



Problem Solving Treatment (PST) Aid

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Project Overview

Problem Solving Treatment (PST) is a brief, evidence-based approach that teaches and empowers patients to solve the here-and-now problems contributing to their depression and helps increase their self-efficacy. The goal is for the patient to learn the approach sufficiently to use it on their own once the short-term treatment has concluded.

This study identified usability challenges clinicians face when learning and using PST, implementation issues (particularly with more sessions becoming remote during the COVID 19 pandemic), and cross-cutting difficulties of sustaining evidence-based psychosocial interventions (EBPIs) for depression. We applied a human-centered design approach using our center's DDBT framework to develop an online tool designed to support both the patient and clinician's needs. Studies have found that for EBPIs to be delivered more effectively and with sustained quality, ongoing supervision and guidance are critical. A range of practical and workforce/staffing obstacles to these activities has severely limited the ability to implement these procedures. Reducing barriers to patient access and provider delivery of these treatments may improve the population-level effects of the mental health systems in these settings.

This study will develop an electronic support tool to improve quality delivery of PST that is based on timely feedback to clinicians. We hypothesize that supporting clinician delivery of PST will result in enhanced quality of treatment and better patient outcomes.

Aim 1. Discover Phase: This will involve qualitative interviews with primary care clinicians to uncover challenges in delivering PST.

Aim 2. Design and Build Phase: We will develop a clinician support tool that is designed to support quality delivery of PST

Aim 3: Test Phase: A small randomized controlled trial will test the support tool among a group of clinicians and their patients.

Population/Sample

Aim 1. Discover Phase Sample: 10 mental health clinicians working in a primary care setting.

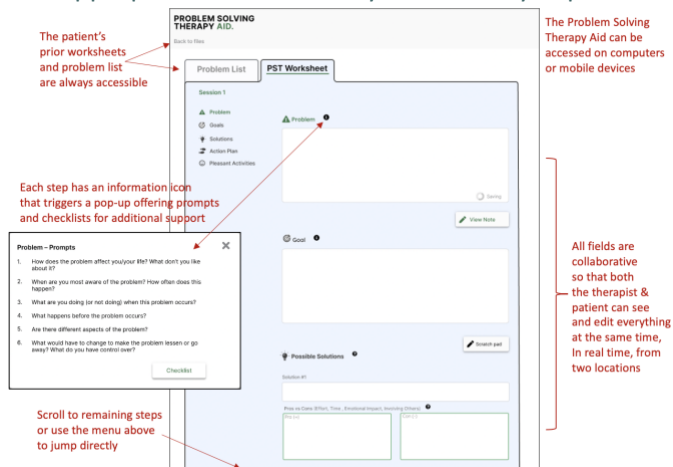
Aim 2. Design and Build Phase Samples: 3 mental health clinicians (from the Discover phase) and 4 patients who had previously received Problem Solving Therapy (PST).

Aim 3. Test Phase Samples: Currently there are 8 mental health clinicians working in a primary care setting and 15 patients with depression.

Key Findings

Aim 1. Discover Phase findings: Areas that clinicians and trainers found to be the most challenging were writing well-defined problem and goal statements. If not done well, this negatively affects the rest of the steps of PST. Another aspect that is a crucial element to PST is that it should progressively shift from provider to patient-led PST activities. Thus, clinicians and patients would benefit from built-in supports for guiding them in determining well-defined problems and goals, particularly when problems are not concrete. In order for sessions to be truly patient-led, the tool also needs to equip patients with support to breakdown complex problems and progress through each step of the worksheet on their own. A historic transition to virtual treatment also coincided with this discovery phase due to the Covid-19 pandemic. A number of innovations to support this work being utilized by clinicians were identified including the use of video conferencing tools and fillable electronic documents. Many of these were seen as being a stop gap and not sustainable as a permanent solution. We also identified that this approach better fit PST than other interventions such as behavioral activation because of the significant number of tasks and records of activities that needed to be managed over time in that EBPI. For reasons of efficiency, we chose to focus on PST for the project.

Aim 2. Design and Build Phase findings: During this phase we decided on a product and key features. The product would build on the underlying concepts/needs of the approaches created in a make-shift manner and would consist of a collaborative web page in which the clinician and patient could simultaneously work through the PST tasks and steps. Through iterative design work, specific features were identified. Features included pop-ups to guide both clinicians and clients to complete each step with fidelity. Worksheets could have a built-in review section and could be accessible to both users online. We explored a number of potential prototype development platforms and ultimately chose an approach working with members of the UW CRI team to create a front end reflecting the design created on top of the REDCap system. This allowed for a rapid and affordable approach to fielding the design with appropriate confidentiality and security in place.



Aim 3. Test Phase findings: Findings we gathered from interviews show that Clinicians using the PST Aid overall thought the tool was easy to use and very helpful, but suggested modifications to the UI and flow. One of the most commented features was the Review section of the worksheets and accessibility of past worksheets. Both patients and clinicians used the information icons most frequently for the problem and goals sections of the worksheet, which they reported to be the most challenging areas of the worksheet. 75% of participants (clinicians and patients) reported that they would like to continue using the tool after the study. 1 clinician reported it wasn't a good fit for the type of patients they work with, and 1 patient said they would need more motivation to do it by themselves.

Quantitative data: *Coming soon*

Measures used

Clinician Measures

- Qualitative interviews
- Demographics
- Acceptability Of Intervention Measure
- Intervention Appropriateness Measure
- Feasibility Of Intervention Measure
- System Usability Scale
- User Burden Scale
- Modified Self-Efficacy Scale

Patient Measures

- Qualitative interviews
- Demographics
- Mental Health History Screener
- Patient Health Questionnaire (9-item)
- Sheehan Disability Scale
- Acceptability Of Intervention Measure
- Intervention Appropriateness Measure
- Feasibility Of Intervention Measure
- Intervention Usability Scale
- System Usability Scale
- User Burden Scale

Methods

Aim 1. Discover Phase Methods: Conduct field studies in the form of direct observation; observe professionals to discover challenges they face in delivery of best practices; identify areas in the traditional curriculum where they deviate from fidelity to the intervention, and areas that were missing from the training. Interviews were also conducted with seasoned PST clinicians and PST expert trainers. Using Miro we created an affinity diagram that captured various challenging areas of this evidence-based treatment.



Aim 2. Design and Build Phase Methods: Miro was then used to examine the current flow of treatment and how it could be redesigned with an online tool. We created a list of potential products and features that would help enhance fidelity when conducting PST. With preliminary versions of products and features, we went back to the experts to codesign these products while at the same time getting feedback on limitations and constraints. We also created a storyboard during this phase.

Aim 3: Test Phase Methods: Eight clinicians were randomized to receive either traditional PST training or training plus the online PST Aid, and delivered 9 sessions of PST to 15 depressed patients. After treatment sessions were concluded, 5 clinicians and 3 patients were interviewed regarding their experience with PST and with PST Aid.

Next steps

Wrap up quantitative data and use qualitative data to iterate on the PST Aid. The PST Aid will be built out in a new platform for a large-scale national study.