



Digital Mental Health Interventions for Depression

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This paper provides an overview of the of digital mental health (DMHI) interventions for depression. The paper begins with a description of the clinical context and services needs for persons experiencing depressed mood. It is well-known that there is a large gap between the availability of evidence-supported psychotherapy for depression and the large number of people who would likely benefit from it. DHMIs based on a cognitive-behavioral (CBT) model have shown substantial promise as a method to deliver tested-effective treatment to large numbers of people experiencing depression. The article continues with a review of clinical research evaluating DHMIs for depression with a special emphasis on CBT. The article also reviews both the strengths and challenges associated with the clinical use of DHMI for depression. Next, the article continues with a description of a newly-developed DHMI for depression that uses an entertaining approach to deliver well-established CBT strategies. Finally, the paper concludes with a discussion of the need for further research and development of DHMIs for persons experiencing depression.

Depression: Clinical Context and Service Need

It is well established that depression is a highly prevalent and debilitating condition in the United States and internationally. The [World Health Organization \(2017\)](#) estimated about 5% of the global population has depression, with a total of 322 million people living with depression worldwide. According to data from the National Center for Health Statistics ([Brody et al., 2018](#)), over 8% of Americans aged 20 and over had depression in a given 2-week period. Overall, clinically significant depressive symptoms are more prevalent among women than men, among older individuals than young people, and among rural populations than those who reside in urban areas ([Lim et al., 2018](#)). Depression is the leading cause of overall disease burden worldwide ([Friedrich, 2017](#)).

Untreated depression has been consistently linked with negative consequences across domains of bio-psycho-social outcomes. In addition to being associated with poor sleep quality, social isolation, and health risk behaviors ([Alvaro et al., 2013](#); [Chuang et al., 2015](#); [Holwerda et al., 2012](#)), depression has been consistently linked with increased oxidative stress and

compromised immune system, likely leading to long-term negative consequences both psychologically and physiologically ([Gutzmann & Qazi, 2015](#); [Halaris, 2016](#)). Given the significant, negative consequences of untreated depression, evidence-based treatments for depressive disorders have been extensively studied over the past several decades. The best supported psychosocial intervention in both the academic and clinical literature is cognitive behavioral therapy (CBT) ([Cristea et al., 2015](#)).

Despite the well-established efficacy of CBT for depression, a range of factors limit its use. Public and internalized stigma associated with mental illness often prevents individuals from actively seeking mental health treatment, including CBT ([Parcesepe & Cabassa, 2013](#); [Pescosolido et al., 2013](#)). Other barriers include distance to care and the high cost of treatment ([Webb et al., 2017](#)). The limited availability of clinicians trained in CBT is also a substantial barrier to the use of CBT ([Cavanagh, 2014](#)). Further, even when individuals engage in CBT, many consumers drop out of treatment after one or two sessions ([Eisenberg et al., 2011](#); [Merikangas et al., 2011](#)). The top reasons cited among participants who drop out of CBT include: (a) the content is text heavy and not engaging; (b) it is time and resource intensive to attend all sessions in-person; and (c) they do not find the sessions to be helpful ([DeJong et al., 2012](#); [Kehle-Forbes et al., 2016](#)).

The common barriers, described above, prevent depressed individuals from receiving mental health

Keywords: digital; computer; cognitive-behavioral therapy; CBT; depression; digital mental health interventions

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services, including CBT; however, these treatment access disparities particularly impact individuals who are racial/ethnic minorities (Conner et al., 2010; Hunt et al., 2015), reside in rural areas (Bolin et al., 2015; Hartley, 2004; Johnson et al., 2006), and with low socio-economic status (Freeman et al., 2016; Mayer et al., 2014; Saloner & Cook, 2013; Sugiyama et al., 2016; Williams & Sternthal, 2010).

In summary, although CBT is a gold-standard psychosocial treatment for depression, its utilization is limited by a range of factors for all persons with depression and particularly among marginalized groups. This is especially problematic because these populations often report higher needs for depression treatment, resulting in a widened mental health treatment access disparity. With rapid technological development over the past several decades, digital mental health interventions emerged as a promising tool to help address many, if not all, of the barriers to the use of CBT for depression described above.

Clinical Research Evaluating DMHI for Depression

There is growing empirical evidence demonstrating that digital mental health interventions (DMHI) for depression are effective and comparable to face-to-face depression treatment. Computer-based depression treatment has well-established research support that has culminated over the last two decades, whereas literature examining the effect of smartphone-based and game-based digital interventions for depression has emerged and rapidly expanded over the last 10 years.

