Ethical and Legal Issues Addressing the Use of Mobile Health (mHealth) as an Adjunct to Psychotherapy

Nicole R. Karcher and Nan R. Presser

Department of Psychological Sciences
University of Missouri

mHealth refers to the rapidly evolving use of mobile devices for health care treatment purposes, particularly the use of apps and texting as adjuncts to psychotherapy. Although there is currently an extensive literature on issues related to telehealth, to date little guidance has been developed to help professionals function ethically in the rapidly emerging area of mHealth. This article identifies the major ethical considerations that need attention and proposes several recommendations to address mHealth use as an adjunct to psychotherapy, including the pressing need for relevant American Psychological Association practice guidelines to assist mental health providers in the ethical implementation of mHealth.

Keywords: apps, ethics, mHealth, psychotherapy, texting

OVERVIEW OF mHEALTH

mHealth, the abbreviation for mobile health, is defined by the World Health Organization as the use of mobile technologies for health care purposes (Kay, Santos, & Takane, 2011). This umbrella term generally refers to the use of electronic applications (i.e., apps) and text messaging for the purposes of providing physical and mental health care. For example, text messaging interventions have been developed for smoking cessation, which include personalized messages to help individuals cope with cigarette cravings (e.g., Hall, Cole-Lewis, & Bernhardt, 2015), and a number of apps have been developed to provide psychoeducation, such as Fooducate, an app used to provide education regarding nutritional content of food (Rainsberger, Fishel, & Muchuca, 2013). One of the reasons that these mHealth interventions have proliferated is that the use of smartphones is now widespread internationally, with some estimates of 6.1 billion smartphone users by 2020 (Lunden, 2015). Furthermore, approximately 62% of smartphone owners have used their phone in the past year to look up health information (Pew Research Center, 2015). Given this widespread use of mobile devices, the proliferation of apps, and texting by the general public, there are many potential avenues for mHealth to serve as an adjunct tool to psychotherapy.

As with any new treatment modality, there are both advantages and disadvantages with use of mHealth. Improved treatment accessibility and immediacy, real-time symptom monitoring, and
the opportunity for customized feedback (Harrison et al., 2011; Price et al., 2014; Proudfoot & Nicholas, 2010) can all augment therapeutic effectiveness. However, there are also several ethical, legal, and clinical issues related to mHealth implementation, including problems with data security, privacy issues, challenges with boundaries, interjurisdictional practice concerns, and others (e.g., Burns et al., 2011; Donker et al., 2013). Although ethical considerations for telehealth have been well addressed in the literature, scant attention to ethical issues has been given to the emerging area of mHealth. Given the advantages to use of mobile devices (e.g., smartphones, tablets, laptops, smartwatches) as adjunct treatment modalities, it is critically important that psychotherapists be knowledgeable about the ethical issues surrounding the use of mHealth as a tool for treatment.

USES OF mHEALTH

Text Messaging

Text messaging, or texting, has become an increasingly prevalent method of communication with psychotherapy clients for both administrative (e.g., appointment scheduling) and treatment (e.g., dialectical behavior therapy coaching texts) purposes. Texting has been shown to have a number of benefits as an adjunct to psychotherapy, including to increase treatment compliance through appointment reminders (Sims et al., 2012), to increase the therapeutic bond between sessions by increasing the frequency of therapeutic communications (Aguilera & Muñoz, 2011), to provide increased access to the psychotherapist, especially in crisis management situations, and to prompt behavioral activation (Halle et al., 2015). For instance, a randomized controlled study for the treatment of eating disorders indicated that participants who received tailored text message feedback following discharge from an inpatient treatment facility showed greater partial remission rates than those who did not receive the texting intervention (Bauer, Okon, Meermann, & Kordy, 2012). Additional evidence from a randomized controlled study indicated that participants receiving weight loss text messages lost significantly more weight than participants who did not receive text messages (Patrick et al., 2009). Last, research indicates that texting can be effective in disseminating health information, such as in provision of psychoeducation about mental health issues or concerns (Kim & Jeong, 2007).

The use of text messaging for mHealth purposes is proliferating for several reasons, including that it is both a timely and inexpensive way to communicate information to clients. Furthermore, texting is often the communication method of choice for younger individuals and, therefore, may be the best way to communicate brief information to young adults and adolescents (Dubus, 2015). Text messaging interventions also appear to be well received by clients, with one study finding that 90% of text messages from interventions are read within 3 min of being received (Johnson, 2013). Thus, this level of client engagement seems to indicate that texting interventions may be effective in facilitating healthy behaviors outside of psychotherapy.

Apps

Although still a young field, the development of health-related applications, or apps, has exploded over the past decade, with approximately 8,000 health-related apps as of November 2010 (Dolan, 2010) and the most recent update indicating upwards of 165,000 mHealth apps (Powell et al., 2016).
It is clear that this field is expanding extremely quickly, with most of the apps focusing on physical health topics. Approximately 6% of these apps focus on mental health outcomes (e.g., mood tracking, self-harm urges), whereas approximately 18% focus on behavioral health issues, such as altering sleep, stress, exercise, and smoking behaviors (Donker et al., 2013). In general, mHealth apps can be a very useful adjunct to evidence-based psychotherapy, as many of these apps include treatment components of evidence-based practices such as cognitive behavioral psychotherapy and motivational interviewing (e.g., Birney, Gunn, Russell, & Ary, 2016). A current list of some mental health apps can be found at the Zur Institute website (Zur Institute, 2016). As can be seen on this website, many apps assist clients with engaging in healthy behaviors outside of psychotherapy, such as enabling clients to monitor symptoms. One popular app is Fitbit, which can be used in conjunction with the Fitbit device to monitor exercise, calories burned, and sleep. Another app is the eMoods Bipolar Mood Track app (Gigaram Technologies, 2011), which allows the user to keep track of mood ratings, hours of sleep, anxiety levels, and medication use. Similarly, PsychLog is an mHealth app that collects psychological and physiological information (e.g., calculates heart rate variability), which could be useful information for the treatment of anxiety and panic disorders. It is apparent, therefore, that mHealth apps can be used to provide ongoing feedback to clients regarding emotional and physiological states to facilitate symptom monitoring outside of face-to-face (FTF) psychotherapy.

