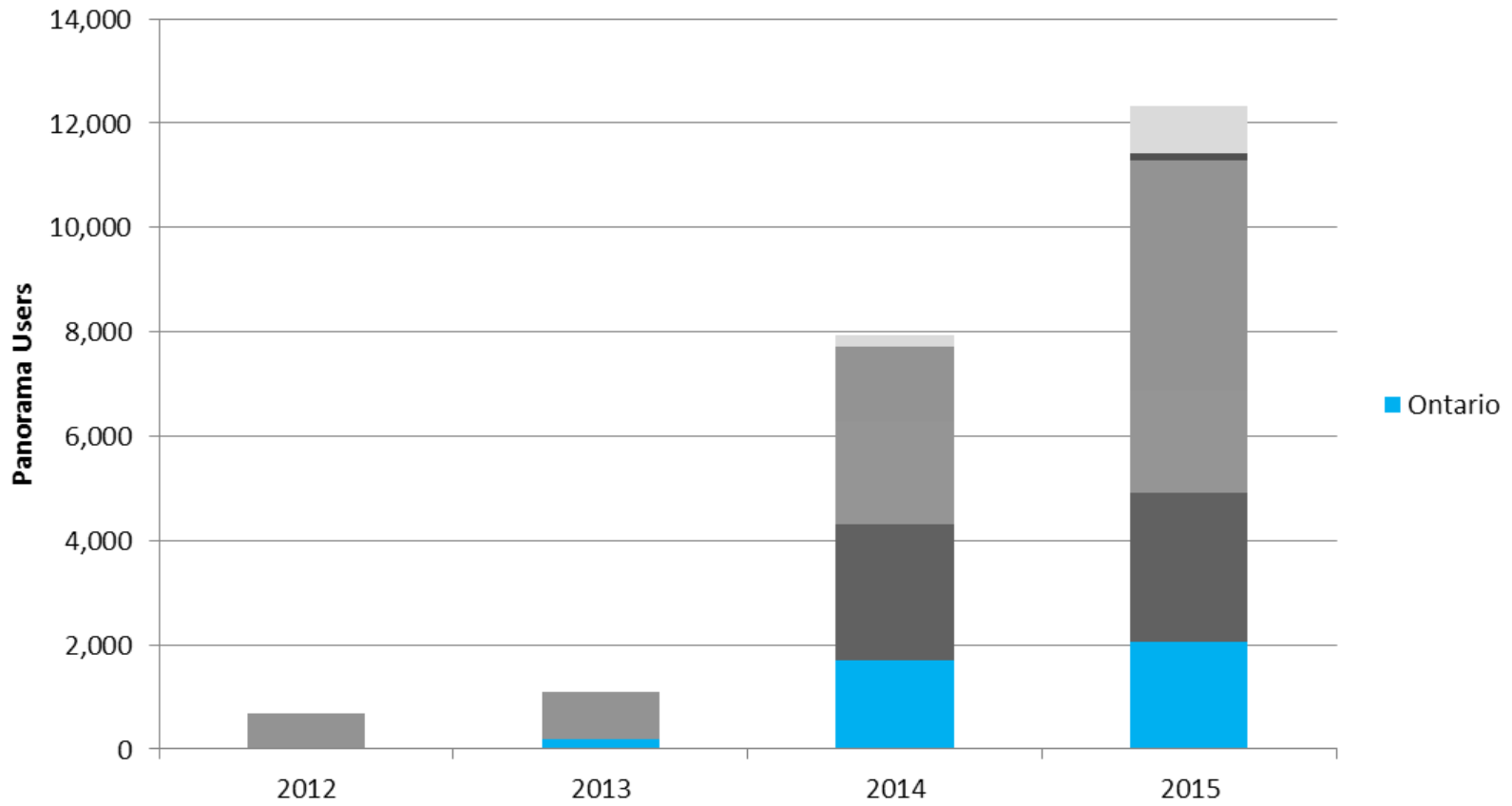
Telehomecare enrollments in Ontario lead Canada in volume and growth



Notes:

1. Programs aimed at reducing avoidable inpatient admissions and emergency room visits, with bulk of activity occurring in ON, BC, and QC
2. Focus on patients with Congestive Heart Failure (CHF) and Chronic Obstructive Pulmonary Disease (COPD)

