



Optimizing a novel digital health platform for schizophrenia-spectrum populations: From trials, patents, and concepts to “real world” clinical implementation in a California health system.

Zhou, Wenjia¹; Kidd, Sean²; Moreno, Maria³; Juarez-Williamson, Suzanna³

¹ MEMOTEXT Corporation, ² Centre for Addiction and Mental Health, ³ Riverside University Health System Behavioral Health

Context

Schizophrenia-spectrum illnesses have been a longstanding challenge to healthcare systems, individuals and families leading to poor treatment engagement and extensive use of crisis services. Digital health interventions have largely been overlooked despite the widescale use of smartphone technologies in this population and their cost-effectiveness compared to behavioral interventions. However, there are several promising technologies emerging. This presentation describes an innovative project that is exploring how science, technology development, and clinical engagement can interact to make a digital health platform useful for both clinicians and application users.

Methods

A pilot study for the App4Independence (A4i) application was initiated. A total of 90 participants from Riverside University Health System Behavioral Health (RUHS-BH) consumers with schizophrenia spectrum and other psychoses in need of or currently receiving intensive services with mature, adult, transition age youth and underserved community populations being included for recruitment. Each participant is provided with a mobile device with A4i installed for a 6-month period with regular application updates.

Staffing Overview

Position	Start	Current
Program Manager	1	1
Peer Support Team	9	9
Clinical Therapists	0	2
Research and Evaluations Team	3	3

Pilot is Ongoing

As of August 31st

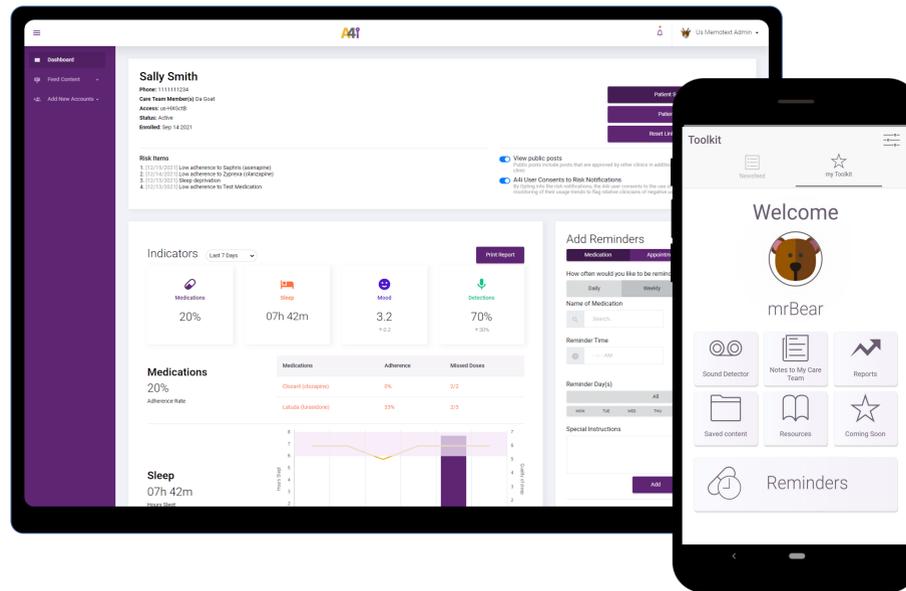
13 completed participants

23 current participants in the pilot

54 to be recruited

Intervention

A4i is a digital health platform that provides a range of features that were co-designed with schizophrenia populations, clinicians, and family members. Features include an interactive user-clinician platform, reminder functions, a patent-pending hallucination detector, and an application feed. A4i has undergone both research and clinical workflow implementation trials.



A4i Pilot Participant

Pilot participant refers to the app as a **"mental health Facebook"** when describing it to his friends, he says he likes that the feed is monitored, it allows him to **share his feelings without feeling he will be judged and get negative feedback**. The participant says he is enjoying the links to articles posted by A4i on the newsfeed.

The participant read an article about anxiety and the effects of caffeine. He learned that caffeine can worsen the symptoms of anxiety. Since then he has cut back on drinking his Monsters and other caffeinated drinks, and he no longer drinks them past a certain time a day, so **he is sleeping better now**. The participant says "Its the first thing I have felt passionate about in a very long time."

Results

Initial feedback has been positive with great insights to allow improved engagement for participants and care team members. Participants enjoyed sending notes to the care team to improve communication and awareness of ongoing challenges. The feed provides a social connection and was key to maintaining consistent engagement. Access to an overall picture of emotional wellness, goal progression and local resources provided participants with the tools to stay motivated. Improvement feedback has been focused on flexibility to allow more participant customization and improved portal tools to help facilitate participant interaction. This includes:

- Dedicated check-in page for flexible data collection
- Improvements to portal navigation to improve functionality for the care team
- Improved content management tools for care team members for more control over feed posts
- Mention notification feature to connect feed users to each other

Conclusions

Participants were very interested in engaging with educational content and tools to help them manage and learn more about their condition. Customization, flexibility, and ease of use were persistent themes throughout participants' and care team feedback. Both clinical and participant engagement are also directly related to each other with care team members driving value for the participants with continuous engagement on the platform. The next steps for the application are to improve clinical data flow through integrations to EMR systems and to continue expanding implementation to multiple sites to ensure A4i compatibility with various clinical processes.

Implications

As digital mental health technologies rapidly evolve, the far more significant hurdle than technology development is integration into clinical workflows. This presentation describes several promising practices in this regard, highlighting how digital health interventions hold the potential to reach severe mental illness populations and reduce the personal and system costs of these highly challenging illnesses.

A4i Feature Usage Summary

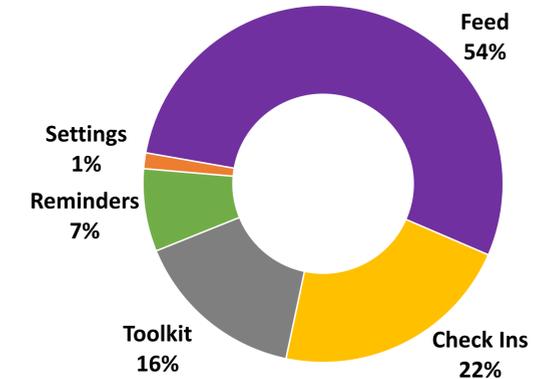


Figure 1. Percentage breakdown of application activity by feature type for all participant activity from Riverside implementation.

Acknowledgements

Riverside A4i team for providing amazing feedback and working with the A4i team at MEMOTEXT and CAMH to continuously improve and evolve A4i to give it the best chance of success with their patient population.

A4i development team supporting updates and feature improves throughout.

Contact

Learn more about A4i at a4i.me

Email: wenjia@memotext.com

