VA Mobile Health Practice Guide

1ST EDITION // APRIL 2021

Qualifying Statements

All statements in this guide, including the analysis of scientific findings, are the opinions of the authors and do not represent the views of the U.S. Department of Veterans Affairs or U.S. Department of Defense. Although this guide is designed to inform decision-making, it does not define a standard of care or prescribe an exclusive course of management. Application of the methods described will inevitably vary depending on the needs of Veterans, available resources, and limitations that are unique to an institution or type of practice. Health care professionals are responsible for evaluating the appropriateness of applying these guidelines in clinical situations.

Also, information included in this guide at the time of publication will represent the most accurate available information. Because health technologies change frequently (e.g., new apps released, outdated apps retired, apps updated, new app research released), the information on specific app functionality described may become outdated. However, future editions of this guide will incorporate updated information, and you can find updated information at *mobile.va.gov*.

Recommended Citation

Armstrong, C. M., McGee-Vincent, P., Juhasz, K., Owen, J., Avery, T., Jaworski, B., Jamison, A. L., Cone, W., Gould, C., Ramsey, K., Mackintosh, M. A., & Hilty, D. M. (2021). *VA Mobile Health Practice Guide* (1st ed.). U.S. Department of Veterans Affairs. Washington, DC.

Conflict of Interest

On behalf of all authors, the corresponding authors state that there are no financial or personal conflicts of interest. The authors alone are responsible for the content and writing of this guide.

Acknowledgments

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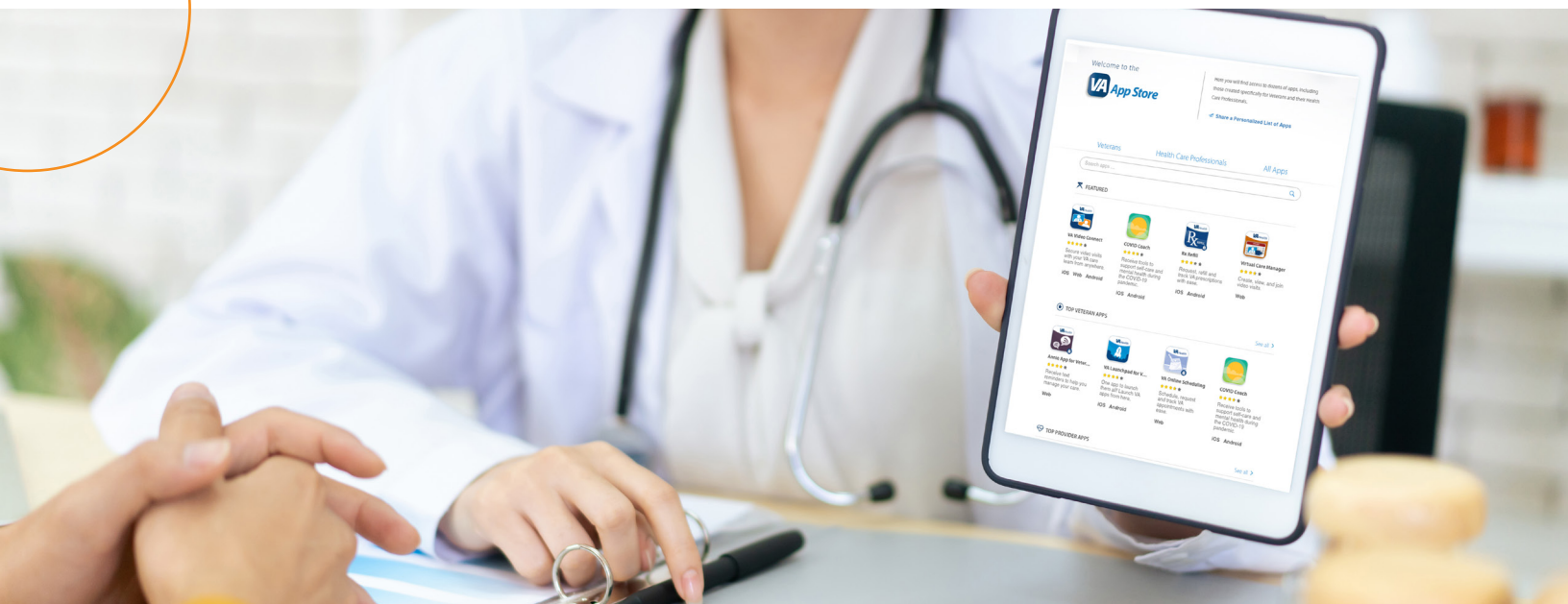810 Vermont Ave. NW
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I.

Introduction

I. Introduction

Rapid advances in health technologies require VA health care staff members to have a general working knowledge of consumer technologies, specifically mobile health apps, and to understand how these tools are used for Veteran education, monitoring, and treatment. The U.S. Department of Veterans Affairs Mobile Health Practice Guide offers an overview of mobile health and includes essential tutorials, including how to download apps and incorporate them into clinical settings. The guide is primarily tailored for VA health care staff across the continuum of care, and it can be used by staff members in U.S. Department of Defense (DoD) and other health care systems.

Designed to inform decision-making in clinical settings, this guide describes the five core knowledge areas for integrating mobile technologies into health care (see section II). These core knowledge areas provide VA health care staff with the information necessary to effectively integrate mobile health technologies into their clinical practice to support Veteran care. Although this guide will include descriptions of specific mobile health apps developed by the U.S. federal government as examples and primarily focus on the integration of apps in VA and military health care settings, the information and strategies provided for clinical integration of apps can be generalized to other mobile health apps and health care settings.

Veterans, Service members, and their families face unique challenges in accessing health care, including limited treatment options, confidentiality concerns, and the stigma associated with seeking professional help (Bush et al., 2019; Hoyt & Candy, 2011). Frequent moves and deployments can also make treatment difficult. Technology solutions such as mobile health can help to overcome these challenges (Armstrong et al., 2017; Gould, Kok, et al., 2019). Previous research has shown a technology adoption gap between patients and health care staff: Although patients are interested in using health technologies to supplement their care, health care staff often believe they are not interested and delay adoption (Bush et al., 2019; Connolly, et al., 2018; Edwards-Stewart et al., 2016; Gould, Kok, et al., 2019; Miller et al., 2019). As VA health care staff members, it is our role to meet Veterans where they are and provide the highest quality of care possible. With the vast majority of Veterans owning smartphones and preferring the use of apps as a part of their care, VA health care staff members need to have adequate skills in mobile health competencies (Hilty, Chan, et al., 2020) to efficiently use apps in clinical care.

VA health care staff has been slower to integrate mobile health technology into clinical practice due to a lack of awareness of and training on the subject. Putting knowledge into practice is a high priority for VA and DoD, to provide the highest quality of care possible to our nation's Service members and Veterans and their families. The VA Mobile Health Practice Guide, along with VA and DoD training programs, enables health care professionals to increase their level of competency in the safe and effective integration of mobile health into clinical care. Although mobile health has considerable potential, standardized training is necessary before VA health care staff is assured of the evidence, safety, and value in altering traditional approaches to clinical care. Based on a decade of research, development, and training in the core knowledge areas needed to integrate mobile health into clinical practice, this guide aims to provide a foundation of knowledge and enable VA health care staff to develop their skills and effectively integrate a variety of mobile health tools into their clinical work.

II.

Mobile Health in Clinical Care

II. Mobile Health in Clinical Care

5 Core Knowledge Areas

When VA health care staff members are trained in mobile health, what do they need to learn? The competencies for the use of mobile technologies, developed by Hilty, Chan, and colleagues (2020), provide an excellent framework for staff members to gain the necessary skills needed to integrate mobile health into Veteran care.

Evidence Base | **Clinical Integration** | **Security and Privacy** | **Ethical Issues** | **Cultural Considerations**

The five core knowledge areas are:

1. **Evidence base:** Evaluating and analyzing the evidence base regarding the use of apps in clinical practice. This includes understanding the research on mobile health in general, as well as considering whether research is available regarding a particular app in a clinical context. (For further information on evaluating the level of the evidence base for a mobile health app, see Armstrong et al., 2017, and Bush et al., 2019).

2. **Clinical integration:** Understanding the key steps to effective and efficient integration of apps in clinical care. This includes understanding changes that may be made in the clinical workflow to include apps; knowing how to introduce an app in an appointment; being prepared to "prescribe," or recommend, an app to support the treatment plan; and knowing how to review available data that will result from the app use, as well as how to document app use in the Veteran's health records. (For more on our approach to training clinical integration of mobile health, see Armstrong, Ciulla, et al., 2018; Armstrong, 2019; Hilty, Chan, et al., 2020; and Schueller et al., 2021.)

3. **Security and privacy:** Identifying and addressing security and privacy issues relevant to the use of apps in care and knowing how to communicate them to Veterans. Security and privacy issues are complex and can change depending on organization requirements and technological infrastructure within those organizations, as well as on the individual health apps being used. Training on the security and privacy of health apps should provide accurate and actionable information to VA health care staff members so that they can guide Veterans on how to protect and secure health information on their mobile devices.

4. **Ethical issues:** Understanding potential ethical issues with the integration of apps into care and steps to take to solve any ethical dilemmas that may arise. (See Edwards-Stewart et al., 2019, for further information regarding our approach to ethical and legal issues in mobile health.)

5. **Cultural considerations:** Understanding and assessing your perspectives and potential biases, the Veteran's perspectives and biases, and the impact of integrating technology on the clinical relationship. (See Armstrong, Ortigo, et al., 2018, for more on our approach to training on cultural considerations in the use of mobile health in clinical care).

The core knowledge areas listed above align with the Mobile Technologies Clinical Competencies published by Hilty, Chan, and colleagues (2020), which were adapted to the Accreditation Council for Graduate Medical Education (ACGME, 2013) core competencies. The ACGME competencies are based on three levels of competency: novice/advanced beginner (ACGME milestone level 1–2), competent/proficient (ACGME milestone level 3–4), and advanced/expert (ACGME milestone level 5). The core knowledge areas described in this guide provide adequate information to support training efforts for staff members to achieve a "competent/proficient" level of competency. Furthermore, the core knowledge areas and content in this guide align with Mobile Technologies Clinical Competencies areas and topics, as shown in the following table (see Appendix B for published competencies by Hilty, Chan, et al. (2020)):

AREAS AND TOPICS OF MOBILE TECHNOLOGIES CLINICAL COMPETENCIES

Areas and Topics of Mobile Technologies Clinical Competencies	Evidence Base	Clinical Integration	Security and Privacy	Ethical and Legal Issues	Cultural Considerations
Patient Care					
History taking		x			
Engagement and interpersonal skills		x			
Mental status examination (MSE)		x			
Assessment		x			
Management and treatment planning		x			
Clinical decision support (CDS)	x	x			
Patient and family education		x			x
Administration and documentation		x		x	
Medicolegal issues: privacy, confidentiality, safety, data protection and integrity, and security		x	x	x	
Interpersonal and Communication Skills					
Communication		x			
Evaluation and feedback		x			
Cultural, diversity, and social determinants of health; language issues		x			x
Special populations	x	x			x
Professionalism					
Attitude		x			x
Integrity and ethical behavior		x		x	x
Scope and therapeutic objective(s)		x			

Systems-Based Practice					
Interprofessional education (IPE) and teamwork	x	x			
Safety (see Patient Care and Professionalism)		x	x	x	
Models, practices, and systems of care	x	x	x	x	x
Practice-Based Learning					
Evaluation approach	x	x			
Quality improvement (QI)	x	x			
Learning, feedback, and teaching practices	x	x			
Knowledge					
Definition of mobile technologies	x	x	x	x	x
Evidence base	x	x	x	x	x
Problem-solving and prevention	x	x	x	x	x
Patient care	x	x	x	x	x
Decision support	x	x	x	x	x
Risks of using mobile technologies	x	x	x	x	x
Technology					
Technology adaptation	x	x	x	x	x
Technology operation	x	x	x		x

Although the current guide will provide information on all the above mobile health competencies, much of the information aligns with the core knowledge area of clinical integration. Thus, this guide serves as a clinical integration toolkit for VA health care staff. This guide will provide the information needed to increase competencies to the novice/advanced beginner level to the competent/proficient level. As with all clinical skills, practice and additional training will be required to become comfortable with integrating mobile health technologies into clinical practice. For staff members interested in increasing knowledge and skills to the advanced/expert level, see Appendix B and the references and resources in this guide.

Knowledge Area 1: Evaluating the Evidence Base

Integration of mobile health technologies into clinical workflows promises to expand the care delivery options available to VA care teams and Veterans. As opportunities to integrate mobile health increase, VA health care staff will need the foundational skills to competently evaluate the evidence base supporting mobile health as an intervention. Literature on the benefits of mobile health in clinical care and research on specific diagnostic populations remains limited, primarily due to the relatively recent emergence of mobile health care technology and apps (BBC News, 2013). Additionally, although the time to develop a mobile health technology such as an app is about 18 weeks), the time to conduct a randomized control trial (RCT) is three to five years (Anguera et al., 2016; Rice, 2013). As a result, the research is constantly trying to catch up with the technology. However, in an increasingly digital environment with expanding use of telehealth, empirical evidence for mobile health interventions is growing (Hirschitt & Insel, 2018). This section of the VA Mobile Health Practice Guide provides an overview of the evidence supporting the adoption and clinical integration of mobile health.

LEVELS OF EVIDENCE

Level 1 — Systematic review or meta-analysis of RCTs; Evidence-based clinical practice guidelines based on systematic reviews

Level 2 — Randomized control trial (RCT)

Level 3 — Controlled trial without randomization (quasi-experimental study)

Level 4 — Single nonexperimental study (case-control, correlational, cohort studies)

Level 5 — Systematic reviews of description and qualitative studies

Level 6 — Single descriptive or qualitative studies

Level 7 — Opinion of authorities and/or reports of expert committees

Levels of Evidence (LoBiondo-Wood & Haber, 2010)

Hierarchy of Evidence: Evaluating the Mobile Health Evidence Base

It is important to evaluate the quality of available evidence supporting the use of mobile health. One of the foundational principles of evidence-based health care is that not all evidence is created equal. A hierarchy of evidence is often used to help select the best evidence. One example of a widely accepted hierarchy is LoBiondo-Wood and Haber's model (2010). Their method includes seven levels to evaluate evidence, based on type and quality, with Level I as the most stringent (see previous figure). For examples of the levels of evidence for select VA apps and technology, refer to Appendix C.

When evaluating the level of evidence supporting an app, the following questions should be asked and answered:

- Is the content of the app built on evidence-based practices?
- If so, what is the level of the evidence base?
- What is the level of research on the efficacy of treatment with and without the mobile health component?

For practice evaluating the level of evidence, refer to Appendix J, Activity Sheet 1.

Making the Case for Mobile Health: Evidence Base Practice in Action

Attitudes Toward the Use of Mobile Health Technology

Research demonstrates that most Veterans have positive attitudes toward the use of health technology in their clinical care. In a study of older Veterans by Gould and colleagues in 2019, 65% of Veterans were found to prefer some form of technology, such as an app, website, or DVD, for accessing a health self management intervention; 29% indicated that an app was the first preference for delivery modality; and 35% preferred printed materials for self-management. A 2019 study of VA provider perceptions of the use of mobile health (Miller et al., 2019) found that 91% of providers "know how to find mobile apps and download them to a smartphone;" 82% agreed "using apps helps to address my patients' needs;" 81% "know other providers who have found value in using mobile apps;" 80% have "recommended using mobile apps to colleagues;" and 87% agreed "using apps makes it easier to provide educational materials."

Benefits of Mobile Health Use in Clinical Care

Reviews on the effectiveness of apps for various mental health conditions reflect modest but significant findings.

These conditions include alcohol use disorders (Fowler et al., 2016; Quanbeck, et al., 2014; Wang et al., 2018); anxiety, depression, and schizophrenia (Chandrashekar, 2018; Hirschitt & Insel, 2018); eating disorders (Juarascio et al., 2015); smoking cessation (Ubhi et al., 2016); sleep disturbances (Cavanagh et al., 2020; Shin et al., 2017; Wang et al., 2018; and quality of life and other concerns in elderly populations (Changizi & Kaveh, 2017). Additional reviews have addressed the use of mobile technology in psychotherapy more broadly (Boschen, 2009; Donker et al., 2013; Lui et al., 2017; Prentice & Dobson, 2014) as well as how apps can be used in health care, such as for appointment reminders (Guy et al., 2012); medication adherence (Rathbone & Prescott, 2017; Santo et al., 2016); weight management (Rathbone & Prescott, 2017); illness management (Vodopivec-Jamsek et al., 2012); and mobile messaging for preventive health care (Vodopivec-Jamsek et al., 2012).

The following are some benefits to using mobile health technologies in clinical care, as described in the resources cited:

- Reduces barriers to accessing care (Donker et al., 2013; Prentice & Dobson, 2014).

  » Apps exist on portable devices, which can be accessed by geographically dispersed populations (Poropatich, Lai, et al., 2013; Luxton, Mishkind, et al., 2012).

  » If there are time delays in obtaining or pursuing an appointment, apps can be downloaded and accessed in the interim, 24 hours a day (Hirschtritt & Insel, 2018).

  » Due to the discretion of a personal device, apps could potentially reach those who do not seek face-to-face care due to concerns about confidentiality or perceived stigma (Sloan et al., 2011; Whealin et al., 2014).

- Increases patient compliance and engagement with care (Dale & Hagen, 2007; Dennison et al., 2013; Gaggioli & Riva, 2013; Reger et al., 2013).

  » Literature on app use for self-management of physical illnesses suggests that there are helpful ways apps can be used in mental health care. For example, reminders are associated with increased adherence to medication regimens and decreased missed appointments (Rathbone & Prescott, 2017).

- Improves the validity of patient reports through real-time symptom tracking (Bush et al., 2014; Kuhn, Eftekhari, et al., 2014), which could enhance measurement-based care (Lewis et al., 2019).

- Improves efficiency of care (Donker et al., 2013; Ventola, 2014).

  » Patients can access assessments and worksheets on their cellphones at their convenience. Apps can also save patients time by automating some of the administrative tasks associated with symptom tracking (e.g., entering dates and times, formatting monitoring entries) (Bakker et al., 2016).

  » For providers, apps can augment interdisciplinary treatment for mental health concerns, such as the collaborative care model (Carleton et al., 2020).

- Expands health care beyond face-to-face visits (Bush et al., 2013).

