Mental Health Engagement Network (MHEN):

Facilitating Mobile Patient Centric Care

Presentation Outline

- MHEN Project Context
- MHEN Project Results and Findings
- Lessons Learned and Implications
- Sandbox Mental Health Application for Youth
- Commentary and Questions

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Consumer Health Solution (CHS) Program Overview

- Canada Health Infoway's Consumer Health Solutions Program was approved in May 2010
- The Program was established to educate and empower Canadians by providing electronic access to their health information and health care services
- Current areas of investment within CHS include:
  - Jurisdiction consumer/patient portals
  - Demonstration Projects
  - Foundational Projects
  - ***NEW!*** Remote patient monitoring

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CHS Program

Specific areas of focus include:

e-Visits	Secure messaging between patients and their care providers
e-Views	Patient/informal caregiver access to personal health information
e-Renewal / e-Refill	Patient-initiated electronic requests for prescription renewals / refills
e-Scheduling	Electronic patient self-scheduling with their community or ambulatory care-based clinician
Remote Patient Monitoring	Delivery of health care to a patient's home, made possible by connecting the patient and a health care provider through a technology device.*

* For proven patient populations. Remote patient monitoring does not work equally well for all patients. It is influenced by patient characteristics and state of disease.

Consumer Health Benefits

Conference Board of Canada study showed:

- In 2011, if Canadians had been able to consult with their physicians and access test results online, or renew prescriptions electronically, they could have:
- Avoided nearly **47 million in-person visits** to health care providers
- Taken **18.8 million fewer hours off work** and had **51 million extra hours** to spend on non-paid activities like education, volunteer work and leisure
  - ➢ For a total saving of nearly **70 million hours**

If the 18.8 million hours could be allocated to work, Canada's economic activity would increase by about $400 million every year.

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Mental Health and Care Challenge

- 20% of Canadians experience mental illness, only 1/3 receive treatment
- 500,000 employed Canadians are unable to work due to mental illness in any given week (2/3 disability cases + 1/3 FT absenteeism)
- Mental health is the number one cause of disability in Canada, accounting for nearly 30% of disability claims and 70% of the total costs
- Current treatment cost estimates of mental illness:
    - depression: $5 billion
    - schizophrenia: $2.7 billion
    - uninsured mental health services: $6.3 billion

$51B in lost productivity and healthcare costs

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Mental Health Engagement Network (MHEN) Project Objectives

- Improve the health outcomes and quality of life for people living with psychotic or mood disorders
- Leverage mobile technology and a PHR to digitally connect clients and their clinical team
- Deploy and evaluate the benefits of an electronic PHR which provides:
  - Patient access to their own health information (through LIDB)
  - Interactive tools such as a mood monitor and journaling
  - Standardized health services through customized care plans
  - Ongoing monitoring of activities with alerts and reminders
  - Regular communication between clients and their care team

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Mental Health Engagement Network (MHEN) Current Partners

- **Canada Health Infoway:** Consumer Health Innovation Program
- **Lawson Research Institute:** Comprehensive evaluation expertise around innovative technologies
- **London Health Sciences Centre and St. Joseph's Health Centre:** Pushing the transformation agenda
- **Canadian Mental Health Association (London-Middlesex) & WOTCH:** Community mental health agencies
- **TELUS Health:** Investment in consumer health engagement solutions

