Advancing Patient Engagement in Behavioral Health

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Session 80
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Speaker Introduction

Sarah Kipping, RN, MSN, CPMHN(C) - Clinical Practice Leader, Ontario Shores Centre for Mental Health Sciences

- Master’s prepared and a CNA-certified Psychiatric and Mental Health Registered Nurse, having practiced nursing in both acute and behavioral health settings
- Has acted in advanced practice nursing roles as a Clinical Nurse Specialist and Clinical Practice Leader
- Her passion and dedication to advancing quality mental health care are exemplified in her contributions to initiatives such as:
  - Ontario Shores’ HealthCheck Patient Portal
  - Virtual Patient Engagement Strategies and Health Care Delivery
  - Quality Standards, and
  - Continuing the advancement of Ontario Shores’ Recovery philosophy

Wendy Odell, BBA, CHIM, CPHIMS-CA, Manager Clinical Information, Ontario Shores Centre for Mental Health Sciences

- Holds a Bachelor of Business Administration (BBA) and is currently completing the Masters, Health Informatics (MHI) program at the University of Waterloo
- Has successfully completed the Certified Professional in Healthcare Information and Management Systems (CPMIS-CA) and is also a certified with the Canadian Health Information management (CHIM) Association.
- Played a key role as part of the project teams that:
  - Led Ontario Shores in achieving the HIMSS EMRAM Stage 7 designation in 2014 and the HIMSS Davies Enterprise award in 2015, placing Ontario Shores as the first hospital in Canada and the first behavioral health organization in the world to receive these awards
  - Have aimed at leveraging health information IT to drive quality improvement including Ontario Shores’ HealthCheck Patient Portal.

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Disclosure of Conflict of Interest

Sarah Kipping, RN, MSN, CPMHN(C)
Has no real or apparent conflicts of interest to report.

Wendy Odell, BBA, CHIM, CPHIMS-CA
Has no real or apparent conflicts of interest to report.
Agenda

- Learning Objectives
- Ontario Shores at a Glance
- Overview of Benefit Realization
- The Problem - Advancing Patient Engagement in Behavioural Health
- Ontario Shores’ Patient Engagement Strategies
  - Ontario Shores’ HealthCheck Patient Portal
  - Mobile Health Technology Solution
  - Virtual Clinic
- Challenges
- Lessons Learned/Recommendations
- Benefits Realized for the Value of Health IT
- Q&A
Learning Objectives

1) Analyze virtual care strategies taken in a behavioral health environment

2) Assess the benefits and limitations of a mobile health app for engaging patients generally, and mental health patients in particular

3) Discuss methods for evaluating the performance and impact of a patient portal

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Benefits Realized for the Value of Health IT

The value steps impacted were:

- **Satisfaction**
  - Increased patient autonomy as a result of having access to their PHI
  - Improved patient access to care

- **Treatment/Clinical**
  - Statistically significant improvements in portal users within six MHRM domains
  - Improved patient reported recovery measure scores
  - Improved medication adherence
  - Reduction in PTSD Severity
  - Reduction in depression severity

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Benefits Realized for the Value of Health IT

The value steps impacted were:

- **Patient Engagement/Population Management**
  - Overall downward trend in missed appointments
  - Improved patient goal-orientation
  - Increase in patient-generated data through the completion of self-reported assessments

- **Savings**
  - Decrease in the frequency of Release of Information (ROI) requests
  - Administrative time savings related to ROI requests
  - Improved efficiency with respect to clinician time spent completing assessments

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Ontario Shores at a Glance

- Teaching hospital specializing in comprehensive behavioral health care and addiction services
- 1,300 employees; 326 inpatient beds; over 60,000 outpatient visits
- Provide Recovery-oriented care to a wide range of services: Adolescents to Geriatrics
- Meditech 6.15 and EMRAM HIMSS Stage 7 in 2014 – first in Canada and first behavioral health facility in the world
- 2015 recipient of HIMSS Nicholas E. Davies Enterprise Award of Excellence
Ontario Shores’ IS/T Strategic Plan

- Evolving business intelligence to leverage real-time data for clinical decision making and provide personalized medicine to improve patient outcomes and accelerate recovery
- Integrating with care providers all across the care continuum to help provide better patient navigation and a seamless care experience
- Bridging the gap between clinical practice and research to truly deliver evidence-based care, specific to the mental health patient population
- Continuing to engage staff and patients and supporting the adoption of emerging technologies to connect patients to new models of care, thereby providing the best experience possible

