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Mobile Health Computing Between Clinicians and Patients




e-Health 2014, Vancouver, BC

©Canada Health Infoway 2014 Mark Nenadovic & Stan Ratajczak, Emerging Technology Group June 2, 2014

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Mobile Health Computing Between Clinicians and Patients

- 4th white paper
 - Applicability
 - Challenges
 - Approaches
 - Call-to-action



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Faculty/Presenter Disclosure

Presenter:

- Mark Nenadovic, Stan Ratajczak

Relationships with commercial interests:

- Nothing to disclose

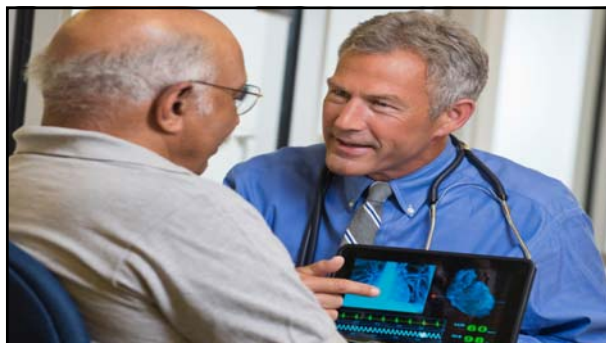
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Agenda

- Set the context
- Deployment
- Privacy and security considerations
- Call-to-action

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Canadians are ready for change

- 89% feel it is important that they personally have full advantage of digital health tools and capabilities
- 90% who access their own health information online describe the experience as positive

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Leverage consumer trends e.g., mobile device adoption

Improve the patient experience

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Canadians report interest in using digital health services if available

Legend: Most likely (dark blue), Somewhat likely (dark red), Less likely (light blue)

Service	Most likely	Somewhat likely	Less likely
View information in EHR	62%	30%	9%
Make appointments with HCPs electronically	61%	28%	11%
Send an electronic request for Rx renewal	59%	30%	11%
Consult with HCPs online	42%	37%	20%

Source: Harris /Dwight Annual Tracking Survey, Commissioned by Infoway, March 2014. ©Canada Health Infoway 2014. 8

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Yet few Canadians report that they have access to those kinds of digital interactions ...

- 4%
 - View PHI online
 - e-Book
- 6%
 - Renew Rx online
- 8%
 - Access to e-consultations




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Valuing Time Saved

- 47M: avoided in-person office visits
- 18.8M: fewer hours off work
- \$400M: yearly increase to GDP
- 51M hr: available for non-paid activities



©Canada Health Infoway 2014 Source: Valuing Time Saved: Assessing the Impact of Patient Time Saved from the Adoption of Consumer Health Solutions, Conference Board of Canada, 2012 11

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Are we meeting patients' expectations?

- Secure messaging
- e-Booking
- Online Rx renewals
- e-Visits
- Remote care and self-management



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We believe mobile will become a preferred channel for patients to interact with clinicians and their personal health information.


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So what might mobile technology enabled service look like ...

... a solution that will enable system transformations to:

- address sustainability
- advance new care models, and
- improve patient engagement?



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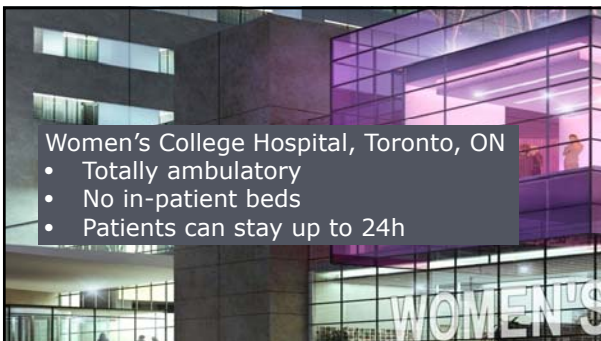
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Technology enablers



- Smartphones
- Tablets
- Mobile app
- Cloud based software (SaaS)

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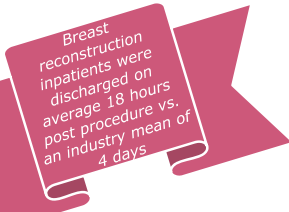


Women's College Hospital, Toronto, ON

- Totally ambulatory
- No in-patient beds
- Patients can stay up to 24h

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Benefits of remotely monitoring quality of care and recovery post-discharge



- ↓ cost including surgeon billings
- ↓ readmissions & ER visits
- ↓ travel to medical appointments
- ↓ wait times to access care team
- ↑ patient satisfaction

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So ... we have a lot of work to do

- The goal: *to integrate mHealth into a vibrant digital health ecosystem*
- Expand communication and collaboration functionalities to meet expectations
- Provide clinicians and patients with mobile access to content with minimal disruption in their workflow




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Deployment considerations

Getting from pilot to scale




Considerations

- Number of HDOs, devices, consumers, device and app platforms
 - Limit number of platforms, devices, apps
- Infrastructure capability
 - Designed for local users not necessarily for 1000's users
 - Leverage cloud based infrastructures/solutions (elasticity)
- Consumer enrollment
 - Integrated to existing information systems
 - Automated or self enrollment

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What are some of the key deployment considerations?

What are some of the key privacy and security considerations?

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Privacy and security considerations (1/3)

Privacy protective and secure mHealth solutions




Considerations

- Confidentiality of Personal Health Information (PHI)
 - Where possible avoid storage of PHI on device(s)
 - Use robust encryption and authentication techniques
 - Clarify patient roles and obligations for protecting PHI
- Consumer friendly privacy and security features
 - Ease of use and productivity must be design criteria
 - Think of password resets, secure email or SMS

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Privacy and security considerations (2/3)

Use trusted solutions 

Considerations

- Perform due diligence
 - Canada needs a common set of industry accepted assessment tools or guidelines
 - Assessment scope should include the complete mHealth solution
- Certification
 - Responsibility should rest with solution vendor
 - Must be supported by industry associations
 - Required by HDOs, clinicians, expected by consumers

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- Call to action - Integrate mHealth into the digital health ecosystem

1. Executive sponsorship; governance oversight
2. Integrate mobile strategy with the broader digital health strategy
3. Future software solution deployments should include mobile user interface option
4. Invest in a step-wise, strategic approach to achieve seamless integration of mobile devices across the health enterprise's information systems

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Privacy and security considerations (3/3)

Expectation of privacy protective mHealth solutions 

Considerations

- Allow for the management of patient privacy preferences
- Privacy enhanced remote monitoring devices/solutions
 - The Persistent Anonymous Identifier (PAI) vs PHI

Secure communications between patient and clinician

Considerations

- Robust authentication and identity proofing
- Confidentiality of PHI

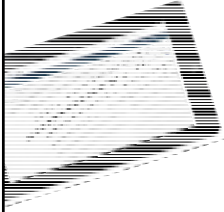
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- Call to action - Integrate mHealth into the digital health ecosystem

5. Policies and standards to direct the management and use of privacy-enhanced mobile devices and apps
6. Align that use with regulatory policies and guidelines as provided by federal agencies responsible for safeguarding the public
7. Consider the use of curation services for medical devices and mobile apps

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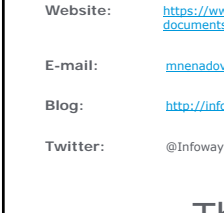
Mobile technologies are being introduced to the health sector with **much promise**

Good user experience requires *access to content with minimal disruption in workflow*. Success will require business **process transformation**

Protection of health information requires appropriate security and operational policies

mHealth technologies should be regarded as a **core system**. The health enterprise's IT strategy must include mHealth and align with the business transformation plan

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Thank you!

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