Objectives

• Provide overview of the Patient Portal initiative at Ontario Shores
• Present the design and approach of the Benefits Evaluation of the Portal
• Share and discuss the results
• Present Next steps
• Q&A
Ontario Shores at a Glance

- Teaching hospital specializing in comprehensive mental health care and addiction services
- 1,300 employees
- 326 inpatient beds
- Over 50,000 outpatient visits/annually
- Programs for adolescents to seniors providing assessment, stabilization, treatment and transition
- Implemented Meditech 6.0 EMR in 2010
- Implemented patient portal Dec 2014
The implementation of OS HealthCheck is in keeping with Ontario Shores’ recovery model.

Based on the principles of hope, recovery, collaboration, identity, responsibility and meaning in life.

Holistic patient-centered approach.

Promotes inclusion and empowerment of patients and treatment options that are tailored to the individual.

Empower the patient and their families.
Ontario Shores’ HealthCheck

- This displays the name of the patient.
- This will display any new activities in OS HealthCheck.
- This will list the next three upcoming appointments for the patient.

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Messaging

Betty Rubble's Messages

Send Message
Send a non-urgent message to your provider. If you are experiencing a life threatening emergency, call 9-1-1. Learn More

New Message
To: Brian Gifford
Subject: Follow up?
Hi Dr. Gifford,
Should I schedule a follow up with you regarding my ankle injury?
Thanks,
Betty

Send

View Sent Messages
The Message Inbox displays secure provider messages. Select a message to view details or click 'Send Message' to send a new message. Learn More

<table>
<thead>
<tr>
<th>From</th>
<th>Subject</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>JONES, MARK</td>
<td>test</td>
<td>Nov 07, 2013 1:38 pm</td>
</tr>
<tr>
<td>Brian Gifford</td>
<td>meds</td>
<td>Nov 01, 2013 3:20 pm</td>
</tr>
<tr>
<td>Brian Gifford</td>
<td>Hi Betty,</td>
<td>Nov 01, 2013 3:03 pm</td>
</tr>
<tr>
<td>Brian Gifford</td>
<td>Casey</td>
<td>Oct 31, 2013 4:06 pm</td>
</tr>
<tr>
<td>Brian Gifford</td>
<td>Hi Betty,</td>
<td>Oct 29, 2013 3:29 pm</td>
</tr>
<tr>
<td>JONES, MARK</td>
<td>Medication Question</td>
<td>Oct 29, 2013 2:46 pm</td>
</tr>
<tr>
<td>Ashley Fino</td>
<td>Hi Betty,</td>
<td>Oct 29, 2013 1:39 pm</td>
</tr>
<tr>
<td>Brian Gifford</td>
<td>Hi Betty,</td>
<td>Oct 29, 2013 1:15 pm</td>
</tr>
</tbody>
</table>

Betty Rubble's Messages

View the details of the selected message. To reply to this message, select 'Reply' in the function region. Learn More

Subject: Hi Betty,

From Brian Gifford on October 23, 2013 at 2:27 pm

Hi Betty,
Please take the meds once a day.
Thanks!
Select an item below or a button to the right to view more details. To update, change or inquire about any information below, please contact your clinician.
This information does not constitute medical advice or treatment and should not be used in place of a consultation with a medical professional.
Medications

Please note that these medications are the list of your Home/Ambulatory medications.

Please contact your clinician if you have any questions/concerns about your medications.

Select a medication to view the details or make a medication renewal request. Learn More

<table>
<thead>
<tr>
<th>Medication</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atorvastatin (Lipitor) 40 MG</td>
<td>80 MG ORAL NIGHTLY AT BEDTIME</td>
</tr>
<tr>
<td>LORazepam (Ativan) 1 MG</td>
<td>1 MG ORAL TWICE DAILY</td>
</tr>
<tr>
<td>LORazepam SL (Ativan) 1 MG</td>
<td>1 MG SUBLINGUAL EVERY 4 HOURS</td>
</tr>
<tr>
<td>Home Med On Portal 25 MG</td>
<td>25 MG ORAL TWICE DAILY</td>
</tr>
<tr>
<td>Sertraline HCl (Ava-Sertraline) 50 MG</td>
<td>50 MG ORAL TWICE DAILY</td>
</tr>
<tr>
<td>cloZAPine (Clozani) 100 MG</td>
<td>100 MG ORAL EVERYDAY AT NOON</td>
</tr>
</tbody>
</table>

LORazepam (Ativan) 1 MG

Dose: 1 MG
Form: Tab
Route: ORAL
How Often: TWICE DAILY
Reason for Use: 
Last Updated: Wed, Oct 22, 2014

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LORAZEPAM - ORAL
(lor-AYE-izh-pam)

COMMON BRAND NAME(S): Ativan

USES: This medication is used to treat anxiety. Lorazepam belongs to a class of drugs known as benzodiazepines which act on the brain and nerves (central nervous system) to produce a calming effect. This drug works by enhancing the effects of a certain natural chemical in the body (GABA).
### Appointments

**Betty Rubble’s Appointments**

View the details of your appointment. Select ‘Reschedule’ or ‘Cancel’ to modify the appointment. 