External Partners

Transforming Care Through Predictive Analytics
Links to Strategies 2 & 4

Integrating Across the Care Continuum
Links to Strategies 1 & 2

Harmonizing Clinical Practice & Research
Links to Strategies 2 & 4

Adopting Emerging Models of Care
Links to Strategies 2, 3 & 5

Clinicians

Patients & Families

Healthcare Team

Researchers

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The missing dots in Patient Engagement

1. 68% to 85.3% of patients do not know the name of the physician in charge of their care.
2. 43% to 58% of patients do not know the reason for their hospital admission.
3. 67% of patients receive a new medication while hospitalized, yet 25% of these patients are unaware.
4. 90% of patients who are given a new medication report are never being told of adverse effects of the new medication.
5. 38% of patients are not aware of planned tests for the day while hospitalized.
6. Patients are not asked if they have any questions in up to 50% of office visits.
7. 78% of patients don’t understand hospital discharge instructions.
8. Patients on average miss between 30% and 60% of the medication dosages that are prescribed.
9. Nearly 60% of patients were unable to read and understand a typical informed consent document.
10. An estimated 80% of serious medical errors involve miscommunication between caregivers when patients are transferred or handed off.
Current

Clinical & Passive Patient-Generated Health Data

Future

Engaged Patient and Active Patient-Generated Health Data

= BEST CARE

Patient-Provider Partnership
Patient Engagement Solutions

Implementation aimed at:

- Enhancing patient access
- Remedying existing gaps related to active patient engagement and partnership between patients, families and health care providers
- Supporting the paradigm shift towards service user-driven care
- Evolve current practices and culture from having the provider be the keeper of the information to one where the provider and patient are partners in care

Patient engagement is the blockbuster drug of the century.
HealthCheck Patient Portal-Enabling Service Users

Messaging functionality allows service users to send any non-urgent messages to providers.

Display clinical data, including reports, allergies & conditions, labs & microbiology.

View medications, education materials and renew medications.

Ability to view all upcoming booked appointments & appointments can be requested, cancelled, & rescheduled directly from the portal.

Ability to view & request updates to demographic information.

The ability for service users to document within their chart.

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Satisfaction

Based on qualitative patient feedback:

- “Just having my own access has given me freedom as a patient.”
- “It is an excellent tool to cultivate autonomy.”

Increased Patient Autonomy

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### Mean Scores of Domains on the Mental Health Recovery Measure at Pre and Post-Enrolment to the Patient Portal

**Note:** The maximum mean scores for all the domains can have a value of 16, except for ‘Spirituality’, which can have a maximum value of 8.
Improved:
• Basic functioning
• Overall well-being
• New potential
• Spirituality
• Advocacy/Enrichment

Decreased:
• Feeling of stuckness
Patient Engagement and Population Management

Increased Productivity

48% Decrease in missed appointments compared to non-portal users

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Savings

Increase in administrative efficiency of 10.5-40 hours related to time saved managing ROI requests

86% decrease in the frequency of ROI requests

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## Savings

### Portal Users Total Frequency of Requests of Information (ROI)

<table>
<thead>
<tr>
<th>2014 Total ROI Requests Made</th>
<th>2015 Total ROI Requests Made</th>
<th>Total ROI Percentage Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>3</td>
<td>86%</td>
</tr>
</tbody>
</table>

### Non-Portal Users Total Frequency of Requests of Information (ROI)

<table>
<thead>
<tr>
<th>2014 Total ROI Requests Made</th>
<th>2015 Total ROI Requests Made</th>
<th>Total ROI Percentage Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>183</td>
<td>77</td>
<td>57%</td>
</tr>
</tbody>
</table>

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Patient Engagement Solutions

Mobile Health Technology Solution

- Ontario Shores is collaborating with a mobile health patient engagement solution
- Aim is to further advance patient engagement and activation through the implementation of the m-health app which will be integrated with the EMR
- Piloting in four clinical services:
  - Eating Disorder / Geriatric Services
  - Neuropsychiatry Inpatient & Outpatient/
    Transitional Aged Youth Services

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Patient Engagement Solutions

Mobile Health Technology Solution

Individualized Care Plan

Mobile Case Management

Patient Interactive Care Plan

EMR

Patient documentation updates

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Savings

Outcome indicators:

- **Increased Efficiency in the Use of Clinician Resources**
  - Time studies were conducted pre-go live of the m-health solution to determine the time it takes for clinicians to complete patient assessments such as the Recovery Assessment Scale (RAS-R).
  - With the mobile app in place, patients can self-report on these assessments using the application which would then interface with the EMR, saving clinician time that would have been sent completing this documentation.
  - Savings corresponds to the # of RAS-R assessments completed directly by patients using the mobile app x the time it takes for a clinician to complete the assessment based on the time study.

