



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



## Editorial

# Are Mobile Apps in Geriatric Mental Health Worth the Effort?

*Ipsit V. Vahia, M.D., Rebecca A. Dickinson, B.S. B.A., Ana F. Trueba, Ph.D.*

## ARTICLE INFO

*Article history:*

Received December, 28 2021

Revised December, 29 2021

Accepted December, 29 2021

Nearly two years into the COVID-19 pandemic, the mental health landscape is evolving rapidly. This is largely a function of telemedicine going mainstream and proving to be an effective way of providing services in the face of a dramatic increase in demand. This growth in telemedicine has also spurred growth in other forms of digital mental health, most prominently for mental health apps, which received record levels of venture funding in 2021.<sup>1</sup> Increasingly, this surge in telemedicine, and mental health apps is opening new digital avenues for care to under-resourced populations all over the world.<sup>2</sup>

While apps have gained wide acceptance for uses such as coaching, mindfulness or relaxation, the world of app-based mental health intervention has been plagued by a number of issues including inconsistent quality, challenges with engagement, absence of regulation, and significant concerns about privacy and security of user data.<sup>3</sup> These challenges seem to be particularly problematic for apps designed for use by older adults.<sup>4,5</sup> Given this tension between rapid growth, questions around overall impact, and

demonstrable risk, this field is at an inflection point. While new frameworks and resources are being developed for evaluation of apps themselves, the key question may be whether there are specific domains or clinical scenarios where apps offer a tangible clinical benefit for psychiatric care of older adults.<sup>6</sup>

To that end, the paper by Kiosses and colleagues in the *American Journal of Geriatric Psychiatry* presents an example of how apps, when narrowly focused and used in highly specific clinical scenarios, may offer the opportunity for enhancing care.<sup>7</sup> The authors focus on suicidal ideation in older adults – an issue of heightened relevance, especially with both depression, and anxiety rates skyrocketing nearly two years into the COVID-19 pandemic among all age groups.<sup>7,8</sup> There are significant barriers to assessing and treating suicidality. Indeed, research findings suggest that clinicians are more reluctant and less willing to treat suicidal patients than low-risk patients, partly due to inadequate training, thus pointing to a need for creative interventions.<sup>9,10</sup>

From the McLean Hospital, Belmont, MA; Harvard Medical School, Boston, MA; and the Universidad San Francisco de Quito, Quito, Ecuador. Send correspondence and reprint requests to Ipsit V. Vahia, M.D., McLean Hospital, 115 Mill St., Mail stop 234, Belmont, MA 02478 USA. e-mail: [ivahia@partners.org](mailto:ivahia@partners.org)

© 2022 Published by Elsevier Inc. on behalf of American Association for Geriatric Psychiatry.

<https://doi.org/10.1016/j.jagp.2021.12.018>

## *Are Mobile Apps in Geriatric Mental Health Worth the Effort?*

Kiosses and colleagues present a novel approach and early proof of clinical applicability of a tablet app-based care platform for patients over the age of 50 hospitalized for suicidality. The authors present a qualitative study conducted over the course of 12 weeks with 12 participants who had been recently hospitalized for suicide-related incidents and three therapists on an inpatient unit.<sup>7</sup> The authors also present two in-depth case studies from a female and male participant of this study and describe their experiences using their multimodal Cognitive Reappraisal Intervention for Suicide Prevention (CRISP) approach and its accompanying WellPATH app. CRISP treatment focuses on incorporating techniques learned in therapy into everyday life through aids such as phone calls, worksheets, a step-wise plan, and use of the app. Crucially, the authors conceptualize the WellPATH app as a component, rather than an anchor of this approach.<sup>7</sup> Its role is to help reinforce cognitive reappraisal strategies with the goal of teaching the patient how to use these strategies successfully outside of therapy when they encounter emotionally valent situations. The authors designed this app believing hospitalization for suicidal ideation is more likely to occur if a patient experiences an emotional crisis coupled with personal triggers.<sup>7</sup> Therefore, cognitive reappraisal strategies are used to reduce the impact of emotional triggers and thus reduce suicidal ideation and improve suicide prevention.<sup>7</sup> Participants and clinicians both reported high satisfaction rates with the app and minor critiques around usability.

The authors are clear about the limits of the WellPATH app, including the fact that it has not been tested outside of the CRISP intervention which, in turn, requires substantial patient, and clinician training. Moreover, there is no current research to indicate the cause-and-effect relationship of emotionally charged situations prompting suicidal behavior, so although the authors demonstrate very preliminary success, the app's broader significance is not yet known, and its applicability requires further study. It will be especially important to test this approach in care systems and its impact at the level of primary care, since the majority of mental health care needs are initially recognized not by mental health clinicians, but by primary care providers (PCP) or other clinicians in the community. If digitized approaches are to be effective in the long term, they must be evaluated in such real-world settings rather than within specialized services.

This study is early stage and does not shed light on how these tools may benefit older persons of non-white ethnicity/race and a broader range of educational and socio-economic backgrounds. This critique can be applied to much of digital mental health and the risk of digital approaches contributing to, rather than resolving inequities around care access, persists. Most apps created for the general American public are made in English, limiting the use of apps in non-English speaking populations. They do not tend to focus on the social context, and this brings additional risk. For example, a behavioral activation intervention created for the general population might recommend activities that are too expensive, inaccessible, or otherwise infeasible for patients of low socioeconomic status.<sup>11</sup> Thus far, mental health apps have not risen to the task of addressing such issues.