  » In addition to assessments and worksheets, Veterans can access tools, psychoeducation, and other resources all in the same app. Apps can also provide real-time intervention and communication and can take advantage of game technologies and GPS (Lui et al., 2017).

- Potentially extends evidence-based care to individuals with either clinical or subclinical psychological problems (Bakker et al., 2016).

  » VA apps are based on cognitive behavioral therapies (CBTs), which have demonstrated efficacy when administered via computer (Bakker et al., 2016). Some are "treatment companion" apps that are meant to be used in conjunction with evidence-based psychotherapy (e.g., the PE Coach app with prolonged exposure [PE] therapy). All VA apps contain therapeutic components of effective CBT, such as coping skills, psychoeducation, and symptom tracking (Bush, Armstrong, Hoyt, et al., 2019).

- Reduces disparities in care for individuals with disabilities and for historically underserved populations.

  » Although more research is needed on apps specifically, historically underserved populations have benefitted from other mobile health strategies, such as text messaging services (Anderson-Lewis et al., 2018).

  » Some underserved populations may rely more on mobile health, due to limited health care resources in their communities (Anderson-Lewis et al., 2018; van Veen et al., 2019).

- Provides patient-centered care.

  » Apps empower patients by giving them more options to suit their preferences or circumstances (Hilty et al., 2017). For example, patients can opt to have their suicide prevention safety plan in a paper or digital format — or both.

- Provides potential significant cost reductions through using mobile technologies across a range of health care activities (Cortez, 2013; Luxton et al., 2014).

- Providing a best practice, as identified by front-line clinicians (Fernandez & Short, 2014).

Barriers to Mobile Health Use in Clinical Care

In a survey of primary care physicians about barriers to mobile health adoption, 21% of the physicians surveyed cited lack of time as a barrier (Physicians Practice Staff, 2018). In a survey of VA and DoD providers, 37% said they did not know how to integrate apps into clinical practice, and 27% noted they needed more training (Armstrong, Ortigo, et al., 2018; Armstrong, 2019). A 2019 study by Miller and colleagues revealed that 23% of VA providers cited structural and contextual barriers to mobile health adoption, explaining that in a busy clinic there was no time to explain app use to Veterans and assist with downloading (Miller et al., 2019).

Additional barriers to mobile health adoption are concerns that learning and/or using mobile health would impinge on time (Physicians Practice, 2018), may not fit into their workflow (Miller et al., 2019), and may negatively affect data privacy (Torous, Wisniewski, et al., 2018). Other potential limitations are the inability to support technology infrastructure, connectivity issues, and lack of support for mobile health integration at a health care facility.

Additional barriers to mobile health adoption in clinical care are:

- Use gaps —

  » In the U.S., smartphone ownership is lower in rural areas, as is access to reliable networks (Pew Research Center, 2019). Veterans living in rural areas report more opposition to using apps specifically for mental health care, citing connectivity issues as one barrier (Connolly et al., 2018).

  » Although Veterans of all ages reported being interested in and willing to use mental health apps, older Veterans reported lower rates of smartphone ownership (Connolly et al., 2018).

  » Use of mobile devices varies among providers, such that heavier users tend to be those in large and complex practices. As with patients, age is less of a factor (AMA, 2020b). The use of mobile devices may also vary between providers and recipients of care. For example, a DoD study found high use among Service members and lower use among military providers (Bush & Wheeler, 2015). Research is needed to determine if there are differences in types of mobile devices used by VA providers versus Veterans. Lack of familiarity with the functionality across platforms could also slow the adoption of mobile health.

- Provider needs for training —

  » Mobile health adoption is slowed by a lack of awareness of apps built to support evidence-based treatments, concerns about privacy and safety (Schueller et al., 2016), and a lack of understanding of the evidence base for these tools (Physicians Practice, 2018; Gagnon, et al., 2015).

  » Other barriers include providers' lack of awareness of or knowledge for how to determine which of the thousands of existing apps are "good" and how best to implement them (Armstrong 2019; Armstrong, Ciulla, et al., 2018).

  » Providers want digital tools to fit within their existing systems and practices (e.g., liability coverage, reimbursement; AMA, 2016), and VA and DoD providers specifically cited concerns about unclear policies regarding mobile health use (Armstrong, Ciulla, et al., 2018).

- Failure to prescribe —

  » In a recent survey of physicians, 51% were open to discussing apps with patients, but only 18% had recommended or prescribed an app to patients (Kong et al., 2020).

  » Similar responses were seen with nurses. In a survey of 1,241 nurses asking about their mobile health app use, 48% had installed health apps on devices and 15% had been asked by patients to prescribe an app, but only 7% had recommended or prescribed an app (Kong et al., 2020).

Mobile Health Use

Across health care systems, staff and patients are using or willing to use mobile health technologies. In a data comparison of U.S. populations (Pew Research Center, 2019):

81% of U.S. adults own a smartphone, and these rates are similarly high across gender and ethnoracial backgrounds.

96% of U.S. adults 18-29 owned a smartphone, 92% of 30-49, 79% of 50-64, and 53% over 65.

62% of consumers would be willing to check vital signs at home with a medical device connected with the phone.

51% would be willing to have a live visit with a physician through an app on their smartphone.

Additionally, app use increased from 41.5% in 2014 to 48.5% in 2018 across all disciplines in VA and DoD (Armstrong, Ciulla, et al., 2018; Armstrong, 2019).

Increased App Use:

41.5% in 2014 **48.5%** in 2018

across all disciplines in VA and DoD

VA MOBILE FACTS:

500,000 downloads

The first VA app, PTSD Coach, launched in April 2011 and now has over 500,000 downloads. The app has completed randomized control trials.

60+ apps

More than 60 apps are available on the VA App Store at **mobile.va.gov/appstore**.

More apps

Additional apps are in development or undergoing testing by Veterans and VA care teams.

Source: Veterans Health Administration

Access to Mobile Devices

VA health care staff members, as with the Veterans they serve, also report access to mobile technology. Armstrong et al., 2018, found that although many VA and DoD health care staff members do not have access to a mobile device for work, the majority of study participants reported access to personal mobile devices (see figures below).

The top graph shows smartphone ownership, and the bottom graph shows tablet ownership. On each graph, the dark blue line represents the percentage of VA and DoD health care staff members who owned a device for personal use, the light blue line represents those who had a device for work use, and the orange line provides a comparison with the device ownership levels across the U.S. adult population. A majority (73%) of staff members were 34 and older (2014 data: Edwards-Stewart, et al., 2016 (N=45); 2015-2017 data: Armstrong, Ciulla, et al., 2018 (N=760); 2018 data: Armstrong, 2019 (N=252)).

VA MOBILE HEALTH FACTS

Smartphone Ownership

	2014	2015	2016	2017	2018
Personal	76.7%	95.5%	95.4%	97.4%	98.2%
U.S. Population	59%	67%	68%	72%	77%
Work	52.8%	41.2%		38.2%	69%

- - - Personal — Work − − − U.S. Population

Tablet Ownership

	2014	2015	2016	2017	2018
Personal	46.7%	73%	58.5%	68.5%	68.9%
U.S. Population	40%	45%	48%	51%	53%
Work		23.6%	17.6%	13.9%	16.2%

- - - Personal — Work − − − U.S. Population
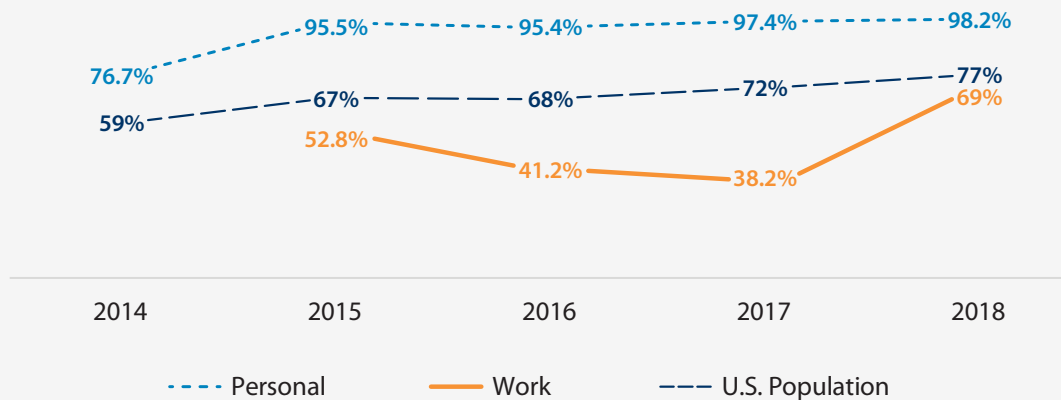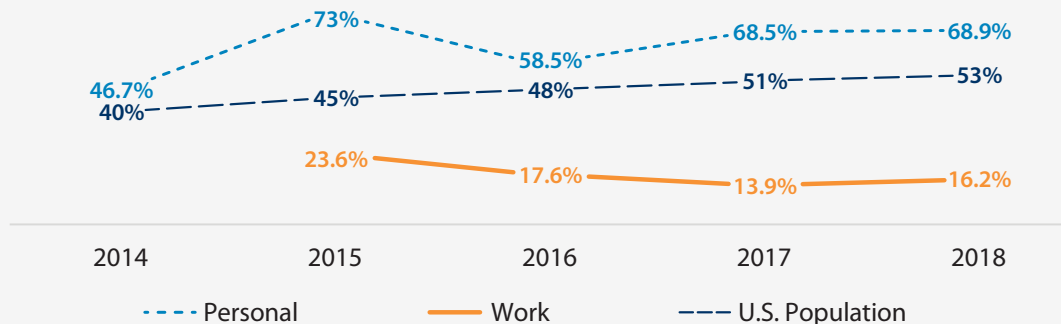
Data collected on the rate of smartphone and tablet ownership for VA and DoD health care staff from 2014 to 2018.

App Rating and Clearinghouses

Although it is outside of the scope of this guide to dig too deeply into the app evaluation process, VA health care staff needs to be aware of existing app rating processes and existing clearinghouse platforms that provide excellent resources for VA health care staff and Veterans in the process of identifying the quality of an app.

Standard app rating processes have been established and are categorized into usability assessment scales and quality rating scales. Although usability assessment scales are important in the development of an app, in terms of what VA health care staff need to know to integrate apps into clinical care, the app quality rating scales provide the answers that VA health care staff need to know when identifying which app to use. In a systematic review, Azad-Khaneghah and colleagues (2020) identified 24 usability scales and 25 quality rating scales across 87 peer-reviewed articles related to app reviews. Several key examples of quality rating scales are included here:

- **Mobile App Rating Scale (MARS):** Measures engagement, functionality, aesthetics, information, subjective quality, and has good internal consistency (Cronbach alpha = 0.92) and interrater reliability (ICC = 0.85) (Stoyanov et al., 2015).

- **uMARS:** Measures engagement, functionality, aesthetics, information, subjective quality, and has good internal consistency (Cronbach alpha = 0.90) and interrater reliability (ICC = 0.70 at two to three months). (Stoyanov et al., 2016).

- **American Psychiatric Association App Evaluation Model:** Considers accessibility and background, privacy and security, the clinical foundation, usability, and data integration toward the therapeutic goal (American Psychiatric Association, 2020).

There are also many systematic reviews of the quality of apps for different diagnoses or conditions, including:

- **Pain:** Salazar, A., de Sola, H., Failde, I. & Moral-Munoz, J.A. (2018) Measuring the quality of mobile apps for the management of pain: Systematic search and evaluation using the Mobile App Rating Scale. *JMIR Mhealth Uhealth*, 6, e10718. doi: 10.2196/10718

- **Medication adherence:** Santo, K., Richtering, S. S., Chalmers, J., Thiagalingam, A., Chow, C. K., & Redfern, J. (2016). Mobile phone apps to improve medication adherence: a systematic stepwise process to identify high-quality apps. *JMIR Mhealth Uhealth*, 2, e132.

- **Insomnia:** Cavanagh, R., Mackey, R., Bridges, L., Gleason, A., Ciulla, R., Micheel, L., Bradshaw, D., Armstrong, C. M., & Hoyt, T. (2020). The use of technologies to manage insomnia in military populations. *Journal of Technology in Behavioral Science*, 5, 61–69. doi:10.1007/s41347-019-00114-w

- **Schizophrenia:** Firth, J., & Torous, J. (2015). Smartphone apps for schizophrenia: a systematic review. *JMIR Mhealth Uhealth*, 3(4), e102. ***https://mhealth.jmir.org/2015/4/e102***

- **Bipolar disorder:** Nicholas, J., Larsen, M. E., Proudfoot, J., & Christensen, H. (2015). Mobile apps for bipolar disorder: a systematic review of features and content quality. *J Med Internet Res*, 17(8), e198. doi:10.2196/jmir.4581

- **Depression and smoking cessation:** Powell, A. C., Torous, J., Chan, S., Raynor, G. S., Shwarts E., Shanahan, M., Landman, A. B. (2016). Interrater reliability of mHealth app rating measures: analysis of top depression and smoking cessation apps. *JMIR Mhealth Uhealth*, 4(1), e15. doi:10.2196/mhealth.5176

Rating apps using these processes can be time-consuming for busy VA health care staff, and several clearinghouse groups have established websites that provide easy access to unbiased information on reviews of apps. Several examples include:

- **PsyberGuide:** Led by Dr. Stephen Schueller, Martha Neary, and their team, PsyberGuide is a nonprofit that provides a database of app reviews from trained app raters. *onemindpsyberguide.org*

- **mHealth Index and Navigation Database (MIND):** Led by Dr. John Torous and team, MIND is a tool that includes a database of app reviews from trained app raters. *apps.digitalpsych.org*

- **Defense Health Agency (DHA) Connected Health Clearinghouse:** Led by Dr. Robert Ciulla and team, the DHA Connected Health Clearinghouse team reviews apps and creates reports that support the implementation of health technologies into clinical care. *health.mil/clearinghouse*

KEY TAKEAWAYS

- Mobile health may be relatively new, but available research shows that its use can effectively:
    » Supplement care.
    » Overcome barriers to accessing care.
    » Increase Veteran compliance and engagement in care.
    » Increase efficiency and convenience of care.
    » Facilitate case management across geographic locations.
    » Extend health care beyond traditional face-to-face visits.

- Barriers that exist in widespread adoption are decreasing over time.

- Providers and Veterans across health care systems are already integrating many technologies to support care.

Knowledge Area 2: Clinical Integration

Depending on multiple factors, including the setting, VA health care staff's scope of tasks, VA provider's discipline, Veteran's treatment goals, and modality of treatment (e.g., in-person, phone, video telehealth), the following six steps may be flexibly applied in the clinical integration of apps.
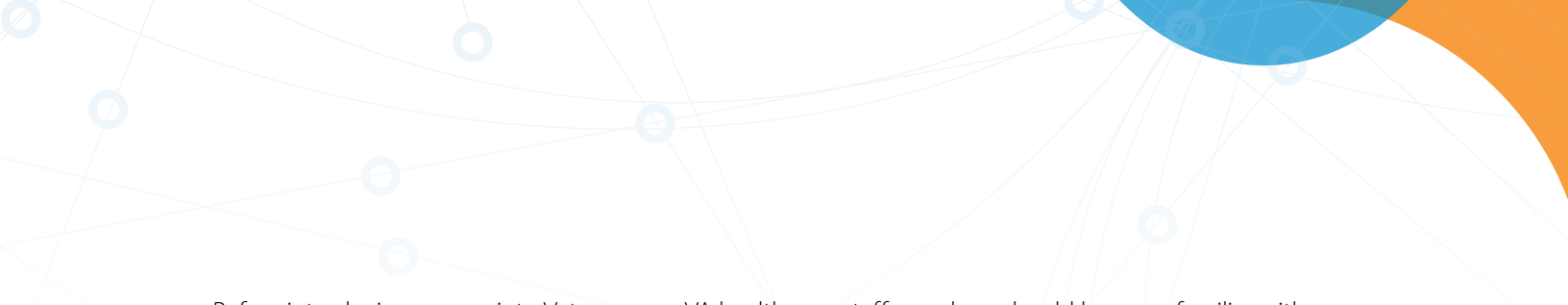
Key steps of clinical integration include:

- Readiness
- Prescription
- App introduction
- Data review
- Workflow
- Documentation

Readiness

VA Health Care Staff Readiness

Before introducing an app into Veteran care:
Become familiar with the app's:
» Purpose.
» Evidence base.
» Limitations.
» Privacy policy.
Be able to describe these aspects of the app in plain language to Veterans.
Be able to make recommendations for use and answer Veterans' questions.
Assess your level of acceptance:
» Willingness or interest to use the app.
» Familiarity based on previous use of other health technology platforms.
» Familiarity based on previous use of smartphone or the internet.
Assess your technical barriers:
» Access to a VA tablet (if applicable).
» Access to the Electronic Health Record (if applicable).
» Access to the internet (if applicable).
Assess your knowledge barriers:
» Access to training on clinical integration, ethical and legal issues, and security and privacy concerns.
» Access to other materials and support to facilitate integration (if applicable).

Before introducing an app into Veteran care, VA health care staff members should become familiar with the app. This process includes understanding the app's purpose (who it was designed for and what it was designed to do); any research evidence (acceptability and feasibility studies, studies examining clinical outcomes); whether the app content is grounded in empirically based and theoretically sound concepts; limitations of the app; and the privacy policy (including who will have access to user data, what types of user data will be accessed, and how it will be used). Familiarity with these aspects of an app can inform the VA health care staff member's decision to recommend it. If recommending a VA mental health app, the staff member can readily become familiar with the evidence base (e.g., see Gould, Kok, et al., 2019), as well as the privacy policy (**ptsd.va.gov/appvid/mobile/#privacy**). Appendix A includes a resource list to gain access to the key information, training, and materials needed to become more familiar with VA health technologies. Note that if the VA health care staff member is also interested in exploring apps developed in the private sector, there can be a lot of variabilities both in terms of quality and safety of apps. When determining whether to use a non-VA app, it can be especially helpful to use an app evaluation model such as the one developed by the American Psychiatric Association (2020).