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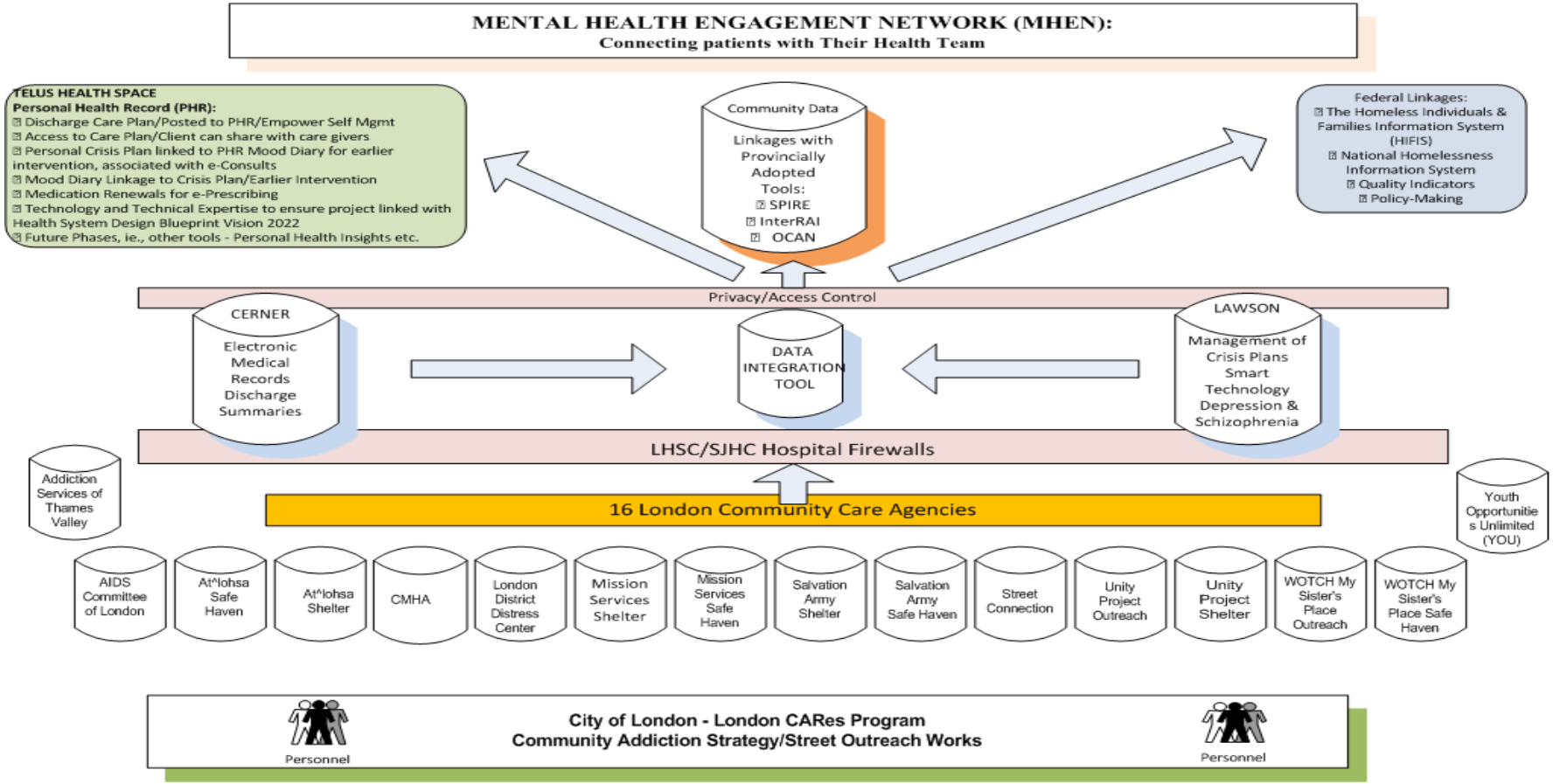
MENTAL HEALTH ENGAGEMENT NETWORK (MHEN):
Connecting patients with Their Health Team



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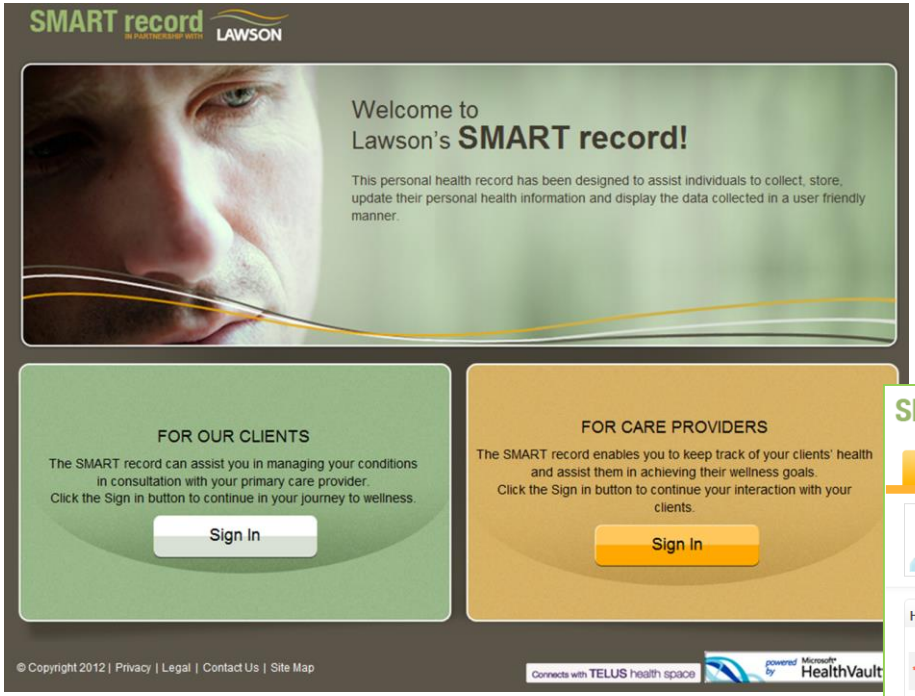
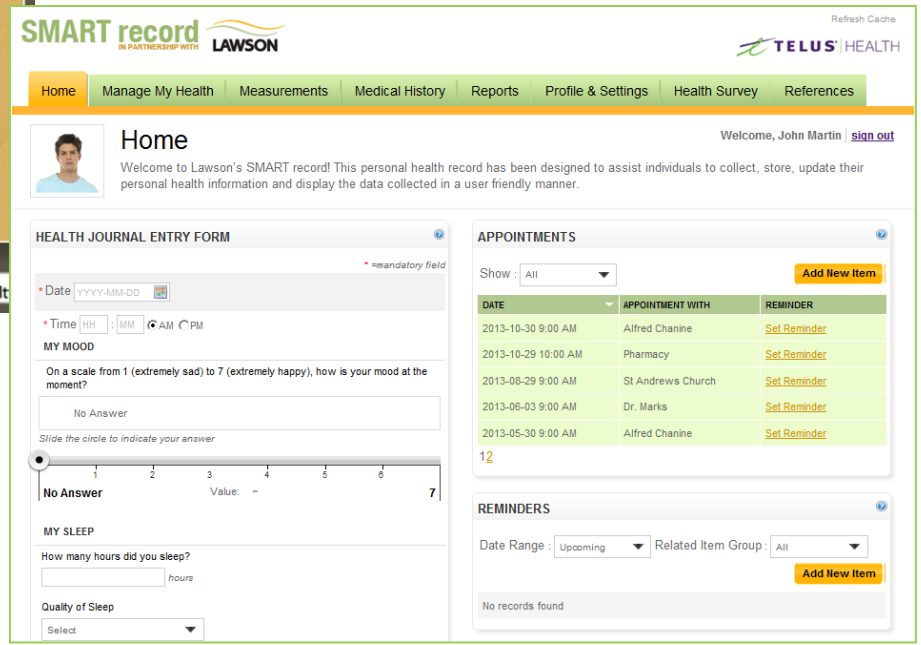
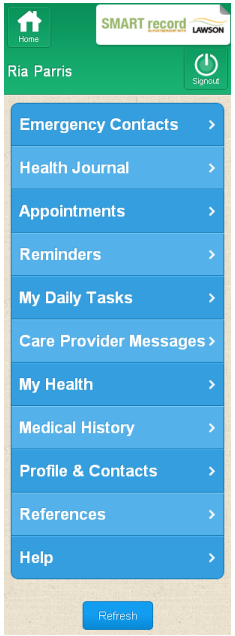
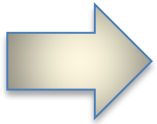