As such, there is emerging consensus that mental health apps may have a relatively confined role and modest impact in delivering mental health interventions, especially to older adults. Their efficacy and acceptability to users is greater when the apps are provided in conjunction with a human coach or therapist.<sup>12,13</sup> Moreover, successful use of digital approaches at scale requires technology support and even that may be insufficient in terms of generating engagement, since digital literacy is a challenge particularly among older adults from minority backgrounds, with low income, and on Medicare.<sup>14–16</sup> It is also unclear how increasing rates of clinician burnout being reported over the pandemic may factor into the scaling of digital care, given the need for clinician training and the fact that older adults with cognitive impairment or sensory impairment need even more support from staff and clinicians to successfully navigate technology.<sup>14</sup>

Overall, we are only now at a point where there is a body of literature to guide clinicians on use of apps for intervention in psychiatry. As such, digital psychiatry remains an area with massive potential, but within the field, app-based interventions appear to have a modest scope. For older adults such apps may be most effectively conceptualized as an adjunctive element of care. However, the work of Kiosses and colleagues provides an early indicator that when implemented effectively and in a targeted manner with high integration into care models, they can impact management of some of the highest-risk clinical challenges. This would represent a worthwhile advancement – one that may justify

the resources and effort required to incorporate such apps into care to begin with.

---

## DISCLOSURES

*Ipsit Vahia receives an honorarium for an editorial role with the American Journal of Geriatric Psychiatry. The other authors have no conflicts of interest to disclose.*

---

## AUTHOR CONTRIBUTION STATEMENT

All authors participated equally in the conceptualization, background literature review, writing, and editing of this manuscript.

---

## ACKNOWLEDGMENTS

*This work is supported in part by an unrestricted gift from Eric Warren Goldman to the Technology and Aging Lab at McLean Hospital.*

## References

- Jennings K: Venture Funding for Mental Health Startups Hits Record High as Anxiety and Depression Skyrocket (Forbes Magazine Website). June 7, Accessed from: <https://www.forbes.com/sites/katiejennings/2021/06/07/venture-funding-for-mental-health-startups-hits-record-high-as-anxiety-depression-skyrocket> Accessed at: December 17, 2021
- Firth J, Torous J, Nicholas J, et al: The efficacy of smartphone-based mental health interventions for depressive symptoms: a meta-analysis of randomized controlled trials. *World Psychiatry* 2017; 16:287-298
- Carlo AD, Hosseini GR, Renn BN, et al: By the numbers: ratings and utilization of behavioral health mobile applications. *NPJ Digit Med* 2019; 2:54
- Portenhauser, AA, Terhorst Y, Schultchen D, et al: Mobile apps for older adults: systematic search and evaluation within online stores. *JMIR Aging*. Accessed at: February, 2021; 4:e23313. Accessed from: JMIR Publications Inc., Toronto, CA. Accessed December 17, 2021.
- Rosenfeld L, Torous J, Vahia IV: Data security and privacy in apps for dementia: an analysis of existing privacy policies. *Am J Ger Psychiatry* 2017; 8:873-877
- Lagan S, Emerson MR, King D, et al: Mental health app evaluation: updating the American psychiatric association's framework through a stakeholder-engaged workshop. *Psychiatr Serv* 2021; 72:1095-1098
- Kiosses DN, Monkovic J, Stern A, et al: An emotion regulation tablet app for middle-aged and older adults at high suicide risk: feasibility, acceptability, and two case studies. *Am J Geriatr Psychiatry* 2021; 21:458-459
- Czeisler MÉ, Board A, Thierry JM, et al: Mental health and substance use among adults with disabilities during the COVID-19 pandemic - United States, February-March 2021. *MMWR Morb Mortal Wkly Rep* 2021; 70:1142-1149
- Groth T, Boccio DE: Psychologists' willingness to provide services to individuals at risk of suicide. *Suicide Life Threat Behav* 2019; 49:1241-1254
- Valente S, Saunders JM: Barriers to suicide risk management in clinical practice: a national survey of oncology nurses. *Issues Ment Health Nurs* 2004; 25:629-648
- Aguilera A, Bruehlman-Senecal E, Liu N, et al: Implementing group CBT for depression among Latinos in a primary care clinic. *Cog Behav Pract* 2018; 25:135-144
- Karyotaki E, Efthimiou O, Miguel C, et al: Internet-based cognitive behavioral therapy for depression: a systematic review and individual patient data network meta-analysis. *JAMA Psychiatry* 2021; 78:361-371
- Orr LC, Graham AK, Mohr DC, et al: Engagement and clinical improvement among older adult primary care patients using a mobile intervention for depression and anxiety: Case Studies. *JMIR Ment Health*. 2020;7:e1634. Accessed from: JMIR Publications Inc., Toronto, CA. Accessed at: December 17, 2021.
- Adrien TV, Kim HJ, Cray HV, et al: Training older adults to use telemedicine for mental health may have limited impact (letter to the editor online). *Am J Geriatr Psychiatry* 2021, S1064-7481:00343-2
- Schreuers K, Quan-Haase A, Martin K: Problematizing the digital literacy paradox in the context of older adults' ICT use: aging, media discourse, and self-determination. *Can J of Commun* 2017; 42:1
- Vangeepuram N, Mayer V, Fei K, et al: Smartphone ownership and perspectives on health apps among a vulnerable population in East Harlem, New York. *Mhealth* 2018; 4:31. Accessed from: Mobile Health, Hong Kong, China. Accessed at: December 20, 2021.