Along these lines, another use of mHealth apps is to serve as an adjunct to psychotherapy by providing skills support, in that apps can function as virtual coaches that provide real-time audio and visual instruction to facilitate practice of skills. An example is relaxation breathing apps that help teach breathing techniques and facilitate related skill development. Another example is DBT Field Coach, an app that provides skill suggestions and instructions to assist clients who need assistance with skills suggestions when in an emotional crisis.

Other apps serve as an adjunct to psychotherapy by sending messages to the psychotherapist or mental health care provider when the client is in a crisis situation. For example, there is an app that locates patients with dementia so that in the event the individual wanders away from a facility, he or she can be easily tracked (iWander; Miskelly, 2005). Some mHealth apps also send messages to psychotherapists when a client is in a potentially challenging or risky situation. As an illustration, there are now substance abuse psychotherapy apps that utilize geolocation to categorize risk locations for the client, send reminder warnings when the client is in these areas, and then initiate contact with a therapist or coach (Gustafson et al., 2011; Vahabzadeh, Mezghanni, Lin, Epstein, & Preston, 2010).

mHealth apps can function as an adjunct to psychotherapy by helping the client engage in behaviors to enhance therapy compliance. For instance, some mHealth apps include a function that enables the client to record psychotherapy sessions for later review, and other apps can increase treatment compliance by allowing the user to record psychotherapy homework assignments. MobilWork is an app that prompts clients to complete homework assignments and coaches clients through the assignment (Trudeau, 2010). Another project, Interstress, is a platform that enables users to manage treatment schedules, administer surveys, and manage homework assignments (Gaggioli & Riva, 2013). These apps can assist in increasing adaptive behaviors, thus potentially increasing positive treatment outcomes.

As is apparent, the number of mHealth apps and texting interventions that can be used for psychotherapy-related purposes is ever expanding. However, there are also a variety of significant ethical issues and legal considerations of which mental health practitioners should be
mindful when deciding to incorporate mHealth tools into psychotherapy. For the purposes of this article, ethical and legal issues surrounding evidence base, security, informed consent, competence, boundaries, avoiding harm, documentation, supervision, assessment issues, conflicts of interest, and fees are discussed. Finally, recommendations for ethically and legally using mHealth interventions are provided.

General considerations associated with telehealth more broadly have been extensively discussed elsewhere (e.g., Baker & Bufka, 2011; Barnett & Scheetz, 2003). Furthermore, the use of other specific technologies (i.e., chat rooms, use of email, video calling) has already been covered in the literature (Anthony & Goss, 2003; Childress, 2000; Kolmes, 2010). New mobile technologies are continually being developed. Although the current article focuses on the use of texting and apps, many of these ethical and legal considerations apply to other mobile devices, such as, but not limited to, therapeutic use of mobile sensors (e.g., Fitbit, Google Glass, virtual reality devices, etc.). However, psychotherapists should be aware that there may be unique ethical considerations associated with each mobile device. Furthermore, technologies have been developed, such as encryption services and secure portals that may be downloaded on mobile devices to make these devices more secure. Many medical entities, such as the Veterans Administration, use a secure patient portal in order to communicate with clients, and require staff to communicate with patients only via this method. These patient portals require the patient to log in to a secure portal, wherein they can communicate with their physician or psychologist. Last, although many of the same ethical considerations are important when conducting research using mHealth, or when using mHealth as a therapeutic mechanism, the current article focuses on the use of mHealth as an adjunct to psychotherapy.

This article focuses on the ethical and legal considerations specific to the use of apps and texting as adjuncts to FTF psychotherapy. For the purposes of this article, we primarily focus on the ethical and legal issues associated with the current American Psychological Association (APA) Ethics Code for psychologists providing mHealth as an adjunct to psychotherapy. However, many of the considerations are applicable to therapists practicing in other locations. It should be noted that the field of social work has developed guidelines for the use of technology (Association of Social Work Boards International Technology Task Force, 2014), which address some similar issues. This article is divided into two parts: The first part is dedicated to the ethical considerations for using mHealth as an adjunct to psychotherapy, whereas the second part is dedicated to recommendations for the ethical use of mHealth.

**ETHICAL CONSIDERATIONS**

**Evidence Base**

Among the approximately 165,000 mHealth apps (IMS Health, 2015; Powell et al., 2016) only a small subset to date have received empirical support. As appealing and engaging as these tools are, as of November 2012 there were only approximately 215 known empirical studies of mHealth technologies (Labrique, Vasudevan, Chang, & Mehl, 2013). This dearth of evidence for mHealth, including mHealth apps and text-based interventions, led to the Bellagio Call to Action on Global eHealth Evaluation (Amoroso, Flores Arango, & Bailey, 2011), calling on researchers to invest in examining the evidence base for mHealth.
According to the APA’s Ethical Principles of Psychologists and Code of Conduct (2002/2010; hereinafter referred to as the Ethics Code), psychologists should base their work on established professional knowledge of therapeutic interventions. Accordingly, the psychologist should suggest interventions for which there is evidence that the intervention will be effective in helping with the focal problem area or symptom. However, given the dearth of empirical evidence, especially for mHealth apps, it can be difficult for psychologists to discern which mHealth interventions have empirical support for their effectiveness. This is especially important for psychologists who work in clinical scientist and scientist-practitioner programs, as the use of evidence-based practice is stressed.

