# **Digital health in Ontario** An international comparison

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#### About the author

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#### **About Public Digital**

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# 1. Summary

Over the past few years, the Ministry of Health and Long-Term Care and other digital health partners have delivered some important building blocks of a computerised health service: Hospital Information Systems, Electronic Medical Record systems in physician offices and mechanisms to exchange data between systems.

Ontario is now ahead of the rest of Canada in digital health, and competitive globally. There have been some **world-class successes**:

- almost all diagnostic imaging is captured digitally and shared regionally;
- infrastructure developed to send digital discharge summaries and other data from 177 sites to over 6,000 physicians (Hospital Report Manager);
- a province-wide Immunisation Information System (Panorama/DHIR);

These are significant achievements: digital health is not easy. **It requires** *adaptive change* **that involves front-line staff and transformation of how care is delivered.** There are no shortcuts or 'quick wins'. Some shortcomings of digital health in Ontario include:

- limited digital services for citizens such as appointment scheduling, prescriptions and test results;
- limited mature use of Electronic Health Records and point-of-care systems;
- incomplete interoperability infrastructure.

In the next phase, Ontario must build on these solid foundations to enable a truly **digital** healthcare system. **The opportunity is not to simply digitise existing paper-based services, but to design a natively digital healthcare service, with the convenience, transparency and efficiency that entails.** 

This will require a shift from delivering systems primarily designed for clinical staff, to citizen services led by patients. Ontario should look to Estonia, Sweden, Finland, Denmark and Norway for inspiration - these jurisdictions have started this shift already.

Ontario must now develop a new plan to realise this vision. Ontario should:

- 1. **Complete the delivery of critical infrastructure:** the Electronic Health Records (Connected Backbones) that enable data exchange between providers.
- 2. Ensure effective control of IT spend, contracts and key projects to ensure value for taxpayer money.
- 3. Learn the lessons of large-scale digital transformation to ensure successful delivery.
- 4. Think carefully about the next wave of investment in hospital systems and how to bake in interoperability, usability and flexibility from the start.
- 5. Focus digital efforts on areas of greatest impact by tying the digital health plan closely to the objectives of *Patients First.*
- 6. **Prepare for the future** through experimentation.

# 2. Opportunities of digital health in Ontario

Following years of major investment, Ontario is now ahead of many of its peers in the computerisation of its healthcare system.

Almost all hospitals in Ontario have implemented Hospital Information Systems, while over 80% of physicians have adopted equivalent Electronic Medical Record systems. Virtually every diagnostic image is captured digitally, as are over 85% of lab results. There has also been good progress towards building the critical infrastructure required to exchange data between systems.

The Ministry now has a significant opportunity to build on these solid foundations to enable a truly **digital** healthcare system. By digital we mean:

"applying the culture, practices, processes & technologies of the Internet-era to respond to people's raised expectations."<sup>1</sup>

In the case of Ontario's healthcare system, digital will play a key role in caring for an aging population with more complex health needs whilst reducing the growth of healthcare spending.

Ontario's 'Patients First' plan aims to address these challenges by improving access to the right care; improving the efficiency of healthcare delivery through integration and community care; and empowering patients to take control of their own health; and making decisions that will protect the universal healthcare system.

These goals are in line with healthcare's 'Triple Aim'<sup>2</sup> of **better care, better health and lower cost.** Across the world, healthcare systems have invested in IT to promote these aims.

# **Digital healthcare: beyond Electronic Health Records**

Advances in medical technology and electronic patient records have had a profound impact on how care is delivered in Ontario, but the citizen experience of healthcare has remained largely the same despite the advent of the smartphone and the Internet.

Ontario's healthcare system is now in a transition state: moving from a focus on *computerisation* in care settings to a phase of *digital transformation* of how care is delivered.

Amazon, AirBnB and Netflix have changed the way we think about shopping, travel and entertainment. Increasingly, people are demanding the same of their public services.

The digital opportunity for Ontario's healthcare system is not to simply digitise existing paper-based services, but to design natively digital services, with the convenience, transparency and efficiency that entails.

https://digital.blogs.coop/2016/06/14/what-we-mean-when-we-say-digital/

<sup>2</sup> http://www.ihi.org/engage/initiatives/tripleaim/pages/default.aspx

Artificial intelligence has the potential to make a huge impact on diagnosis, research and prevention. New Internet-based platforms are connecting patients to 'on-demand' doctors, a trend that is likely to impact on health system design even in state-funded systems such as Ontario's.

