A Descriptive Model of the Current PTSD Care System: Identifying Opportunities for Improvement

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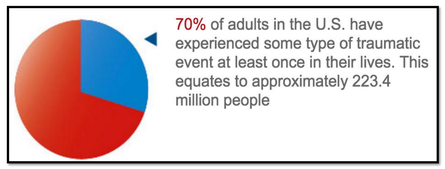
APPLIED COGNITIVE ERGONOMICS LAB

1. Background

Post-traumatic stress disorder (PTSD) is a mental disorder that is estimated to impact up to 23 percent of all Veterans returning from the recent wars in Iraq and Afghanistan.



Smartphone apps are shown to be feasible for enhancing/complementing treatment for PTSD; however, only 2 apps (CPT Coach & PE Coach) were designed for that purpose.

Critical Need: to clearly understand the current PTSD care system to inform the design of potential PTSD support tools that meets the needs of all stakeholders

2. Research Aims

Aim 1: Develop **a descriptive model** of the current PTSD care system
Aim 2: Identify **areas of improvement** within the current PTSD care system
Aim 3: Generate **ideas** for potential support systems

3. Methods

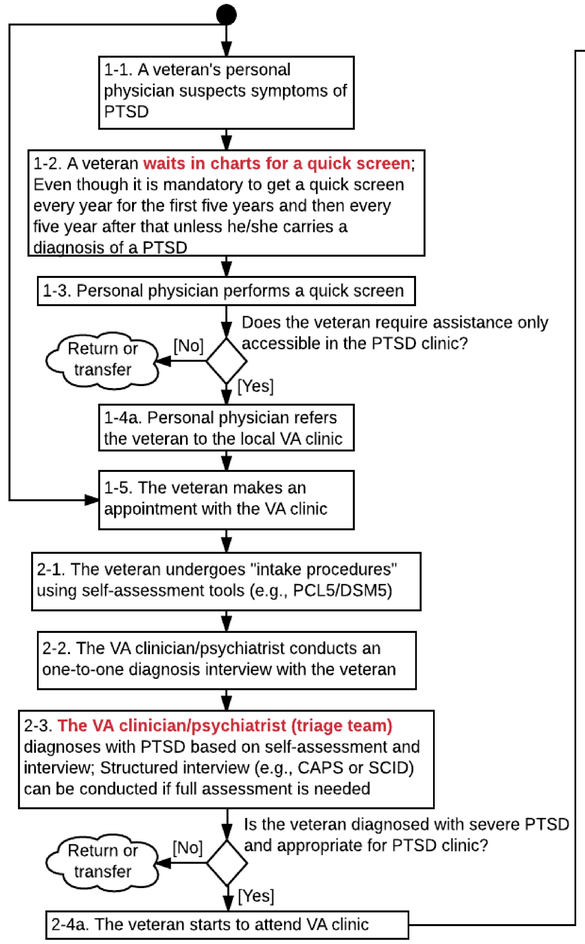
Semi-structured **subject matter expert (SME) interviews** were conducted to solicit views from different types of stakeholders:

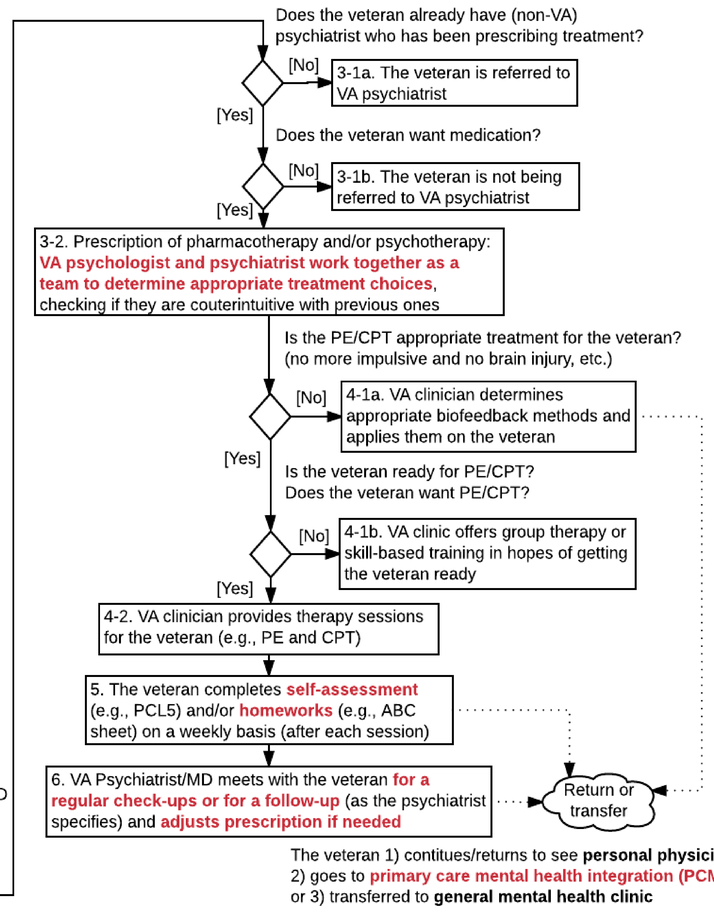
- Veterans with PTSD (in progress)
- Healthcare providers (e.g., clinicians, psychiatrist, psychologists, and biofeedback specialists)