The most widely used and studied computer-based DMHIs for depression are based on CBT. Two seminal meta-analyses of computer-based CBT (cCBT) for depression and anxiety disorders were conducted by Andrews et al. (2010 and 2018). In 2010, Andrews and colleagues identified six randomized controlled trials (RCT) of cCBT. The mean effect size superiority of cCBT for depression compared to control conditions was 0.78, suggesting cCBT has a large effect on depression. Although five of the six studies of cCBT for depression included in Andrews et al. (2010) meta-analysis tested cCBT compared to a waitlist control condition, one of the six studies compared cCBT for depression to treatment as usual by a general practitioner (Kessler et al., 2009). In this study, both treatment delivery methods were found to be equally beneficial. All studies of cCBT for depression included in this review reported adherence, which ranged from 63% to 100%, suggesting the acceptability of cCBT for depression among participants included in this review. It is important to note that five of the six studies of

cCBT included clinician support as part of the intervention model. This suggests that cCBT for depression may be more effective with in-person support and relates to previous findings showing that cCBT without in-person support is substantially less effective than cCBT with in-person support (Spek et al., 2007; Gellatly et al., 2007; Williams & Martinez, 2008).

By 2018, when Andrews et al. replicated and extended their 2010 meta-analysis of cCBT for depression and anxiety disorders, they identified 32 RCTs testing the effect of cCBT for depression. The treatment effect of cCBT for depression ranged from 0.19 (De Graaf et al., 2009) to 1.56 (O'Moore, et al., 2018), with an overall superiority effect size of 0.67 (95% CI = 0.51–0.81) over control conditions. As in the 2010 meta-analysis, this represents a large treatment effect. Andrews et al. (2018) meta-analysis found cCBT, traditional face-to-face CBT, and bibliotherapy to be equally beneficial to participants. To date, there has been a lack of comparison of cCBT with medications for depression, a recognized weakness in the evidence base for cCBT for depression. Twenty-seven of the 32 studies of cCBT for depression included in the 2018 meta-analysis measured treatment adherence, which ranged from 16% to 100%. Only 5 of the studies reported adherence under 50%. This indicates that adherence to cCBT across studies included in this review was acceptable and adherence rates were comparable for cCBT and face-to-face treatment conditions. Nine of the studies of cCBT for depression measured treatment satisfaction, which ranged from 83% to 96%, indicating that participants were highly satisfied. However, this finding should be interpreted with caution as only 28% of studies of cCBT for depression measured this. It is of note that a meta-analysis cCBT for children and adolescents reported similar findings, with a large superiority effect size over control conditions (0.76, 95% CI = 0.41–1.12; Ebert et al., 2015).

The first and only identified meta-analysis of smartphone app-based depression interventions, published by Firth et al. (2017), suggests that smartphone app-based interventions are emerging as promising, effective depression self-management tools. Firth et al. (2017) identified 18 RCTs of 22 smartphone apps for depression. Findings suggest that smartphone-based apps for depression had a small to moderate effect on depressive symptoms, over control conditions ($g = 0.38$, 95% CI: 0.24–0.52, $p < .001$). The effect of smartphone app-based depression interventions was greater when compared to inactive controls ($g = 0.56$, 95% CI: 0.38–0.74), with only a small effect when comparing smartphone app-based depression treatment to active control conditions ($g = 0.22$; 95% CI: 0.10–0.33).

Conversely to the documented positive relationship between cCBT for depression and in-person support, Firth et al. (2017) report that smartphone app-based only depression interventions had a greater effect on depression than smartphone app-based depression interventions that included supplemental human and/or computerized treatment components. Further, smartphone app-based interventions providing “in-app feedback” such as summary statistics and progress scores had greater effect sizes ($g = 0.53$) compared to those without in-app feedback ($g = 0.27$). The smartphone app-based depression interventions identified as part of this review used a variety of treatment approaches, including mood-monitoring, CBT, and mindfulness training. Type of treatment approach did not appear to influence overall study effect sizes as mood monitoring, CBT, and mindfulness training all significantly reduced depressive symptoms. Future research is needed to examine user engagement with smartphone app-based depression interventions, as existing evidence suggests the need to tailor interventions to the way people use smartphones and to understand which interventions and approaches work for different users.