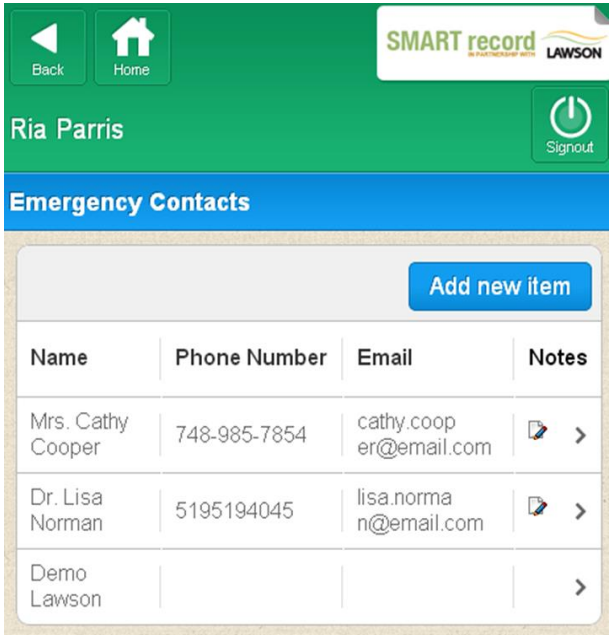
The Mental Health Engagement Network is a Mobile Mental Health Personal Health Record



Mobile View







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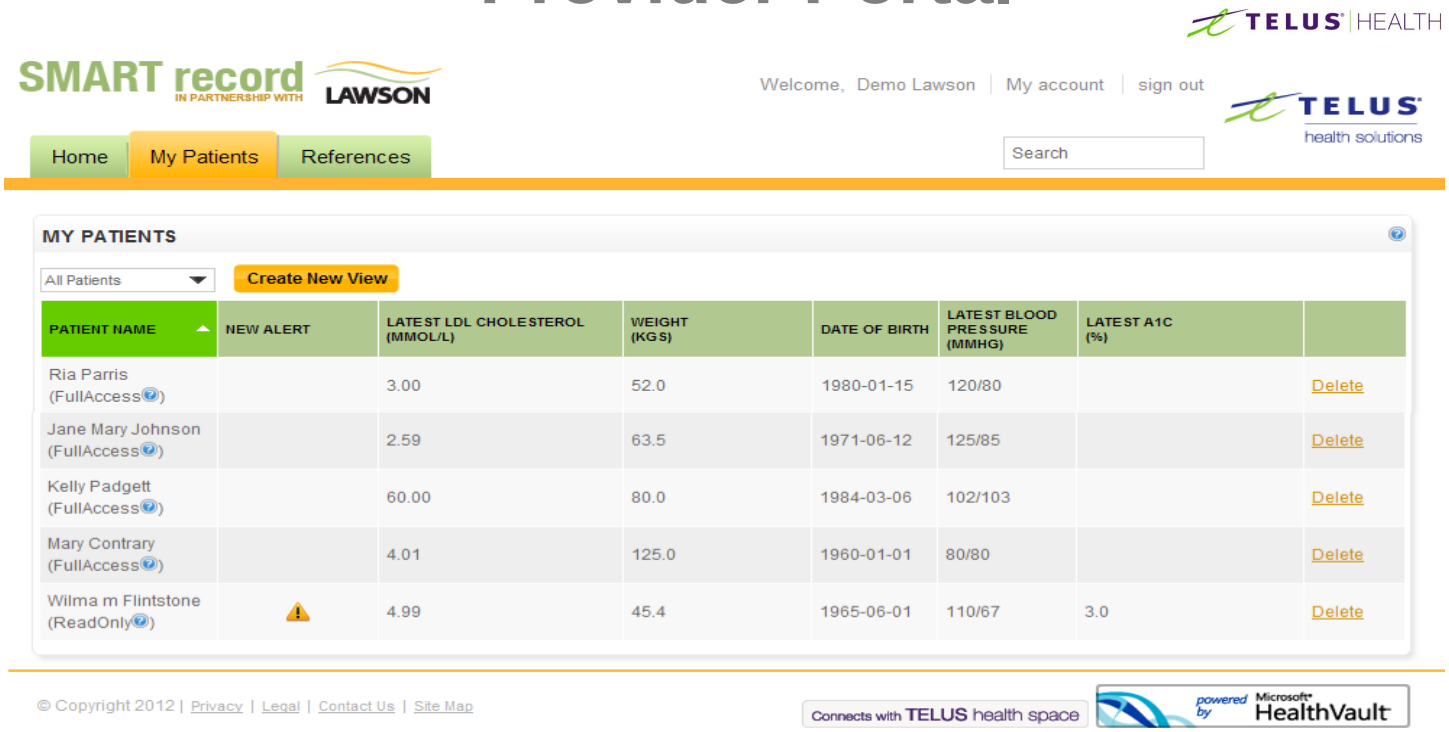
Provider Portal