Of the apps that do have empirical evidence, research tends to focus more on physical health as opposed to ameliorating psychological symptoms. Many of these studies indicate that mHealth apps can be useful for medication compliance and improving attendance (Car, Gurol-Urganci, de Jongh, Vodopivec-Jamsek, & Atun, 2012; Guy et al., 2012; Vervloet et al., 2012). Other popular and empirically supported use of mHealth apps address improving health-related behaviors, such as stopping smoking, losing weight, and managing stress (Donker et al., 2013). There is substantially less empirical evidence for the efficacy of apps or texting as therapeutic interventions to decrease symptoms of mental illness (e.g., Gustafson et al., 2011). Some research does suggest that mHealth interventions can be effective in treating symptoms of depression, anxiety, and managing psychotic symptoms (Aguilera et al., 2015; Ben-Zeev et al., 2014; Birney et al., 2016). At last count, however, there were only 10 research articles examining the effectiveness of mood disorder psychotherapy apps (Torous & Powell, 2015). These studies ranged in methodological quality. Of these 10 studies, several involved randomized controlled studies. Two studies found that guided apps led to a reduction in depressive symptoms (Burns et al., 2011; Watts et al., 2013), or an increase in emotional self-awareness (Kauer et al., 2012; Reid et al., 2011). Several other RCTs found that unguided apps led to reductions in anxiety symptoms (Grassi, Gaggioli, & Riva, 2011; Villani et al., 2012, 2013). Another study found that an app in conjunction with FTF therapy led to a decrease in substance use urges (Rizvi, Dimeff, Skutch, Carroll, & Linehan, 2011). However, the majority of studies have examined the feasibility and acceptance of apps (i.e., as opposed to examining symptom reduction as a result of the use of the apps; e.g., Hidalgo-Mazzei et al., 2015; Miloff, Marklund, & Carlbring, 2015). Generally, it appears that the early effectiveness evidence suggests that mHealth interventions can be useful in increasing client engagement with treatment protocols.

There is more empirical evidence for texting interventions, including a meta-analysis indicating that there is substantial evidence that text messaging is effective in increasing psychotropic medication compliance (Hall et al., 2015), and other studies indicate texting can be effective in reducing certain symptoms of mental illness such as schizophrenia (Granholm, Ben-Zeev, Link, Bradshaw, & Holden, 2011). Thus, although psychologists have begun to make strides in terms of conducting empirical research regarding mHealth, it is clear that much more research needs to be conducted so that psychologists can make ethical and empirically informed mHealth recommendations.

Privacy

Confidentiality and the protection of patient privacy are critical ethical issues that arise with the use of mHealth. According to the APA Ethics Code Standard 4.01, “Psychologists have a primary obligation and take reasonable precautions to protect confidential information obtained
through or stored in any medium” (p. 7). Thus, it is the psychologist’s responsibility to protect clients’ information however communicated or stored. However, because text messaging and mHealth apps are not secure mediums, it is difficult to uphold Standard 4.01 with the use of mHealth. This is particularly true for texting, as there are several ways that confidentiality may be breached through this medium.

Confidential information being obtained by third parties is the largest threat to patient privacy with the use of mHealth (APA, 2013). mHealth data can be obtained in a number of ways, including through malware software (i.e., Trojan viruses, spyware) and phishing messages (Department of Health Services, 2012). Moreover, threats to data security (i.e., new viruses) are constantly arising and evolving, making it difficult to comprehensively protect mHealth data. Psychologists also face potential breeches in confidentiality if the psychotherapist’s or the client’s mobile devices (e.g., smartphones, tablets, laptops, smartwatches) are lost or stolen. It is also possible that parents or a significant other could install an app, such as TextGuard, on a client’s phone that allows the third party to monitor all text messages received by the client. Furthermore, there is no practical way to verify the client’s identity when engaging in these interventions, except when using a video-calling application, such as FaceTime. Psychologists should be aware that mobile devices can be hacked into, and this risk increases when using unsecured WiFi networks. In addition, psychologists should carefully dispose of mobile phones, as disposed phones can be mined for data. Furthermore, information that is not securely stored or transmitted is vulnerable to the privacy and security issues previously mentioned (e.g., malware, theft). Psychotherapists also need to have a policy in place regarding when text messages containing electronic protected health information (ePHI) should be deleted (Greene, 2012).

To engage psychologists in measures to prevent breaches in privacy and security, several professional organizations have created new guidelines regarding telehealth (American Counseling Association, 2014; Canadian Psychological Association [CPA], 2006). These guidelines include stipulations such as that text messages are not secure forms of communication and that psychologists should inform clients of the possibility that information can be intercepted by third parties. The APA Ethics Code currently does not have a section specific to mHealth, but it does mention that psychologists have an obligation to protect information obtained in any medium, so psychologists still must follow Standard 4.01 (Maintaining Confidentiality) when engaging in mHealth. Psychologists are also expected to discuss the relevant limits of confidentiality (Standard 4.02c).

Psychologists should also be mindful, particularly with the use of texting, of what information is disclosed in these unsecure mediums, even to other providers. According to APA Standard 4.04, psychologists should include in consultations “only information germane to the purpose for which the communication is made” (p. 7) and should disclose confidential information only for professional purposes. With the ease of use of text messaging, it may be tempting for psychologists to consult with other professionals about confidential matters over text messages. However, psychologists should be mindful that this is not a secure medium and to discuss information only pertinent to the consultation and only for professional purposes. As an illustration, when consulting about psychotic symptoms, the psychologist should include only the information germane to the consultation (e.g., the nature of these symptoms) and avoid disclosing information that is not pertinent to the consultation, especially PHI such as name, occupation, or location. An additional privacy and security concern is that wireless carriers have access to user’s information. Specifically, most wireless carriers have access to app usage
In addition, the National Security Service can potentially have access to one’s cell phone information, including text messages (Taylor, 2015), unless the mHealth intervention occurs using an end-to-end encryption app (which the government currently cannot access; Burgess, 2016). However, psychologists should still ensure that they are engaging in other security safeguards, as it is possible for a third party to read encrypted messages (i.e., if someone reads the recipients decrypted messages on either end, or if a third party executes a “man-in-the-middle” attack, in which the third party inserts itself between the communications of a client and a server; Greenberg, 2014).