Finally, emerging literature supports the effectiveness of game-based digital interventions for depression, although more empirical support with larger sample sizes, more rigorous methodology, and long-term follow-up data is needed. Li et al. (2014) conducted the only identified systematic review and meta-analysis of game-based digital interventions for depression. Nineteen studies were included in Li and colleagues’ review and 10 RCTs comprised the meta-analysis. The studies included in this review tested the effect of four types of game-based digital interventions, including psycho-education and training, virtual reality exposure therapy, exercising, and entertainment, on depression. Findings show that game-based digital interventions have a moderate effect on depression ($d = -0.47$, 95% CI: -0.69 to -0.24). The effect of game-based digital interventions for depression was higher relative to a wait list control. Additionally, consistent with findings related to smartphone app-based depression interventions, self-help-focused game-based digital interventions for depression resulted in better outcomes than clinician-supported, game-based interventions.

Strengths of DMHI for Depression

DMHIs can substantially improve the accessibility of mental health treatments by addressing common barriers to care, including limited appointment availability and office hours, geographic distance, transportation

barriers, perceived stigma of seeking mental health treatment, clinician shortage, and costs (Webb et al., 2017). First, DMHI removes restrictions imposed by clinics, such as hours, clinician availability, and geographical distance, thus resolving transportation and other physical challenges in accessing care. An online survey of 5,000 Americans conducted by the Cohen Veterans Network (CVN) and the National Council for Behavioral Health (CVN & NCBH, 2018) found that 46% of patients reported that they or someone they know has had to drive more than an hour round-trip to seek mental health treatment. These travel distances combined with inflexible clinic hours can be prohibitive for many patients, especially those who live in rural areas, older adults and adults with disabilities, and low-income working families.

Second, while face-to-face sessions need to be scheduled days or weeks in advance according to clinician availability, DMHI offers access to care on demand by the patient, from anywhere with a working internet connection, whenever the patient feels best motivated to engage with care and as often as needed (Webb et al., 2017). What comes along with this enhanced accessibility is a more private, and potentially less stigmatizing, more acceptable treatment option (Tomasino et al., 2017). The prejudice and discrimination that comprise the stigma of mental illness is an important reason why many people with mental illness do not seek out treatment or fully participate in treatment (Corrigan et al., 2014). The ability to access treatment from the privacy of one’s home via DMHI may enable treatment seeking and engagement by reducing label avoidance, a type of stigma that makes people avoid going to clinics or interacting with mental health providers for the fear of being attached to stigmatizing labels and suffering unfair loss of opportunity (Corrigan, 2004). The convenience of receiving DMHI care at home may be particularly helpful for persons with depression given that most individuals living with depression experience low energy and motivation. Given that seeking outside specialty care is often effortful, many persons with depression may prefer a DMHI solution for their psychosocial treatment.

Third, DMHI for depression alleviates the burden of clinician shortage by dramatically reducing, and sometimes eliminating, the amount of clinician time required to deliver CBT. Although the extent and formats of clinician support differ substantially, DMHI for depression programs generally fall into three categories based on the amount of clinician involvement: therapist-guided (e.g., mCBT; Dagöo et al., 2014), lay person-supported (e.g., MoodTech; see Tomasino et al., 2017), and self-guided or stand-alone programs (e.g., MoodGYM; see Twomey & O’Reilly, 2017). Some

self-guided programs offer optional clinician support “as needed” (e.g., Wellbeing Course; see Titov et al., 2015). Many therapist-guided DMHI programs for depression require little clinician involvement beyond guidance and feedback on homework assignments, often exchanged over encrypted e-mail and sometimes brief phone calls. Clinician support for DMHI for depression requires approximately 10–15 minutes per client per week, over the course of 6 to 15 weeks (Andersson et al., 2014), whereas traditional CBT for depression treatment usually requires weekly 60-minute face-to-face sessions over a 12 to 20 week period. Therefore, the time saved per client potentially enables a larger caseload per clinician and improves provider availability. In lay person-supported and self-guided DMHI programs, clinician involvement can be further reduced or even eliminated. Currently, every state in the U.S. has Mental Health Care Health Professional Shortage Areas designations, and overall, only a little over one-quarter of the nation’s mental health provider needs are currently being met (KFF.org, 2019). DMHI programs offer a much-needed treatment option for communities facing severe clinician shortages.