The VA health care staff member should be familiar enough with the app to describe these various aspects in plain language to a Veteran. Additionally, the staff member will ideally be familiar enough with the content and functionality of the app to make specific recommendations for use and answer Veterans' questions. Appendix C includes a quick guide to the evidence base that is available for several popular VA apps, as well as several apps developed by DoD. VA health care staff should understand that VA apps do not constitute treatment in and of themselves. Rather, they can facilitate aspects of care that the VA health care staff member is trained to deliver. Therefore, when reviewing apps, VA health care staff will need to assess whether the content of the app aligns with the interventions that they use in practice and are trained to deliver. For example, a psychotherapist with a cognitive behavioral therapy (CBT) orientation may find that many of the coping tools in PTSD Coach align with what they already recommend to Veterans. A psychotherapist who practices from an acceptance and commitment therapy (ACT) orientation may elect to recommend mindfulness exercises in an app but elect not to recommend thought-shifting tools, which are inconsistent with ACT. Treatment companion apps are more straightforward: A VA health care staff member trained in evidence-based treatment such as CBT for insomnia (CBT-i) can use the corresponding app (i.e., CBT-i Coach) to accompany treatment. The VA health care staff member will need to become familiar with the app navigation and features (e.g., digital sleep diary, reminders) to integrate the app into care. Regardless of whether the VA health care staff member integrates components of a self-care app into treatment, or uses a treatment companion app with a Veteran, the app itself does not constitute treatment, and the staff member's thoughtful integration of apps into a Veteran's care is predicated upon the staff member's familiarity with the tools.

Veteran Readiness

In addition to being familiar with a given app, a VA health care staff member should assess the appropriateness of using the app with each Veteran. The first consideration is whether using an app would fit with the Veteran's goals and treatment plan. Examples of Veteran goals that may benefit from the use of apps are learning to manage stress and responses to posttraumatic stress disorder (PTSD) triggers, gaining control over anger, and developing a mindfulness routine.

Next, consider the Veteran's level of acceptance and need for technology in clinical care. Studies have found that people move through a series of stages when modifying behavior. The transtheoretical model of behavior change — an integrative, biopsychosocial model to conceptualize the process of intentional behavior change — outlines five stages (Prochaska & DiClemente, 1983; Prochaska et al., 1992). The first stage is pre-contemplation. People in this stage do not intend to take action in the near future, usually measured as the next six months. The next stage, contemplation, is the stage in which people intend to change in the next six months. They are more aware of the pros of changing but also acutely aware of the cons. Preparation is the stage in which people intend to take action in the immediate future, usually measured as the next month. Typically, they have already taken some significant action in the past year. Action is the stage in which people have made specific overt modifications in their lifestyles or behavior within the past six months. And the last stage is maintenance. During the maintenance stage, people have made specific overt modifications and are working to prevent relapse. While in the maintenance stage, people are less tempted to relapse and grow increasingly more confident that they can continue their changes. When introduced to new mobile health technology, a Veteran's level of acceptance is influenced by their familiarity with other health technologies and the use of smartphones or the internet. The proximity of the Veteran's home to alternative sites of care also influences the level of acceptance.

An essential consideration in assessing appropriateness is where there are any risk-related issues, such as the presence of active suicidal ideation or homicidal ideation, that would necessitate referrals to a higher level of care. Consider whether the Veteran has other clinical issues that may impair their ability to use technology. For example, people with active substance use disorders may require some stabilization before using an app. Psychosis or significant cognitive impairment, such as the presence of dementia, may preclude the use of an app with a Veteran or may require the substantial involvement of another individual such as a caregiver. Appendix G includes the answers to the top 20 questions Veterans have for VA health care staff members regarding the use of VA apps in clinical care. Appendix H includes a script for assessing a Veteran's readiness to use VA apps.

One of the biggest barriers to accessing some VA apps is user authentication. VA "connected" apps connect to the VA network and require VA health care staff and Veterans to use their secure sign-in credentials. In contrast, VA "self-contained" apps do not connect to the VA network and do not require authentication to sign in. VA health care staff members need to become familiar with both processes so they can help Veterans access the apps available to them. Appendix I includes a guide to help VA health care staff and Veterans sign in to VA connected apps.

Other things to consider are the real or potential technical barriers and the associated necessary skills. Does the Veteran have access to a smartphone, tablet, or computer or have a VA-issued tablet? Do they have DS Logon, ID.me, or My Health*e*Vet Premium account credentials? Do they have internet access and/or a data plan? Information on helping a Veteran upgrade to a My Health*e*Vet Premium account can be found in Appendix I. Most web and native apps developed by VA are designed for mobile devices; they can be accessed on tablets. A limitation of using the apps on a tablet is that some features, such as direct access to calling the Veterans Crisis Line, might not be available if the tablet does not have a data plan. If a Veteran who does not have access to a mobile device would benefit from one to participate in VA Video Connect visits, a VA health care staff member can place a Digital Divide Consult request in VistA for such a device.

"Bridging the Digital Divide" Program

The "bridging the digital divide" consult program aims to help Veterans access broadband connectivity and devices for accessing virtual care services. VA is working to forge partnerships and develop programs that bridge the digital divide. A Digital Divide Consult can be ordered by a VA health care staff member so that Veterans can meet with a VA social worker to evaluate eligibility for a VA-loaned, internet-connected device. Learn more by visiting the VA Digital Divide Microsoft Teams channel (link available on ***page 65***).

Access to a smartphone or tablet does not always correspond with comfort or proficiency with using the device. Before introducing an app, a VA health care staff member should ask questions to ascertain the Veteran's experience with mobile devices and their level of comfort. Questions may include whether a Veteran has ever downloaded an app for any reason (e.g., social media, to read the news), which apps a Veteran uses, and whether a Veteran has ever used an app specifically for health or well-being. A VA health care staff member could ask these questions as part of a clinical interview, or they could use a questionnaire such as the Mobile Device Proficiency Questionnaire (Roque & Boot, 2018) to obtain more specific information about whether a Veteran is comfortable with the basics of using mobile devices and the internet, including communication, data and file storage, calendars, entertainment, privacy, troubleshooting, and software management. For Veterans who may have sensory impairments, a VA health care staff member may also want to make sure the Veteran's device is set up with the necessary software. Some accommodations may include increasing text size or using bolded text for visual impairment, increasing the time latency to screen lock if cognition or visual search may be impaired, or helping a Veteran pair Bluetooth-enabled hearing aids to a device.

In addition to considering individual Veteran-related concerns about access and appropriateness of apps, a VA health care staff member should review their workflow and the clinic resources needed to incorporate mobile technology into Veteran care. For some Veterans, incorporating technology into care may require additional VA health care staff member time, resources and handouts, and personnel available to assist Veterans in troubleshooting (e.g., downloading apps, exporting data). These workflow-related issues warrant further discussion with clinic leaders and teams to develop setting-specific solutions. More information is available at ***dvagov.sharepoint.com/sites/VACOMentalHealth/mobile/Pages/Tech-into-Care.aspx***.
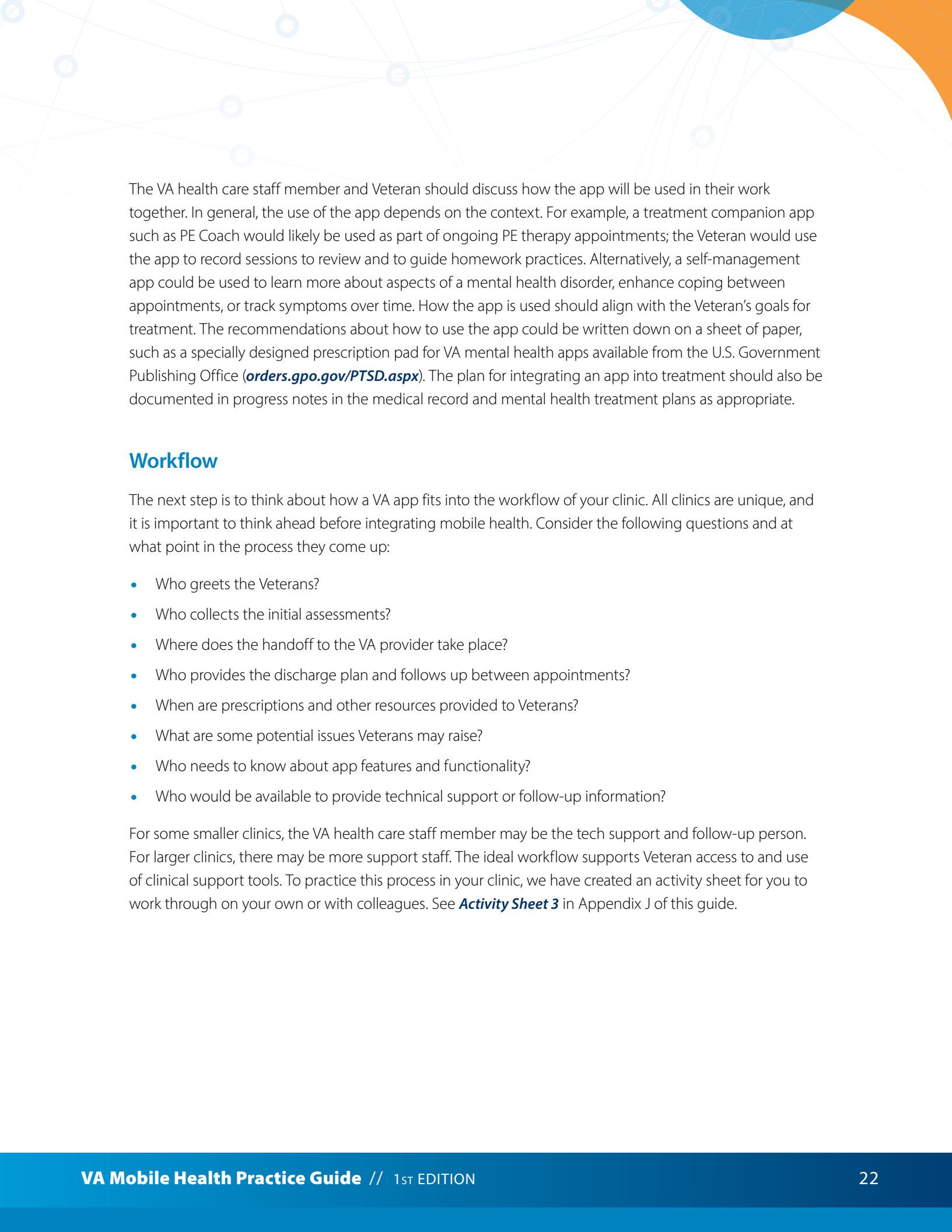
App Introduction

After assessing the appropriateness for use of an app, the next step is to introduce the app and demonstrate how it could be used to support treatment. Before the appointment, the VA health care staff member should consider whether they will demonstrate the app on a government-furnished smartphone or tablet, if available. If using one's own device, consider putting it in airplane mode, which will prevent interruptions during the appointment. Alternatively, one may use "do not disturb" or a similar setting to pause notifications. When introducing an app during a video telehealth appointment, a VA health care staff member could use screen-mirroring or screen-sharing if they are using the same mobile device for telehealth and for demonstrating the app. If a VA health care staff member is not comfortable using their device in a live demonstration, they may use a handout, PowerPoint presentation with screenshots, or video with an overview of the app (materials for all VA apps are available on *mobile.va.gov/appstore*). A handout can make it easier for a Veteran to follow along while participating in the telehealth appointment on their device.

When introducing the app, the VA health care staff member may first want to share that VA has developed many apps. Next, the VA health care staff member can shift to describing how certain apps may fit with a Veteran's presenting concerns. For example, when recommending PTSD Coach, a VA health care staff member may say that this app could be a good fit for the Veteran because their symptoms are consistent with PTSD. Then if the Veteran is open to the idea of using the app, the VA health care staff member should ask permission to share more about how the app works. Some Veterans may not be interested in using apps in their care, and it is important to respect the Veteran's decision.

At this point, it is important to ask the Veteran if they have questions. Common questions about VA mobile mental health apps may be about what "individually identifiable data" is and what types of data VA can see (e.g., number of downloads, technical issues with app). The VA health care staff member also can share that there is an option to disable any data sharing so that no information (including anonymous usage data) would be shared with VA app developers. A list of answers to the top 20 FAQ is available in *Appendix G*.

Next, the VA health care staff member should open the app to its home screen and invite the Veteran to take over and use the mobile device during an in-person tutorial (i.e., following verbal instructions from the VA health care staff member). The VA health care staff member may want to give a brief overview of each section of the app as the Veteran explores it. VA health care staff should encourage Veterans to ask questions as they become acquainted with the app. The purpose of this introduction is to get the Veteran familiar with an available tool before they make an informed decision about using an app as part of a treatment plan. A video showing an example of how to introduce an app into a Veterans' care is available at *bcove.video/2B8OonS*. In Appendix J, *Activity Sheet 2* provides a method to practice the process of introducing a mobile health app in clinical care. The full series of training videos is available at *www.ptsd.va.gov/professional/continuing_ed/integrating_mobileapps_tx.asp*.

The VA health care staff member and Veteran should discuss how the app will be used in their work together. In general, the use of the app depends on the context. For example, a treatment companion app such as PE Coach would likely be used as part of ongoing PE therapy appointments; the Veteran would use the app to record sessions to review and to guide homework practices. Alternatively, a self-management app could be used to learn more about aspects of a mental health disorder, enhance coping between appointments, or track symptoms over time. How the app is used should align with the Veteran's goals for treatment. The recommendations about how to use the app could be written down on a sheet of paper, such as a specially designed prescription pad for VA mental health apps available from the U.S. Government Publishing Office (**orders.gpo.gov/PTSD.aspx**). The plan for integrating an app into treatment should also be documented in progress notes in the medical record and mental health treatment plans as appropriate.

Workflow

The next step is to think about how a VA app fits into the workflow of your clinic. All clinics are unique, and it is important to think ahead before integrating mobile health. Consider the following questions and at what point in the process they come up:

- Who greets the Veterans?
- Who collects the initial assessments?
- Where does the handoff to the VA provider take place?
- Who provides the discharge plan and follows up between appointments?
- When are prescriptions and other resources provided to Veterans?
- What are some potential issues Veterans may raise?
- Who needs to know about app features and functionality?
- Who would be available to provide technical support or follow-up information?

For some smaller clinics, the VA health care staff member may be the tech support and follow-up person. For larger clinics, there may be more support staff. The ideal workflow supports Veteran access to and use of clinical support tools. To practice this process in your clinic, we have created an activity sheet for you to work through on your own or with colleagues. See **Activity Sheet 3** in Appendix J of this guide.

Prescription

Before prescribing any medications, medical providers must go through an internalized checklist regarding the purpose of the medicine, contraindications, interactions between medicines, correct dosage, when and under what circumstances the medicine should be taken, and possible side effects. The process of prescribing remains relatively the same, although the individual Veteran, their medical needs, and the medications prescribed may vary considerably. Also, the scope of medications prescribed by providers usually does not include the entire scope of all medications, rather, providers have deep knowledge regarding the medications that are in the scope of their practice. Similarly, providers prescribing virtual care tools, such as apps, must learn and become comfortable with the *process* of prescribing, as well as becoming familiar with the selection of virtual care tools that are most likely to fall within the scope of their practice. To become familiar with the process, providers and other VA health care staff will want to ensure that they are considering various important aspects of using apps in their practice, which are discussed in the following sections.

What Technology To Use and When

The provider should consider all available resources and tools that will best support the Veteran's treatment goals. There are situations in which a mobile app is especially advantageous — such as when collecting real-time data on symptoms. In other situations, access to a mobile app is less effective and a web app on a computer may be better. For example, the Veteran might lack access to a mobile device, or an app may be unavailable on a particular mobile platform.

How the App Fits Into Treatment

There are several clinical questions to keep in mind when considering how a VA app might support a treatment plan:

- **What is this app's intended clinical purpose?** *Appendix H* in this guide includes information for providers to use when describing to a Veteran the app's intended clinical purpose.

- **For which presenting complaint(s) can the app be used, and when should it be introduced into the treatment plan?** The Clinician's Guide: VA Virtual Care Tools chart in Appendix D maps presenting conditions to their corresponding apps to assist VA health care staff members in selecting the appropriate app.

- **Does the app give Veterans the means to monitor and assess their condition between appointments?** The majority of VA apps provide Veterans with a method of monitoring or assessing their condition between appointments.

- **Does the app provide educational information or coping tools?** The majority of VA apps include educational information and/or coping tools.

- **Can the app be used in combination with other apps?** Most VA apps can be used in combination with other apps. For providers and Veterans who are beginning to integrate mobile health into clinical care, it is recommended to integrate one app at a time.

- **Is this app intended for self-care, or is it intended for use with a provider's guidance?** VA apps described in this guide are free and available to anyone with access to a smartphone or tablet device, but they were developed to be used within the context of treatment with a provider, not to replace clinical treatment. Some of the apps are designed to support specific manualized treatments and were not designed to be used outside of that context. For example, PE Coach was designed to support the delivery of PE therapy with a Veteran actively engaged in treatment with a provider. For a list of the VA apps that are intended for use with a manualized treatment, see *Appendix D*.

- **Are there contraindications that would prohibit the use of the app?** There are contraindications that would prohibit the use of an app, some of which include: The Veteran does not want to use an app, or the Veteran has a specific delusion involving apps or similar technology. It is up to the clinical judgment of the provider to determine whether the use of an app is contraindicated for the Veteran.

- **Does the app provide access to hotlines or other support systems during a crisis?** Most VA apps include access to hotlines or other support systems; however, the provider may need to develop a crisis and/or safety plan with the Veteran.

Data Review

The process for reviewing data from an app depends on whether it is a VA connected app, VA self-contained app, or an app that was not developed by VA. Since VA's self-contained apps do not transmit Veteran data, in many cases the provider will need to review the Veterans' use of the app during the scheduled appointment time. However, several of VA's self-contained apps enable the Veteran to export the data. The data can then be sent to their VA care team through My Health*e*Vet's Secure Messaging. Here are some VA self-contained apps and the data that can be exported:

An example of an export button

App	Assessments and Exportable Data
AIMS for Anger Management	Dimension of Anger Reactions, Anger Log, Anger Control Plan
Beyond MST	Physical Readiness Questionnaire (PAR-Q), Post-traumatic Maladaptive Beliefs Scale (PMBS), Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), PTSD Checklist for DSM-5 (PCL-5)
CBT-i Coach	Insomnia Severity Index (ISI), Sleep Diary
Couples Coach	Couples Satisfaction Index (CSI), Couples Behavior Scale (CBS)
COVID Coach	Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder Scale (GAD-7), PCL-5, WEMWBS, goal setting and rating
Insomnia Coach	ISI, STOP Questionnaire for Obstructive Sleep Apnea, Rapid Screening for Restless Legs Syndrome
Live Whole Health	Personal Health Plan; mission, aspiration, purpose; My Plan for Skill Building and Support
Mindfulness Coach	Mindfulness mastery assessment
MOVE! Coach	Activity, nutrition
PE Coach	PCL-5, PHQ-9
PFA Mobile	Perceived Stress Scale
PTSD Coach	PCL-5, safety plan
PTSD Family Coach	PCL-5, safety plan, WEMWBS
Stay Quit Coach	Fagerstrom Test for Nicotine Dependence
VetChange	Alcohol Use Disorders Identification Test

Data sent from VA self-contained apps and data collected by VA connected apps can be reviewed between appointments, just before an appointment, or during an appointment with a Veteran. A Veteran's self-monitoring of symptoms can even serve as a cue to seek additional support, such as calling the clinic for a vaccination appointment or the crisis line when needed.