Use of Panorama, the public health surveillance system, is emerging with Ontario contributing



Panorama use by public health nurses and other staff

Highlights on Use

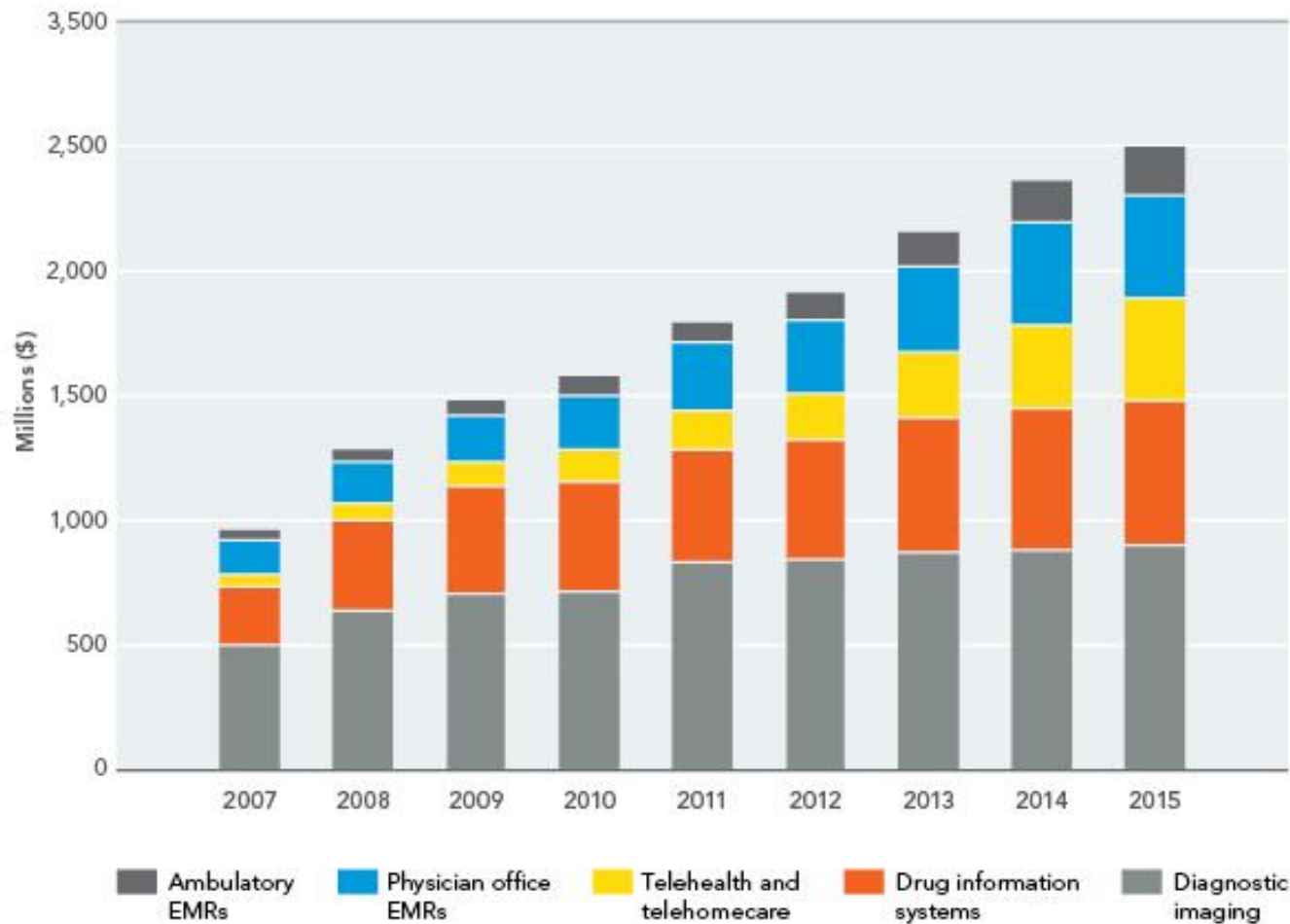
- Tens of thousands of clinicians in Ontario are actively using electronic health records. Compared to other provinces, Ontario is making rapid progress in the growth of clinicians using electronic health records (Slides 10-12).
- Ontario is a leader in primary care electronic medical record adoption, with among the highest adoption rate of these systems across all provinces in Canada (Slide 14).
- Ontario is the clear leader in the use of telemedicine (referred to as telehealth in many other provinces) for virtual clinical visits and telehomecare for digitally-enabled chronic disease management (Slides 15-16).
- Ontario is making strides in the availability of immunization information in comparison to other jurisdictions, and is looking at innovative ways of leveraging its assets to provide this information directly to consumers (Slide 17).