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Project Evaluation Design

200 in Early Intervention Group receives MHEN intervention (August 2012)

200 - Delayed Intervention Group receives MHEN intervention (March 2013)

6 Month Delayed Implementation Design

- Delayed Intervention Group acts as a control group for first 6 months
- As both groups are receiving traditional therapy, improvement in both groups are expected
- Magnitude of improvements that result from the intervention, is the **"difference of the differences"** (i.e. take the improvement in the early intervention group and subtract any improvement seen in the delayed intervention group)
- Data collected included use of devices, perception of usefulness, quality of life, empowerment, general health, and use of health and social services

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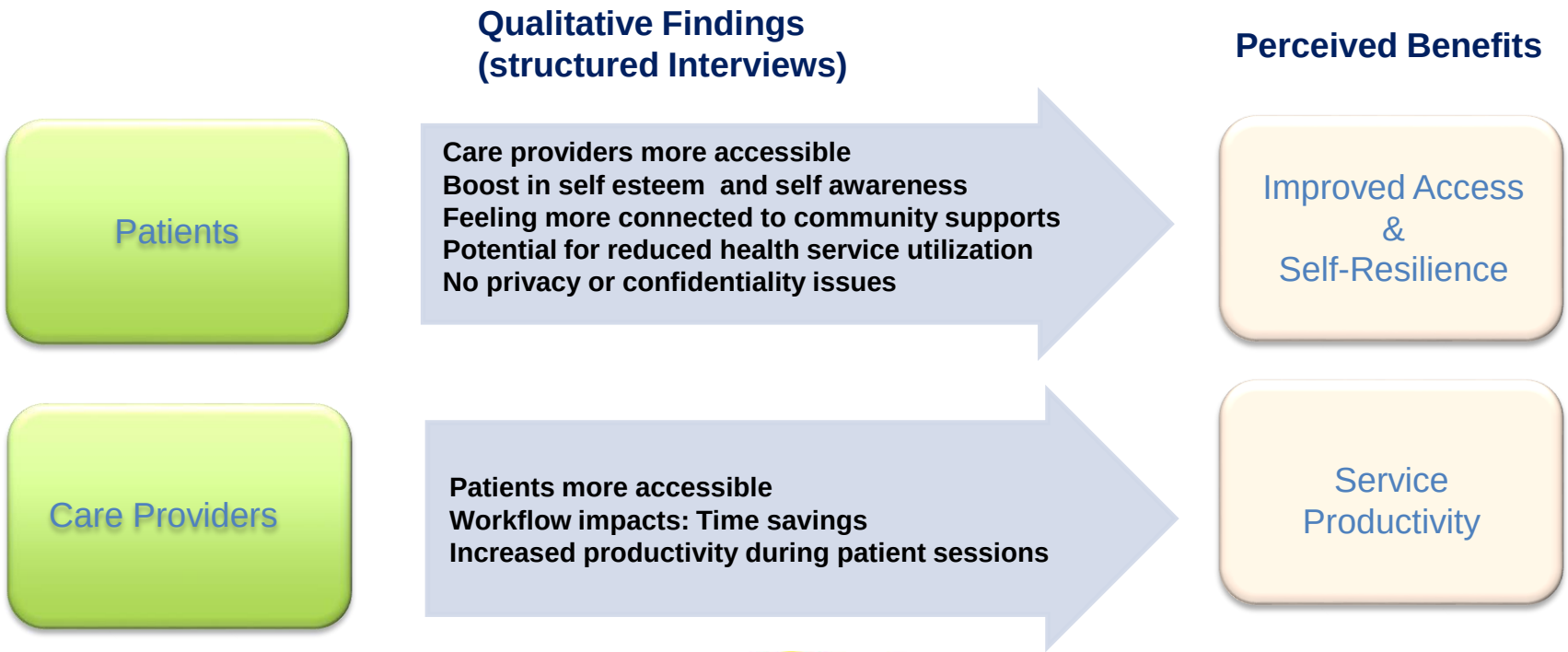
Quantitative Data