Stimulated by the \$30bn HITECH investment in healthcare IT over the past 5 years, the likes of Google and Apple, as well as start-ups, accelerators, and venture capitalists have invested heavily in healthcare. This is likely to bear fruit over the next decade.

These advances are a world away from most healthcare IT in use today. Healthcare has lagged several generations behind other sectors in shifting away from big, 'one-size-fits-all' *IT systems of record* towards new technologies and practices better able to cope with rapid change (see GCHQ's Boiling Frogs<sup>3</sup>).

In digital era healthcare, the role played by Electronic Health Records is likely to be much less prominent than today. As Dr Robert Wachter - the 'Digital Doctor' - wrote:

"the future electronic health record of hospitals and clinics will be something of a commodity, with several different products available to do the same job, similar to Web browsers today....

"In essence, there will no longer be an EHR in the traditional sense, an institution centric record whose patient portal is a small tip of the hat to patient-centeredness. Rather, **there will be one digital patient-centered health record** that combines clinician-generated notes and data with patient-generated information and preferences. **Its locus of control will be, unambiguously, with the patient**."<sup>4</sup>

As many of Ontario's Hospital Information System implementations are nearing end-of-life, plans are afoot for a major program of renewal. Care should be taken to ensure this new wave of systems can enable this shift to digital: this will require more than patient portals.

# 3. Challenges

The adoption of IT in healthcare has not been without challenges. In this, Ontario is far from alone.

# Adaptive change vs. technical change

The adoption of digital practices and technologies in healthcare is often treated as a *technical change* that can be solved by experts applying pre-defined solutions. However, experiences globally have highlighted the shortcomings of this approach: digital healthcare is an *adaptive change* that requires all employees - managers and front-line staff - to learn their way to solutions<sup>5</sup>.

<sup>&</sup>lt;sup>3</sup> https://github.com/tomski/BoilingFrogs/blob/improved-visual-design/GCHQ\_Boiling\_Frogs.pdf

<sup>&</sup>lt;sup>4</sup> Dr Wachter, The Digital Doctor

<sup>&</sup>lt;sup>5</sup> http://changetheorists.pbworks.com/w/page/15475038/Ron%20Heifetz

#### Technical vs. adaptive changes

	Why	How	Who
Technical change	Clear definition of problems	Apply current know-how	Managers and experts
Adaptive change	Definition of problems and solutions require new thinking	Learn new ways	The people with the problem: front line staff

This will entail:

- redesigning services to be digitally native;
- reimagining of work to take advantage of new technologies;
- re-configuration of the workforce as technology replaces and creates work;
- **re-configuration of organisations/buildings** around the services they deliver, rather than vice-versa;
- new business models that emerge in response to Internet platforms.<sup>6</sup>

# 'Big IT' failure

Healthcare systems are not alone in their troubles with IT.

Large-scale - often over-ambitious - attempts at computerisation in government and private sector organisations have often failed to meet expectations. Some have resulted in high profile failures: Healthcare.gov, BBC digital video archiving and the US Air Traffic Control system, to name a few.

Rigid waterfall approaches, ignorance of user-needs, 'big bang' launches, bad contracts, optimism bias and a lack of in-house capability are often to blame for these failures.

Some governments - including the UK, US, Australia, Israel and Ontario<sup>7</sup> - have now established expert digital units to avoid future IT failure. By adopting industry standard practices (e.g. agile delivery, product management, user centred design), fixing legacy IT problems and reforming their relationship with vendors, these governments have been able to deliver better services for less.

# The productivity paradox

Decisions to invest in healthcare IT are often based on claims that computerisation will reduce costs, improve efficiency and quality.

Often, the reverse is true. As economist Robert Solow said:

<sup>&</sup>lt;sup>6</sup> <u>http://www.computerweekly.com/opinion/Government-must-be-a-platform-entrepreneur-to-deliver-digital-20</u>

https://www.ontario.ca/page/digital-government

"You can see the computer age everywhere but in the productivity statistics"8

This is the so-called *productivity paradox*<sup>9</sup>: the introduction of IT into healthcare settings does not automatically result in improved efficiency.

Instead, IT is often disruptive and burdensome to day-to-day clinical work when it is first introduced.