Fourth, DMHI programs can reduce costs associated with mental health services. Cost remains a significant barrier to accessing mental health treatment, despite advances in insurance coverage made by the 2010 Patient Protection and Affordable Care Act (2010) and the 2008 Mental Health Parity and Addiction Equity Act (2008). Evidence indicates that these policies were associated with increased utilization of out-of-network services for mental health services, which are subject to increased cost sharing and balance billing, resulting in more out-of-pocket spending (McGinty et al., 2015; Zhu, Zhang, & Polsky, 2017). This finding is echoed by a 2018 survey showing that 42% of Americans identified cost and poor insurance coverage as the top barriers for accessing mental health care (CVN & NCBH, 2018). Most DMHI programs are currently offered for a relatively small fee or free of charge. Recent systematic reviews suggest that DMHI programs for depression show promise for being cost-effective compared to various alternative approaches, particularly when guided by a clinician (Donker et al., 2015; Paganini et al., 2018). Nevertheless, economic evaluations of DMHI as compared to the most cost-effective face-to-face treatments are scarce, and mixed findings have been reported (Ahern et al., 2018; Klein et al., 2018).

In addition to its potential to facilitate mental health treatment access, DMHI for depression offers a flexible option as an adjunct to pharmacotherapy to enhance overall effectiveness and remission. Incomplete

response to antidepressants is common, even after trying multiple drug options (Gaynes et al., 2008). Even under ideal treatment conditions, fewer than half of older adults respond adequately to first-line pharmacotherapy (Lenze et al., 2008). DMHI can be easily combined with medications, which may improve treatment response based on limited available research (Gingnell et al., 2016).

Finally, one attractive feature of DMHI is its scalability and ability to increase the reach of research supported mental health treatments (Webb et al., 2017), while maintaining treatment fidelity. Stand-alone DMHI programs for depression can be implemented in community settings such as senior centers and churches that can reach a large segment of the targeted population who may otherwise not have access to treatment in a formal health care setting.

Challenges of DMHI for Depression

Although DMHIs offer promising strategies to increase access to depression treatment, they are not without limitations. First, concern over the ability to handle clinical crisis in most DMHI programs has been discussed in the literature (Webb et al., 2017). DMHI programs for depression, as they are currently configured, typically rely on self-reported instruments (e.g., Patient Health Questionnaire-9; PHQ-9) to assess symptom severity, many of which include items measuring suicidality. In programs with clinician support, participating clinicians, who may be trained mental health specialists (e.g., Staples et al., 2016) or primary care practitioners (e.g., Hobbs et al., 2018), can follow-up with patients who endorse suicidality. This hinges on patients’ voluntary endorsement of suicidal ideation items and the preparedness of the supporting clinician to handle clinical crisis. Given that most DMHI trials for depression exclude persons with severe depression or active suicidality to minimize the risk (Dear et al., 2015; Hobbs et al., 2018), the extent to which DMHI is appropriate and effective for persons with severe depression or those with suicidal ideation remains largely unknown. A similar challenge involves symptom deterioration during DMHI for depression (Andersson et al., 2019). Although the rates of deterioration appear similar to those reported in face-to-face treatments, DMHI programs without clinician support do not have methods to respond to worsening symptoms.

Second, face-to-face therapy sessions allow the clinician to devise a treatment plan tailored to the unique needs of each patient whereas most existing DMHI programs, other than some user-interactive elements, provide “one-size-fits-all” program content to every

user. Tailoring DMHI programs is often cost prohibitive. One exception is [Johansson et al. \(2012\)](#), in which the research team selected text chapters with treatment material matched to patient symptoms and severity. As DMHI programs evolve, more interactive and tailorable formats will likely emerge ([Webb et al., 2017](#)). Technological advances in personal sensing (e.g., smartphones and wearables) and machine learning hold great promise for highly individualized and adaptive DMHI programs in the future ([Mohr et al., 2017](#)).

Third, there are still potential barriers to treatment associated with DMHI programs, which have been voiced by participants. These barriers include the need for a computer/mobile device and internet access, computer literacy, and the ability to understand complex written information ([Internet-Delivered Cognitive Behavioural Therapy for Major Depression and Anxiety Disorders: A Health Technology Assessment, 2019](#)). Device/internet requirements have the potential for a deepening digital divide for certain population subgroups such as older adults, low-income families, and residents in rural areas, who are under-represented in DMHI research. Additionally, most DMHI studies require participants to have prior experience with computers/devices and/or access to the internet and devices in order to participate ([Xiang et al., 2019](#)). Consequently, whether DMHI is as acceptable and effective for people with limited technology competency is largely unknown. Moreover, some DMHI programs are text only, without voice-over audio, making it inaccessible for patients with vision problems, language barriers, or limited literacy ([Internet-Delivered Cognitive Behavioural Therapy for Major Depression and Anxiety Disorders: A Health Technology Assessment, 2019](#)).