- No change in overall health or ER visits
- Increased community integration
- Decreases in psychiatric admissions, outpatient visits, and arrests

Qualitative data indicates positive benefits for both providers and patients



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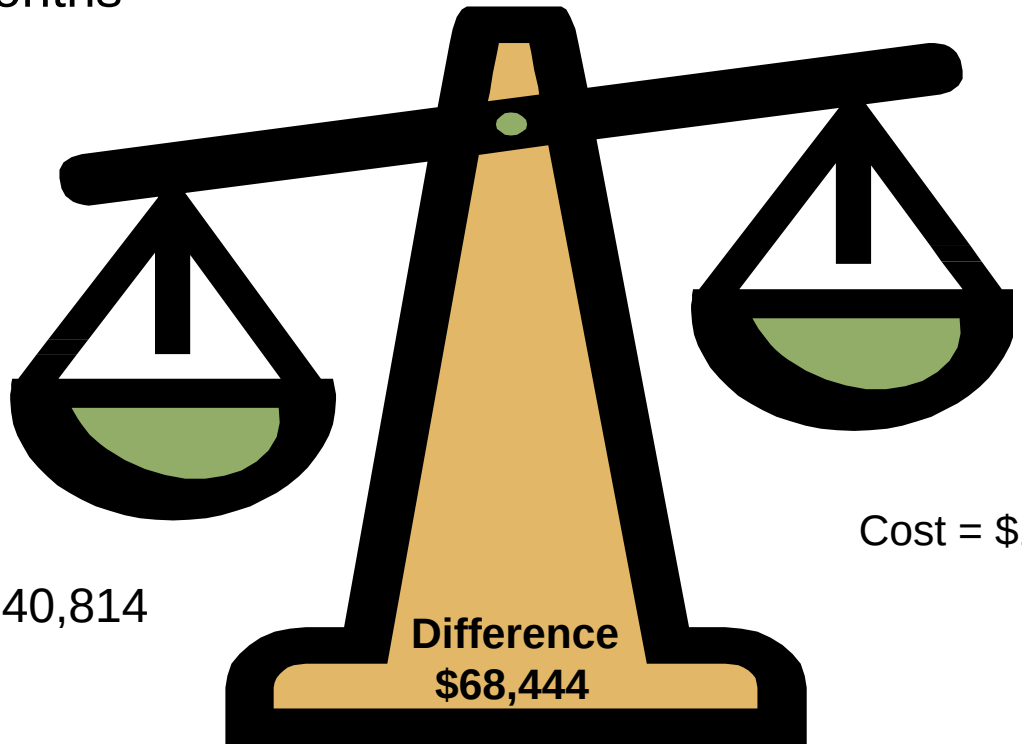
Return on Investment (ROI)
200 Users for 6 months



Savings = $240,814

Cost = $172,370

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What Have we Learned?

- **Intervention/Product for Clinical Problem**
  - Current solution brought value to users
  - Deeper understanding of usage and value of functionality - could be less complex
  - Research design should be more agile
- **Operational Model**
  - Determine ideal care setting; stage of care and target population
  - Single point of contact for support – ability to scale with ease
- **Infrastructure**
  - Able to integrate well into the LIDB and link to standardize reporting tools is a future plan
  - Need for robust analytics on usage, impacts and product iterations
- **Business Model**
  - Ensure market offer addresses a market need, is for scale and has cost certainty
  - Investigate public and private payer models

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Market Change is Accelerating

- Consumer Empowerment – convenience and access to service
- Consumer Centric Health Care – patient engagement, meaningful use and health applications (eg. PHP)
- mHealth – health information and care on demand
- Wave of Wearables – wellness and data
- New Entrants in Health Care – market power

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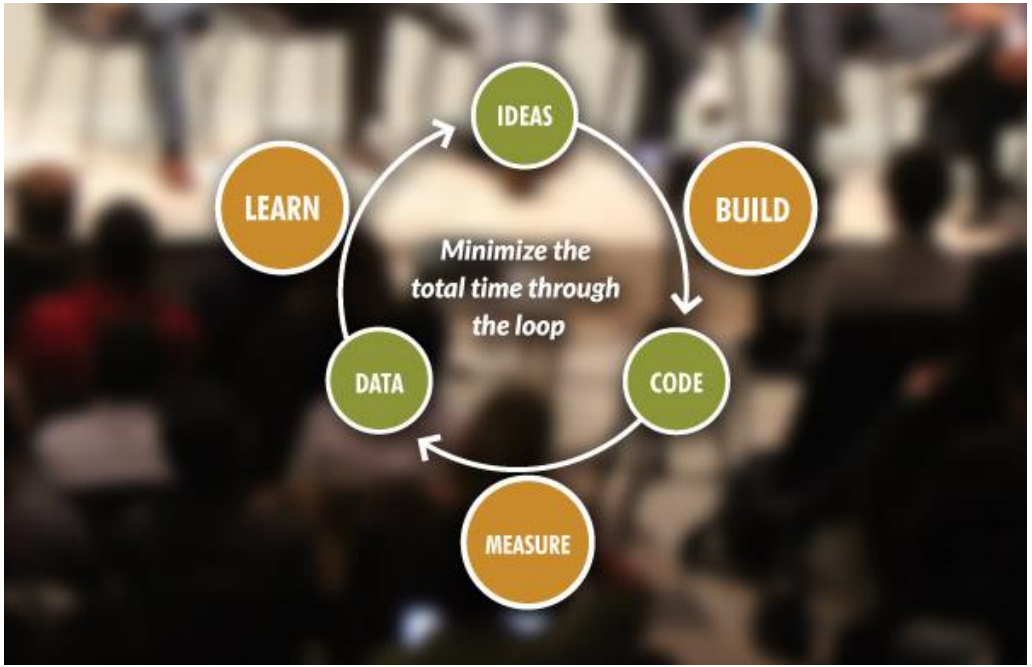
A Fast Innovation Loop is Key