Over time - in healthcare usually around 10 years - the technology improves and work adapts to take advantage of it, resulting in the promised efficiency gains.

Although this lag is reducing as the rate of technology change is increasing, those looking for 'quick wins' in the world of healthcare IT often come unstuck.

# Interoperability

Worldwide, healthcare IT has been plagued by interoperability issues. As the use of IT systems in healthcare has grown, delivering joined-up care has become harder in a world where those systems rarely speak the same language. The complexity of healthcare data, resistance from vendors and poor incentives have held back interoperability.

# 4. Comparison of Ontario's digital health progress

# Overview of recent international digital health developments

### England

Following a large-scale project failure to deliver a national patient record system (National Programme for IT), England launched a new, wide-ranging digital health strategy<sup>10</sup> in 2014. The government has earmarked £4.2bn to deliver the Paperless 2020 programme and charged the NHS Digital agency with delivery. Major challenges include interoperability, patchy adoption of Hospital Information Systems and limited citizen digital services.

### Australia

Digital health efforts in Australia have focused on the troubled My Health Record service - a national personal health record service. The service cost \$1bn to develop and has suffered from low adoption (<10% of patients) and poor clinical engagement. Following a review<sup>11</sup>, the government made the service opt-out for all citizens, introduced incentives to encourage adoption by doctors and established the new Digital Health Agency to improve the service.

<sup>8</sup> http://www.standupeconomist.com/pdf/misc/solow-computer-productivity.pdf

<sup>9</sup> http://ccs.mit.edu/papers/CCSWP130/ccswp130.html

<sup>10</sup> https://www.gov.uk/government/publications/personalised-health-and-care-2020

<sup>&</sup>lt;sup>11</sup><u>http://www.health.gov.au/internet/main/publishing.nsf/content/17BF043A41D470A9CA257E13000C9322/\$File/FINAL-</u> <u>Review-of-PCEHR-December-2013.pdf</u>

Following a \$30bn state-funded investment, the US has made recent rapid progress in healthcare IT. Approximately 10% of physicians offices and hospitals had IT systems in 2009. Today, the number is estimated to be over 75% of physicians and over 90% in hospitals. However, the Meaningful Use requirements imposed by the federal government became increasingly burdensome and did not result in the hoped-for interoperability between systems.

# Healthcare IT fundamentals

What progress has been made towards delivering the central ambition of Ontario's 'eHealth 1.0' strategy: computerisation of care organisations? How does this compare to Ontario's peers?

This comparison is a simplification that focuses on three critical building blocks of healthcare IT in most jurisdictions: Hospital Information Systems, primary care Electronic Medical Records and Electronic Health Records (mechanisms to exchange data between systems).

	Ontario	England	New Zealand	Canada	Finland	Denmark
Hospital Information Systems adoption (EMRAM score 0-7)	2.9 <sup>12</sup>	2-3	2.2	2.04	N/A	5.3
Electronic Medical Records adoption	80%	98% <sup>13</sup>	100%	73%	100% <sup>14</sup>	100%
Interoperability infrastructure (Electronic Health Records)	72% complete	No	No	No	Yes	Yes

Ontario is ahead of the Canadian average on these measures. However, Ontario (along with the rest of Canada) lags significantly behind the US in adoption of Hospital Information Systems.

There has been a huge shift in the US, driven by the federal HITECH investment. In 2007, less than 5% of hospitals had achieved EMRAM 4-7, by 2014 this figure had risen to 68%.<sup>15</sup>

There have been incremental improvements in hospital system adoption in Ontario, but no great leaps as in the US. By 2014, 15% of Ontario hospitals had achieved EMRAM 4-7<sup>16</sup>.

US

<sup>&</sup>lt;sup>12</sup> <u>http://www.kdh.on.ca/news-releases/kemptville-district-hospital-scores-in-the-top-5-percent-of-canadian-hospitals-for-adoption-of-electronic-medical-records/</u>

<sup>&</sup>lt;sup>13</sup> <u>http://international.commonwealthfund.org/stats/use\_of\_emrs/</u>

<sup>&</sup>lt;sup>14</sup> KPMG Jurisdictional Scan

<sup>&</sup>lt;sup>15</sup><u>https://www.eiseverywhere.com/file\_uploads/0cf548ab2f4eaeafd0a6b4ce615f0399\_Hoyt\_Session\_1\_European\_Hospitals\_E</u> <u>MRAM\_Maturity\_Overview\_CIOSummit.pdf</u>

<sup>&</sup>lt;sup>16</sup> <u>http://www.oha.com/CurrentIssues/keyinitiatives/eHealth/Pages/eHealthAdoptionFindingsandComparisons.aspx</u>

# Digital healthcare building blocks

Whilst Ontario has made progress on some of the basic building blocks of healthcare IT, to deliver a natively digital healthcare service there are some other critical components required.