Furthermore, the possibility of having breaches to privacy and security increases as information is included on multiple devices (e.g., including text messages on both iPhones and iPads). Psychologists must be mindful of what confidential information is stored on what devices and try to minimize both the amount of information and the number of devices that have confidential information. Psychologists should be aware of the unique concerns associated with each device prior to using a device as an adjunct to psychotherapy. For example, the use of tablets or laptops has increased privacy concerns as a result of presenting confidential information on a larger screen. In addition, using a smartwatch may have increased privacy concerns, as client or therapist’s messages may be visible on the screen. Likewise, video calling clients poses unique privacy concerns, as it is possible that information disclosed over this medium may be overhead or seen by unintended third parties (i.e., colleagues, family members, etc.).

Informed Consent

According to the APA Ethics Code Standard 3.10, when psychologists provide therapy “in person or via electronic transmission or other forms of communication, they obtain the informed consent of the individual or individuals” (p. 6), and this consent should be documented. In addition, for mHealth apps that involve administering assessments, Standard 9.03a states that psychologists obtain informed consent for assessments. However, use of mHealth involves several distinct challenges when obtaining and documenting informed consent. Clients must be informed about the possibility of breaches of privacy and security, whether the app or texting procedure is experimental in nature, and the potential for miscommunication in text-based communication (Childress, 2000). Furthermore, the CPA’s Ethical Guidelines for Psychologists Providing Psychological Service via Electronic Media (2006) states that psychologists should include in the informed consent the risk of a technological failure during electronic communications. Psychologists should therefore include in the informed consent both the risk of technological failure and a safety plan, such as giving emergency numbers in the event of a technological failure, such as loss of service. Some psychologists have begun to develop informed consent templates for mHealth policies for clients (Kolmes, 2010). Furthermore, it is important that psychotherapists inform clients that mHealth texting and apps are not secure mediums and that information stored on mobile devices could be obtained by third parties. The psychologist should also explain that a breach of confidentiality could occur if the client’s device is lost or stolen and must ensure that the client understands these potential risks prior to use of mHealth interventions. A benefit of developing a written mHealth policy for use with clients is that it will delineate the possible concerns with privacy and security. For example, one existing policy explicitly states that clients should not use text messaging as a means of contact, as this form of communication can compromise confidentiality (Kolmes, 2010).
It is also important to create an informed consent process that is flexible for mHealth apps. As an example, it is possible that a client may consent to track his or her mood but does not consent to having his or her voice recorded in an mHealth app, such as with the Xpression app (i.e., an app that uses voice recordings to determine the user’s emotional state). Thus, psychologists must create an informed consent process that is flexible enough to allow the client to decline consent for the collection of certain types of data, such as voice or video recordings. In addition, psychologists must be explicit in the informed consent document as to how the data from the app will be used, how the data will be stored, any security and privacy issues, and how long this information will be kept. Finally, as part of the consent process, psychologists must inform participants about circumstances in which they might be obliged to disclose personal information. For instance, for apps or texting interventions in which risk for harm to self or others is in any way assessed (e.g., dialectical behavioral therapy apps), clients must be informed that this information may no longer be confidential if the individual is judged by the psychotherapist to be a risk of harm to him- or herself or to others. It should be noted that, in addition to documenting the risks to security and privacy in the consent form, psychologists also have a responsibility to actively engage in effective practices for reducing risks to confidentiality (see Recommendations section).

Competence

Another important ethical dilemma that frequently arises is the issue of psychotherapist competence. According to APA Ethics Code Standard 2.01a, psychologists provide services and teach only in areas within the boundaries of their competence, “based on their education, training, supervised experience, consultation, study, or professional experience.” (p. 4). Competence in mHealth involves two distinct skills areas: (a) competence with the particular mHealth interventions, and (b) technical skills (e.g., texting aptitude, encryption, use of electronic devices). In terms of competence with mHealth interventions, mHealth poses a unique dilemma for psychotherapists, as skills in FTF interactions do not automatically transfer into the digital environment; these are considered distinct skill areas (Rees & Stone, 2005). In addition, there is evidence that the therapeutic alliance with the client, as opposed to therapeutic technique, is the most important factor in therapeutic change (Erskine, 1998). Psychologists must, therefore, make sure that they are competently able to maintain a strong therapeutic alliance during use of mHealth interventions. Psychologists must also be competent enough in mHealth to knowledgeably recommend appropriate interventions to clients. According to Standard 2.01c, psychologists planning to provide services involving areas or technologies that are new to the psychologist should receive education and training in these areas. The Association of Canadian Psychology Regulatory Organizations (2011) guidelines also has stipulations that psychologists should be competent prior to engaging in mHealth and should not address a problem using electronic media unless the psychologist is competent to do so in person. Thus, psychologists must ensure that they have the relevant education, training, and skill to competently implement mHealth interventions.

Psychologists should also have an understanding of what diversity factors may impede or facilitate the use of particular mHealth services (Standard 2.01b). Age is of particular importance for the implementation of mHealth services, as digital natives, or younger individuals who grew up with digital devices and the Internet (Prensky, 2001), may be more likely to comply with and enjoy mental health services that involve mHealth. Conversely, for digital immigrants, or
individuals born before the widespread implementation of digital devices and the Internet (Prensky, 2001), difficulty with implementation of these services may impede progress in psychotherapy. This is just one example of how demographic factors may influence a psychotherapist’s decision to engage in mHealth. Furthermore, when determining whether to administer an mHealth intervention, make sure to consider the “digital divide,” which refers to the economic and social inequality with regards to access to and availability of technology (Warschauer, 2004). Psychologists must engage in training, consultation, or supervision to ensure that they are knowledgeable of how such individual demographic factors may affect the use of mHealth and, thereby, to integrate mHealth appropriately and ethically.

