

A smartphone intervention with telemedicine support for management of post-traumatic stress disorder: A randomized trial

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Disclosures

- Consultant:
 - Healthtech
 - Meditech
- Employee:
 - Ontario Shores Centre for Mental Health Sciences



Learning Objectives

- At the end of this presentation participants will:
 - Understand the decision-making process involved in deciding to undertake this study
 - Be familiar with key components of the study protocol
 - Be able to identify challenges, opportunities, lessons learned and early outcomes



Principles in Choosing Target Clinic

- Address access problems
- Efficient use of resources
- Evidence-based treatments
- Opportunity for research
- Minimize clinical risk
- Impact on volumes



Addressing Access

Traumatic Stress Clinic

- Number of patients on waitlist YTD: 247
- Average wait (days): 391

Borderline Personality Skills Clinic

- Number of patients on waitlist YTD: 31
- Average wait (days): 281

Geriatric Outpatients (mood and anxiety disorders)

- Number of patients on waitlist YTD: 208
- Average wait (days): 107

Borderline Personality SR Clinic

- Number of patients on waitlist YTD: 70
- Average wait (days): 114

Mood and Anxiety Disorder Clinic

- Number of patients on waitlist YTD: 59
- Average wait (days): 32

Transitional Age Youth Clinic

- Number of patients on waitlist YTD: 12
- Average wait (days): 19

Women's Mental Health Clinic

- Number of patients on waitlist YTD: 18
- Average wait (days): 16



Available Apps

- PTSD Coach Canada (free)
- Moodkit (\$6.99 USD) for iOS
- MoodGym (free)
- Intellicare Hub (free)
- OCFighter for OCD (over \$150- and RCT not completed yet)
- Beating the Blues (\$75-)
- FearFighter (cost)



Traumatic Stress Clinic

Strengths

- **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.)



Traumatic Stress Clinic

- **Strengths**

- Less diagnostic heterogeneity than other clinics
- Supported use of the app requires minimal clinician time (4 X 20 minute sessions that can be delivered by telephone or in-person)
- Opportunity to integrate with brief in-person or OTN visits which could support volumes



Traumatic Stress Clinic

- **Weaknesses**
 - Has not been studied in non-military populations
 - No ability to integrate app with Meditech
 - Query higher risk population that may have suicidal thoughts triggered by the app



Traumatic Stress Clinic

- **Opportunities**

- If Pilot is successful could be used in conjunction with clinic to reduce wait-times and increase volumes
- May provide insights in 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
- Possibility to collaborate with military bases in the future – providing a unique service to the community and a different funding source
- Future grant opportunities