*The Lean Startup Process - Diagram

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Solution Development Will be Market Responsive

- Market offer will be business led and customer informed
- Evidence comes from market experience and user metrics
- Operational model must be for mass market
- Infrastructure will leverage current assets
- Business model will be adaptable

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National Interest is Growing

- Learn from the results of MHEN
- Extend and refine solution to Youth through Sandbox Project
- Leverage TELUS market relationships (eg. Alberta Health)
- Conduct real world demonstrations testing different business models

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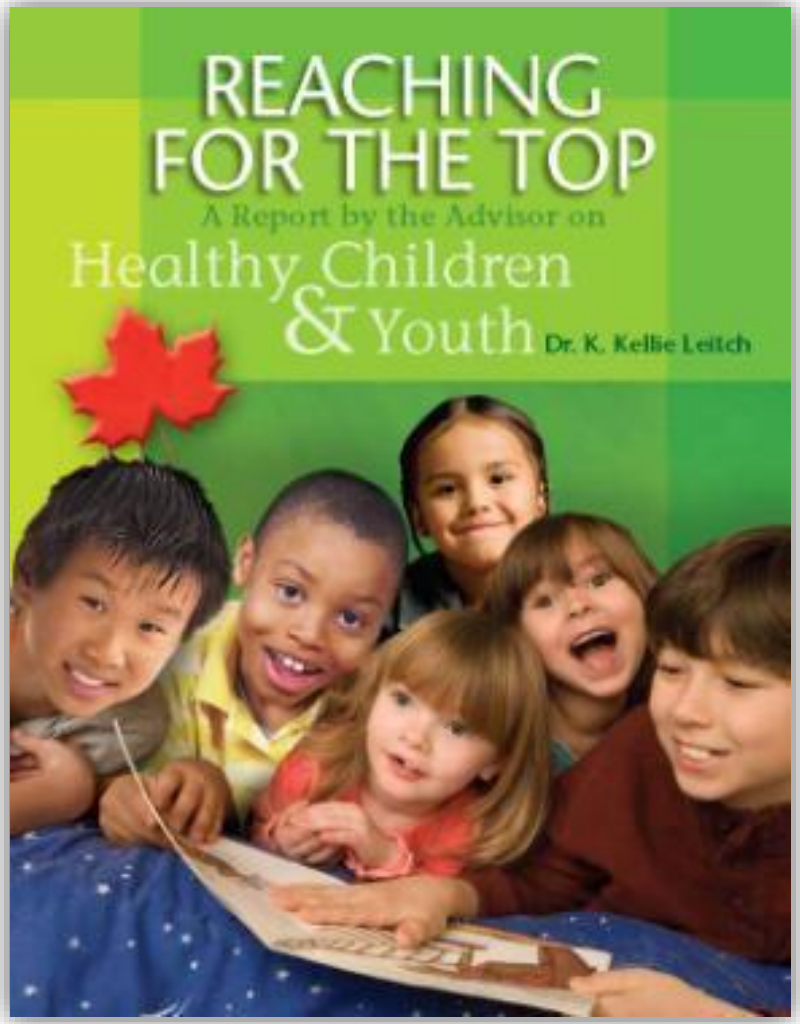
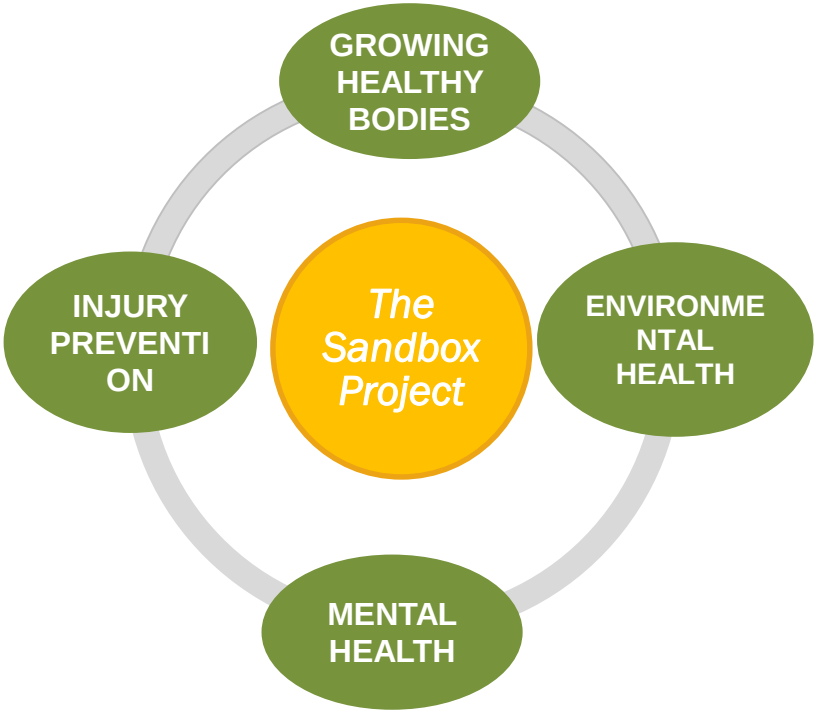

REACHING
FOR THE TOP
A Report by the Advisor on
Healthy Children
& Youth
Dr. K. Kellie Leitch

What is The Sandbox Project?