For VA connected apps, VA health care staff need to sign in to the staff-facing version of the app to review the data. For example, for VA health care staff to review data from the VA connected app Annie, they would sign in to the Annie App for Clinicians. A list of some of the VA connected apps and the link for VA health care staff to sign in is provided below:

App	Veteran Sign In	VA Health Care Staff Sign In
Annie	mobile.va.gov/app/annie-app-veterans	mobile.va.gov/app/annie-app-clinicians
VA Mental Health Checkup	mobile.va.gov/app/mh-checkup-veterans	mobile.va.gov/app/mh-checkup-care-teams
Pain Coach	mobile.va.gov/app/pain-coach-app-veterans	mobile.va.gov/app/pain-coach-app-care-teams

If a Veteran is using a VA self-contained app and chooses not to send their data to their VA care team between appointments, they can share their data by bringing their mobile device to the in-person appointment or sharing their screen during a video telehealth appointment. The VA health care staff member can then review the data (e.g., self-assessments, tracking logs) and any other app-based homework with the Veteran during the appointment. Any barriers to app-based homework (e.g., forgetting, not understanding how), workarounds (e.g., setting reminders in the mobile device, reviewing navigation, eliciting help from a loved one), alternatives (e.g., analog alternatives such as paper worksheets), and Veteran preferences should be revisited as needed.

The VA health care staff member should always provide care that is within their training and scope and should keep in mind that VA apps do not constitute treatment in and of themselves. If the app facilitates an aspect of care, such as managing in-the-moment distress between appointments, completing homework, or tracking behaviors and symptoms, then the VA health care staff member and Veteran may elect to continue to use the app as part of the treatment plan. At the end of an episode of care, the VA health care staff member can remind the Veteran that ongoing self-care and coping skills practice can help maintain gains made in treatment, and the VA health care staff member and Veteran can review whether there are features of an app that can continue to facilitate the Veteran's goals.

Documentation

VA health care staff should be sure to document the use of a VA app in the Veteran's health record just as they would indicate the use of any other self-care resource. Documentation should include:

- Which VA app was recommended.
- How the app will be used to support treatment (e.g., CBT-i Coach to support CBT-i).
- How often it should be used (e.g., daily, weekly).
- What data will be shared and how it will be shared (i.e., sent via Secure Messaging, shared during the appointment).
- What the Veteran shares during or between appointments (e.g., assessment scores).

VA stop codes are used to assist VA Medical Centers in defining workload to support Veteran care, resource allocation, performance measurement, and quality management. Ideally, the use of VA apps as a part of treatment would include relevant stop codes to track VA health care staff efforts in this area. Although efforts are underway to identify a solution for VA health care staff to track general mobile health app use in this way, an easy solution does not currently exist. As general guidance, the use of apps in clinical care does not change the care provided; it only provides an additional delivery method to increase efficiency. Thus, stop codes used as a part of standard care processes may have a great deal of overlap when considering how to introduce, prescribe, and review data from VA apps. However, the use of some apps, such as VA Video Connect, is associated with VA stop code 179 when used with video visits. The VA Video Connect clinic appointment slots will not be included in the national Clinical Utilization Statistical Summary (CUSS) reports. Facilities that wish to see the data can find it in their local CUSS reports.

KEY TAKEAWAYS

- You have a responsibility to meet the Veteran where they are in terms of their readiness to use mobile health in their health care.
- The key steps of clinical integration include:
  - » Becoming familiar with VA apps.
  - » Knowing how to introduce VA apps to Veterans during appointments.
  - » Understanding changes that may be made to the clinical workflow to include VA apps.
  - » Being prepared to prescribe or recommend an app to support the Veteran's treatment plan.
  - » Knowing how to review the data from the app's use.
  - » Knowing how to document app use in the Veteran's health records.

Knowledge Area 3: Security and Privacy

Understanding mobile health security is essential for VA health care staff and Veterans (Arora et al., 2014; Kao & Liebovitz, 2017; Zhou, Bao, Watzlaf, et al., 2019), not just because of laws protecting Veteran data and ethical codes for VA health care staff, but also because concerns related to security and privacy are one of the biggest barriers to adopting virtual health tools for VA health care staff and Veterans. VA health care staff and Veterans need to know how the data is being used before they can feel comfortable using the products.

To reap the rewards of health technologies in your practice, proactively manage the risks. Telecommunication technologies to provide service present unique potential threats to Veterans' data and information security and transmission. These include computer viruses, hackers, theft of devices, damage to hard drives or portable drives, failure of security systems, flawed software, easy access to unsecured electronic files, and outdated or malfunctioning technology.

Research shows that mobile health can effectively supplement medical care, help overcome barriers to accessing care, and increase Veteran compliance with treatment and engagement in care. It also supports case management across geographic locations and helps extend health care beyond face-to-face visits.

Despite these benefits, concern about data security and privacy is considered one of the top barriers to adoption across multiple studies.

- Seventy percent were "concerned about the privacy and security of personal information when using an mHealth app" (Zhou, Bao, Watzlaf, & Parmanto, 2019).
- "Afraid of the potential security and privacy issues involved" was a common barrier cited by VA and DoD health care staff (Armstrong, Ciulla, et al. 2018; Armstrong, 2019; Armstrong et al., 2020).
- Data privacy was a top concern reported by patients regarding the use of mobile health apps (Torous, Chan, et al., 2018):
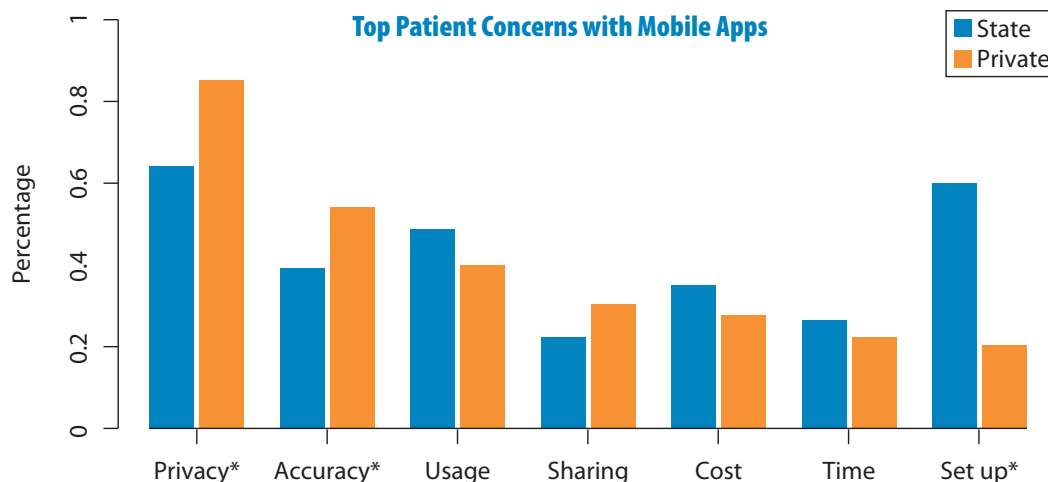
Figure: Concerns about apps in the state and private clinics with. Statistically significant differences are noted with an asterisk.

Regarding the use of mobile devices, security and privacy are understandably among the top concerns for patients and health care staff in the health care system. Zhou and colleagues (2019a) identified features that patients want to protect their health data on apps:

97% | **indicated that they "should have the right to consent to any sharing of my protected health information collected via mHealth apps."**

95% | **indicated that they "would like to know how my health care providers make sure that only the correct personnel have access to the mHealth system I am using."**

Thus, to increase the adoption of VA apps, VA health care staff members play a critical role in answering Veterans' questions regarding the security and privacy of the data used in apps. Veterans should understand what is happening to their data and have the option to consent to sharing their data. And VA health care staff should be prepared to answer questions that Veterans will have and provide clear responses to support adequate decision-making for the Veteran regarding their choice to use a particular app or not (Edwards-Stewart et al., 2019; Harris & Younggren, 2011; Hoffman et al., 2019; Torous, Chan, et al., 2018; Zhou, Bao, Watzlaf & Parmanto 2019b).

Although this guide provides necessary information about protecting mobile devices and health information, the most up-to-date guidance — including videos and downloadable materials — can be found on the following Office of the National Coordinator for Health Information Technology (ONC) webpage: *healthit.gov/topic/privacy-security-and-hipaa/your-mobile-device-and-health-information-privacy-and-security*

Although mobile health has only been around for a little more than a decade, most of what we are doing is essentially the same — providing evidence-based care. So although the delivery mechanism for care and information has changed, we do have a strong foundation of policies, guidelines, and laws in place to protect our health data.

Federal policies on the security and privacy of health information include:

- Privacy Act of 1974
- Health Insurance Portability and Accountability Act of 1996 (HIPAA)
- HIPAA Security Rule (2003)
- Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009
- Child Online Privacy Protection Act of 1998 (COPPA)

Federal organizations that provide oversight to security and privacy for mobile health tools include:

- U.S. Department of Health and Human Services
- Health IT Standards Committee
- Health IT Privacy Committee
- VA Office of Privacy and Records Management
- Office of the National Coordinator for Health Information Technology (ONC)
- Federal Communications Commission (FCC)
- Food and Drug Administration (FDA)
- Defense Health Agency (DHA) Privacy and Civil Liberties Office

VA health care staff should be up to date with VA training on these policies and organizations, as well as the DHA Health Information Privacy and Security Training Manual, which was last published in May 2020 and is available as a PDF online. Foundational policies and guidelines for protecting health information is applicable for apps and mobile devices. There are four critical questions regarding security and privacy that VA health care staff need to ask when selecting apps to supplement Veteran care:

- **Source**: Is the app coming from a trusted source?
- **Permissions:** What permissions is the app asking for?
- **Data protection:** How can I help Veterans protect their health data on their device?
- **Data transmission:** How will data be shared with VA health care staff?

Source

Before you download and install an app on your device, visit known websites or other trusted sources that you know will give reputable reviews of the app. VA and DoD can be considered trusted sources because they are required to maintain strict controls to ensure their apps' safety. Their apps are free to download, and VA and DoD do not make money on the products — nor do they collect or sell any personal information. Be careful about entrusting health information to non-VA and non-DoD health apps.

Although there are many great mobile health apps available, it can be confusing how data security and privacy are handled for those apps not developed by the federal government. For apps developed by the federal government, strict standards for data security and privacy are in place and are required at every step of the development process, and the handling of data is clear and much easier to explain. For that reason, we will focus on apps developed by VA, and we will give some other tips for using nongovernment apps later in the guide.

Security and Privacy Data on VA and DoD Apps

All of VA and DoD's apps keep data securely protected, enabling Veterans to use the apps to improve their health and wellness without privacy concerns. All VA apps keep personal information secure, but some apps do so in different ways than others. Where the data is stored and who can see it is different based on whether a VA app is a connected app or a self-contained app.

Connected apps:

- **What they are:** Connected apps are apps that connect to VA's network, so additional data security is required to ensure protection meets strict federal standards. Connected apps have a small lock on the lower right corner of the app's icon. Data from connected apps can be seen by VA health care staff. Examples of connected apps are Annie, MobileKidney, Pain Coach, Rx Refill, VA Mental Health Checkup, and Virtual Care Manager.

- **How they handle data:** These apps require secured user authentication, such as a Veteran's DS Logon, ID.me, or My HealtheV*e*t Premium sign-in credentials, and they enable Veterans to share information with their VA care teams. The connected apps for VA care teams are only available through VA's secure network. These apps require authentication to sign in via the VA health care staff member's personal identity verification (PIV), PIV exemption, or VistA sign-in credentials. Data from connected apps is connected to the VA network, so VA care teams may access it.

- **How to transmit data:** Data from VA connected apps are stored on the VA network, so no additional steps are needed to transfer data to the VA care team.

Self-contained apps:

- **What they are:** Self-contained apps are apps that do not require any sign-in process and do not connect to the VA network. These apps can be downloaded by anyone from Apple's App Store (iOS) or Google Play (Android). Examples of VA self-contained apps include ACT Coach, AIMS for Anger Management, CBT-i Coach, Couples Coach, Mindfulness Coach, PE Coach, PTSD Coach, PTSD Family Coach, STAIR Coach, Stay Quit Coach, and VetChange.

- **How they handle data:** VA and DoD apps that are available on Apple's App Store and Google Play do not require any sign-in information and do not connect to the VA network. Data on the self-contained apps is encrypted. No one other than the user, or someone who has access to the user's device, can view what is in the app. Neither VA nor DoD health care staff can see any of the information users include in self-contained apps. Data from self-contained apps is stored only in the encrypted app on the user's device. The user controls when and how they share it. Any information the user enters into the app, such as names, phone numbers, addresses, images, or music, cannot be accessed, stored, or shared by VA. Self-contained apps do collect anonymous information about how people use the app. That information is only used to improve how well the app works. For example, VA developers can see what sections of the app people visit. VA often uses this information to correct technical problems in the apps. This information cannot be linked to any personal information about the user and will never be shared with a third party.

- **How to transmit data:** For VA self-contained apps, data is stored in the app on the user's mobile device, and neither VA health care staff nor VA or DoD have access to that data. Veterans can choose to export data from several self-contained apps (e.g., AIMS for Anger Management, CBT-i Coach, COVID Coach, Mindfulness Coach, PE Coach, PTSD Family Coach, VetChange). They can do that by opening the app's settings, choosing the data they want to export, and selecting Export Data. After opting to export user data, a privacy warning will pop up to remind the user to only email or share this information using a secure personal account. The user can email themselves the data and can then send the data to their VA care team through My HealtheV*e*t's Secure Messaging feature.

Installing and Accessing VA Apps

VA connected apps are often web apps that the user can launch directly from the VA App Store at mobile. ***va.gov/appstore***. VA health care staff can access connected apps using their PIV credentials, or secure sign on. Veterans can access VA connected apps using their DS Logon, ID.me, or My Health*e*Vet Premium secure sign-in credentials. When opening a VA web app, look at the address bar and confirm that the website's URL ends with "va.gov." Similarly, when opening another agency's web app, ensure that the URL belongs to that agency. For example, an armed forces web app might have a URL ending in ".mil."

When installing a VA self-contained app on a device, only install from the device's official app marketplace. For iOS devices (e.g., iPhones, iPads), this will be Apple's App Store. For Android devices, this will be Google Play. Never install an app from elsewhere on the internet: Although websites host app files, many modify these files to spy on users. (High-security devices, such as those issued to active duty Service members or first responders for use in the field, can be an exception to this, restricting available apps to a small, heavily screened selection. People in this situation should consult their specialized security training or their device management official.)

When installing a VA app, also confirm that the publisher is "U.S. Department of Veterans Affairs (VA)." That official VA account publishes all VA apps on Apple's App Store and Google Play. Many apps have similar names, so it is easy to find an app other than the one you were looking for.

Many VA health care staff members participate in VA-approved research studies that use apps or websites from outside the usual sources. The research might direct participants to download an app from a different publisher (such as "Palo Alto Veterans Institute for Research," a VA partner) or sign in to a website with a URL outside the va.gov domain. If the user is installing an app for a research study, the instructions and the VA study coordinator will confirm the correct access information. Similarly, sometimes a VA facility or region may participate in a public-private partnership with a private app publisher; if this is the case, the user should confirm from VA documentation that the app or website is officially sanctioned.

Accessing VA connected apps for VA health care staff:

- All connected apps for VA health care staff are available through the VA App Store at **mobile.va.gov/appstore**.

- Sign-in information is available in Appendix I and at **mobile.va.gov/login-information**.

- Sign-in requires user authentication through PIV, PIV exemption, or VistA sign-in credentials.

  » Personal Identification Verification Login Guide:
    mobile.va.gov/sites/default/files/piv-linkage-process.pdf

  » Two-minute tutorial on how to set up PIV-derived credential (D):
    youtube.com/watch?v=DyA5YUBCCUQ&feature=youtu.be

Accessing VA connected apps for Veterans:

- All connected apps for Veterans are available through the VA App Store at **mobile.va.gov/appstore**.

- Signing in requires user authentication through DS Logon, ID.me, My Health**e**Vet Premium account credentials.