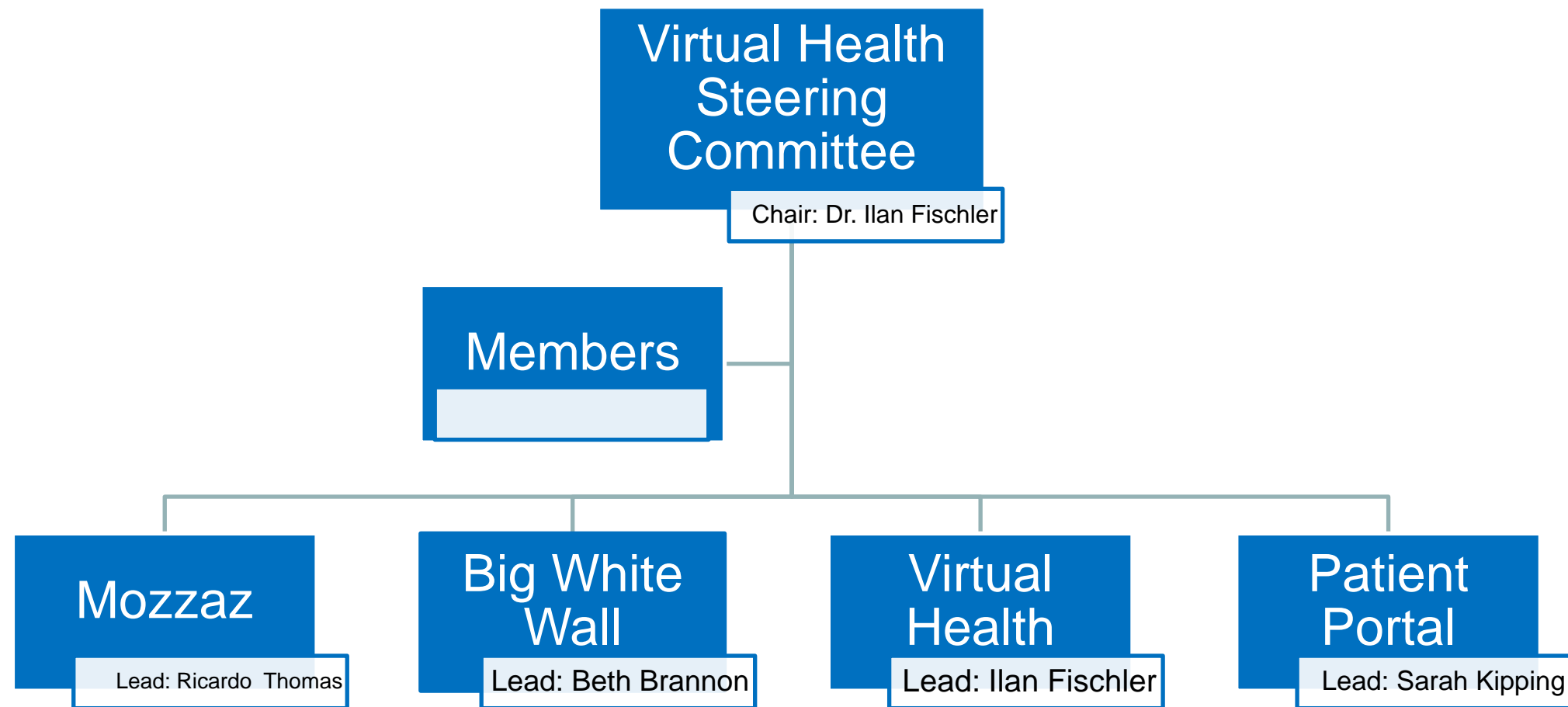


Oversight

Virtual Health Steering Committee	
Purpose	<ul style="list-style-type: none">•Oversee the all Virtual Health initiatives at the decision making level
Responsibilities	<ul style="list-style-type: none">•Review and resolve issues related to strategy, priorities, financial arrangement, and governance•Review recommendations presented from Project Leads•Ensure effective communications across all disciplines•Receive and review executive status reports from each project to monitor progress
Decision-making authorities	<ul style="list-style-type: none">•Support decisions made by each project sponsors•All decisions made by the steering Committee are final and will be communicated back to the Project team.
Frequency of involvement / expectation	<ul style="list-style-type: none">•Monthly



Virtual Health Governance



PTSD Coach

- A pilot randomized controlled trial of PTSD Coach with a community sample of trauma survivors (N = 49) with PTSD symptoms found that those assigned to use PTSD Coach for 4 weeks (n = 25) saw a significant ($p < .05$) reduction of PTSD symptoms (PCL M change = 7.8; SD = 16.0) whereas those serving on a waitlist (N = 24) did not (PCL M change = 3.5, SD = 8.8)
- Clinician-Supported (CS) PTSD Coach was shown to be superior to a self-managed PTSD Coach intervention (i.e. app only)
 - 70% of participants in the CS group showed a reduction in symptoms compared to only 38% in the self-managed group



PTSD Coach

- Incorporates evidence-based assessment, psychoeducation and CBT intervention strategies
- The app has four main functions
 - 1) Learn
 - 2) Self-assessment
 - 3) Manage symptoms
 - 4) Find support.



Our Study

- Investigate the effectiveness of CS PTSD Coach at reducing PTSD symptoms while individuals are waiting for treatment at a specialty traumatic stress clinic
- Single-site, two-arm, parallel RCT
- 80 participants (40 per group) will be recruited
- Eligibility Criteria:
 - On the waiting list for the Ontario Shores traumatic stress clinic
 - Score ≥ 31 on the PCL-5
 - Have access to a smartphone or tablet to which they are willing to download the PTSD Coach Canada app
 - No active suicidal ideation

Our Study

- Intervention consists of four 20-30 minute sessions focused on instructions for app use, setting symptom reductions goals, and assigning specific PTSD Coach activities (i.e., assessments, management strategies, psycho-educational readings) for completion between sessions
- All sessions completed via Guestlink or OTN
- Primary outcome:
 - Change in PTSD severity using the PCL-5 scale
- Secondary outcomes:
 - Clinically Significant Change in PTSD severity (those who have PCL-5 score < 31 at end of study)
 - Change in depression severity (using PHQ-9)
 - App use
 - Goals
 - Fidelity



Preliminary Results

Table 1: Baseline characteristics

Characteristic	All	Intervention	Control
n	67	34	33
Age (years)	42.0 (9.2)	42 (10.3)	42 (8.1)
Multiple diagnoses	48 (72%)	25 (74%)	23 (70%)
PTSD Onset			
<1 year	0 (0%)	0 (0%)	0 (0%)
1-5 years	25 (37%)	14 (41%)	11 (33%)
6-9 years	14 (21%)	11 (32%)	3 (9%)
≥10 years	8 (12%)	3 (9%)	5 (15%)
No response	20 (30%)	6 (18%)	14 (42%)
PCL-5	53.9 (10.3)	53.1 (11.0)	54.7 (9.7)
PHQ-9	19.6 (4.5)	19.9 (4.5)	19.2 (4.5)



Preliminary Results

Table 2: Participant status

Visit Complete	Intervention	Control
Baseline	34	33
Clinic 1	3	N/A
Clinic 2	4	N/A
Clinic 3	4	N/A
Clinic 4	6	N/A
Follow-up	5	12
Lost to follow-up	8	0
Drop-out	1	0



Preliminary Results

Outcome	Intervention	Control
N	5	12
PCL-5	52.4 (12.8)	48.8 (18.3)
PHQ-9	21.0 (5.9)	19.1 (6.2)



Early Lessons

- Low study recruitment rate for individuals on waitlist for long periods of time
- Study attrition at numerous handoff points (waitlist call – research assistant call – clinician call)
- Many participants use Guestlink on their smartphone making toggling back and forth between app and Guestlink challenging



Questions?