

Briefing Note

Digital Health Availability, Use and Benefits in Ontario

Background

- Canada Health Infoway (Infoway) is an investor in digital health across Canada, working with the provinces and territories to advance digital health.
- The Ministry of Health and Long-Term Care (the ministry) asked Infoway, as a neutral third-party, to provide its best assessment on how much progress Ontario has made, and how that compares to other provinces and territories.
- As the ministry is developing a refreshed digital health strategy, unbiased information and objective insights into what Ontario is doing well and where it needs to improve are important inputs.

Highlights on Availability

- Ontario is at or achieving conformance with Infoway-endorsed standards for all clinical information domains reviewed (i.e. client registry, provider registry, diagnostic imaging, drug information system, laboratory information system, clinical documentation);
- Electronic health records are available in multiple settings with rich data sets;
- Patient health information is highly available to clinicians in Ontario, with 6 of 7 types of information domains assessed in Infoway's analysis fully available or nearly fully available, ranging from 88% to 100%; and
- Patient health information is available in multiple care settings, including hospitals, community care and primary care.

Highlights on Use

- Ontario has seen rapid uptake and active use of electronic health records in the years following initial launch;
- Ontario is among the top provinces in terms of adoption of electronic medical records (EMRs) in primary care, with 84% adoption as of 2014;

- Ontario is a leader in adoption of telemedicine and telehomecare, accounting for approximately 80% and 60% of adoption of these systems across the country in 2014; and
- Panorama is fully implemented for collection of immunization information from public health units across the province.

Highlights on 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.
- Based on the ministry's analysis with Infoway inputs and verification, Ontario benefits amount to almost \$1B per year (in 2015-2016) and Ontario accrued almost \$6B in cumulative benefits since 2007 as a result of investments in these select digital health systems. This is summarized in the table on the next page; notes on this analysis are provided below the table.
- These estimates reflect Ontario's size and progress relative to the rest of Canada.
 - Ontario's share of benefits delivered by electronic medical records and diagnostic imaging information systems is proportional to the population size.
 - Ontario accrues a less than proportional amount of benefits delivered by drug information systems.
 - Ontario is a leader in telemedicine / telehomecare and receives a larger share of benefits.

Conclusion

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

Table 1. Analysis of Ontario benefits due to select digital health investments.

Selected Digital Health System	National benefit in 2015 (\$M) ¹	Proportion of benefits in Ontario	Ontario benefit in 2015 (\$M)	Cumulative Ontario benefit since 2007 (\$M)
Telemedicine and telehomecare	407	0.70 ^a	285	1,824
Physician practice EMRs	419	0.41 ^b	172	1,090
Ambulatory care (outpatient) EMRs	196	0.38 ^c	74	477
Diagnostic imaging systems	908	0.38 ^d	345	2,208
Drug information systems	593	0.04 ^e	24	149
Total estimated benefit	2,523		900	5,747

1. As reported in Infoway's analysis.

a. Proportion factor is based on Ontario's telemedicine events representing approximately 80% of total national telemedicine events and 60% of telehomecare usage.

b. Proportion factor is Ontario's adoption rate of 84% divided by the national adoption rate of 77%, then multiplied by Ontario's proportion of the national population, which is estimated at 38%.

c. Proportion factor is Ontario's proportion of the national population, which is estimated at 38%.

d. Proportion factor is Ontario's proportion of the national population, which is estimated at 38%.

e. Proportion factor is based on Ontario's 27% drug data availability noted in Infoway's analysis, divided by national drug data availability of 69% (as per Infoway's 2015-2016 Annual Report), multiplied by Ontario's proportion of the national population, which is estimated at 38%. A further discount of 75% is applied because, to date, the clinical settings for access to drug data in Ontario have been limited to hospitals and selected community health centres.

Further notes and assumptions on Ontario benefits estimates:

- National benefits estimates are based on a range of assumptions, including extrapolations from case studies of small sample sizes and studies that were conducted over a wide range of dates and by different data collection and analysis teams. Further assumptions and constraints of Infoway's estimates are noted by Infoway in its original documents.
- Interpolation of benefits to Ontario for many assets assumes that benefits accrue proportionally to Ontario's population if the adoption of those asset types in Ontario is comparable to other provinces. This may not be the case and differences in specific digital health assets, health system utilization patterns, maturity of use or other factors may introduce differences in benefits accrued to Ontario that are not reflected.
- The benefits reported only consider a selection of digital health systems and do not include a number of critical ones, such as systems that support sharing of immunization records, community-based assessments or laboratory test results.