**Monday, November 11, 2013 at 8:15 am**

- **Appointment:** Pregnancy Ultrasound
- **Location:** Ultrasound
- **Duration:** 30 minutes
- **Reason For Visit:** 4 months pregnant
- **Instructions:** Please arrive 15 minutes prior to your appointment and bring your insurance card(s).

**Contact Us**

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### Request a New Appointment

Request a new appointment by answering the questions below. For time sensitive appointments, please contact your provider’s office directly by phone. 

**Appointment Type**

- **Preferred Appointment Times**
  - No Preference. Please schedule the next available appointment.

**Appointment Time**

- **AM**
  - [ ]
  - [ ]
  - [ ]
  - [ ]

- **PM**
  - [ ]
  - [ ]
  - [ ]
  - [ ]

**Comments**

I am unavailable this week. Please schedule for available days next week.

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**What would you like to make your appointment?**

- [ ] A Facility

**What type of appointment would you like?**

- [ ] Physical Therapy Evaluation

**What is the reason for your visit?**

Knee Rehab

Fields marked with a * are required
The profile tab allows patients to view demographic information that is currently stored within their record. The portal allows patients to place a request to update any of the information.
Benefits Evaluation

• There is a current gap in the literature with respects to evaluating patient portals in the mental health setting.

• Literature existed in the primary care pediatrics, acute care, chronic care, emergency departments, ambulatory practice, and primary care settings.

• A mixed method approach, including both qualitative and quantitative indicators, was used to achieve the metric data of the Benefit Evaluation Final Report.

• This study looks to explore and evaluate the benefits and impacts of a portal system within the tertiary care mental health population.
Benefits Evaluation Measures

- Quality: Patient activation (measured through the Mental Health Recovery Measure©)

- Productivity: Decrease # missed appointments (no-shows)

- Administrative Efficiencies: Decrease # of HIM Requests of Information (ROIs)

- Usage data
What do we know about patient portals?

**Patient Activation:**
- Patients and carers with increased activation in their care develop the knowledge, skills, and confidence necessary to manage their illnesses effectively (Jerofke et. al, 2014).

**Productivity:**
- Through the use of the messaging system, patient portals have been shown to enhance efficiency of communication with care providers as improved communication leads to the patient perception that a portal system saves from making a phone call or visiting an office (Ketter et. al, 2015)

**Efficiency:**
- In a survey of health care consumers in the United States, sixty percent said that they wanted physicians to provide online appointment scheduling and access to medical records and results (Raths, 2015)
Mean Scores of Domains on the Mental Health Recovery Measure at Pre and Post-Enrollment to the Patient Portal

<table>
<thead>
<tr>
<th>Domain</th>
<th>Pre n=78</th>
<th>Post n=54</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overcoming Stuckness Domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Empowerment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning and Self-Redefinition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Functioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Well-Being</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Potentials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirituality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advocacy/Enrichment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

items 2-5, 6-9, 10-13, 14-17, 18-21, 22-25, 26-27, 28-31
a. System and Use Surveys (SUS)

Of the 67 post-enrolment users completing the SUS survey, the following table depicts the number of users that answered “yes” to utilizing the solution for the following functionalities.