  » How to upgrade to a My Health**e**Vet Premium account: **myhealth.va.gov/mhv-portal-web/ upgrading-your-my-healthevet-account-through-in-person-or-online-authentication**
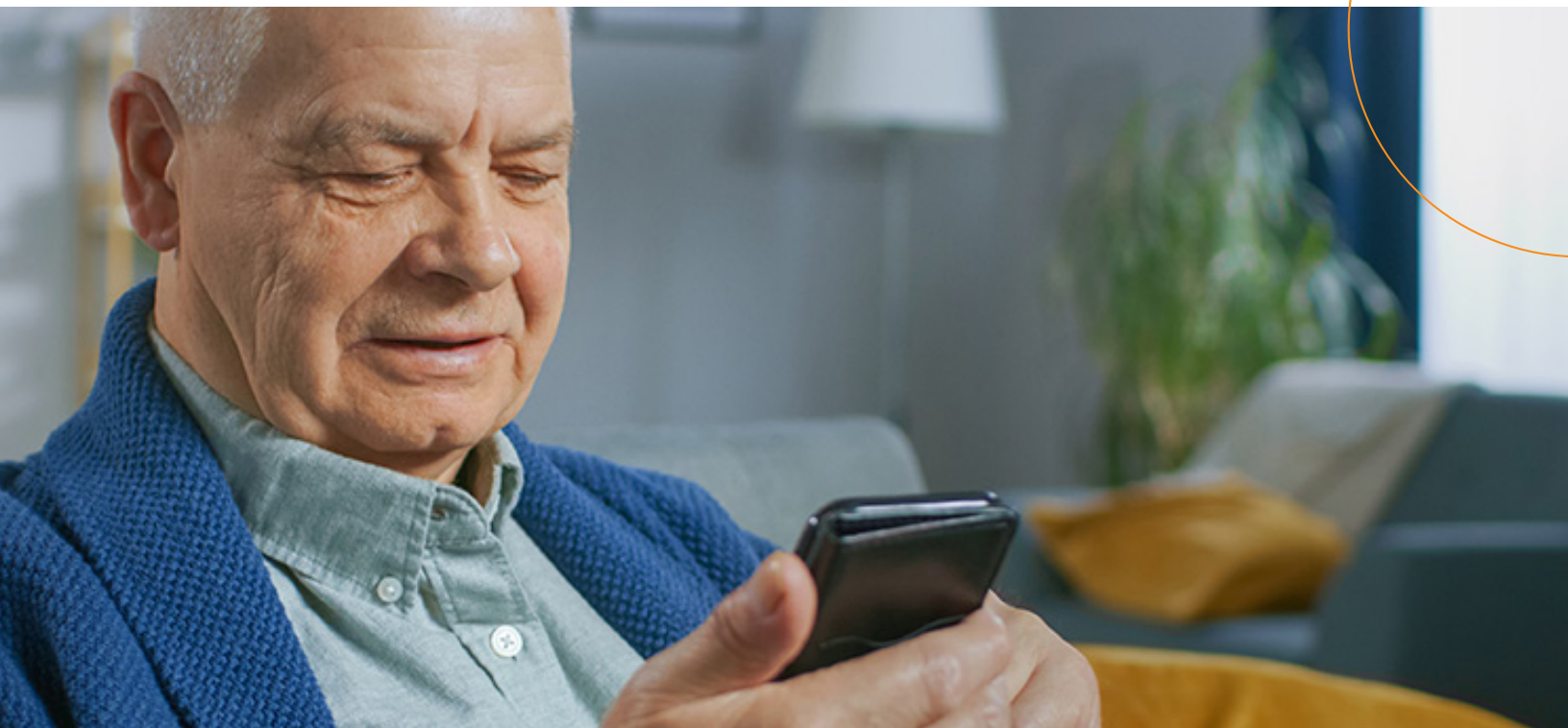
Permissions

When downloading VA self-contained apps, and some other non-VA or non-DoD apps from public app stores, users will be asked whether they give permission to the app to access different software or hardware features of the user's device. These are called "permissions." Understanding what permissions are, what they mean, and what the limitations of the permissions being granted are is important when considering the security and privacy of data. Common permissions include access to the device's calendar, camera, contacts, music, and photos. Reading permissions can be unnerving if you do not know what stipulations are typical or why an app wants access to these areas.

Before the user grants permissions in an app, they should make sure that:

- The developer has clearly explained why they need these permissions.
- They understand the request, and it makes sense concerning the purpose of the app.

Some permissions that are commonly requested on VA and DoD apps include:

- **Identity:** Enables multiple devices to know whether the user is themself or someone else who shares the device. Apps downloaded by them will then be visible when the device is being used under the user's profile.
- **Calendar:** Enables the user to add or delete events on their device's calendar.
- **Contacts**: Enables the app to open the user's contact records to perform certain functions.
- **Location:** Enables access to the user's proximity or network base and is not GPS-based. If the app is GPS-based, it will say "Specific Location."
- **Photos, Media, and Files:** Enables the user to add photos or other media from their device to the app. Some larger apps also require files permission to set up interactive audio and video exercises.
- **Camera:** Enables the user to take pictures or videos within the app.
- **Other:** Needs access to the internet to work properly.

Data Protection

Although data security is the responsibility of the Veteran, VA health care staff should know and be prepared to guide Veterans on how to protect the personal health information stored on their devices. Data on a Veteran-owned device is the property of the Veteran and not subject to HIPAA protections. However, any time that any data is shared with VA (e.g., via connected apps where data is automatically shared with the VA network, or via secure message for data from self-contained apps), then HIPAA rules apply. For VA and DoD self-contained apps, data is only held in the app and is under the Veteran's control.

Although VA and DoD protect patient health information according to strict security and privacy laws and policies, data that is on the Veteran's device can be protected as well. Veterans can protect their health data on their devices by taking the following precautions:

- **Maintain physical control over the mobile device.** One of the most important ways to protect data on a smartphone, tablet, or computer is to maintain physical control of the device. The user should not share the device any more than they have to and never share it or leave it with someone they do not trust.

- **Set a passcode for the device and/or app.** One of the easiest and most essential actions the user should take is to protect their device with a passcode. It is important not only if they are using health apps but as a security measure for all data on their device. Follow the device manufacturer's recommendations for setting a passcode. This means setting a number passcode of at least six digits. Do not set a passcode that would be easy to guess (e.g., "123456," an important date, an important name in phone digits). If the user is in an unusually high security or high personal threat situation, they should follow their security adviser's stronger passcode recommendation. Some apps have the option to set a passcode for the actual app, which provides an additional layer of security for the information contained in the app.

- **Know how to wipe the device remotely.** If a device is lost or stolen, there are ways to wipe or disable it remotely. Both iOS and Android devices offer this built-in feature, but users may have to activate it first. This is important for VA health care staff to know about their devices but also in situations where a Veteran may have lost their device and is concerned about health data that may be on the device.

    » **Android:** Open the device's settings. Select Security. (On some devices this may differ slightly, such as "Security & Location" or "Google" and then "Security.") Confirm that Find My Device is on. If the device is lost, go to the following web address to remotely wipe the device: *android.com/find*

    » **Apple:** Open Settings. Select your name at the top of the screen. Then select Find My. Confirm that the find my device field is set to "On." If the device is lost, go to the following web address to remotely wipe the device: *icloud.com/find*

- **Protect data over wireless networks.** Even though most wireless routers have a firewall to protect from internet intruders, it does not mean that the protection extends to others connected to the same network. It is remarkably easy to steal someone's username and password or see what they are doing, just by being on the same network. Other ways to protect data include:

  » Whenever possible, especially when buying something online, using websites with URLs that start with "https" to ensure that user data is secure. Look for a lock icon next to the website address that indicates the connection is secure.

  » Connecting only to trusted Wi-Fi networks, such as home or work Wi-Fi. If connecting to public Wi-Fi, such as at a restaurant or airport, the user should confirm that they are connecting to the right service. If they are not sure, they should not connect.

  » If possible, avoid conducting sensitive business, such as health care or banking, over public Wi-Fi.

- **Use security apps and add-ons.** Security apps are available to reduce tracking and block ads on a mobile device. Recommendations for products are beyond this guide's scope, but to find candidates, search Apple's App Store or Google Play with the terms "content blocker" and "firewall," and then research reviews of these apps from reputable news outlets and technology commenters. Avoid privacy apps that do not have a trail of reliable reviews to confirm their effectiveness and trustworthiness. On a computer, the web browser should have an ad blocker extension installed to improve privacy and significantly reduce web annoyances. Check reviews from reputable sources (e.g., the Wirecutter feature of The New York Times at *nytimes.com/wirecutter/reviews/our-favorite-ad-blockers-and-browser-extensions-to-protect-privacy*) and install an ad blocker that is reliable and easy to maintain.

- **Security and privacy handout.** The How Can You Protect and Secure Health Information When Using a Mobile Device? webpage created by ONC is a security and privacy reference for Veterans and health care staff about protecting health data on mobile devices. A handout of this page is located in Appendix F and it is available online at *healthit.gov/topic/privacy-security-and-hipaa/how-can-you-protect-and-secure-health-information-when-using-mobile-device*.

Additional Security and Privacy Resources

- VA's Demonstrating an App: Privacy and Security video: *bcove.video/2TjsxB9*

- U.S. Department of Health and Human Services (HHS) mobile devices webpage: *hhs.gov/web/building-and-managing-websites/mobile/index.html*

- ONC's Your Mobile Device and Health Information Privacy and Security webpage: *healthit.gov/mobiledevices*

- VA Mobile Health Provider Program Training Materials webpage: *mobile.va.gov/providers/training*

- Overview of Federal Role in Mobile health webpage: *healthit.gov/topic/privacy-security-and-hipaa/your-mobile-device-and-health-information-privacy-and-security*

- Health IT's Mobile Devices Roundtable: Safeguarding Health Information webpage: *healthit.gov/policy-researchers-implementers/mobile-devices-roundtable-safeguarding-health-information*

- European Commission's current initiatives to unlock the potential of mobile health in Europe webpage: *ec.europa.eu/digital-single-market/en/news/current-initiatives-unlock-potential-mobile-health-europe*

- HHS's Summary of the HIPAA Privacy Rule webpage: *hhs.gov/hipaa/for-professionals/privacy/laws-regulations/index.html*

- U.S. Food and Drug Administration's Device Software Functions Including Mobile Medical Applications webpage: *fda.gov/medical-devices/digital-health/mobile-medical-applications*

- HHS' Health Information Technology webpage: *hhs.gov/hipaa/for-professionals/special-topics/health-information-technology/index.html*

The information provided above is intended to support VA health care staff in understanding and discussing the security and privacy issues of mobile health apps with Veterans. However, this does not cover other related ethical and legal matters related to the security and privacy of apps and other virtual care tools. The following VA Talent Management System (TMS) courses can provide supplemental information on security and privacy:

- VA Privacy and Information Security Awareness Rules and Behavior (VA 10176)
- Mobile Training: Security of Apps on iOS Devices (VA 3926744)
- Securing Mobile Devices in the Enterprise: Mobile Security (NFED 4500865 and NFED 4500866)
- Privacy and HIPAA Training (VA 10203)
- Integrating Mobile Apps into Your Work with Veterans (VA 43870)
- Mobile Devices (NFED 4502275)

VA health care staff can access these courses on TMS:
tms.va.gov/SecureAuth35/SecureAuth.aspx?ACTIVEX=no

KEY TAKEAWAYS

- You have a responsibility to understand and discuss issues related to security and privacy with Veterans.
    - » Encourage Veterans to download apps only from trusted sources and to protect their smartphones, apps, and stored data with a passcode.
- For VA apps that do not require user authentication, VA has access to aggregated data only.
    - » App data is stored on the Veteran's devices, and Veterans have control over that data.
    - » Neither VA health care staff nor VA or DoD have access to the data stored on the Veteran's devices.
- For VA apps that connect to health records, VA has access to user data, but privacy laws and regulations protect the data.

Knowledge Area 4: Ethical Issues

The intersection of ethical guidelines and the use of mobile technologies in treatment is a relatively new issue. Professional associations provide codes of ethics, and some provide guidelines specific to the use of technology, providing a patchwork of codes and policies to guide ethical decision-making and practice. Although each discipline's ethics codes and policies differ slightly, several key patterns emerge regarding recommendations for adherence to professional ethics codes. The following discussion is informed by ethics codes from multiple care specialties and applies broadly to ethical concerns that VA health care staff members from multiple disciplines may encounter. Applicable ethical areas of concern include competence, human relations, informed consent, confidentiality, and issues about privacy and security, all of which are described further below.

Note that this guide provides general information regarding ethical issues when integrating mobile health into clinical care. This guide does not provide legal advice, nor can a specific course of action be suggested for individual situations. VA health care staff members should follow the appropriate ethical guidelines for their specialty and specialty societies and adhere to applicable laws. It is recommended that they contact their professional liability insurance carrier or obtain an attorney if making any decision that could have legal consequences.

Resources include:

- American Association for Marriage and Family Therapy:

  » Technology-Assisted Professional Services (Standard VI of Code of Ethics): *aamft.org/Legal_Ethics/Code_of_Ethics.aspx*

  » Teletherapy Guidelines: *amftrb.org/wp-content/uploads/2017/05/Proposed-Teletherapy-Guidelines-DRAFT-as-of-09.12.16.pdf*

- American Counseling Association:

  » 2014 Code of Ethics: *counseling.org/resources/aca-code-of-ethics.pdf*

- American Medical Association:

  » Code of Medical Ethics overview: *ama-assn.org/delivering-care/ethics/code-medical-ethics-overview*

  » Code of Medical Ethics: Patient-physician relationships: *ama-assn.org/delivering-care/ethics/code-medical-ethics-patient-physician-relationships*

  » Ethical Practice in Telemedicine: Code of Medical Ethics Opinion 1.2.12: *ama-assn.org/delivering-care/ethics/ethical-practice-telemedicine*

- American Nurses Association:

  » ANA Core Principles on Connected Health Mapped to the Code of Ethics for Nurses With Interpretive Statements. **nursingworld.org/~491792/globalassets/docs/ana/practice/connected-health-prinicples-and-code-of-ethics-2019.pdf**

  » Code of Ethics for Nurses With Interpretive Statements: **nursingworld.org/coe-view-only**

- American Psychiatric Association:

  » Resource Document on Telepsychiatry and Related Technologies in Clinical Psychiatry: **psychiatry.org/File%20Library/Psychiatrists/Directories/Library-and-Archive/resource_documents/Resource-2014-Telepsychiatry-Clinical-Psychiatry.pdf**

- American Psychological Association:

  » Ethical Principles of Psychologists and Code of Conduct: **apa.org/ethics/code**

  » Guidelines for the Practice of Telepsychology: **apa.org/practice/guidelines/telepsychology**

- National Association of Social Workers:

  » Code of Ethics: **socialworkers.org/about/ethics/code-of-ethics/code-of-ethics-english**

When comparing guidelines and position statements across professions, several include specific recommendations for the use of mobile health apps in clinical care:

- Telecommunication technologies include phones, mobile devices, interactive videoconferencing, email, chat programs, texting, and the internet (APA, 2013, p.794).

- These technologies can:

  » Be synchronous or asynchronous.

  » Augment care or be used as self-contained tools.

  » Be used in combination with one another.

  » Expand access to psychological resources.

- Guidelines advise VA health care staff to be well versed in telecommunication technologies and to ensure that Veterans understand the risks to security and confidentiality when using these tools.

The following ethical principles, codes of conduct, and opinions are particularly applicable when integrating mobile health into clinical care:

- Competence
- Confidentiality
- Minimizing intrusions on privacy
- Human relations
- Discussing the limits of confidentiality
- Informed consent
- Recording

Competence

(APA Standard 2; AMA Opinion 1.2.12; ACA Section C; AAMFT Standard III and VI); Boundaries of Competence (APA 2.01; NASW 1.04 d, ACA C.2.a; AAMFT 3.1 and 3.10); Maintaining Competence (APA 2.03; ANA Principle 4-Interpretive Statements (IS) 3.3, 4.3, Principle 5-IS 5.5; ACA C.2.d and 6.6)

RECOMMENDATIONS

- Always put evidence-based practices first. VA health care staff must make sure the information they provide or that is attributed to them is objective and accurate. They should know the evidence-based practice and the research to support it. They should not disregard evidence-based practices to prioritize a new technology. It is easier to choose the right tool when relying on the available evidence to make decisions. VA health care staff members should be clear about what type of care they are providing and find apps that will aid in treatment plans.

- Review available evidence to determine whether specific technologies are appropriate for specific Veterans. Evidence may include published reports, outcomes research, best practice guidance, and Veteran preference.

- Once a VA health care staff member has chosen an app to use in therapy, they should get to know it — use it, practice it, and learn how to individualize its features, where possible. These skills will help to introduce the technology seamlessly into the therapy continuum. Greater confidence in the function and value of the app will support the Veteran's confidence and adoption of these tools.

- Maintain knowledge regarding mobile health. VA health care staff should pursue additional education and training. This includes continuing education focused on the delivery of care using technology. They should also monitor telehealth information to identify any adverse consequences and ways to address them. Only hardware and software that are compliant with safety and security standards should be used to support Veterans' understanding of mobile health use.

- Consult with colleagues or other resources when needed.

Human Relations

(APA Standard 3.05; AMA Opinion E-2.3.2; ACA A.6; AAMFT Standard I; AMA Principle 1); Multiple Relationships (APA 3.05; ANA Principle 7-IS 2.4; ACA A.6.a-e; AAMFT 1.3)

✓ RECOMMENDATIONS

- Be aware of potential boundary issues that may arise when using telecommunication technologies. For example, to maintain privacy, VA health care staff should tell Veterans that they will not connect with them on social media.

- Weigh the risks and benefits of dual relationships that may arise with Veterans during the use of telecommunication technologies before entering such a relationship.

- The integrity and therapeutic value of the Veteran-health care professional relationship should be established, maintained, and promoted via connected health.

Informed Consent

(APA 3.10; AMA Opinion 1.2.12 and Principle 2; NASW 1.03 e/f/g; NASW 1.04e; ANA Principle 10-IS1.4,3.2; ACA A.2; AAMFT 1.2 and 6.2)

Obtaining informed consent is a crucial step in beginning an episode of psychotherapy and other fields of care. VA health care staff should consult the ethical standards of their profession, discipline, and setting regarding informed consent. When apps are to be integrated into psychotherapy, their use should be included as part of informed consent (Edwards-Stewart et al., 2019; Torous & Roberts, 2017). Apps should be presented as an option, with alternatives discussed (e.g., using analog methods for homework completion, coping skills practice, and self-monitoring between appointments). The VA health care staff member should also present any known or potential risks and benefits to using the app. *Activity Sheet 7* provides a method for practicing modification of informed consent when using VA apps in clinical care. Although a VA health care staff member cannot modify standard consent forms, they can have a clear conversation with the Veteran so they can ask questions, receive answers, and make an informed decision on whether to integrate technology into their care.

VA health care staff can watch the "Obtaining Informed Consent" video in the series Integrating National Center for PTSD Mobile Apps Into Veteran Mental Health Care at *bcove.video/2BjRaH5*. The following is an example of informed consent verbiage from the video:

"In terms of known benefits, we have some research evidence that suggests that mobile apps like this one can be helpful with treatment, but we can't say that using the app is better than not using the app in terms of the benefit you'll get out of treatment. So it's a matter of preference. Some Veterans have found the apps to be convenient or helpful in different ways. They're not for everyone. Your use of the app is, of course, voluntary. And we can switch to other methods of between-session tracking and skills practice at any time.

"There are no known risks associated with using VA Mobile mental health apps. And as we discussed, there are some steps you should take to secure your device, such as keeping it passcode-protected — again, to protect your confidentiality and prevent others from accessing your information and anything stored in your smartphone."

Informed consent, written or verbal, should be documented in the Veteran's medical record (McGee-Vincent & Juhasz, 2018).

RECOMMENDATIONS

- Fully disclose to the Veteran the potential risks and benefits of the use of health technologies, available alternatives to use, and how the data will be used, managed, and protected. Those details must be communicated in a manner that is comprehensible to the Veteran or a legally authorized representative.