The Sandbox Project brings together government, industry, parents, NGOs and academics to create the right conditions for success on critical issues.



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Advanced Mental Health Solutions for Children and Youth - Sandbox Prioritized Innovation Actions

			Chronic Disease Management (CDM) Functionality Enabled				
Priority	**Innovation Name**	**Description**	**Self-Management Tools**	**Provider/ Manager Portal**	**Content/ eReferences**	**eConsults / Online Support**	**Population Based Analytics**
1A	Healthy Minds PHR and Tools for Children & Youth	Create C&Y Specific PHR and Monitoring Tools. Support eConsults, Messaging and Tracking Use of Heath and Social Support Systems	X	X			
2A	Evidence Based Assessmnent and Monitoring Tool for Top Mental Illnesses	Deliver EB Assessment Tools completed by patients and results monitored by Care Team	X	X		X	X
3A	Med Ed Mobile Tool	Medication Management Tool for Patients and Families to become more knowledgeable and empowered	X		X		
4A	National Web Forum	Online Supervised Open Discussion Periods - supported by a team parent, provider and kid - anyone can enter and start the discussion				X	
5A	Linkage of Credible Online Education References for integrated experience	MYM & Kelty & TMH - create digital collaboration and linkages to themselves & with National Web Forum			X		
6A	Navigation Tool (Level #1) - Mental Heath Online Services and Case	Iventory Resources Available In Regions and Provinces and Accessing Advice			X		

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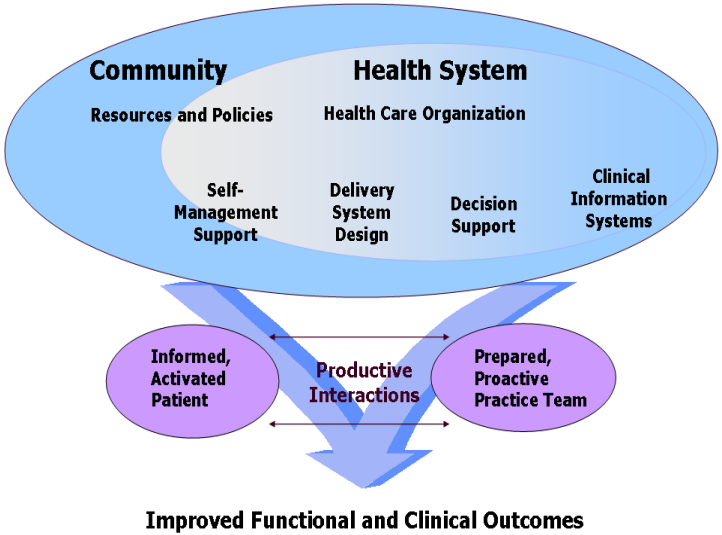
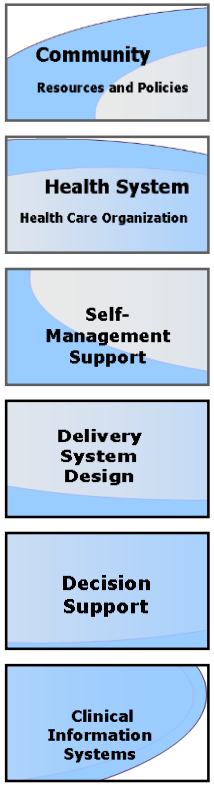
Technologies that support better management of people with chronic conditions should look like this...





Mobilize community resources to meet needs of patients

Create culture, organization and mechanisms that promote safe, high quality care

Empower and prepare patients to manage their health and health care

Assure the delivery of effective, efficient clinical care

Promote clinical care that is consistent with scientific evidence and patient preferences

