Mental Health Engagement Network (MHEN): Connecting clients with their health team

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Presenter Disclosure

• Relationships with commercial interests:
  – **Grants/Research Support:** Canada Health Infoway and TELUS Health
  – **Speakers Bureau/Honoraria:** none
  – **Consulting Fees:** none
  – **Other:** none
Project Design

- Delayed implementation approach

- Participants were randomized into Group 1 (early intervention) or Group 2 (later intervention)

- Participants are provided with a handheld device, a TELUS Health Space account, and a Lawson SMART record timed according to their intervention group and receive training on the handheld device and Lawson SMART record
Project Design (Cont.)

- Participants will complete a total of 4 interviews, every 6 months for a total of 18 months

- Focus groups take place at multiple points in time during the study

- Data collected includes use of devices, perception of usefulness, quality of life, empowerment, general health, and use of health and social services (including hospitalizations and emergency room visits as well as other services)
Methodology

Quantitative Data Collection

The structured interviews will involve the following eight questionnaires:

1. Demographic Form
2. Health, Social, Justice Service Utilization
3. Perception of Smart Technology Form
4. Quality of Life – Brief Version (QoL-BV)
5. Medical Outcomes Study 36-item Short Form Health Survey (SF-36)
6. EQ-5D Health Utilities Index
7. Community Integration Questionnaire
8. Adult Empowerment Scale
Research Evaluation Framework

**EFFECTIVENESS ANALYSIS**
- Target populations: demographic data and characteristics (income status, housing, etc)
- Evaluate interventions delivered: technology use "in context" and over time, health promotion
- Implementation system: intervention fidelity
- Intermediate outcomes: Consumer usability testing, uptake or fit of technology with life patterns, longer term outcomes: e.g. health status, quality of life etc

**ECONOMIC ANALYSIS**
- Evaluate "value for money" – extra cost vis-à-vis the extra benefit
- Analysis of person level cost and outcome data for each study participant
- Analysis of costs and benefits on a societal level to identify specific sub categories such as, caregiver costs, health costs, government costs etc.

**ETHICAL ANALYSIS**
- Evaluation of specific ethical implications in data exchange, secure storage, and use of technologies
- Comparison of ethical standards to project’s findings in relation to fairness, autonomy, privacy, social inclusion etc

**POLICY ANALYSIS**
- Identification of specific policy implications in data exchange, secure storage, and use of technologies
- Address policy implications arising from the issues identified throughout the research process. Include key stakeholders in identifying both problems and solutions
Expected Outcomes

- The overall hypothesis is that the usage of smart health information technology will improve quality of life and reduce health care system costs by enabling:

  - **Patients** through their Personal Health Record and e-tools, accessing health tools to support them in their recovery, for example:
    - real-time communication with their care provider team
    - scheduling appointments and request medication refills

  - **Care providers** closely monitoring the individuals recovery process
    - providing earlier intervention before a crisis situation arises
      - mood monitoring with automation of alerts to contact care provider (next of kin, substitute decision maker, family doctor, etc.)
    - providing continued support between formal face to face clinical visits
    - Tracking patients re medication adherence and adverse reactions
    - better utilize Provincial Assessment tools like the OCAN survey and RAI
    - sharing of the personal health record (including meds and care plans) to inform other care providers => better continuity of care
Cost-effectiveness Analysis

The diagram illustrates the relationship between cost and effectiveness, with Quadrant 1 representing the area of acceptance, Quadrant 2 the area of uncertainty, Quadrant 3 the area of rejection, and Quadrant 4 the area of higher cost and lower effectiveness. Points A and B illustrate different scenarios within this analysis.
Mental Health Engagement Network – PROJECT TIMELINE

Phase 1 Dev

Design

Phase 1 – First 200 Clients

Care Providers Wireless 18 mths I-Pads

Phase 2 Dev

Design

Phase 2 – Next 200 Clients

Implementation Into Care.....
### Descriptive statistics

**n = 400**

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>38.5</td>
</tr>
<tr>
<td><strong>Std. Deviation</strong></td>
<td>13.8</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>18</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>78</td>
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</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>155</td>
<td>38.7</td>
</tr>
<tr>
<td>Male</td>
<td>245</td>
<td>61.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>400</td>
<td>100.0</td>
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</table>
### Descriptive statistics

