



Technology Intervention Improves Continuity of Care For VA Schizophrenia Patients

By Stephen Spotswood

An estimated 4% of veterans in care at the VA have a diagnosis of schizophrenia, and they are among the greatest users of healthcare resources. That's why VA is piloting innovative programs to provide continuity of care to schizophrenia patients. One example is a mobile app that allows users to track their symptoms and receive targeted interventions based on responses.

SEATTLE—One of the many difficulties in treating people with schizophrenia or any severe mental illness is providing continuity of care and making sure that these patients, many of whom are challenged to make regular appointments with therapists, have easy access to treatment.

Technology-delivered interventions, specifically app-driven technology, can help provide that constant access and give these patients an always-present tool to help manage their symptoms.

FOCUS—one such mobile app—allows users to track their symptoms and receive targeted interventions based on their responses to daily assessments. Developed by Dror Ben-Zeev, PhD, director of the mHealth for Mental Health Program at the University of Washington, the app has proven effective for patients with schizophrenia spectrum disorders, providing a

way to extend support during periods of elevated risk.

Ben-Zeev has a deep background in researching and developing ways that mobile devices can be used in mental health treatment. In graduate school he helped conduct research into whether PalmPilots could be used to help collect real-time assessment data from patients. His post-doc time was spent at the University of California, San Diego, and the La Jolla, CA, VAMC, where he worked with the team developing MATS, the first automated texting intervention app for people with schizophrenia.

As smartphones became increasingly ubiquitous and 4G networks began spreading across the country, the potential for mobile-based interventions only grew, while the need for ways to provide out-of-office treatment for people with serious mental illnesses remained high.

“When it comes to serious mental illnesses, there are dramatic unmet needs,” Ben-Zeev explained. “There are various evidence-based interventions that are tested and out there, but they don’t make it into the real world in the way that we would hope. I think that’s true for psychosocial therapies for all populations, but it’s amplified for people with serious mental illnesses. The services they get are from understaffed, underresourced agencies. And there are challenges that population has in getting to clinics and staying engaged with care.”

This created fertile ground for innovative solutions. In 2011, Ben-Zeev and his team of fellow researchers looked at whether the penetration rates for mobile phones was as high for people with serious mental illness as it was for the general population. They found that it was.

“This was one of the areas where the gap between serious mental illnesses and the general population is actually very, very,” he explained. “It seemed like a smart idea to attempt delivery of health through mobile phones.”

FOCUS is not a stand-alone tool but rather part of a treatment package that includes phone interactions with actual health specialists. Once the app is installed, it will prompt users several times a day to respond to questions about symptoms and general

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functioning. Depending on responses to brief multiple choice assessments, the user will be provided with an algorithm-driven intervention—from written content and images to audio and video files.

‘THERAPIST IN THE POCKET’

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User responses are uploaded to a remote server, where they are accessible through a dashboard to a select group of people. These include trained health specialists who monitor the data, see where patient growth is, and where their remaining needs are. They also call the client once a week for a brief phone conversation.

That conversation can include everything from technical troubleshooting to the tailoring of interventions to better fit the patient’s day-to-day experience.

“For example, if someone is feeling anxious, there’s a rotation of various relaxation strategies that FOCUS may offer,” Ben-Zeev explained. “There’s a video of me walking them through some guided imagery. Imagine a place that’s relaxing to you. Think about how the place looks and feels and smells. In the background, there’s a video of a field and a stream and trees and birds.”

But that imagery might not be relaxing for everyone. Some patients might prefer to think about a beach or their bedroom. Others might have adverse reactions to those specific images and so the intervention may have a reverse effect. While the prompt will instruct users to think of their own relaxing place, some people with serious mental illness have difficulty with abstract thought, and so won’t be able to do this effectively.

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If this is the case, the support specialist might have a conversation with them, asking questions about when they are specifically anxious and how they react to the provided imagery.

“They might tell them to pay more attention to what the clinician is saying and not the imagery, even asking them to close their eyes,” Ben-Zeev said. “At the end of the conversation, the patient might have an altered strategy.”

FOCUS is currently being tested at the Puget Sound VAMC in Seattle, examining how the app can be integrated into the VA healthcare system. At the VA, about 4% of veterans in care have a diagnosis of schizophrenia, but they occupy more hospital beds than veterans with any other illness. That makes the need critical for better ongoing treatment.

“In this case, the personnel that access the dashboard are mental health support specialists embedded at VA,” Ben-Zeev said. “If the findings suggest that the VA patients and staff find this useful, this could lead to next steps in developing it, maybe even tailoring it specifically to the veteran population. The study is about [at its midpoint], but early feedback is very promising, both from the participants and the treatment team.”

Mental health treatment interventions are never set in stone, and that is

especially true of app-driven interventions. “In terms of content and functionality, you never think of a mobile health intervention as fixed and final,” Ben-Zeev said.

Looking into the future, Ben-Zeev said he hopes to grow the content provided by FOCUS to encompass more areas of users’ lives that can be impacted by their illness.

“The content is quite broad. It focuses on mood, auditory hallucinations, sleep disorders, but it doesn’t come close to covering the range of things that affect people’s lives,” he said. “Looking into the future, I can imagine something that’s really modular in nature, where there’s a complete arsenal of self-management tools: content focusing on substance use, content focusing on diabetes management, symptom management to support vocational rehab or to support patients seeking housing. Anything that we think is a viable target for someone with severe mental illness. I think the sky’s the limit.”

While the app was developed for use with patients suffering from schizophrenia, FOCUS targets domains that deeply overlap with many other mental illnesses. “We’ve tested it with people with bipolar disorder and major depressive disorder,” Ben-Zeev said. “A lot of our content is relevant to a range of behavioral health problems.” 