Fourth, low completion rate is a problem that plagues DMHI studies ([Melville et al., 2010](#)), prompting criticism regarding the utility of these interventions. Technology-related difficulties are a commonly reported reason for dropping out. Our group's experience also suggests that people tend to drop out because they find the program content uninteresting, not engaging, and not relevant to their lives.

Additional challenges of implementing DMHI include limited reimbursement structures and challenges associated with training personnel to support DMHI in community settings. Although some DMHI programs are being paid for by employers and insurers, most are not being reimbursed by payers ([Powell et al., 2019](#)). Clinicians supporting DMHI interventions for depression need to have at least a basic understanding of both mental illness and the intervention being delivered. Even in DMHI without formal clinician support,

those individuals who connect patients to such programs need to have at least some knowledge of the technology and the program being offered, in addition to crisis management skills should a user experience clinical deterioration during self-guided treatment.

Finally, although DMHI has been tested with a variety of patient groups with different mental health disorders, including depression, DMHI is not a panacea. Some people may prefer face-to-face treatments over internet-based treatments. According to the 2018 CVN & NCBH survey, only 45% of those who have *not* tried technology-delivered treatment before would be open to trying it for any current or future mental health needs. Although telehealth is not exactly the same as DMHI, this survey result suggests a sizable proportion of the population experiencing depression may not find DMHI to be a desirable treatment option. In addition, persons with cognitive impairment and sensory impairment may find it challenging, if not impossible, to fully engage in DMHI.

Description of Treatment Program

Our group is developing an innovative DMHI for depression known as EntertainMeWell (EMW). EMW is an eight-session digital CBT program for depression that is easily tailored to a specific population. EMW was intentionally developed to offer a highly engaging digital CBT for depression that allows customization of content for the target population without compromising fidelity to core CBT elements. EMW includes core elements of CBT for depression, including behavioral activation, cognitive restructuring, and problem solving ([Beck, 2011](#)).

EMW has two distinct components: (1) an intervention platform that users log into to access EMW and (2) a back-end administrative platform where program administrators log in to tailor content for specific target populations. EMW is primarily designed to be a self-directed, stand-alone internet-based CBT approach but it can also be completed with professional support. EMW provides an accompanying workbook that briefly reviews core session content and introduces in-session activities and between session homework exercises.

One of EMW's central innovations relates to engaging users through a character-driven, animated storyline. Users follow the main character, Billi, through a retrospective story that aligns with the introduction of core CBT concepts and strategies across EMW's eight sessions. Users see Billi's retrospective experiences with depression and getting help from CBT, and Billi teaches users CBT skills and tools in real time. Users are able to observe Billi's use of CBT techniques and follow her improvement after she takes action (behavioral

activation), examines her negative thoughts and learns to talk back to them (cognitive restructuring), and deals with setbacks (problem solving). As Billi faces both setbacks and new opportunities, she uses CBT skills to navigate these situations.

Each EMW session includes a combination of core CBT content delivered via video-based and text-based education content (e.g., images, quotes, vignettes), the retrospective character-driven storyline described above (Figure 1), and real-time educational content taught by Billi. The retrospective character-driven storyline is delivered in each session as an “episode” that illustrates Billi’s prior experience with depression and CBT. Each episode reinforces core CBT content while entertaining users with an engaging storyline, including a “cliffhanger” at the end of each session. Clients using the program see how Billi utilizes CBT strategies in her life and then apply those tools to their own lives.

Billi’s storyline and associated CBT content is presented across the eight-session format. Session 1 introduces depression and CBT. Billi uses her own experience to educate users about depression and CBT. In Sessions 2 and 3, users are introduced to behavioral activation. Billi’s story shows her experience using strategies for taking action then provides opportunities for users to try these strategies themselves. Sessions 4 and 5 build on behavioral activation and introduce cognitive restructuring, using Billi’s “lived” experiences to demonstrate and guide users through the cognitive restructuring process. Session 6 blends all CBT core components together to work on a user’s faulty beliefs. Billi shares her experience recognizing and working on her faulty beliefs and then guides the users to work on identifying and assessing the utility of their own faulty beliefs. Session 7 uses all previous CBT core components and introduces problem solving as a strategy for setbacks. Users see Billi engage in problem solving to address her setbacks. Session 8 (final session) integrates all previous CBT methods and focuses on relapse prevention.