**n = 400**

<table>
<thead>
<tr>
<th>Mental Health</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Handicap</td>
<td>3</td>
<td>.75</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>128</td>
<td>32</td>
</tr>
<tr>
<td>Disorder of Childhood/Adolescence</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Organic</td>
<td>3</td>
<td>.75</td>
</tr>
<tr>
<td>Substance-Related Disorder</td>
<td>55</td>
<td>13.75</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>25</td>
<td>6.25</td>
</tr>
<tr>
<td>Psychotic Disorder</td>
<td>233</td>
<td>58.25</td>
</tr>
<tr>
<td>Mood Disorder</td>
<td>237</td>
<td>59.2</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>2.5</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>.5</td>
</tr>
</tbody>
</table>
## Descriptive statistics

\[ n = 400 \]

### Have you ever had a psychiatric hospitalization?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>56</td>
<td>14</td>
</tr>
<tr>
<td>Yes</td>
<td>343</td>
<td>85.75</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>.25</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100</td>
</tr>
</tbody>
</table>

### Estimated total number of psychiatric hospitalizations

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Mean</td>
<td>7.7</td>
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<tr>
<td>Std. Deviation</td>
<td>10.8</td>
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<tr>
<td>Minimum</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>100</td>
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<tr>
<td>( n = 343 )</td>
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How comfortable are you with technology in general?

N = 400

<table>
<thead>
<tr>
<th>Comfort Level</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Extremely comfortable</td>
<td>26.3</td>
</tr>
<tr>
<td>Slightly comfortable</td>
<td>20.3</td>
</tr>
<tr>
<td>Comfortable</td>
<td>22.8</td>
</tr>
<tr>
<td>Mixed</td>
<td>16</td>
</tr>
<tr>
<td>Uncomfortable</td>
<td>5</td>
</tr>
<tr>
<td>Slightly uncomfortable</td>
<td>4</td>
</tr>
<tr>
<td>Extremely uncomfortable</td>
<td>5.8</td>
</tr>
</tbody>
</table>
Accessing the Lawson SMART record

- Mobile: 9567 hits
- Desktop: 3237 hits

**Hits to Homepage**
Lawson SMART record Usage

- Health Journal, 5654
- Messaging, 1728
- Scheduling, 971
- Reminders, 462
- Health Journal Notes, 995
Thinking of your personal health record how do you feel about its ease of use? (n=147)
How do you feel about having your own personal health record? (n=178)
How do you feel about connecting with your health care provider using the smart phone? (n=161)
How do you feel about being able to share your health information with other health care providers? (n=160)
Feedback from Clients and Providers

• One client made more progress in two months, than they had over a two year period, largely due to the technologies helping to structure their days

• One client reported using the Lawson SMART record and their iPhone to show the emergency room staff their list of prescribed medications

• “I feel more secure because it has all these records and all these things on it, and if I get too depressed I know I can grab my phone for help.”

• “It’s showing me how I’ve been feeling for the last week, so it’s kind of helping me because it’s this thing telling me you’ve been feeling kind of depressed the last week. You haven’t been getting enough exercise, you haven’t been regularly taking you meds, so I don’t have a doctor or a health professional saying you’re not doing this, it’s myself. I’m reading my own words.”
Summary of Focus Groups Feedback

• Benefits / positive changes through the use of the Lawson SMART record and iPhone
  – Care providers more accessible to their clients and vice versa
  – Boost clients self esteem
  – Clients feel more connected
    • Care provider
    • Other community supports
  – Facilitates self-awareness within clients and promotes self-reflection
• Privacy and confidentiality with regards to the Lawson SMART record
  – No major concerns
• Workflow Impact
  – Time savings
  – Increased productivity during client meetings
Project Partners

- Lawson Research Institute – Project Lead/Dr. Cheryl Forchuk
- London Health Sciences Centre
- St. Joseph Health Centre, London
- TELUS Health Solutions – Technology Lead
- Canada Health Infoway
- South West LHIN
- City of London, CanVoice, CMHA, WOTCH
Questions?