The second area concerning competency is whether psychologists have the technical skills necessary to effectively and ethically conduct mHealth interventions. For instance, therapists who are not familiar with texting or the use of apps may struggle to competently and ethically engage with clients in the digital environment. Barnett (2005) suggested that psychologists must be proficient in typing skills and be familiar with the technology (in this case, the technology of apps or texting). Knowledge of encryption or other means of secure communication is also important. Psychotherapists who actively provide telepsychotherapy may already have developed some of these skills, as some of the requisite skills and competencies required for engaging in telepsychotherapy are similar to the use of mHealth.

Finally, psychologists must adhere to Standard 2.03, which states that competency training and education should be ongoing in order to maintain competence. Thus, it is not adequate to just receive training and education in mHealth interventions. Rather, psychologists must receive ongoing, up-to-date education and training in mHealth interventions and technologies, especially because mHealth is constantly evolving and new technologies are emerging.

Boundaries

Due to the immediacy of contact, the out-of-office setting, and potential after-hours timing, texting has the potential to result in clients feeling closer to the therapist than what clients feel naturally during FTF psychotherapy. This raises the potential that the client’s perception of the therapeutic relationship could devolve into a less professional relationship, with the boundaries blurring between that and a friendship. Given the ease and accessibility of texting, clients may be inclined to text the psychotherapist regarding daily routine events, whereas the client would not call an office phone to communicate about such events. Furthermore, given the availability of the therapist in the client’s regular life outside of psychotherapy and an awareness of the therapist’s phone number, some clients may send messages outside office hours, such as during the evening or at night, or may continue to send text messages after termination of the therapeutic relationship, as they now have the therapist’s phone number. Therefore, psychologists need to consider their response to any irregular or posttermination contact. These permeable boundaries of the therapeutic structure also raise the possibility of violating Standard 3.05, which states that psychologists should refrain from multiple relationships if the relationship could impair the psychologist’s effectiveness or could cause harm to the client. In general, therefore, psychologists must be particularly attentive to management of blurry boundaries and the potential for multiple relationships when engaging in mHealth interventions, especially texting.
Avoiding Harm

There are potential violations of Standard 3.04, Avoiding Harm, when it is foreseeable and avoidable, when using mHealth. Psychotherapists are trained to attend to nonverbal cues in order to assess interpersonal interactions and the client’s mental state, but it is not possible to adequately assess these when the client is not in the therapeutic room (i.e., when using mHealth interventions as an adjunct to psychotherapy, with the exception of using video-calling applications). As an illustration, if the client is in high distress but the psychotherapist is unable to judge this based on the client’s self-report via text, the client may be at increased risk or may feel misunderstood. Furthermore, a psychotherapist may have difficulty judging whether a client is discloseive and following recommendations when assessing risk and the means of communication is electronic. Thus, psychotherapists need to take precautions when using mHealth in order to accurately assess the client’s mental state during non-FTF interactions so that Standard 3.04 is not violated.

Documentation

Health care providers, including psychologists, are responsible for the creation, maintenance, storage, and disposal of all records and data relating to a patient’s health or psychotherapeutic treatment record. Likewise, in conjunction with Standard 6.01, Guideline 1 of APA’s Record Keeping Guidelines (APA, 2007) states that psychologists have responsibility for the maintenance and retention of therapeutic health records. There are, however, several unique challenges for mHealth use in terms of recording and maintaining a treatment record. For texting and apps, it can be difficult to get printed versions of significant information in order to provide accurate documentation in the client’s chart. As an example, if a client is using mood-tracking forms, it could be difficult to get a printed version of these for the client’s record. This can make accurate and informative record keeping (as per the second guideline) a challenge and may be particularly important when suicidality is determined. In terms of texting, some institutions require only a brief summary of treatment contacts; however, this summary may not contain all of the pertinent content of significant text messages, such as those implying risk, which could mean that psychologists could be in violation of this second guideline.

In addition, Standard 6.02 states that psychologists must maintain confidentiality of health records in any medium. For instance, if an app stores mood records on a client, the psychologist is responsible for the maintenance and security of these records. This guideline would also apply to text messages, as psychologists are responsible for determining how long to store text messages and when to dispose of these messages. Furthermore, as per 6.02c, the psychologist must prepare in advance for the maintenance of mHealth records in the event that the psychologist terminates practice. Thus, in all such cases, a psychologist must be careful to securely and regularly maintain mHealth records.

Training and Supervision

In our review of the literature to date, it does not seem that there is much emphasis in graduate programs on therapeutic use of electronic methodologies (Maheu, Pulier, Wilhelm, McMenamin, & Brown-Connolly, 2004). It may, therefore, be difficult for trainees to obtain the necessary training
and supervision in mHealth interventions. Both competence and delegation are relevant in this regard. If supervisors are not competent in the use of text-based interventions or the use of mHealth apps, it is questionable whether they can competently provide training to supervisees. Moreover, as Ethics Code Standard 2.05 addresses delegation of work to others, and as supervisors bear responsibility for appropriate oversight to safeguard treatment provision, supervisors must ensure that both they and their trainees are competent in mHealth interventions or risk jeopardizing patient care.

In addition, when trainees text clients, it is unlikely that the supervisor is able to see the full content of the text messages and thereby have appropriate oversight (particularly when the supervisor has access only to a summary via the trainee’s note in the client’s chart). This may be problematic, as it is difficult both to oversee the client’s treatment and to ensure that a trainee is accurately reporting and appropriately documenting treatment and setting boundaries. Likewise, it may be challenging to record video-calling sessions with clients or to record app usage. This contrasts with video or audio recording of psychotherapy sessions, where the supervisor has access to direct information regarding the content of therapeutic interactions.

Furthermore, because mHealth is such a rapidly evolving area of treatment, it will be challenging for supervisors and trainees to remain competent and up to date in administering mHealth. To summarize, a psychologist should avoid supervising interventions outside the bounds of his or her competence and should seek continuing education to maintain competence in any area of mHealth on which training or supervision is provided.

