Creating the SMART Hospital of the Future with Innovation Partnerships

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Quick Facts (Fiscal Year 2014/2015)

• Opened in 1963, Mackenzie Health serves over a million people in Southwest York Region

• Vital Statistics (April 2015)
  – 518 Beds (168 Long-Term Care)
  – 92,993 Emergency Visits
  – 2,429 Births
  – 139,666 Outpatient Visits

• Second largest employer in Southwest York Region
  – 2,502 Staff
  – 450 Physicians
  – 1000 Volunteers Donating 97,000 hours

• Operating budget: $299 million
One main hospital site plus satellites

Mackenzie Richmond Hill Hospital

Vaughan

Richmond Hill

Barrie
Two-Hospital Service Delivery Model

Mackenzie Richmond Hill Hospital

The Future Mackenzie Vaughan Hospital

Vaughan

Richmond Hill

Richmond Hill

Barrie
Mackenzie Health Opportunities

Mackenzie Vaughan Hospital

A different service delivery within new hospital and across the two sites leveraging innovation at Mackenzie Richmond Hill Hospital

Substantive ICAT investment

Opportunity

Leverage project with need to test service delivery model and ICAT strategy before Mackenzie Vaughan Hospital completion in 2019/20

Applied Innovation
Innovation: Goals & Vision

Applied Innovation Goals

- Create an exceptional patient experience
- To build a high performing organization
- To become a leader in applied health innovation

Goal

Contribute to evidence-based healthcare system design

Develop robust, sustainable infrastructure to facilitate testing, evaluation, application, and diffusion of innovations.
Areas of Focus

- Evidence-based Practices
- Health Service Delivery Model
- Technology
Partnership model

Academia

Industry Partners

Mackenzie Health

Innovation in Practice

Innovation in Patient Safety

Innovation in Evaluation
Industry-Healthcare Alignment
Ontario-grown integrated smart clinical messaging & alerting solution

- End-user devices
- Secure mobile device management
- Network infrastructure
- Secure unified communications
- Ambient intelligence
- System integration
- Evidence-based design, implementation, evaluation, & diffusion
- Clinical expertise in patient care
- Patient Care Redesign
Creating the Specifications

Mackenzie Health Output Specifications

- Vision, Strategic Plan, Smart Hospital
- Stage 1 and Stage 2 Plans
- Mockups, 2P & Other User Groups
- Planning Principles
- Learnings from Site Visits & Conferences
- Expert & Community Engagement
- Lessons learned from Lean

Hospital construction proponent
Managed Equipment Service provider
ICAT provider

Ecosystem of Innovation Partners
The changing health care environment requires new business models & partnership strategies

Shared accountability model

Mackenzie Health

Common Goals
- Predictability
- Shared risk
- Continuous improvement
- Reduced operating expense
- Innovation

Solution Partner

Joint commitment to quality, efficiency, and cost metrics = NEW value for provider and patients
Formative Project: Smart Patient Rooms
Innovation Unit: Current Functionality

- Real Time Location System (RTLS)
- Hand hygiene monitoring
- Nurse Call System & Nurse Follow Communication consoles
- Bed exit alarm
- Smart Client & reporting dashboards
- ThoughtWire Integration
- Automated personalized HH performance emails
- Patient to Nurse voice call
- Inter-staff Messaging
- Call bell & staff assist notification on mobile device
- Nurse
- Physician
- Patient
- Nurse
- Nurse
- Nurse

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A Smart Hospital utilizes digital health moments

**ONE** digital action (the drug order) triggers **intelligent workflow automation** that automates **ALL** of the tasks that follow

- **SAFER** for patients
- **LESS WORK** for clinicians
- **MORE EFFICIENT** for hospital processes
e.g. A **digital health moment** during cardiac arrest

- Telemetry-initiated Code Blue
- Notify closest team members
- Return bed to CPR position
- Hold narcotic infusions
- Bring elevator to team’s location
- Display patient EMR summary on room display
- Turn off room alarms when team arrives
e.g. private, secure, and safe medical device moments

Clinician is scheduled to work today
Clinician is trained on device
eRegistry established relationship
Clinician and patient are in same room

Medical Device Agent

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Ambient Intelligence

New and legacy devices and systems can be wrapped with layers of connectivity, security, and ambient intelligence to create building blocks for smart healthcare processes.
The Internet of Healthcare Things
In summary...

What We Do

Fostering Partnerships
Developing strategic partnerships with healthcare innovators

Developing Solutions
Collaborating with clients to develop tailored solutions

Providing expertise in disruptive innovation
Source for implementation and evaluation of disruptive innovations

www.mi2health.com
Questions