Here, we have compared Ontario's progress on some of these building blocks to equivalent world-leading exemplars.

It should be noted that no single health system is close to delivering all of these building blocks. If Ontario were to make progress on several of these components, it would be amongst the leading digital health systems in the world.

Appointment booking		
Ontario	ZocDoc (US)	
<ul> <li>No universal booking platforms in place.</li> <li>Some local successes: Magenta Health (99% digital take-up); Wise Elephant; Sunnybrook MyChart.</li> <li>Limited/no private-sector booking services.</li> <li>Tentative plans to encourage development of online appointment booking.</li> </ul>	<ul> <li>Physician locator and booking service for the public.</li> <li>Works with health systems including Mount Sinai and Tenet.</li> </ul>	
Health information		
Ontario	Estonia	
<ul> <li>Limited health information on Ontario.ca.</li> <li>Plans to integrate data on waiting times, quality outcomes and system performance in early 2017.</li> </ul>	<ul> <li>eClinic provides users with online information from doctors, nurses, and medical specialists.</li> <li>Around 80% of user/patients opt for self-care after using the service.<sup>17</sup></li> </ul>	
	England	
	<ul> <li>NHS Choices (<u>nhs.uk</u>) - national health information website combines symptoms, conditions and services information.</li> <li>-50m visits per month.</li> </ul>	
Patient record access		
Ontario	Denmark	
<ul> <li>Limited availability of records to patients through organisation-centric portals (e.g. Sunnybrook MyChart).</li> <li>No aggregated record service.</li> </ul>	<ul> <li>National sundhed.dk service allows users to view and share their health records, view an audit log of who has access their data, make a living will and register as an organ donor.</li> <li>1.4m visits per month.</li> <li>Aggregates data from 120 sources.<sup>18</sup></li> </ul>	

<sup>17</sup> http://www.memotext.com/you-can-change-the-system-how-estonia-has-built-the-most-advanced-ehealth-system-in-theworld <sup>18</sup> http://www.smartandhealth.com/index.php/homepage-2/96-expert/366-ehealth-denmark-national-health-portal-sundhed

Immunisations		
Ontario	Norway	
<ul> <li>Panorama/DHIR system in place across all 36 public health units for school age children.</li> <li>Further work required to integrate with local IT systems.</li> <li>Digital 'Yellow Card' patient access pilot underway.</li> </ul>	<ul> <li>National, universal (99% coverage) SYSVAK immunisation registry system, integrated to local IT systems<sup>19</sup>.</li> <li>Patient access via helsenorge.no.</li> </ul>	
Imaging		
Ontario	Trice, Ambra (US)	
<ul> <li>Almost all diagnostic imaging electronically captured.</li> <li>Regional repositories delivered to share diagnostic images between healthcare providers.</li> </ul>	- Next generation cloud-based image storage systems.	
Referrals		
Ontario	Finland	
- Local digital referrals solutions (e.g. Oshawa Clinic, Community MD).	- Over 90% digital take-up of referrals in 76% of hospital districts. <sup>20</sup>	
Prescriptions		
Ontario	Estonia	
Prescriptions Ontario - Online renewals/refills provided by miDASH portal, available at various family clinics/groups across Ontario.	Estonia - Centralised, end-to-end digital service handles 95% of all issued prescriptions. <sup>21</sup>	
Prescriptions         Ontario         - Online renewals/refills provided by miDASH portal, available at various family clinics/groups across Ontario.         Patient-clinician communications	Estonia - Centralised, end-to-end digital service handles 95% of all issued prescriptions. <sup>21</sup>	
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Prescriptions         Ontario         - Online renewals/refills provided by miDASH portal, available at various family clinics/groups across Ontario.         Patient-clinician communications         Ontario         - Group Health Care's myCARE portal (Epic) enables patient communications.         Identity verification	Estonia - Centralised, end-to-end digital service handles 95% of all issued prescriptions. <sup>21</sup> Denmark - Users can contact their doctor via the sundhed.dk website. - 80% of physician/patient communication in Denmark is asynchronous. <sup>22</sup>	
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<sup>&</sup>lt;sup>19</sup> <u>http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20147</u>
<sup>20</sup> <u>https://www.julkari.fi/bitstream/handle/10024/129709/URN\_ISBN\_978-952-302-563-9.pdf?sequence=1</u>
<sup>21</sup> <u>https://e-estonia.com/component/e-prescription/</u>
<sup>22</sup> <u>http://www.forbes.com/sites/davechase/2012/12/06/myth-and-reality-of-doctors-getting-overwhelmed-by-emails</u>