Assessment Issues

Several unique ethical challenges exist when conducting assessments electronically via use of apps. Psychologists must take reasonable steps to explain assessments results to a client (Standard 9.10) and therefore should ensure that even when assessments are completed outside of psychotherapy sessions, time is taken to explain the assessment conclusions. It is also possible that the client may not fill out the assessment him- or herself (e.g., due to language limitations, visual or motor challenges, or disabilities that prevent the client from completing the mHealth assessment). Furthermore, according to Standard 9.06,

When interpreting assessment results, including automated interpretations, psychologists take into account the purpose of the assessment as well as the various test factors, test-taking abilities and other characteristics of the person being assessed, such as situational, personal, linguistic and cultural differences. (p. 13)

Again, this can be challenging because, if the assessment is conducted electronically, with the exception of conducting assessments over video-calling applications, it may be difficult for the psychologist to assess certain characteristics, such as test-taking ability or the testing milieu of the client at the time the assessment was conducted (i.e., if the assessment is conducted outside of the psychotherapy session).

In addition, according to Standard 9.02, psychologists must ensure that there is evidence for the usefulness and efficacy of assessments, even when administered electronically such as through an mHealth app. Psychologists must, therefore, be aware of the proper application of the assessment, as certain assessments, such as semistructured interviews, may not be appropriate for mHealth apps. Furthermore, psychologists should use assessment instruments with established validity and reliability evidence and should describe the strengths and limitations of
any assessment conclusions. In terms of empirical support, there is evidence that the PHQ-9 administered via app shows high interreliability with the paper measure of the PHQ-9 (Bush, Skopp, Smolenski, Crumpton, & Fairall, 2013). If an mHealth assessment does not have sound psychometric properties, the psychologist must explain these limitations to the client and must either be careful to describe any limitations or not recommend the app.

Conflict of Interest

As psychologists begin to use their expertise to develop mHealth apps themselves to facilitate assessment and treatment of mental health problems (East & Havard, 2015), the possibility of a conflict of interest emerges. According to Ethics Code Standard 3.06, psychologists should avoid taking on roles when professional or financial interests could impair objectivity or expose a client to harm or exploitation. In particular, if psychologists benefit financially when current clients download their app, it is likely that the psychologist will face a professional conflict of interest and judgment could therefore be compromised. For example, a psychologist who has developed an anxiety symptom tracking app may be implicitly or explicitly motivated to advise his or her clients to download this app and have judgment compromised as to when it might not be appropriate for a particular client or issue.

Fees

One final ethical issue with mHealth is how and whether psychologists should be paid for mHealth services. Although Standard 6.04 states that psychologists’ fee practices are consistent with law, few laws exist regarding how psychologists should charge for mHealth interventions, and although telehealth services are now billable in some states (Weinstein et al., 2014), we did not find a single billing code for text-based interventions. Thus, in terms of texting clients, it is unclear how psychologists’ billing policies for texting could be consistent with the law, and it is consequently unclear how these billing policies can be consistent with the APA Ethics Code. In addition, it is also difficult to assess if, how, and when to charge clients for text-based interventions. It could potentially be confusing to clients if psychotherapists do not charge for brief administrative text messages (e.g., setting an appointment) but do charge for text-based interventions or extended conversations. If the psychologist chooses not to charge clients for text-based interventions, which currently seems to be standard procedure, the psychologist may become overburdened by numerous or frequent text-based interventions without financial compensation.

LEGAL CONSIDERATIONS

In addition to the potential ethical and clinical challenges that arise with the use of mHealth interventions, there are several legal considerations for the use of mHealth. The Health Information Portability and Accountability Act (HIPAA) Privacy and Security Rules regulate the security of ePHI. Examples of ePHI include names, birth dates, e-mail addresses, and other information that could potentially identify an individual.
The HIPAA Privacy Rule requires that covered entities, including mental health providers, protect the privacy of PHI in any form. This requires that psychologists must take measures to protect the privacy of ePHI.

The HIPAA Security Rule states that covered entities must implement the appropriate physical, administrative, and technical safeguards to ensure the confidentiality of ePHI created, received, maintained, or transmitted by the covered entity (American Psychological Association Practice Organization, 2005). The Security Rule therefore requires providers to implement security measures to protect patients’ privacy (Amatayakul, Lazarus, & Walsh, 2003; Department of Health and Human Services, 2003). In terms of mHealth, the loss or theft of a mobile device could lead to the exposure of ePHI if the device is not secured. Moreover, the Breach Notification Rule requires covered providers to notify individuals in the case of loss or theft of ePHI. Failure to comply with the Privacy and Security Rules can lead to civil and criminal penalties. Psychologists should make strides to ensure that mHealth interventions are HIPAA compliant. For example, the psychotherapist can contact the app developer to determine whether the app has a Business Associate Agreement (i.e., a contract between a HIPAA-covered entity and a HIPAA business associate that protects PHI in accordance with HIPAA guidelines). Overall, it appears that risks to privacy and security constitute a potentially serious legal dilemma for administering mHealth interventions, thus safeguarding electronic devices is of paramount importance.

Psychologists should also be mindful not to conduct interjurisdictional practice when conducting mHealth. According to the APA Guidelines for the Practice of Telepsychology (APA, 2013), as well as the CPA (2006) and Association of Canadian Psychology Regulatory Organizations (2011) guidelines, psychologists should comply with all laws and regulations when providing services to clients across jurisdictional borders. However, each state differs in terms of its laws for interjurisdictional practice, and there are jurisdictions that do not currently have specific laws to govern the provision of psychological services utilizing electronic technologies. Thus, psychotherapists must be mindful that if a client is texting or video calling from another state, such as when traveling for work or on a vacation, the psychologist may be at risk of conducting interjurisdictional practice. The profession of psychology also does not currently have a mechanism to regulate the delivery of psychological services across jurisdictional borders. Because interjurisdictional practice can involve legal issues, such as liability of care and proper licensing of health care providers, psychologists must be mindful to comply with all relevant interjurisdictional practice laws (Khoja, Durrani, Nayani, & Fahim, 2012). Some states have provisions that allow out-of-state licensed psychologists to engage in services for a specified time (usually between 10 and 30 days).

