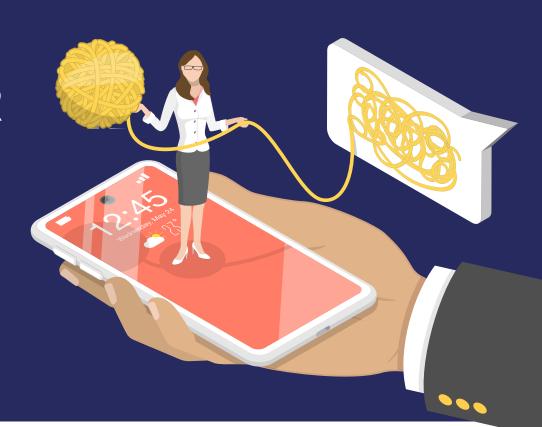# DIGITAL PSYCHIATRY FOR OPTIMAL OUTCOMES AT ALL STAGES OF THE PATIENT JOURNEY
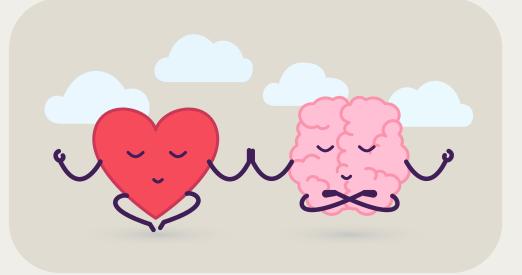
Smartphone apps, websites, social media, chatbots, and other digital technologies are increasingly used worldwide for prevention, diagnosis, management, monitoring, support, and research[1]

PREVENTION

Stigma and attitudes to mental health can be addressed through website- and social media-based education[2]

Preventive interventions, such as mindfulness, meditation and CBT, can be effectively delivered using websites and smartphone apps, even in the workplace[2]

CBT, cognitive behavioral therapy

CONSULTATIONS AND DIAGNOSIS

eAppointments and ePrescribing via websites and smartphone apps provide an easy streamlined access to expert opinion and medication

All stakeholders can benefit from "in-person" remote expert opinion using tele-health technology

Physical activity, physiologic variables (heart rate, sleep patterns), location and social interaction can be monitored to inform diagnosis using smartphone apps and wearables

Lifestyle and behavior change

Promotions for behavioral change, especially for risky behaviors and stigmatized topics, such as drug and alcohol use, sexual health, and mood and anxiety, can access individuals who appreciate the anonymity provided by websites and smartphone app and programs[3]

Anxiety and depression

Therapist-guided Internet-delivered CBT has shown high levels of patient satisfaction[4]

Smartphone apps enable patient self-management[5]

Early trials suggest that virtual reality treatment may be effective[5]

CBT, cognitive behavioral therapy

Schizophrenia

Smartphone apps can provide personalized therapy with messaging and video access to human coaching[5]

Intensive computerized cognitive training can improve working memory impairments[6]

Computerized cognitive remediation can improve cognitive function[7]

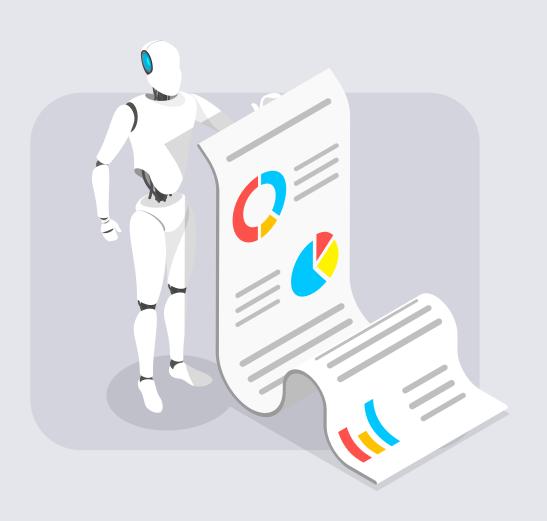Early trials suggest that virtual reality treatment may be effective[5]

Monitoring and Support

A variety of information for monitoring progress and response to treatment can be provided by smartphone apps and wearables[5]

Detection of and response to immediate mental health needs can be facilitated by "chatbots"[5]

Analyses of data from electronic health records and smartphone apps monitoring physical activity, physiologic variables (heart rate, sleep patterns), location and social interaction are providing new multidimensional insights into psychiatric diseases and their management[8]

AI, artificial intelligence

References

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2. Scheutzow J, Attoe C, Harwood J. Acceptability of web-based mental health interventions in the workplace: systematic review. JMIR Ment Health. 2022;9(5):e34655. **3.** Marcu G, Ondersma SJ, Spiller AN, et al. The perceived benefits of digital interventions for behavioral health: qualitative interview study. J Med Internet Res. 2022;24(3):e34300. **4.** Titov N, Dear B, Nielssen O, et al. ICBT in routine care: A descriptive analysis of successful clinics in five countries. Internet Interv. 2018;13:108–15.

5. Torous J, Bucci S, Bell IH, et al. The growing field of digital psychiatry: current evidence and the future of apps, social media, chatbots, and virtual reality. World Psychiatry. 2021;20(3):318–35. **6.** Subramaniam K, Luks TL, Garrett C, et al. Intensive cognitive training in schizophrenia enhances working memory and associated prefrontal cortical efficiency in a manner that drives long-term functional gains. Neuroimage. 2014;99:281–92. **7.** Tan S, Zhu X, Fan H, et al. Who will benefit from computerized cognitive remediation therapy? Evidence from a multisite randomized controlled study in schizophrenia. Psychol Med. 2020;50(10):1633–43.

8. Davidson BI. The crossroads of digital phenotyping. Gen Hosp Psychiatry. 2022;74:126–32.