Organize patient and population data to facilitate efficient and effective care

Source:
www.improvingchroniccare.org

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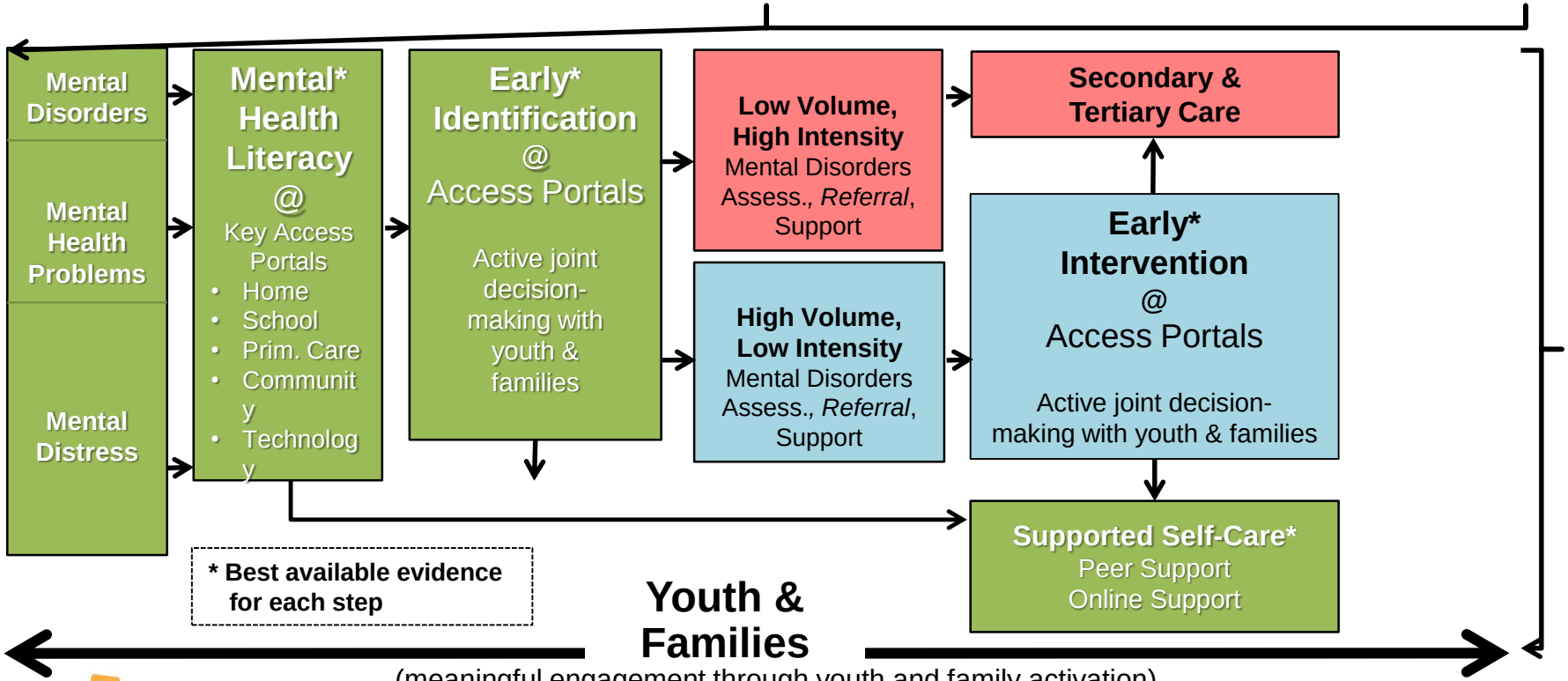
Horizontally integrated pathways through care: Maximizing access to and delivery of effective and acceptable transformative mental health care for Canadian youth and families



TRANSFORMATIVE ELEMENTS (multiphased approach)

- Enhance access to mental health care through youth user engaging interface
- Enhance access to mental health care through effective, evidence based availability in primary health care
- Enhance active informed participation in care
- Enhance access to essential evidence based care-improvement self-management tools and activities
- Enhance quality of mental health care through provision of evidence based management and monitoring capabilities

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Objective – Y-MHEN

This 6 month research study intends to deliver and evaluate initial usability and acceptability of assessment tools and personal health records accessible on mobile devices in the treatment of youth experiencing depressive symptoms.

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Participants

Participants: 41 clients (16-21 years old) receiving outpatient services from one of 9 participating care providers at either London Health Sciences Centre or Regional Mental Health Care London.

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Methods

Client	Care Provider
Quantitative Data	
1) Demographics Form completed at enrollment meeting Data measuring: basic demographic information as well as comfort with technology	1) Survey Data measuring: employment, comfort with technology and usability of the Lawson SMART record
Qualitative Data	
1)Focus group sessions during multiple time points Topics include: usability and adoption, benefits and pitfalls of the technology	1)Focus group sessions during multiple time points Topics include: usability and adoption, benefits and pitfalls of the technology and future recommendations

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Sample

n=42	Count (%)	Mean (SD)
Sex		
Male	11 (23.2%)	
Female	31 (73.8%)	
Age		17.0(1.4)
Psychatric Diagnosis		
Anxiety	27 (64.3%)	
Mood Disorder	25 (59.5%)	
Eating Disorder	6 (14.3%)	
Psychotic Disorder	3 (7.1%)	
Disorder of Childhood	2 (4.8%)	
Personality Disorder	2 (4.8%)	
Unknown/Other	8 (19.0%)	

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Qualitative Results

Preliminary analysis of focus groups reveals that both care providers and youth see technology as part of the youth culture and a desired adjunct of care. For providers, the fit with specific therapies such as cognitive behavioral therapy and dialectical behavioral therapy has been identified.

Next Steps

- Initial results suggest positive views from both youth and providers
- Further development needs to be done to optimize the experiences of both groups – particular attention paid to how youth will «best» interact with technological interface
- Integrate electronic health record with self-care and health maintenance components
- Extend the components to other common mental disorders and integrate into evidence based care in primary health care
- Determine impact of this approach on actual mental health care outcomes.

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Final Panelists Comments

Questions and Discussion

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