Last, psychotherapists must pay careful attention to what is considered billable in terms of mHealth practice (American Hospital Association, 2015). Psychotherapists should also be careful that claims are submitted accurately (e.g., submitting a claim as if therapy occurred in the office setting when it was actually electronic in order to be compensated for one’s time). It is important that psychotherapists carefully document all mHealth interventions prior to submitting claims in order to avoid claims of fraud and abuse.
RECOMMENDATIONS

The following recommendations are steps that can be taken to promote ethical use of eHealth technology.

1. **Protection of Privacy Recommendations.** First and foremost, mHealth provision must ensure an emphasis on keeping all transactions secure and confidential. This will necessitate psychologists staying abreast of constantly evolving technology. As the most frequent threats to data security are unauthorized access to a mobile device, several steps can be taken:

   (A) The most cautious use of texting to protect ePHI is using for administrative purposes only. However, if the therapist decides to text a client, it is essential to engage in safeguards to protect the client’s ePHI.

   (B) Ensure that phone devices for both therapist and client are password protected. Some mobile devices now include a fingerprint scanner on the phone to ensure password security.

   (C) In the event that a mobile device becomes lost or stolen, psychologists should employ technologies that can be used to remotely delete data (e.g., for Android users, through the use of the Remote Wipe in the Google Apps Device Policy app).

   (D) Psychologists should use encryption services or a secure patient portal when engaging in mHealth. End-to-end encryption is the more secure form of encryption, although other safeguards should be employed, as it is still vulnerable to breaches.

   (E) Do not store names of clients in electronic devices. Instead, use nonidentifiable information, such as initials or the chart number from the client’s treatment record to identify clients. Psychologists should also use other safeguards, as the phone number itself is identifiable information.

   (F) Psychotherapists should also delineate a policy for when text messages containing ePHI should be deleted (Greene, 2012).

   (G) Use only secured, password-protected WiFi networks.

   (H) Carefully dispose of mobile devices. Remove all confidential information prior to disposal.

   (I) Psychotherapists should store mHealth information only in secure locations. For example, psychotherapists can use encrypted drives or HIPAA-compliant storage solutions. Psychotherapist should exhibit the same precaution with mHealth records as is given to paper documents.

   (J) Psychotherapists should also explicitly inform the client that his or her identity can’t necessary be verified when engaging in mHealth interventions (Barnett & Scheetz, 2003).

2. **Training/Competency Recommendations.** mHealth is an emerging and constantly changing field. It is important that graduate training begins to develop education about the ethical use of mHealth. This training should involve multiple areas, including:

   (A) Appropriate, ongoing supervision of mHealth use by trainees.
(B) Training in graduate ethics courses on mHealth-related topics such as those identified in this article, especially confidentiality, protection of client privacy, and appropriate boundary-setting.
(C) Training in evolving technologies and new modes of mHealth as these continue to emerge.
(D) Education about mHealth in both didactic psychotherapy classes and during practicum, in accordance with APA’s (2012) requirements for training.
(E) Prior to recommending an app, psychologists should download the app themselves in order to have an understanding of how the app works. Furthermore, psychologists must assess for themselves whether an app is appropriate and useful for a particular client and problem area.
(F) Supervisors should assess whether the supervisee is familiar and competent with the use of technologies relevant for an mHealth intervention prior to sanctioning the supervisee’s use of a particular mHealth intervention.
(G) Prior to engaging in mHealth, psychotherapists must engage in training and consultation with colleagues who currently practice mHealth.
(H) Psychotherapists should also examine the literature for relevant mHealth treatment protocols and manuals.
(I) Although no formal standards for training exist to date, psychotherapists must keep abreast of the relevant mHealth-related efficacy research, as well as engage in continued education regarding mHealth (e.g., periodically attend relevant mHealth webinars or trainings). This is a rapidly evolving field, and it is essential that psychologists keep current on both electronic technological developments and standards for ethical practice.
(J) Trainees should either print out text messages when feasible or include detailed summaries of text messages with a client in the client’s chart.
(K) The supervisor and trainee should considering copying the supervisor on all messages to the client. Otherwise, the trainee should bring his or her device to supervision so that the supervisee can share the text messages with the supervisor to ensure proper oversight of interactions and content.
(L) Trainees should also detail the use of apps in the client’s chart.

3. **Informed Consent.**

(A) For any new use of texting interventions or apps, psychologists should have an informed consent form signed by both the psychologist and the client. This informed consent should be flexible and allow the client to decline to consent to aspects of the intervention with which he or she is not comfortable (e.g., voice recordings).
(B) Informed consent for texting or mHealth apps use should detail the potential risks to confidentiality and should explicitly detail the therapeutic uses of the mHealth intervention. For example, if a texting intervention is only for tracking symptoms, the psychologist should explicitly detail this in the informed consent process and should discuss with the client that texts are for symptom ratings only (i.e., not for other therapeutic or non-psychotherapy-related issues).
(C) In addition to the psychologist’s informed consent document, the psychologist should have an open discussion with each client about the evidence and benefits
of engaging in the mHealth intervention, as well as why the psychologist has recommended this particular intervention. The psychologist should ensure that the client understands both the risks and the benefits before asking whether the client wishes to engage in a particular mHealth intervention.

4. **Assessment Recommendations.**
   (A) Prior to an mHealth assessment, psychologists should explain the utility, evidence base, and any limitations for the assessment. The psychologist should attempt to explain all assessment results in person following the assessment.
   (B) When administering mHealth assessments (i.e., either standard psychological assessments, such as the Personality Assessment Inventory or Minnesota Multiphasic Personality Inventory, or measures of symptoms severity, such as the Beck Depression Inventory or Beck Anxiety Inventory), psychotherapists should ascertain whether there is validity for their use electronically.
   (C) Whenever possible, psychotherapists should check in session whether the client completed the assessment himself or herself or whether the individual required or had assistance.