- Specifically, be aware and inform the Veteran of what technologies do or do not have empirical support. This does not necessarily indicate that the Veteran should be denied those services. Lack of empirical evidence does not necessarily indicate that a technology is ineffective. All VA and DOD apps were built upon a foundation of evidence-based practices, and some have been through RCTs.

- First, confirm that the Veteran has the cognitive capacity to agree to the use of this technology. Second, confirm that the Veteran fully comprehends the expectations, limitations, and risks involved.

- Make sure the Veteran knows that although you may be enthusiastic about a new clinical tool or treatment approach, they are not required to use it.

- Strive to obtain and document informed consent that specifically addresses the unique concerns related to telehealth services. Informed consent for health technologies may not need to be independent of other informed consent for treatment, although mechanisms for obtaining electronic consent should comply with applicable federal and state laws.

- Maintain knowledge of the appropriate laws and regulations, as well as organizational requirements that govern informed consent. An accurate and appropriate informed consent form for using technology in clinical care should include (APA, 2017; AMA Opinion 1.2.12; NASW Standard 1.03):

  » How the VA health care staff and Veterans will use the specific technologies.

  » Potential risks to confidentiality when using mobile devices to store health information.

  » What data is involved (specify if recording is involved) and where data will be stored. Some VA apps permit Veterans to send data to their VA care teams. When applicable, the VA health care staff member should discuss how and when this information will be shared. This discussion should include: How the Veteran can safeguard their data; how the provider will safeguard the Veteran's data.

  » What method will be used to contact the Veteran between appointments. VA health care staff should also consider procedures for responding to electronic communications from Veterans.

  » Boundaries that will be established and observed.

  » The limits of the technology (e.g., their entries will not be monitored by VA health care staff; apps are not a treatment but a supplement to care).

  » Risks and benefits of technology use.

  » Any financial or other interests the VA health care staff member has in the telehealth/telemedicine app or service.

  » Requirements for mandated reporting apply regardless of the form in which they are communicated.

Confidentiality

(APA Standard 4; AMA Opinion E-3.2.1; ACA Section B; AAMFT Standard II; AMA Principle 3)

Maintaining Confidentiality (APA 4.01; ANA Principle 8-IS 3.1; ACA B.1.b, B.1.c, B.1.d; AAMFT 2.1-2.4, 6.3)

Scenario

A therapist receives app data sent through a text message. When the text is received, the cellphone lights up with the name of the Veteran.

✔ RECOMMENDATION

During the informed consent process, be sure to clarify when and how you will receive the data and how they will be maintained. For example, Veterans will be in control of their data on the app. Then Veterans will bring their phone to appointments and share the data they choose with you, and you will then document the clinical encounter in the secure Electronic Health Record (EHR). When using a VA or DoD app, data is encrypted "at rest" (when data is on the app and not being transmitted), which provides an additional layer of security.

✔ FURTHER RECOMMENDATIONS

- Take reasonable steps to make sure security measures are in place to protect data and information related to Veterans from unintended access or disclosure. VA health care staff members should take these precautions with the transmission of electronic information and communication conducted using connected health technologies.

- Inform Veterans of the use of third-party technology by VA health care staff, the risk of disruption in the integrity of those VA health care staff's data management practices, and a commitment to protecting Veterans from such an event.

The following video demonstrates the process of discussing security and privacy when using a VA app: *bcove.video/2TjsxB9*

Discussing the Limits of Confidentiality

(APA 4.02; ACA B.1.d; AAMFT 2.1 and 2.5)

Scenario

A Veteran in crisis indicates through VA Video Connect app data that he is thinking of harming himself or others. Who can see the app data? Where does the information go if sent from a mobile device? Where does the information go if sent to the VA care team? Where and how will the data be stored and maintained?

✔ RECOMMENDATION

Unless it is not feasible or is contraindicated, the discussion of confidentiality occurs at the outset of the relationship and thereafter as new circumstances may warrant.

Recording

(APA 4.03; ACA B.6.c; AAMFT 1.12)

Scenario

The VA provider asks Veteran to record Veteran's voice during PE therapy appointments using the PE Coach app.

✔ RECOMMENDATION

When using PE Coach as a part of traditional PE therapy, tell the Veteran they will record his or her own voice during imaginal exposure, enabling the Veteran to listen during homework appointments between therapy appointments. Give the Veteran options for how to record imaginal exposures, including through the PE Coach app, or on tape, CD, or voice recorder. The advantage to recording through the PE Coach app is that the data can be protected by a password, and audio files stored in the app are formatted in a manner that prevents them from being automatically uploaded into cloud storage. This is also the case if audio recordings are made through the voice recording feature of a smartphone unless this security option is turned off in settings.

Minimizing Intrusions on Privacy

(APA 4.04; ANA Principle 8, Principle 9-IS 3.1; ACA B.2.e)

Scenarios

- A VA health care staff member has a Veteran use a clinic-owned device during appointments but does not delete the Veteran's health information before having another Veteran use the device.
- A provider looks up a Veteran online to gather more information on the Veteran or receives a friend request on social media.

RECOMMENDATIONS

- Include only information that is relevant to a Veteran's treatment plan in the treatment notes. For example, recording a Veteran's score on an assessment from an app is a good idea, as long as the Veteran shares that information with you in the appointment. However, including information such as the screensaver picture choice, for example, is not a good idea unless it has some clinical relevance.
- The Veteran should use their own device when using VA apps. This enables the Veteran to have control over and engagement with their health data and facilitates compliance with homework or treatment between appointments. Tablets or smartphones provided for Veterans to use at clinics should be regularly checked and cleared of any Veteran data.
- Do not look up the Veteran online or become friends with them on social media. Boundaries blur easily online, and it is important for VA health care staff to be clear where the lines are, communicate them to the Veteran, and actively maintain those boundaries to minimize intrusions on the privacy of all parties involved.
- See Activity Sheet 6 in Appendix J of this guide to practice identifying ethical dilemmas that may arise when using technology in practice and to practice working through the process to resolve the dilemma.

KEY TAKEAWAYS

- Develop a thorough informed consent document that includes information on the use of mobile health in clinical care.
- Define boundaries before using mobile health and proactively maintain those boundaries. Electronic communication can blur professional lines, making provider-Veteran relationships seem less formal.
- Seek venues to improve and sustain competence in the use of mobile health in clinical care. Seek consultation and stay current on new technologies and their use to support treatment.
- Manage personal stress and resilience to prevent ethical blunders.

Knowledge Area 5: Cultural Considerations

Cultural awareness can have a direct impact on the efficacy of health care. VA health care staff members who work to increase their understanding of cultural differences and awareness of potential biases can significantly improve patient outcomes across identities such as cultural beliefs, ethnic background, native language, gender identities, sexual orientation, race, and religious affiliation.

The culturally competent VA health care staff member strives for optimal care to Veterans inclusive of their cultural beliefs, ethnic background, gender identity, native language, sexual orientation, race, and religious affiliation (Whaley & Davis, 2007). This also applies to the unique cultural components in the military (e.g., behavior norms, belief systems, language) and requires VA health care staff delivering care to become culturally competent in this area (Reger et al., 2008).

There are five steps to addressing cultural components when integrating apps and other technologies into clinical care:

Step 1: Understand the cultural variables.

- Cultural and personal identities.
- Availability of technology.
- Access to technology (socioeconomic status) and geographic location.
- Literacy and level of education.
- Familiarity with technology.
- Variables unique to a specific population (e.g., military culture).

Step 2: Identify your potential biases.

- What is your relationship with technology? Do you see it as positive or frustrating? Does it serve to help your life, or is it a nuisance?
- Do you have any biases regarding the use of technology in clinical care?
- Did you grow up with digital technology or not?
- Do you tend to embrace or reject new technologies? What is your technology adoption style?

Step 3: Use a framework to better understand how you experience these differences.

One example is the Developmental Model of Intercultural Sensitivity (DMIS), also called the Bennett scale after its creator, Dr. Milton Bennett. The model is based on the continuum of cultural awareness from ethnocentricity to ethnorelativity (Bennett, 1993). The following chart illustrates each stage across the continuum and potential biases for using technology in clinical care.

Ethnocentricity – Seeing the world through the lens of your culture
Denial of Difference
Only my view exists.
I don't use smartphones, so I know none of my patients do either.
Defense Against Difference
We are different, but I'm better.
My patients may use smartphones, but I'm better because I don't. "Young kids and their stupid smartphones!"
Minimization of Difference
We might be different, but it's no big deal.
I don't use smartphones and my patients do, but it doesn't impact how I deliver care.
Ethnorelativity – Recognizing multiple ways of vieving the world
Acceptance of Difference
We're different, and I'm OK with that.
I don't use smartphones, but my patients do and I'm OK with that.
Adaptation to Difference
We're different, but I work to think and act in a way that is understanding and respectful of those differences.
I'm not familiar with smartphones, and my patients are. But I'm working to learn how to safely and ethically integrate them into care and to understand the benefits to me and my patients.
Integration of Difference
I respect and value our cultural differences and can operate in both cultures.
Although I didn't grow up in a digital age, I understand how to leverage smartphone technology, how to choose and prescribe apps to support evidence-based treatment and how to communicate security and privacy issues to patients.

Perception of Technology in Clinical Care by DMIS Stage

Step 4: Increase cultural competency.

Use strategies to reach beyond your current perspective. In his theory, Bennett described the changes that occur at each step of the scale — what he calls evolutionary strategies. The following chart illustrates evolutionary strategies from ethnocentricity to ethnorelativity and how they relate to using technology in clinical care.

From Denial to Defense

Subject acquires an awareness of difference between cultures.

I'm starting to realize that although I don't use smartphones, almost everyone else does.

From Defense to Minimization

Negative judgments are depolarized, and the person is introduced to similarities between cultures.

Although those young kids are using smartphones, I remember how excited I was when new technologies came out when I was their age.

From Minimization to Acceptance

Subject grasps the importance of intercultural difference.

Smartphones are here to stay and people seem to like them, so I guess I'll be open to it.

From Acceptance to Adaptation

Exploration and research into the other culture begins.

Mobile apps can provide benefits to me and my patient in clinical care. Maybe I should learn how to safely and ethically integrate them into evidence-based practices.

From Adaptation to Integration

Subject develops empathy for the other culture.

I didn't grow up in the digital age, but I can understand the benefits of smartphone technologies, as well as the challenges they may create.

Evolutionary Strategy (Bennett, 2004)

See Activity Sheet 8 to practice identifying your technological cultural biases and how to increase your cultural awareness to be more inclusive and accepting of other technology adoption styles.

Step 5: Determine the Veteran's relationship with technology.

Culturally competent VA health care staff need to consider how their relationship with technology may differ from that of the Veteran's, because the difference may affect the quality of care. This process begins by using a framework for cultural differences and by understanding one's level of acculturation (Martinez & Eddy, 2005; Tata & Leong, 1994).

See Appendix H for a script for assessing a Veteran's use and familiarity with apps. It should not be assumed that every Veteran is technologically literate or comfortable entering personal data in a VA app. Clinical judgment should be used to determine when an app may not be appropriate for a particular Veteran.

The five established technology adopter categories are (Rogers 1962/2010, p. 282-283):

1. **Innovators (2.5% of the population).** The first individuals to adopt an innovation.

2. **Early adopters (13.5% of the population).** The second-fastest category of individuals to adopt an innovation.

3. **Early majority (34% of the population).** Those who adopt an innovation after a varying degree of time.

4. **Late majority (34% of the population).** Those who adopt an innovation after the average member of society.

5. **Laggards (16% of the population).** The last group to adopt an innovation.

Another consideration for technological cultural competence is the developmental cohort a Veteran and provider belong to. How familiar and comfortable with technology are they? Prensky (2001) called this developmental phenomenon "digital nativism." Younger people, known as "digital natives," have grown up in an era of computing and do not have memories of a time before the internet and smartphones, and they are at ease using a range of technologies. Alternatively, "digital immigrants" have had to learn these technologies in adulthood and may have limited comfort and capabilities using them. In behavioral health services, we frequently see a clash of cultures between VA health care staff and Veterans: One may be a digital immigrant while the other may be a digital native.

However, one's relationship with technology is not set in stone by developmental cohort or by adoption styles. Other influences include (Rogers, 1962/2010):

- **Relative advantage.** The degree to which an innovation is viewed as better than what was used before.
- **Compatibility.** How consistent the innovation is with the values, experiences, and needs of potential adopters.
- **Complexity.** How difficult the technology is to use.
- **Trialability.** The extent to which the innovation can be tested or tried before it is adopted.
- **Observability.** The extent to which the innovation provides results that the potential adopter can observe.

Many factors influence one's choice of whether to adopt a technology. The role of a VA health care staff member is to know a Veteran's level of understanding and acceptance of apps to provide the best care possible. The staff member can use a simple and informal screening process to assess the Veteran's familiarity and comfort level with a proposed technology, as well as their suitability for engaging with the recommended app. The Veteran's relationship with technology may affect the use of technology in the treatment plan.

KEY TAKEAWAYS

- Cultural issues, such as ethnic, racial, and socioeconomic variables, can affect clinical care.
- One person's willingness to consider mobile health technology can be based on many factors, including access to devices, adoption style, and developmental cohort.
- The VA health care staff member's relationship to technology is likely different from the Veteran's, and this can affect the clinical relationship and adoption of mobile health apps. Staff members should assess those differences and use traditional cultural models to mitigate differences.
- The VA health care staff member has a responsibility to meet the Veteran where they are.
- Technology is a way to meet Veterans where they are. The VA health care staff member needs to understand it and how it can help both them and the Veteran.

III.

Conclusion

III. Conclusion

Mobile health holds promise for improving the efficiency and efficacy of the delivery of care as well as clinical outcomes in the Military Health System. The VA Mobile Health Practice Guide outlines the core knowledge areas for the use of mobile health in clinical care:

- Understanding the current level of the app's evidence base.
- Knowing how to integrate apps safely and effectively into clinical care.
- Knowing security and privacy issues and how to communicate them to a Veteran.
- Knowing how to identify and solve any ethical dilemmas that may arise.
- Being sensitive and knowledgeable about cultural considerations regarding the use of mobile health in clinical care.

The information and clinical support tools provided in this guide offer essential resources for VA health care staff to support the safe and effective integration of mobile health into clinical care.

IV.

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IV. References

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V.

Abbreviations and Acronyms

V. Abbreviations and Acronyms

The following abbreviations and acronyms are found throughout this practice guide, or they are frequently used in VA mobile health practices:

ACT	acceptance and commitment therapy
APA	American Psychological Association or American Psychiatric Association
API	application programming interface
ATLAS	Accessing Telehealth through Local Area Stations
BP	blood pressure
BPS	biopsychosocial
CAC	(in DoD) common access card; (in VA) clinical applications coordinator
CBOC	community-based outpatient clinic
CBT	cognitive behavioral therapy
CBT-i	cognitive behavioral therapy for insomnia
CDS	clinical decision support
CPT	cognitive processing therapy
CUSS	Clinical Utilization Statistical Summary
DHA	Defense Health Agency
DoD	U.S. Department of Defense
EHR	Electronic Health Record
ETAU	enhanced treatment as usual
EULA	end-user license agreement
GUI	graphical user interface
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FTC	Facility Telehealth Coordinator
HCS	Health care system
HIPAA	Health Insurance Portability and Accountability Act

HITECH Act	Health Information Technology for Economic and Clinical Health Act
HR	heart rate
iOS	Apple's operating system
IPE	interprofessional education
IT	Information technology
L2 Program	Low Acuity/Low Intensity Telehealth Program
mHealth	mobile health
MSE	mental status examination
mTBI	mild traumatic brain injury
MTF	military treatment facility
PE	prolonged exposure
PGHD	patient-generated health data
PIV	personal identity verification
PTSD	posttraumatic stress disorder
QI	quality improvement
RCT	randomized control trial
SSO	single sign-on
TBI	traumatic brain injury
TMP	Telehealth Management Platform
TMS	Talent Management System
UI	User interface
UX	User experience
VA	U.S. Department of Veterans Affairs
VAMC	VA Medical Center
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network
VSO	Veteran Service Organization

VI.

Glossary

VI. Glossary

app – A computer program that runs on smartphones, tablets, or computers.

> *mobile app* – An app that is downloaded and runs on mobile devices, such as smartphones or tablets.

> *native app* – An app created in a particular programming language for a particular platform or device (e.g., iOS or Android) that a user would download onto their device from the appropriate app store.

> *web app* – An app created to run on a web server and accessible through a web browser (and not downloaded onto a device as a native app).

> *VA connected app* – A VA app that connects with VA's network, enabling the secure flow of information to and from the Veteran and VA health care staff. Connected apps require user authentication credentials to sign in.

> *VA self-contained app* – A VA app that is not connected to VA's network. Self-contained apps do not require any sign-in credentials.

app store – A digital storefront that enables search, review, purchase, and download of software titles or other media offered electronically. In general, a user must establish an account to obtain free content. Common app stores include Apple's App Store and Google Play.

> *Apple's App Store* – An app store that enables users to download apps onto iOS devices. *apple.com/app-store*

> *Google Play* – An app store that enables users to download apps onto Android. *play.google.com/store/apps*

> *VA App Store* – An app store with information on all VA apps and where VA health care staff and Veterans can launch web apps (that are not downloaded as native apps from Apple's App Store and Google Play). *mobile.va.gov/appstore*

automated health text platform – A platform that sends automated health messages to Veterans via text. VA's automated health text platform is called Annie.

Bluetooth – A wireless technology that enables the exchange of data between different devices.

cloud computing – A combination of connections, software, and services accessed over a network, with the data stored on servers. Using access points such as a smartphone, a tablet, a personal digital assistant (PDA), or a computer, users retrieve data from the "cloud" as needed.