BENEFITS

Benefits estimates methodology

- Infoway commissions pan-Canadian studies to compile evidence from project evaluations, literature, surveys and key informants to estimate current state benefits accruing from investments in digital health
- Studies also identify requirements to optimize adoption and maximize future benefits
- Benefits discussed are from Infoway's Pan-Canadian studies on Diagnostic Imaging, Drug Information Systems, Telehealth, Community-based Electronic Medical Records and Ambulatory EMR completed in 2008, 2010, 2011, 2013 and 2016 respectively
- Complete studies available at: <https://www.infoway-inforoute.ca/en/what-we-do/progress-in-canada/benefits-evidence-pan-canadian-studies>

Estimated national aggregate benefits of \$16 billion since 2007



Ontario was a leader in digitizing Diagnostic Imaging

- Investments in Picture Archiving and Communication Systems (PACS) followed by Diagnostic Imaging Repositories (DI-r) have led to substantial efficiencies and improved access to care
- Benefits valued at \$908 Million nationally for 2015
- Ontario has been a leader and should share in these benefits proportionally

The Drug Information System is an opportunity for significant value in Ontario

- Investments in Drug Information Systems have led to important improvements in patient safety and quality of care
- Benefits valued at \$593 Million nationally for 2015
- Ontario's Drug Profile Viewer provides key information on citizens supported by ODB and TBP in all hospitals including emergency departments

Establishing EMR program early accelerated community practice adoption in Ontario

- Investments in Electronic Medical Records in Community Practices have generated improvements in quality of care and efficiencies for physician offices and the health system
- EMRs are complimented by availability of lab results, reducing duplication and improving efficiency
- Benefits valued at \$419 Million nationally for 2015
- Ontario has been a leader with approximately 80% adoption and should share these benefits proportionally

Ambulatory clinics are moving forward

- Investments in Electronic Medical Records in Ambulatory Clinics have generated improvements in quality of care and efficiencies for clinics and the health system
- EMRs are complimented by availability of lab results, reducing duplication and improving efficiency
- Benefits valued at \$196 Million nationally for 2015
- Ontario made substantial progress in Ambulatory EMR and should share these benefits proportionally

Ontario is leading in both Telehealth and Telehomecare

- Investments in Telehealth and Telehomecare have increased access to care, especially in remote communities, and provided more effective care for chronic disease sufferers
- Benefits Valued at \$407 Million nationally for 2015
- Ontario has been a world leader in Telehealth with close to 500,000 video consults last year (80% of national volume), and represents a substantial portion of this national value

Highlights on Value of Benefits

- Infoway has estimated the financial benefits that have accrued across the country due to investments in different digital health systems, including electronic medical records, telemedicine / telehomecare, drug information systems and diagnostic imaging information systems. The estimate of national cumulative benefits accrued since 2007 is \$16B (Slides 20-21).
- A portion of these benefits accrue to Ontario and Infoway considers how much of the national benefit likely accrues to Ontario as a proportion of Ontario's size relative to other provinces and based upon Ontario availability and use contribution (Slides 22-26).
 - Ontario likely accrues a proportional amount of benefits due to electronic medical records and diagnostic imaging information systems.
 - Ontario likely accrues a less than proportional amount of benefits due to drug information systems; this is being actively addressed through the ministry-led Comprehensive Drug Profile Strategy.
 - Ontario likely accrues a more than proportional amounts of benefits due to telemedicine / telehomecare.

Conclusions

- Nationally there has been substantial progress and value from digital health in the last decade, with accelerating adoption in recent years
- Ontario is well positioned relative to its peers in terms of availability, use and benefits from investments in digital health solutions