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Savings

Increase in the # of patient self-reported assessments

Decrease in clinician time spent completing assessments

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Treatment/Clinical

Outcome indicators:

- **Improvement in Recovery Assessment Scale –Revised (RAS-R) Score**
  - The RAS-R is a self-reported scale used to measure patients’ sense of recovery in five domains including (1) personal self-confidence and hope, (2) willingness to ask for help, (3) goal and success orientation, (4) reliance on others, and (5) life view beyond their symptoms. The tool is used to facilitate collaborative, recovery-oriented practice and measure recovery-focused outcomes over time that will enable clinicians to make data-driven decisions to support care planning and assist patients in formulating recovery-oriented goals.

- **Improved Medication Adherence**
  - Look at whether medication notifications delivered through the mobile app improve medication refusal/medication not administered rates.
Improved medication adherence rates

Decrease in medication refusal/not administered rates

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% Patients that had an RAS-R score increase by greater than 5

Pre-implementation

<table>
<thead>
<tr>
<th></th>
<th>AMD</th>
<th>TAY</th>
<th>EDU</th>
<th>ADOL</th>
<th>NPS</th>
<th>GPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Patients that had an RAS-R score increase by greater than 5</td>
<td>45%</td>
<td>50%</td>
<td>0%</td>
<td>25%</td>
<td>22%</td>
<td>27%</td>
</tr>
</tbody>
</table>
Patient Engagement and Population Management

Outcome indicators:

- **Usage Data**
  - How long are patients in the mobile app?
  - What are they utilizing the app for?
Patient Engagement and Population Management

• Increased patient engagement through mobile app use

• Improved RAS-R scores
Patient Engagement Solutions

Virtual Traumatic Stress Clinic

- Free Canadian-specific app available for iOS and Android through PTSD Coach Canada
- App is easy to use and is built on CBT principles
- Preliminary research reported user satisfaction, improved symptom control and better sleep (Kuhn E et al. Preliminary evaluation of PTSD Coach, a smartphone app for post-traumatic stress symptoms. Military Medicine 2014; 179: 12-18.)
- US-based app has research behind it showing utility in both clinician-guided and non-clinician-guided mode (Possemato et al. Using PTSD Coach in primary care with and without clinician support: a pilot randomized controlled trial. General Hospital Psychiatry 2016. 38: 94-89.)
- 60% of users engaged with the app on multiple occasions (Owen JE et al. mHealth in the Wild: Using Novel Data to Examine the Reach, Use, and Impact of PTSD Coach. JMIR Mental Health 2015. 2(1): e7.)
Patient Engagement Solutions

Virtual Traumatic Stress Clinic

Opportunities:
✓ Maximize Patient Access to Care
✓ Increase Efficiency
✓ Better Use of Clinical Resources

- Optimize the patient experience
- Increase value for money
- Improve population health management

37 Number of Referrals when project initiated
247 Number of patients on waitlist
391 Average wait (days)

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Patient Engagement Solutions

Virtual Traumatic Stress Clinic

Implementation aimed at:

- Reducing wait-times and increasing volumes when used in conjunction with traditional in-person Traumatic Stress Clinic
- Provide insights on how to deliver treatment to significantly more individuals affected by PTSD using same number of human resources
- Opportunity to study use of the app outside of Military populations
- Potential to collaborate with military bases in the future – providing a unique service to the community and a different funding source
Outcome Indicators:

- **Clinically Significant Change in PTSD Severity**
  - PTSD Severity assessed using the 20-item, PCL-5 scale which is a self-reported measure that assesses the 20 DSM-V symptoms of PTSD
  - The difference in the proportion of participants in the intervention and control groups who show a clinically significant reduction in PCL-5 score of 10 points or greater

- **Response to Treatment**
  - The difference in the proportion of participants in the intervention and control groups who show a clinically significant reduction in PCL-5 score of 5 points or greater
Outcome Indicators:

- **Change in Depression Severity**
  
  - The Patient Health Questionnaire 9 (PHQ-9) is a brief, self-reported measure of depression severity that is regularly used in assessments in the Post Traumatic Stress Clinic at Ontario Shores
Patient Engagement and Population Management

Outcome indicators:

- **App Usage**
  - Self report of app use collected by the clinician at sessions 2&4 by asking “on average, how many times did you use the app per day (or per week, if less than once per day)”. The clinician also asks which of the four main functions were used and which symptom management tools were used most and were most helpful.