CSV file – A comma-separated values file stores numbers and text in plain-text form for easy exchange among programs. Some programs can export data as a CSV file; the exported CSV file then can be imported to the spreadsheet.

encryption – A system of encoding data in which the information can be retrieved and decoded only by the person or system authorized to access it.

firewall – A software program that can intercept incoming and outgoing network connection attempts and block or permit them based on a set of rules. A personal firewall can be used on a mobile device to protect against unauthorized connections.

mobile health (mHealth) – The practice of medicine and health care over mobile devices, PDAs, and computers.

network – A group of two or more devices that can communicate.

patient-generated health data (PGHD) – Health-related data created, recorded, or gathered by Veterans, their family members, or their caregivers. Examples include health history, treatment history, biometric data, symptoms, and lifestyle choices.

remote disabling – The process of remotely disabling a mobile device that has been lost or stolen to keep unauthorized users from gaining access to personal information.

remote patient monitoring – The use of wireless communications devices in conjunction with monitoring hardware to track the condition of Veterans while they are in their homes. VA health care staff can use the data collected through remote monitoring to identify a Veteran's worsening condition without requiring the Veteran to stay in a hospital.

remote wiping – The process of remotely removing the data from a mobile device that has been lost or stolen to keep unauthorized users from gaining access to personal information.

smartphone – A mobile device that combines cellular and mobile computing functions into one unit.

sensor and wearable – A wearable device that has sensor technology that enables the collection of activity data, behavioral data, symptom monitoring, and accessing and sharing data. Examples of common wearable devices include fitness trackers and smartwatches. Some examples of commonly used sensors include accelerometers to measure activity, electrodermal sensors to measure skin conductance, and glucometers to measure blood sugar levels.

telehealth – The use of electronic information and telecommunications technologies to support long-distance clinical health care, Veteran and professional health-related education, public health, and health administration.

> *synchronous telehealth* – Live interactive communication between Veteran and VA health care staff using a phone or videoconferencing platform.

> *asynchronous telehealth* – Communication between Veteran and VA health care staff that is not in real time (e.g., text messages, email, sending images or videos); this is also known as Asynchronous Store-and-Forward Telehealth.

user authentication – The process of verifying the identity of a user, process, or device.

Wi-Fi – The underlying technology of wireless local area networks. Wi-Fi was developed for mobile computing devices, such as laptops, but is increasingly used for more services, including internet and phone access, gaming, and the basic connectivity of consumer electronics, such as televisions, DVD players, and digital cameras.

VII.

Mobile Health Implementation Toolkit (Appendices)

VII. Mobile Health Implementation Toolkit (Appendices)

Appendix A. VA and DoD Technology Training and Resources

VA Office of Connected Care

Website: **connectedcare.va.gov**

SharePoint page: **https://dvagov.sharepoint.com/sites/VHACC**

VA Mobile Health Training and Education

VA App Store: **mobile.va.gov/appstore**

VA Connected Care Discussion Series: **mobile.va.gov/discussion-series**

Connected Care Academy: **vaots.blackboard.com**

Tech Into Care SharePoint page:
https://dvagov.sharepoint.com/sites/VACOMentalHealth/mobile/pages/tech-into-care.aspx

Practice-Based Implementation (PBI) Network CE Lecture Series:
myvaapps.com/pbi-network-ce-lecture-series

National Center for PTSD app overviews, demo videos, and download links: **www.ptsd.va.gov/appvid/mobile**

To order (at no cost) promotional materials on VA apps: **orders.gpo.gov/PTSD.aspx**

VA Telehealth Services

Website: **telehealth.va.gov**

Intranet site: **https://vaww.telehealth.va.gov**

Master Document Library: **https://vaww.infoshare.va.gov/sites/telehealth/docs/Forms/AllItems.aspx**

My Health*e*Vet

Portal: **myhealth.va.gov**

Intranet site: **http://vaww.va.gov/MYHEALTHEVET/**

Marketing and Promotion Toolkit: **http://vaww.va.gov/MYHEALTHEVET/promotion_communication.asp**

My Health*e*Vet Coordinator Listing:
https://vaww.va.gov/MYHEALTHEVET/docs/poc/MHV_VAMC_POCs_for_web.xlsx

Annie App

SharePoint page: ***https://dvagov.sharepoint.com/sites/VHACCSTAFFvamobile/ANNIE/SitePages/Home.aspx***

Annie TV (promotional and training videos):
https://dvagov.sharepoint.com/sites/VHACCSTAFFvamobile/ANNIE/SitePages/AnnieTV.aspx

DoD Mobile Health Resources

Connected Health Clearinghouse webpage: ***health.mil/clearinghouse***

mHealth Clinical Integration webpage: ***health.mil/mhealth***

Connected Health Education and Training webpage: ***health.mil/mhealthtraining***

Military Health Podcast

Next Generation Behavioral Health: ***health.mil/podcasts***

This series offers 10-minute tips for using health technology to treat military and civilian behavioral issues. Dr. Christina Armstrong and Dr. Julie Kinn describe how to safely use a variety of evidence-based apps, websites, and other health technology. Available on iTunes, SoundCloud, Stitcher, and other podcast platforms.

Free continuing education credits are also available at
dhaj7-cepo.com/content/next-generation-behavioral-health-podcast.

Help Desks

Office of Connected Care Help Desk
866-651-3180. Available 24/7.
For VA care teams needing assistance with VA telehealth and all VA apps. For Veterans needing assistance with VA Video Connect.

Health Resource Center
877-470-5947. Monday to Friday, 8 a.m. – 8 p.m. Eastern time.
For Veterans needing assistance with all VA apps, except VA Video Connect.

*My Health**e**Vet Help Desk*
877-327-0022 | 800-877-8339 (TTY). Monday to Friday, 7 a.m. – 7 p.m. Central time.
Or complete the **contact form**.
For technical assistance with My Health**e**Vet.

Appendix B. Mobile Health Competencies

A Framework To Adapt Accreditation Council for Graduate Medical Education (ACGME) Core Competencies to Mobile Technologies Clinical Competencies (Hilty, Chan, et al., 2020)

Area/topic	Novice/advanced beginner (ACGME milestone level 1–2)	Competent/proficient (ACGME milestone level 3–4)	Advanced/expert (ACGME milestone level 5)
Veteran care			

History taking	Add questions such as:
	
	• Are you using mobile technologies and for what?
	  » Fun/social?
	  » Health?
	• Would you like to use it/these for health care, if available?
		Screen systematically with questions such as:
		
		• Which mobile technologies do you use: exercise? entertainment? social? health?
		• For health care?
		  » To communicate with your medical doctor, nurse, or others?
		  » To discuss mental health issues?
		• Do you use mobile technologies more or less than other technologies (e.g., email, text message, apps, internet, social media)?
		• What are the pros/cons?
		  » Are you aware of risks (e.g., privacy, self-disclosure, time delays)?
		  » Include informed consent.
			Include mobile technologies in informed consent; integrate details of personal and health care mobile technologies:
			
			• Discriminate between types of personal use: significant other/spouse, friends, family; individual/group; personal versus professional.
			• Screen for the Veteran's use of privacy settings for mobile technologies and provide advice based on experience.

Engagement and interpersonal skills	Discuss impact of mobile technologies use on: • Relationships with others. • Professional life. • Health care.	Ask preferences with mobile technologies and how they influenced relationships with their family, peers, and professional colleagues: • Positives versus negatives? • Effect on processes of intimacy and emotion. Reflect with Veteran about the effect on therapeutic relationship: • Communication • Intimacy • Boundaries (see professionalism) Compare to other technologies.	Guide Veteran and their family on effective communication using mobile technologies; instruct on best ways to use mobile health: • An evidence-based app with evidence-based approach. • Simplicity with purpose. Instruct others on impact of asynchronous versus synchronous — and combinations — on communication and the therapeutic relationship; discuss expectations of parties involved.

Mental status examination (MSE)	Use mobile technologies to collect information for the MSE.	Compare mobile technologies to in-person and telepsychiatric communication; use mobile technologies to check MSE if applicable. • Determine what can and cannot be realistically assessed with mobile technologies.	For MSE, use mobile technologies: • Judiciously versus in person. • Adjust administration of tasks (e.g., substitute item for impossible task). Use proxy MSE and physical examination from another provider or loved one, if applicable
Assessment	Assess if mobile technologies' use is a relevant issue in personal life and health care; assess how mobile technologies should or should not be used by a Veteran and document your assessment.	Consider the need for collateral information from in-person care or others; assess healthy/unhealthy use of mobile technologies in personal life and health care; integrate mobile technologies components with overall in-person assessments; demonstrate flexibility and decide with the Veteran the role of mobile technologies in Veteran's needs and preferences.	Synthesize information from in-person encounters, telepsychiatry, mobile technologies, and other methods (including discordant data); train, supervise, and consult to optimize assessment, including mobile technologies' use, problems, need for collateral information; identify pros/cons of using mobile technologies and for what purpose(s).
Management and treatment planning	Integrate mobile technologies into biopsychosocial (BPS) approach (see decision support in knowledge); Consider pros/cons of the decision support tool or app (see decision support in knowledge); monitor ongoing mobile technologies use as well as documenting memorable and problematic events as they occur; if indicated, focus part of a visit on the use of mobile technologies and other technologies to talk in-depth	Select mobile technology option based on Veteran preference, skill, and need (i.e., purpose; see clinical decision support [CDS] in knowledge); focus on one treatment goal: • App to monitor mood. • Capture day-to-day accurate accounts of a Veteran's emotions, functioning, and activity (e.g., ecological momentary assessment). Blend mobile technologies with regular clinical discussions, facilitate reflection and assess effect on the therapeutic relationship in and between appointments; identify safety/risk factors of mobile technology use (e.g., advising on medication); create backup plan for failure; triage complex, urgent/emergent issues to synchronous care (e.g., phone, in person); weigh pros/cons of mobile technology use versus other technologies and discuss options for informed consent; document.	Use BPS outline with prioritization, with adjustments for technology; select best mode for a given task (e.g., mobile technologies, email, text message, phone, in person); be aware of legal, billing, and jurisdictional issues for medication; research and disseminate procedures to prevent problems and manage clinical and administrative issues; advise on specific behavioral health problems and specific Veteran populations with relative/absolute contraindications.

Clinical decision support (CDS)	Use mobile technologies within for decision-making and care; review examples with learner/supervisor.	Adjust mobile technologies within parameter(s) for decision-making; help Veterans, learners, and staff use decision support tools based on evidence; prioritize mobile technologies options, email, and tools that integrate into the EHR.	Instruct on how to upload intraplatform data (e.g., questionnaire results) into the EHR to improve quality of care and be efficient.
Veteran and their family education	Understand reliable/healthy and unreliable/unhealthy mobile technologies options; Value of using mobile technologies in health care and when to use it.	Recommend how to use mobile technologies in health care (e.g., tips on how, when and what uses are appropriate; what should be posted and what should not); Offer "good" choices for specific purpose(s) for mobile technologies use in personal life and health care.	Instruct with examples, principles, and evidence for responsible mobile technologies use by people, Veterans, and organizations (e.g., schools); Provide firsthand knowledge of the pros/cons of different mobile technologies for health care.
Administration and documen-tation	Adhere to clinic, health system, and professional requirements for in-person care and consider amendments for mobile technologies and other technologies: • Document in informed consent. • Document key events. • Seek supervision/advice for nonroutine events if needed.	Develop standard language for consent form, treatment plan, and sentinel events on the pros/cons of mobile technologies use; adapt current practices and develop new policies/procedures for mobile technologies and other technologies; seek advice in advance to plan; document; consider/attend to business and financial issues (e.g., pros/cons of time used).	Instruct on issues related to documentation, privacy, and billing for the use of mobile technologies in clinical care.
Medicolegal issues: privacy, confidentiality, safety, data protection/ integrity, and security	Identify and adhere to laws and regulations in the jurisdiction(s) of practice and of that of the Veteran; clarify if mobile technologies access is public, private, and within EHR; advise Veterans to communicate and send data privately (e.g., secure email within EHR).	Apply in-person relevant laws and regulations in any and all jurisdiction(s) to mobile technologies, and if necessary, adjust clinical care; educate Veteran about mobile technologies and adapt existing laws if none exist for them and other telehealth practices; obtain clinical and legal advice, as applicable.	Teach/consult on in-person laws and regulations for mobile technologies and other technologies; develop strategies to adapt legal and regulatory principles from in-person care to mobile technologies use; update/ consult with regulatory boards, health authorities, and professional organizations.
Interpersonal and communication skills			
Communication	Be flexible in discussing mobile technologies use and communication; discuss problems if they arise with asynchronous options and arrange alternative options; seek advice on merit and method of responses, if any, to Veteran's communication.	Discuss scope of communication with mobile technologies, clarify expectations and anticipate problems (e.g., feasibility of checking mobile technology at other sites, clinics); discuss scope, timing, and agreed upon plan(s) for asynchronous options; make brief, clear mobile technologies communications to acknowledge, clarify, and triage to in-person care.	Identify and troubleshoot communication issues related to technology; educate and provide consultation to colleagues about asynchronous technology use; clarify expectations and potential ambiguous (i.e., multiple) meanings of acronyms, abbreviations, and such communication.

Evaluation and feedback	Periodically evaluate examples of decision-making and care with Veteran/supervisor.	Evaluate mobile technologies use, adjust regular evaluation parameter(s), and incorporate real-time examples in ongoing fashion with Veteran/learner/supervisor.	Teach, consult, and model feedback skills related to synchronous and asynchronous technologies; develop teaching cases/in situ examples.
Cultural, diversity, and social determinants of health; attend to language issues	Consider culture and diversity issues related to mobile technologies and other technologies: • How social determinants affect synchronous and asynchronous health care. • Access to mobile technologies. • Sentinel events.	Ask Veteran if/how culture affects use and preferences for mobile technologies and other technologies; promote reflection and awareness of how social determinants and mobile technologies intersect; observe, adjust, and manage language and communication issues (e.g., emoji use).	Include mobile technologies use in cultural formulation interview, if applicable; instruct on how culture may affect mobile technologies use and treatment/Veteran care, as well as how to avoid generalizations and stereotypes; consider consultation.
Special populations	Notices positive and negative trends in Veteran populations (e.g., generation Y or Z, autism spectrum).	Consider preferences of mobile technologies use (e.g., adolescent, Veteran with PTSD); be aware of trends across asynchronous technologies (e.g., email, text message, apps).	Instruct on how to adapt assessment and management approaches according to differences.

Professionalism

Attitude	Show interest in Veteran's use of mobile technologies; demonstrate capacity for self and others' reflection.	Express interest, be nonjudgmental, and be spontaneous in discussing technology; Engage via mobile technologies with appropriate expectations, purpose(s), and safeguards in place.	Provide leadership to colleagues on organizational policy or curricula for mobile technologies and professionalism.
Integrity and ethical behavior	Maintain integrity by adhering to professional and governmental guidelines; recognize boundary, privacy, and confidentiality issues with mobile technologies communication.	Use clinical judgment and ethical principles to purposely use mobile technologies to collect and transfer Veteran information; Reflect on personal compared with professional contexts and potential micro- and macro-boundary violations (e.g., texting Veteran after clinical hours as "convenient"); recognize that personal information (e.g., health) may be accessible and monitor.	Role model, teach, or consult to help others manage complicated ethical issues related to the use of mobile technologies in clinical practice and related to professional identity; research and develop approaches to uphold quality of the therapeutic relationship and communication for care.
Scope and therapeutic objective(s)	Practice within scope(s) and discuss expectations with Veteran; keep focus on shared primary objective of care.	Attend to and evaluate how mobile technologies may alter in-person scope issues; troubleshoot problems; assess if mobile technologies are licensed and reputable, avoid fraudulent practices, and market within regulations (e.g., Federal Trade Commission substantiation rule).	Develop and teach/consult use on mobile technologies to adjust for Veteran populations (e.g., age, illness/disorder); evaluate and advise on complex cases (e.g., high-risk populations, legal complications).

Systems-based practice			
Interprofessional education (IPE) and teamwork	Learn about mobile technologies and other technologies and share information with others.	Discuss/teach mobile technologies issues with team members to enhance care; weigh pros/cons of mobile technologies related to communication, privacy, and clinical productivity.	Assess technology information from IPE team's point of view in systems; adjust assignments/roles; role model/give feedback.
Safety (see Veteran care and professionalism)	Educate Veteran to call and set up additional appointment for emergencies; seek advice/consultation when needed.	Prevent, identify, and risk stratify potential problems based on history with mobile technologies; educate Veteran to use in-person or synchronous (e.g., video, phone) communication for emergencies.	Adjust risk and its management to mobile technologies, based on in-person and technology-based system practice; instruct others in pitfalls of mobile technologies use in health care.
Models, practices, and systems of care	Be aware of consultation, evaluation, triage, and management provider roles; practice with principles of evidence-, measurement-, and population-based care; incorporate workflow between devices (e.g., computers) into EHR.	Give input to administration on (in)efficiencies and opportunities to integrate mobile technologies data in workflow and EHR for decision-making; Distinguish between principles of evidence-, measurement- and population-based care related to mobile technologies; choose when to use mobile technologies versus email, text message, and other technologies when mobile across sites; Apply sensors, remote monitors, and other devices (e.g., home) per medicolegal scope and standards.	Engage providers and consultants about the role of mobile technologies; consider what part, if any, of the "therapeutic hour" is used for mobile technologies, email, text, and other technologies; instruct on home health options related to mobile technologies to enhance clinical evaluation and treatment.
Practice-based Learning			
Evaluation approach	Learn from/participate in global evaluations from Veterans, interdisciplinary team, and clinic/hospital about in-person and technology-based care related to mobile technologies.	Be aware that in-person, mobile technology, and other technology-based care have similarities and differences; suggest improvements; develop/promote attitudes and skills for consistency, quality/specificity, and stability of evaluation.	Teach/consult on practice standards of evaluation and adjustments for mobile technologies; compare/contrast information across professions, disciplines, fields, states, provinces, and countries; shift policies and procedures.
Quality improvement (QI)	Participate in chart review, case/morbidity and mortality conference, and other activities related to in-person and technology-based care.	Apply/adapt in-person QI principles to mobile technologies to adjust assessment and care; educate participants on technology-specific principles and measures.	Develop QI strategies to adhere to and adapt legal, regulatory, and ethical standards (e.g., privacy, access); teach/consult on how to analyze, select and evaluate QI options.
Learning, feedback, and teaching practices	Add technology-based learning opportunities to regular activities; consider role of technology in care.	Continue lifelong learning via seminars, cases, and system discussions; seek out technology-specific education; develop additional technology-specific education short and long term; assess effect(s) of technologies on care.	Research learning and teaching methods to streamline educational approach and evaluation; determine best context(s) for teaching and learning mobile technologies (e.g., supervision, seminar, cases).