Patient register and identifier				
Ontario	England			
<ul> <li>eHealth's Client Registry holds information on 96% of population.</li> <li>Limited integration with local IT systems.</li> <li>OHIP card number used as identifier.</li> </ul>	<ul> <li>Personal Demographics Service holds basic information on population using single, legally mandated identifier (NHS Number).</li> <li>Integrated to 23,000 local systems.</li> </ul>			
Remote consultations / telehealth				
Ontario	Kaiser Permanente (US)			
- Community MD offers video consultations via Medeo service.	- 52% of visits conducted virtually.			
Symptom checking / clinical triage				
Ontario	PushDr, Babylon (UK)			
<ul> <li>No online solution.</li> <li>Telehealth Ontario hotline provides medical advice and triage.</li> </ul>	<ul> <li>Startups providing AI-powered symptom checkers.</li> <li>Pilots planned with NHS.</li> </ul>			

# 5. Conclusion

# How advanced is digital health in Ontario?

Following years of effort and investment, Ontario has a solid 'eHealth 1.0' foundation on which it can now build. It is ahead of other provinces in Canada and ahead of many developed nations on key measures.

Some particular successes of digital health in Ontario include:

- Almost all diagnostic imaging captured digitally and shared regionally;
- Infrastructure to send digital discharge summaries and other data from 177 sites to over 6,000 physicians (Hospital Report Manager);
- A province-wide Immunisation Information System (Panorama/DHIR);
- Widespread adoption of Electronic Medical Records by physicians;
- Widespread adoption of basic Hospital Information Systems.

These are significant achievements, but there is still further to go for Ontario to be a fully digital healthcare system. **Shortcomings of digital health in Ontario** include:

- Limited digital services for citizens such as appointment scheduling, prescriptions and test results;
- Limited mature use of Electronic Health Records and point-of-care systems;
- Incomplete interoperability infrastructure.

Overall, Ontario is well placed internationally to move from the computerisation phase of 'eHealth 1.0' to the digital era of 'eHealth 2.0'.

### Where next?

There are many views on how digital health will develop over the coming years.

We can look to other sectors - and our everyday lives - to see how technology has developed in the Internet-era. The transparency, efficiency and convenience of today's consumer services will eventually arrive in healthcare.

Cloud computing, artificial intelligence, virtual reality, ubiquitous computing and connected devices will all likely have a big impact on the way healthcare works in the future.

Here are four near-term examples from across the globe that show part of this future:

#### NHS.UK

In 2015, England's NHS formed a startup team to design the future of its digital service for the public - NHS.UK. The mission of the team is to make things simpler, clearer and better for patients by delivering personalised digital services and joining the dots between healthcare providers.

http://www.nhs.uk/transformation/ http://transformation.blog.nhs.uk/

#### **Google DeepMind Health**

DeepMind is one of the world's leading AI teams. They have partnered with the NHS to apply machine learning to research and front-line care. Their first service is Streams - an app that pushes contextualised patient test results and observations to the mobile device of clinicians. DeepMind are also working on interoperability and privacy infrastructure which could be adopted more broadly.

https://deepmind.com/applied/deepmind-health/

#### Apple Gliimpse

Gliimpse - a startup acquired by Apple - was a company that aimed to help people "to liberate their health by liberating their data". The company had developed a personal health record that gathered data from multiple EHR systems, with the ultimate aim of breaking the control healthcare IT vendors have over medical records. It is likely Apple is integrating this technology with HealthKit.

https://techcrunch.com/2016/08/22/apple-acquired-gliimpse-a-personal-health-data-startup/

#### **Google Health Graph**

Google have developed a linked database of clinically-validated health information and is presenting this in search results in the US. Google partnered with Mayo Clinic and others, and is looking to roll it out to other jurisdictions.

http://venturebeat.com/2016/06/20/googles-knowledge-graph-gets-health-info-backed-by-harvard-mayo-clinic/

# Recommendations

Based on our analysis of Ontario's digital health progress to date and comparison with experiences in other jurisdictions, we offer these general recommendations lest they be useful.