EMW’s second key innovation is that it supports customizable content tailoring to different populations, without compromising CBT fidelity. To our knowledge, EMW is the first internet-based CBT (iCBT) that allows for easy, no-cost tailoring of an intervention to different populations while retaining core CBT intervention components. This tailoring is achieved through intentionally designing sessions to include a mix of fixed and customizable elements. Intervention content that delivers core CBT concepts is “locked” and cannot be customized. However, examples of CBT-related concepts, depression-related psychoeducational content, and motivational messages can be modified to include images/pictures, quotes, and examples that reflect the experiences of a specific target population, delivery setting, or both. For example, Figure 2 presents a panel that is tailored for patients with a cancer diagnosis. EMW’s overall structure and sequence cannot be modified by users in order to ensure all core CBT components are included in each treatment program. The entire intervention can be modified by administrators to allow for the development of new storylines and CBT content targeting other conditions. EMW is currently being delivered within the context of two research-based pilot trials focused on depression. One trial involves delivering the iCBT via a group-based format in rural churches and the second involves individual delivery in a kidney dialysis center.

Summary and Need for Future Research and Development

DMHIs aimed at providing psychosocial treatment for depression have been developed and have been found to be effective in a range of trials across different settings and with varying amounts of clinician support (Andrews et al., 2018). The nature of depression, with most sufferers experiencing low energy and motivation, can make it difficult to wade through the challenges of securing face-to-face psychosocial treatment.



Figure 1. A screenshot of the story video.

When planning actions to improve our mood
 We want to think about *manageable* activities for
 fun and for accomplishment



Figure 2. A customizable panel example.

The limited availability of evidence-based psychosocial treatment also is a substantial barrier to care for persons with depression. DMHI offers a highly promising solution to these challenges. These important benefits notwithstanding, many people with depression do not find digital treatment to be appealing and many drop out very early in treatment. Also, patient safety concerns related to suicidality present challenges to the widespread use of DMHI for this condition.

Future research on DHMI approaches is needed to address a range of considerations. First, research that further examines methods to increase both the initial appeal and ongoing adherence to DHMI approaches to depression is needed. This is particularly important for self-directed DHMI for depression given the substantial dropout rate observed in this delivery method (Gellatly et al., 2007). If self-directed DHMIs for depression can be designed to be more appealing and acceptable to users, and sustained engagement can be achieved, they could be a real “game-changer” in closing the large gap between those who are living with depression and the evidence-supported treatment they need. Our early-stage experience offering EMW suggest that its entertaining, story-line based approach is a promising way to increase both initial appeal and ongoing engagement among users with depression across different age groups. Second, it is clear that even if DHMIs can be designed to address the high dropout rate in self-conducted DHMI for depression, some individuals will still need face-to-face clinician support. Continued research that helps to identify those at baseline and throughout treatment who are most likely to eventually drop out of DHMI is critical to address central questions about who needs clinician support, when it should be offered, and in what form it should be delivered. Recent research suggests that women and older users are particularly vulnerable to dropout when using

digital lifestyle interventions and that dropout risk is highest in early sessions (Pedersen et al., 2019). Finally, further work is needed to improve DHMIs to address issues of patient safety given that clinical deterioration and suicide risk are substantial concerns among individuals with depression. This concern could be addressed, at least to some extent, by imbedding measurements of psychiatric symptomatology within DHMI programs that automatically alert users to worsening symptoms while providing tailored guidance for seeking additional treatment. In addition to alerting users of worsening symptoms and the potential need for additional help, programs can be configured to automatically alert backup clinicians to users who may need further assessment and potential connections to higher intensity services. These types of supports could likely be best implemented if DHMIs are offered as a lower-intensity service option within a comprehensive, stepped-care depression treatment program (Clark, 2011). Placement of DHMIs within a stepped-care system of depression treatment would provide greater access to nondigital options for persons who are experiencing severe symptoms and/or significant suicidality where DHMIs may not be a good initial fit.

These issues notwithstanding, DHMIs remain highly promising methods to deliver evidence-supported, psychosocial interventions for depression, such as CBT, to the millions of individuals worldwide who live with depression and do not have access to needed care.

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The authors declare no conflicts of interest.

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Received: March 4, 2020

Accepted: December 21, 2020

Available online xxxx