<table>
<thead>
<tr>
<th>Functionality</th>
<th># of users answering “yes” to use of functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Views</td>
<td>19</td>
</tr>
<tr>
<td>E-Renewal of prescriptions</td>
<td>6</td>
</tr>
<tr>
<td>E-Visits</td>
<td>13</td>
</tr>
</tbody>
</table>
## SUS Qualitative Data

<table>
<thead>
<tr>
<th>E-views</th>
<th>E-requests</th>
<th>E-visits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits:</strong></td>
<td><strong>Benefits:</strong></td>
<td><strong>Benefits:</strong></td>
</tr>
<tr>
<td><strong>Autonomy:</strong></td>
<td><strong>User-friendly:</strong></td>
<td><strong>Efficiencies:</strong></td>
</tr>
<tr>
<td>“It is an excellent tool to cultivate autonomy.”</td>
<td>“Easy to use.”</td>
<td>“The system saves a lot of time and money.”</td>
</tr>
<tr>
<td>“Just having my own access has given me freedom as a patient.”</td>
<td><strong>Helpful:</strong></td>
<td><strong>Satisfaction:</strong></td>
</tr>
<tr>
<td></td>
<td>“This system is very helpful for appointment reminders.”</td>
<td>“I’m happy with the system.”</td>
</tr>
<tr>
<td><strong>Improvements:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PHI Not up-to-date:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“The only report that was uploaded was from a psychologist that I saw a few months ago. No other reports in the past 6 months have been uploaded to the patient portal.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>More information:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“My file doesn’t show history of visits, but just appointment dates.”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Productivity Results

- Downward trends in overall missed appointment percentage were shown.

- Users enrolled in the portal showed an overall 9% decrease in missed appointments over the evaluation year.

- Important to note that full appointment functionality is yet to be utilized.

- Decreases in missed appointments to date can be partially attributed to increased access and viewing of upcoming appointment dates and times that users have.
Administrative Efficiencies

• Portal users saw a decrease of 86%

• Portal users contributed to an organizational time savings from managing ROIs between 10.5-40.0 hours per year

• ROIs were also considered an enrolment opportunity when contacting the Health Information Management (HIM) department
## Usage Data

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Month</th>
<th>E-Views</th>
<th>E-Renewal of Prescriptions</th>
<th>E-Visits</th>
<th>Total Use Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>December</td>
<td>231</td>
<td>1</td>
<td>11</td>
<td>243</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>369</td>
<td>0</td>
<td>13</td>
<td>382</td>
</tr>
<tr>
<td></td>
<td>October</td>
<td>399</td>
<td>1</td>
<td>11</td>
<td>411</td>
</tr>
<tr>
<td></td>
<td>September</td>
<td>426</td>
<td>0</td>
<td>17</td>
<td>443</td>
</tr>
<tr>
<td></td>
<td>August</td>
<td>409</td>
<td>0</td>
<td>8</td>
<td>417</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>409</td>
<td>0</td>
<td>18</td>
<td>427</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>409</td>
<td>0</td>
<td>18</td>
<td>427</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>337</td>
<td>0</td>
<td>17</td>
<td>354</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>358</td>
<td>0</td>
<td>21</td>
<td>379</td>
</tr>
<tr>
<td></td>
<td>Total - 2015</td>
<td>3347</td>
<td>2</td>
<td>134</td>
<td>3483</td>
</tr>
<tr>
<td>2014</td>
<td>March</td>
<td>406</td>
<td>3</td>
<td>17</td>
<td>426</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>377</td>
<td>4</td>
<td>31</td>
<td>412</td>
</tr>
<tr>
<td></td>
<td>January</td>
<td>335</td>
<td>0</td>
<td>25</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>59</td>
<td>3</td>
<td>3</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Total - 2014</td>
<td>1192</td>
<td>10</td>
<td>76</td>
<td>1278</td>
</tr>
<tr>
<td></td>
<td>Total Use Cases</td>
<td>4539</td>
<td>12</td>
<td>210</td>
<td>4761</td>
</tr>
</tbody>
</table>
Limitations & Discussion

- Existence of various workflow processes between various clinics

- Convenience sampling was used to gather the survey data and the number of survey respondents is not a complete representative sample of the portal users to date

- Portal system does not currently provide access to the full electronic health record, therefore ROIs are still applicable in certain scenarios (ie. for viewing progress note documentation)
This benefits evaluation has exemplified the impacts of access to the electronic health record:

- Patient activation
  - Statistically significant improvement in MHRM©
- Productivity
  - Decrease in % of missed appointments
- Administrative Efficiencies
  - 86% reduction in ROI requests
Future Plans

- Patient documentation in portal which flows to EMR
- Improving patient experience/satisfaction
- Portal enhancements
- Sustain, maintain & operationalize
  - Clinicians engagement to sustain enrollment and “use” the portal as a tool to improve patient engagement/care
  - HIM contacting patients to enroll
- Monitoring/reviewing portal stats to tweak engagement strategies and ensure safe practices (e.g. med renewal)
Thank You
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Co-Investigators:
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• Sanaz Riahi
• Alexandra Hernandez
• Faisal Islam
• Steve Mann
References