### 1. Complete the delivery of critical infrastructure

Ontario has not yet fully delivered on its previous eHealth strategy. Moving to the next phase requires careful consideration of what existing projects and systems to keep, invest in or retire.

However, there are some key pieces of infrastructure that will need to be retained or improved to be able to deliver the next phase of digital health in Ontario. In particular, the Electronic Health Records ('Connected Backbones') will be critical to enable data interoperability throughout the province and it is important these are completed.

There may be some investments whose benefits have not yet been realised. As previously discussed, this may take time. In healthcare IT, patience is required.

#### 2. Ensure effective control of IT spend, contracts and key projects

The Ontario government has a number of significant decisions to make on digital health over the coming months on what to invest in, how to enable effective delivery and - crucially - what to say 'no' to.

Doing this in a highly federated environment with multiple stakeholders and interests in play is not easy. However, there are some tried and tested techniques - adopted by the UK government and others - that can help:

- **Build a multi discipline team** with technical, health system and commercial expertise to advice on major decisions and devise strategy.
- **Understand your environment:** get this group to map your environment and understand how markets and technologies are evolving.
- **Challenge spend:** give this group the authority to challenge poor value for money spend and work with others to improve project proposals. It is important that this authority rests with those with the technical/commercial expertise and understanding of your environment.<sup>23</sup>

#### 3. Learn the lessons of large-scale digital transformation

The adoption of digital technologies in healthcare is *adaptive change* of the highest order: an iterative process that requires everyone to learn and engage with problem solving.

Buy-in from clinicians and front-line staff across the health care system will be essential to delivering the next phase of digital health in Ontario.

<sup>23</sup> http://blog.gardeviance.org/2016/05/stopping-self-harm-in-corporate-it.html

Adaptive change is often difficult for senior leaders: there are no straightforward, top-down solutions in the world of digital healthcare.

There are many lessons Ontario can learn from American, English and Australian attempts to introduce major digital changes into healthcare systems.

While a clear vision for digital health in Ontario is required, grand promises of the benefits of technology should be avoided.

### 4. Think carefully about the next wave of investment in Hospital Information Systems

The next wave of investment in Hospital Information Systems will strengthen the foundations of digital health in Ontario. The move towards Hospital Information Systems for hospital clusters rather than individual hospitals will hopefully reduce fragmentation.

However:

- This will be a major activity over the next few years which will occupy the energies of many IT teams in hospitals across Ontario, and cause disruption to many front-line staff. This may constrain the system's capacity to deliver further change during the same period.
- Ontario should look at what levers and incentives can be used to bake in interoperability and usability into these new Hospital Information Systems from the start. The US experience of Meaningful Use provides many lessons - good and bad on how to do this.

Given that Hospital Information Systems are likely to be a major part of digital health for some time, Ontario should ensure these are investments for the future:

- These systems must be flexible enough to cope with rapid change as Ontario reconfigures its health system to handle increased pressures.
- These systems must provide a platform for citizen services. This will require true interoperability through open APIs and open standards.

#### 5. Focus digital efforts on areas of greatest impact

Ontario has a clear healthcare strategy - *Patients First* - that sets out the steps the system will take to address the challenges of a modern, universal healthcare service.

Ontario's future digital health strategy must be closely tied to this overall ambition. Future investments in digital health should be subject to two critical tests:

- a) How does meet the needs of patients?
- b) How does this help deliver the Patients First reforms?

#### 6. Prepare for the future

Ontario should consider how to prepare the healthcare system for the future of digital healthcare.

Opportunities include:

- forming a startup team within the Ministry to research and design the future of Ontario's digital health service;
- choosing a small number of 'exemplar' services for end-to-end digital transformation;
- bringing incubators/accelerators for digital health startups closer to central digital health plans;
- experimenting with new business models / markets e.g. 'Uber style' healthcare platforms, prescribing digital tools etc.

Ultimately, there will be no one-size-fits-all approach to delivering digital health in Ontario.