The interviews are transcribed, **coded** by at least two coders (with high inter-coder reliability), and analyzed using an interview analysis tool called MAXQDA 12.

4. Results

In the current PTSD care system, veterans go through 6 phases: 1) Quick screening, 2) Screening and diagnoses, 3) Prescription, 4) Treatment, 5) Homework/Self-assessment (during in-between sessions), and 6) Follow-up and diagnostic reassessment.





Areas of Improvement

1) Lack of communication

- "Better communication [is needed] between different arms of primary care – the PCMHI, the specialty clinics, and the psychiatrist."

2) Lack of consideration of patients' characteristics

- Patients' characteristics including: 1) forgetfulness; not good at recognizing when triggered (need for reminders); 2) avoidance/escapism/lack of emotion (need for persuasive design).
- *"What happens often is that our patients are not very good at recognizing when they are being triggered and so they find themselves in A: situations that have completely escalated and they have no idea how to get out of them or B: figured it out too late and aren't using the skills we are training them in."*

3) Lack of treatment control in-between sessions

- Leverage in-between sessions as part of the treatment
- *"One of the things we say to our patients is, it is very important that you practice these skills outside of the room because there are 168 hours in a week and you are spending 1 of them with me and you are spending 167 of them out in the world. So the practice, the treatment has to be out there."*

Potential Ideas for Improvement

1) Communication within and between clinics/clinicians

- Providing "a net to catch" what falls in to breaks within and between clinics and clinicians
- *"The VA is working on that by trying to create teams. PCMHI was developed because there was such a break between primary care and specialty clinics and they wanted to provide a net to catch them but there is still I think a lot of work to be done with that."*

2) Memory-aid and self-assessment tools

- *"This could be a reminder to them: Hey you're becoming triggered, remember here are the skills you are supposed to use in this situation."*

3) Patient- and clinician-facing interfaces and objective assessment

- Providing access to information pertinent to periods of "hyper-arousal" and other mental state changes
- *"So if they have a trigger, say to them hey you are being triggered this is the time to use the skills that would be extremely helpful."*

5. Implications

An end-to-end descriptive model of the current PTSD care system capturing both the healthcare providers' and patients' views will impact future studies to investigate PTSD supportive tools.

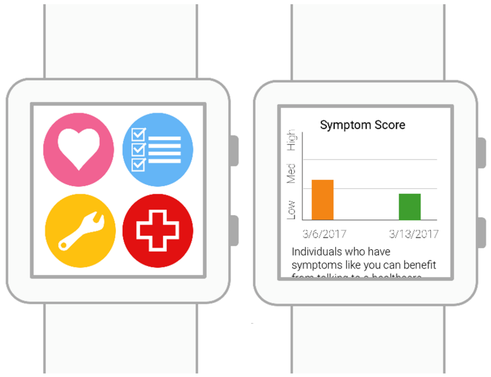
The finding is expected to provide **an unconventional, systematic and user-centered perspective** and change the traditional thinking prevalent in PTSD tool designs

Future studies can more accurately and holistically determine areas for improvement and integration of PTSD tools with treatment.

6. Future Work

More subject matter expert (SME) interviews are in progress to validate and refine the descriptive model and its improvement areas.

- Currently recruiting **veterans with PTSD**



Currently developing a smartwatch technology (sensor-enabled mobile device linked to mHealth apps) to remotely collect information pertinent to periods of hyper-arousal and mental state changes.

By enabling the remote collection of objective assessment data (e.g., heart rate, voice recognition) that could complement subjective self-assessment data, this technology will work as a remote monitor/memory-aid/self-assessment tool that can benefit all stakeholders and ultimately improve quality of care for PTSD patients.

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