5. **Boundary-Crossing Recommendations.**
   (A) Psychotherapists should be careful to avoid crossing professional boundaries. This includes avoiding informal language and avoiding texting outside business hours.
   (B) Another possibility for protecting professional boundaries would be for the therapist to deliver text messages through a secure, HIPAA-compliant text messaging app as opposed to disclosing his or her personal phone number. This would enable the therapist to engage in a text messaging intervention while distinguishing the client from other (nonclient) individuals with whom the therapist would engage in text messaging. It may also avoid problems such as the client or psychotherapist sending unintended messages (e.g., sending messages to the wrong individual, impulsively sending messages when affectively charged).
   (C) Psychotherapists should explicitly discuss with the client during the informed consent process the boundaries of texting (e.g., appropriate hours, content), as well as review any state regulations related to mandated reporting and permissive disclosures that would apply to text messaging with suicidal and/or homicidal content or abuse.
   (D) Psychotherapists should also be mindful to maintain a professional role, such as using professional language and tone when texting.
   (E) To foster a healthy therapeutic alliance and to preserve appropriate boundaries, the psychotherapist should monitor burn out regarding text messaging. If such feelings arise, the psychotherapist should have a conversation with the client regarding appropriate use and timing of text messaging.

6. **Fee Recommendations.**
   (A) Examine whether there are existing standards or regulations regarding appropriate pricing and/or fee schedules for mHealth interventions.
   (B) Use consistent pricing and/or fee schedules across clients. Make sure only appropriate and consistent insurance claims are filed.
(C) Psychotherapists should check to determine whether the client’s insurance company will cover the mHealth intervention and, if charging for one’s time, be clear about this in the informed consent process.

7. Other Recommendations.

(A) Psychologists should continue to conduct effectiveness research regarding the empirical evidence for mHealth apps and texting interventions as adjuncts to psychotherapy.

(B) Prior to engaging in an mHealth intervention, psychotherapists should assess whether clients have consistent access to the technology required to engage in the mHealth intervention (e.g., consistent phone service).

(C) The psychotherapist should also, whenever possible, practice the use of mHealth in session (i.e., engage in a text message exchange or a tutorial of the app). The psychotherapist can use this practice to assess whether the client is capable of using and comfortable with the technology and provide instruction where needed.

(D) Psychologists should strive to avoid conflicts of interest whenever possible. If another psychologist notices a conflict of interest, the psychologist should take reasonable steps to resolve this conflict, as for any other ethical violation.

8. Legal Recommendations.

(A) Psychotherapists should examine whether a given mHealth app is HIPAA compliant prior to recommending the app to a client. Many apps are not HIPAA compliant (Cook, 2014), and providers must be careful to check what safeguards are in place (e.g., requires a log-in, encrypts information) prior to making any recommendations.

(B) The psychologist should contact the app developer to determine whether the app developer has a Business Associate Agreement.

(C) The psychologist should check with his or her malpractice insurance carrier to see whether it covers provision of mHealth services.

(D) Prior to engaging in interjurisdictional practice, psychologists must check the guest licensure provisions for the state in which the psychologist plans to engage in mHealth. Psychologists can also apply for an Interjurisdictional Practice Certificate with the Association of State and Provincial Psychology Boards (ASPPB) to provide out-of-state mHealth services for up to 30 days. ASPPB is also developing an E.Passport, which would allow psychologists to conduct mHealth across state lines.

(E) Psychotherapists must be sure to submit only compliant claims to avoid potential allegations of fraud and abuse. Thus, psychotherapists must ensure that any submitted mHealth claim is accurate, appropriate, and documented.


(A) Mental health organizations, such as APA, CPA, and others, should develop professional practice guidelines for mHealth. These guidelines should be updated frequently as new technologies emerge and as mHealth evolves.

(B) The current APA Ethics Code should be updated to include ethical practices with mHealth.

(C) Psychologists and treatment organizations should develop a written mHealth policy for use with clients. When developing such a policy, consult previously created mHealth policies with clients, such as the policy created by Keely Kolmes (2010).
In terms of record keeping and fee practices, institutions should develop standardized protocols to ensure that psychologists are fairly and uniformly administering fees and managing client’s records.

Clinics and agencies should develop written policies and procedures regarding acceptable practices for mHealth use for professional and training staff (e.g., password protecting phones, using only secured WiFi networks, using encryption services, etc.). These policies should include the appropriate use of mHealth interventions (Greene, 2012).

Agencies should consider having a signed agreement for staff and trainees about safeguarding security and privacy.

Agencies should reconsider the expectation that therapists use personal phones for communicating with clients.

**SUMMARY**

Overall, it is clear that there are many possible positive uses of mHealth to assist psychotherapy, and the world has moved rapidly in this direction. Texting interventions and mHealth apps have the potential to increase therapeutic effectiveness for a variety of mental-health-related issues, such as decreasing symptoms of depression and anxiety and managing psychotic symptoms. mHealth interventions can serve as an adjunct to psychotherapy in several helpful ways, including enabling symptom monitoring, assisting in skills building, and increasing therapy compliance behaviors such as homework completion. However, there are a number of potential ethical dilemmas that must be adequately addressed. mHealth practitioners must engage in effective practices to reduce potential breeches to client privacy. In addition, it is important that we begin to develop standardized practices for effectively delivering competency training, financial compensation, and record-keeping practices. Furthermore, the APA should create guidelines that specifically address ethical issues associated with mHealth interventions. Because mHealth is the new and rapidly growing frontier for psychologists, it is imperative that these practices be addressed now, to ensure that psychologists will be equipped to practice and train both ethically and competently in the future.

**REFERENCES**


Powell, A. C., Torous, J., Chan, S., Raynor, G. S., Shwartz, E., Shanahan, M., & Landman, A. B. (2016). Interrater reliability of mHealth app rating measures: Analysis of top depression and smoking cessation apps. *JMIR Mhealth and Uhealth, 4*, e15. doi:10.2196/mhealth.5176