- **Goal Achievement**
  - At sessions 1&3, the participants are asked by the clinician to set goals.
  - At sessions 2&4, the participants are asked to self-report their goal achievement.
Savings

Outcome indicators:

- **In-person Services Avoided (Increased Efficiency)**
  - Percentage of patients that do not require formal, in-person services because they experienced improvement by using the virtual clinic intervention
  - Baseline: 0

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Satisfaction

Outcome indicators:

- **Wait-time to Virtual Service (Improved Access)**
  - Median and mean time from referral received to enrolment in virtual clinic compared to median and mean time from referral received to first attendance at Traumatic Stress Clinic
  - Baseline:
    - Traumatic Stress Clinic: Median Wait-time=572 days; Mean Wait-time=572 days
    - Virtual Clinic: 0
Challenges

- Clinician Discomfort
  - Paradigm shift for both patients and clinicians
  - Further increasing transparency in practice
  - Clinician education and support required to transition documentation

**From:** Documentation that focuses on sharing information with the treatment team and/or community follow-up post discharge

**To:** Documentation that is written with an understanding that patients will have greater access to view their PHI, with an aim to increase patient activation in their care

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Challenges

- Functionality Limitations
  - Full EMR not accessible through portal system (E.g. Progress Notes are not viewable)
  - Ensuring that virtual health solutions are able to interface with the EMR and support the integration of patient-generated data

- Dependant on patient access to and knowledge of technology
Challenges

- Proper device selection is key to adoption
- Interoperability
  - Complexity associated with integrating PHI with the EMR and mHealth solutions
Lessons Learned

- **Solid Change Management Plan**
  - Ontario Shores utilized Canada Health Infoway’s Change Management Framework
  - The components of the change management framework are included below.

- **Governance & Leadership Endorsement**
  - Alignment to IS/T strategic plan and corporate goals. Formation of a Steering Committee that includes key stakeholders: Executive Sponsors, Physician Champion, Clinicians, Patient Experience Representatives.
  - Strong Senior Leadership Team, Medical Advisory Committee (MAC) and Interprofessional Practice Advisory Committee (IPPAC) endorsement

- **Stakeholder Engagement**
  - Extensive engagement of patients and clinicians throughout all phases of the project to ensure needs are well understood and being addressed.
Lessons Learned

- **Communication**
  - Effective communications are key to supporting patients and clinicians
  - Early and ongoing engagement with end-users/clinicians to ensure it is meaningful is vital to success
  - Ensure that communication is around advancing technology to ENABLE practice

- **Workflow & Integration**
  - Engage clinicians and patients to determine current state processes and establish future state processes that will benefit and support these stakeholders
Lessons Learned

- **Training & Education**
  - Create training materials with input from patients and clinicians
  - Deliver education based on specific needs of the patients and clinicians via various formats, including pamphlets, internal web platform, eLearning, groups, and workshops
  - Clinicians working with the patient can support patient and families with use of mHealth solutions

- **Monitoring & Evaluation**
  - Generate reports that will extract information indicated within evaluation metrics, to provide capacity to audit and measure impacts and benefits
  - Creating formal opportunities for feedback is critical for adoption and engagement (i.e. change request process)
Benefits Realized for the Value of Health IT

The value steps impacted were:

- **Satisfaction**
  - Qualitative feedback from portal users is indicative of patients feeling increased autonomy as a result of having access to their PHI
  - Decreased wait-times and improved access to care

- **Treatment/Clinical**
  - Statistically significant improvements in portal users within six of the MHRM domains including overcoming stuckness, basic functioning, overall well-being, new potentials, spirituality, and advocacy/enrichment

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Benefits Realized for the Value of Health IT

The value steps impacted were:

- **Treatment/Clinical**
  - Improved patient-reported sense of recovery as evidenced by improved RAS-R scores following use of mobile app solution
  - Improved medication adherence and corresponding decrease in medication refusal/missed dose as a result of medication notifications delivered through m-health solution
  - Reduction in PTSD Severity scale scores following participation in virtual clinic
  - Decreased PHQ-9 scores

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Benefits Realized for the Value of Health IT

The value steps impacted were:

- **Patient Engagement/Population Management**
  - Overall downward trend in missed appointment percentages amongst portal users
  - Missed appointments decreased by 9% amongst portal users vs. a 6% decrease for non-users
  - Improved patient goal-orientation as a result of participation in virtual clinic app

- **Savings**
  - An 86% decrease in the frequency of Release of Information (ROI) requests
  - A time savings of 10.5-40 hours related to managing ROI requests
  - Decrease in number of in-person services needed to manage PTSD patients
Questions?

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