Knowledge			
Definition of mobile technologies	Recall definition of mobile technologies; Name two or three mobile technologies with pros/cons.	Describe mobile technologies definitions and various uses, purposes, and risks/benefits to Veterans; professionally familiar with two to three mobile technologies and a mobile health platform for professional use; serve as a resource for others.	Teach multiple mobile technology varieties; consults with colleagues; instruct on the approach to mobile health, selections of apps, and pros/cons.
Evidence-base	Know basic do's and don'ts of mobile technologies for clinical care, as adapted from in-person care.	Know the data, concepts, and principles of mobile technologies use (e.g., standards, guidelines): • How to assess if an app is evidence-based. • How to use an app in an evidence-based clinical approach.	Teach/consult to health care colleagues locally and nationally to develop best practice guidelines using the clinical evidence on mobile technologies.
Problem-solving and prevention	Recognize and report problems; perform basic how mobile technologies are part of assessment and treatment; explain ways in which a Veteran can better learn how to use a mobile technology.	Evaluate new products/options and the pros/cons; assess performance issues of current systems or products; assess user requirements and determine best match for Veterans and other participants with technology options; diagnose complex problems and resolve nonroutine problems that affect team; serve as a resource to others; know how to request technical assistance.	Research and disseminate personal versus professional aspects of mobile technologies platforms; keep up to date with latest mobile technologies developments (e.g., privacy).
Veteran care	Answer questions, discuss, and adjust mobile technologies in comparison to in-person care, including consent, privacy, data protection/integrity, and security safety and documentation; be aware of mobile technologies security measures (e.g., password protection).	Teach, discuss, clarify, develop, and adjust options for mobile technologies in comparison to in-person care in additional areas of scope of practice, communication, culture, and diversity, ethics, and care models; be aware of mobile technologies security measures (e.g., password protection bypassed if incoming call "goes around" security measure).	Demonstrate extensive knowledge of mobile technologies to advise colleagues on practical knowledge of how to use them.
Decision support	Understand the role of technology in initiating, enhancing, and monitoring decision-making; use mobile technologies for decision-making and care; review examples with learner/supervisor.	Find and evaluate the role of mobile technologies in initiating, enhancing, and monitoring decision-making; compare the pros/cons of mobile technologies with manual operations (e.g., error identification, duplicative processes) for an acute versus chronic condition; help Veterans, learners, and staff use decision support tools based on pros/cons; realize that adjustments to mobile technologies parameter(s) are possible to aid in decision-making.	Demonstrate extensive knowledge of mobile technologies to advise colleagues on how to evaluate decision support tools; instruct on fundamentals of adjusting to mobile technologies parameter(s) to aid in decision-making.

Risks of using mobile technologies	Identify one potential Veteran risk of mobile technologies use (e.g., privacy violation); identify one potential provider risk of mobile technologies use (e.g., boundary or privacy violation).	Identify two to three potential Veteran risks of mobile technologies use and advise on how to prevent, mitigate, or eliminate them (e.g., use privacy settings, avoid self-disclosure, manage cyberbullying); identify two to three potential provider risks of mobile technologies use and prevent, mitigate, or eliminate them.	Demonstrate extensive knowledge of mobile technologies risks and advise colleagues; anticipate common pitfalls and how to prevent/mitigate them.
Technology			
Adapt to technology	Use basic etiquette; identify differences between care through in-person encounters, telepsychiatry, and mobile technologies; clarify/spell out brief communications; keep mobile technologies contact proportioned and specific to goals of the treatment plan.	Clarify expectations in person rather than asynchronously; acknowledge and engage the Veteran, as clinically indicated (e.g., a Veteran with depression's ability to use an app); expect and plan for differences between participants; prevent, identify, and manage barriers and miscommunications; adjust how to "project" self; express empathy.	Generally, avoid humor, self-deprecatory remarks, and jokes via synchronous methods; analyze what happened and adjust for next time; find meaningful ways to express empathy.
Technology operation	Pilot one or two mobile technologies with peers to learn communication options.	Gain experience with mobile technologies; navigate options, if needed, and advise Veterans relative to goal and purpose.	Research and teach/consult on best approaches for mobile technologies operations for clinical quality (e.g., hard and software, accessories, common troubleshooting strategies).

Appendix C. Examples of Mobile Health Levels of Evidence

VA Apps

Evidence base to support PTSD Coach:

- **Level I** – This app is built on a foundation of empirically supported techniques for education and treatment engagement. (See Possemato et al., 2016, for a description of the development and initial pilot of PTSD Coach.)

- **Level II** – The randomized control trial (RCT) showed significantly greater improvements in PTSD symptoms compared with waitlist Veterans (Kuhn et al., 2017).

- **Level III** – A pilot RCT with community trauma survivors showed initial acceptability and potential efficacy (Miner et al., 2016).

- **Level III** – A study showed significant reductions in PTSD symptoms during use (Owen et al., 2015).

- **Level III** – This app is appropriate for self-management of PTSD symptoms (Kuhn, Greene, et al., 2014).

- **Level III** – This app can be used as an effective intervention for reducing PTSD symptoms in primary care settings, even if the Veteran receives only a 10-minute introduction to the app (Possemato et al., 2017).

- **Level IV** – The PTSD checklist administered via PTSD Coach is comparable to the paper form. (Price et al., 2015).

Evidence base to support PE Coach:

- **Level I** – Prolonged exposure (PE) therapy is a well-established, empirically supported treatment for PTSD in combat Veterans (Eftekhari et al., 2013).

- **Level IV** – Providers indicate that PE Coach meets their goals for improving PE implementation (Kuhn et al., 2015; Kuhn, Eftekhari, et al., 2014).

- **Level IV** – Veteran perceptions toward this app are positive, showing preference over paper-based exercises (Kuhn et al., 2015).

Evidence base to support CPT Coach:

- **Level I** – This app is based on the military/Veteran version of cognitive processing therapy (CPT) (Monson et al., 2006) and was developed by VA (Hoffman et al., 2014).

- **Level VII** – This app has not been empirically evaluated (Wangelin, Szafranski, & Gros, 2016).

Evidence base supporting text messaging in health care:

- **Level I** – Using text message reminders in health care services: a narrative literature review (Schwebel & Larimer, 2018).

- **Level I** – A systematic review of reviews evaluating technology-enabled diabetes self-management education and support (Greenwood et al., 2017).

- **Level I** – Mobile text messaging for health: a systematic review of reviews (Hall et al., 2015).

- **Level I** – The use of apps and SMS messaging as physical and mental health interventions: Systematic review (Rathbone & Prescott, 2017).

Evidence base to support the Annie app:

- **Level II** – Several RCTs in progress.

- **Level III** – Automated text messaging with Veterans in Department of Veterans Affairs specialty clinics: hybrid type 2 effectiveness implementation study (Yakovchenko et al., 2019, 2017).

- **Level III** – Use of mobile messaging system for self-management of chemotherapy symptoms in patients with advanced cancer (Jaenicke et al., 2019).

- **Level III** – Veterans found messages helpful, felt more connected to their VA care teams, and most followed wellness tips (Saleem et al., 2020).

- **Level III** – Text message reminders and intensive education improves positive airway pressure compliance and cognition in veterans with traumatic brain injury and obstructive sleep apnea: Annie pilot study (Kataria et al., 2018).

DoD Apps

VA health care staff may also consider using mobile mental health apps developed by DoD, as they are also informed by evidence and have rigorous privacy policies. Empirical evidence supporting these apps varies.

Evidence base to support T2 Mood Tracker:

- **Level I** – There is a vast amount of literature supporting mood tracking to support PTSD symptoms (Fernandez & Short, 2014); chronic health conditions (Vance, 2014); bipolar symptoms (Andersen & Babic, 2014); and mood symptoms (Bush et al., 2014).

- **Level VI** – One case study of T2 Mood Tracker conducted with eight Service members showed that the app was useful, beneficial, and easy to use (Bush et al., 2014).

Evidence base to support Virtual Hope Box:

- **Level I** – Based on the physical hope box or crisis kit that can provide patients with reminders of coping skills and reasons for living (Berk et al., 2004), Virtual Hope Box has demonstrated utility in identifying and managing suicidal thoughts and related behaviors and emotion regulation (Brenner et al., 2009; Wenzel et al., 2009).

- **Level II** – One RCT comparing Virtual Hope Box with enhanced treatment as usual (ETAU) showed modest improvements in both conditions in coping, suicidal ideation, and perceived stress. Virtual Hope Box improved coping significantly at three and 12 weeks, compared with ETAU, and the app appears to work as intended to help cope with stress (Bush et al., 2017).

- **Level III** – One published pilot study using the app as an accessory to therapy showed favorable results as a proof of concept in a clinical sample of Veterans (Bush et al., 2015).

Evidence base to support Positive Activity Jackpot:

- **Level I** – This app is based on Lewinsohn's 1974 reinforcement theory of depression that posits that the quantity and quality of an individual's reinforcement-related interactions are linked to feelings of depression and that treatment increases pleasant events (Lewinsohn et al., 1980) and thoughts to help regulate emotions (Linehan, 1993).

- **Level VII** – No additional research has been conducted to evaluate the Positive Activity Jackpot to traditional scheduling of pleasant events as a part of behavioral activation. Using an established hierarchical system for the evaluation of research, VA health care staff can determine the level of evidence and make informed recommendations to Veterans.

Appendix D. Clinician's Guide: VA Virtual Care Tools

The Clinician's Guide: VA Virtual Care Tools handout provides VA health care staff with a way to determine which virtual care tools to use for the Veterans they treat based on symptoms, platform, and functionality. The guide was developed as a crossorganizational product in collaboration with the VA telehealth, My Health*e*Vet, and VA communications, mobile, and web teams. It is available on the Connected Care SharePoint site at *dvagov.sharepoint.com/sites/VHACC/SitePages/Outreach-Toolkit.aspx*.

Clinician's Guide: VA Virtual Care Tools
Helping Clinicians Choose Virtual Tools for Veterans

Legend:
- ● iOS ▲ Android
- ■ Web ■ Options
- ● Requires login

Intended for use in treatment

Rows (symptoms / conditions):
- Airborne Hazards and Open Burn Pit Registry
- Annie App for Veterans
- MobileKidney
- Pain Coach
- Somnoware
- VA FitHeart
- CBT-i Coach
- COVID Coach
- Insomnia Coach
- Live Whole Health
- Mindfulness Coach
- MOVE! Coach
- Stay Quit Coach
- VA Pressure Ulcer Resource
- VetChange
- ACT Coach
- AIMS for Anger Management
- CPT Coach
- Couples Coach
- PE Coach 2
- PTSD Coach
- PTSD Family Coach
- STAIR Coach

Condition categories:
- Alcohol, drug, and tobacco use
- Anger and irritability
- Anxiety, stress, and PTSD
- Cancer and oncology
- Depression
- Diabetes and kidney health
- Disaster and exposure
- Dyslipidemia (cholesterol)
- Family and caregivers
- Hypertension (high blood pressure)
- Mindfulness and resilience
- Pain and headaches
- Personal development and goal setting
- Pressure ulcers
- Sleep and insomnia
- Traumatic brain injury
- Weight loss, nutrition and exercise

Column groupings:
- For Veterans To Manage Their Care
- For Veterans To Achieve Their Health Goals
- For Veterans To Improve Their Mental Health

Connect today! For more information about these apps, visit *mobile.va.gov/appstore*.

Need help accessing these virtual health tools or setting them up? Call:
Health Resource Center Help Desk: **877-470-5947** | **Monday to Friday: 7 a.m. – 7 p.m. CT.**
Office of Connected Care Help Desk: **866-651-3180** | **24/7**

● Requires Login
Veterans: My HealtheVet Premium, DS Logon Level 2 (Premium), or ID.me
VA staff: PIV, PIV exemption, or VistA login credentials

VA Mobile   VA Telehealth   My HealtheVet

Draft version 3.0   Updated: 12MAR2021   Send feedback on this draft version to: surveymonkey.com/r/VAVirtualCare

U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Connected Care

Printing instructions:

8.5" x 11" paper (standard weight).
Color ink preferred but not required.
Print on both sides. Flip on short edge.

VA | U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Connected Care

Clinician's Guide: VA Virtual Care Tools
Helping Clinicians Choose Virtual Tools for Veterans

Legend:
- ● iOS ▲ Android
- ■ Web ■ Options
- ➲ Requires login

Where to access virtual tools and training materials:
- myhealth.va.gov
- mobile.va.gov
- telehealth.va.gov

Column headers (apps): Annie App for Veterans | Rx Refill | VA Health Chat (at limited sites) | VA Online Scheduling | CHAMPVA Pay | My VA Images | Image Viewing Solution | Patient Viewer | VA Mental Health Checkup | Ask a Pharmacist | Virtual Care Manager | VA Video Connect | Synchronous Telehealth | ATLAS (Accessing Telehealth through Local Area Stations) | Remote Patient Monitoring – L2 (Low Intensity) | Remote Patient Monitoring – Home Telehealth (HT) (Complex Care) | Asynchronous Telehealth

Patient
- View or download VA health records
- Take health assessment
- Send images
- Schedule appointment
- Refill prescription
- Receive health texts
- Communicate with VA staff

Both
- Look up participation status of CHAMPVA medical codes

Clinician
- Assign/recommend self-management protocols
- Conduct anywhere-to-anywhere virtual visit
- Conduct clinic-to-clinic virtual visit
- Conduct virtual visit to local area stations
- Provide case management/remote care
- Provide health coaching and patient education
- View images sent by patient

To help Veterans access virtual tools requiring logon, VA staff can help Veterans register for a My HealtheVet Premium account to get them started. When considering the possibility of a virtual visit, VA staff should ask whether a patient is "video-capable," i.e. has a computer, smartphone, or tablet with a camera, and access to the internet. If the patient is not video-capable, contact your local VA facility telehealth coordinator to determine the Veteran's eligibility for the equipment loan and/or Lifeline programs.

Need help accessing these virtual health tools or setting them up? Call:
Health Resource Center Help Desk: **877-470-5947 | Monday to Friday: 7 a.m. – 7 p.m. CT.**
Office of Connected Care Help Desk: **866-651-3180 | 24/7**

Appendix E. Prescription for VA Virtual Care Tools

The Prescription for VA Virtual Care Tools, or Prescription Pad, handout supports VA health care staff members when communicating with the Veteran about the app they have decided to use in treatment. It is available on the Connected Care SharePoint site at *dvagov.sharepoint.com/sites/VHACC/SitePages/Outreach-Toolkit.aspx*.

Prescription for VA Virtual Care Tools
Expanding Veteran Access to Care Through Virtual Technologies

● iOS ▲ Android ■ Web ⊕ Requires login

U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Connected Care

Page 1 of 2

Achieve Your Health Goals

CBT-i Coach ●▲ — Receive support for cognitive behavioral therapy (CBT) for insomnia.

COVID Coach ●▲ — Receive tools to support self-care and mental health during the COVID-19 pandemic.

Insomnia Coach ●▲ — Guided training and tips to help you track insomnia and improve sleep.

Live Whole Health ●▲ — Learn skills to help you reach your whole health goals.

Mindfulness Coach ●▲ — Learn mindfulness to reduce stress and improve emotional balance.

MOVE! Coach ●▲ — Lose weight with this app's 19-week weight loss program.

Stay Quit Coach ●▲ — Create a tailored plan to quit smoking and stay smoke-free.

VetChange ●▲ — Develop healthier drinking habits through this app's tools and guidance.

Improve Your Mental Health

ACT Coach ●▲ — Practice lessons learned during acceptance and commitment therapy (ACT) in your daily life.

AIMS for Anger Management ●▲■ — Better track, address, and manage your anger with AIMS.

Couples Coach ●▲ — Explore ways to improve your relationship with your partner.

CPT Coach ●▲ — Enhance your cognitive processing therapy (CPT) treatment for PTSD.

PE Coach 2 ●▲ — Use this app during prolonged exposure (PE) therapy with a health professional.

PTSD Coach ●▲ — Get the info, support, and tools you need to manage PTSD.

PTSD Family Coach ●▲ — Receive the support you need for living with someone who has PTSD.

STAIR Coach ● — Enhance your in-person STAIR psychotherapy with interactive tools and education.

Connect With Your Care Team

Annie App for Veterans ■ — Receive text reminders to help you manage your care.

Ask a Pharmacist ■ — Access information about VA pharmacies and medication easily.

My VA Images ■ — Submit and track dermatology and health photos and videos in response to requests from your VA provider.

Pain Coach ■ — Receive helpful tools for tracking and managing chronic pain.

Somnoware ■ — Pair this app with your CPAP machine to track your sleep apnea at home.

VA Health Chat ●▲ — Chat with VA staff members through easy online access (available at limited sites).

VA Online Scheduling ■ — Schedule, request, and track VA appointments with ease.

VA Video Connect ●▲■ — Secure video visits with your VA care team from anywhere.

Manage Your Care

Airborne Hazards and Open Burn Pit Registry ■ — Access information and resources for deployment-related exposures.

MobileKidney ■ — Monitor your kidney health and access educational resources.

VA Mental Health Checkup for Veterans ■ — Monitor, assess, and access information for mental health conditions.

VA Pressure Ulcer Resource ●▲ — Learn to prevent and care for pressure ulcers and injuries.

Rx Refill ●▲ — Request, refill, and track VA prescriptions with ease.

Connect today!

To browse more tools that may fit your needs, visit **mobile.va.gov/appstore**.

Most apps are available on the Apple App Store and Google Play, however, some apps are available only on the VA App Store through a desktop version.

If you need technical assistance with these tools, call:

Health Resource Center Help Desk:
877-470-5947 | **Monday to Friday: 7 a.m. – 7 p.m. CT.**

Office of Connected Care Help Desk:
866-651-3180 | **24/7**

Draft version 3.0   Updated: 12MAR2021

VA Mobile   VA Telehealth   My HealtheVet

Send feedback on this draft version to: **surveymonkey.com/r/VAVirtualCare**

Printing instructions:

8.5" x 11" paper (standard weight).
Color ink preferred but not required.
Print on both sides. Flip on short edge.

Prescription for VA Virtual Care Tools
Expanding Veteran Access to Care Through Virtual Technologies

My HealtheVet

Gain greater control of your VA personal health records with online access from anywhere, at anytime.

Since 2003, My HealtheVet has served as a trusted online portal designed to allow you to easily access your Personal Health Record (PHR). Whether at home or on-the-go, you can review health care records, discover educational sources, and conveniently communicate with your VA care team. My HealtheVet supports you in making informed health decisions to manage your personal care plans

With a Premium account, you can send and receive secure messages with your VA care teams, review your health care providers' notes, order prescription refills, manage your VA appointments, and more.

To learn more about My HealtheVet, register for a Premium account by visiting *myhealth.va.gov.*

☐ **Sign up for a My HealtheVet Premium Account**
If you need help signing up, visit or contact your local VA My HealtheVet Coordinator.

Name: _____

Contact: _____

Need help accessing these virtual health tools or setting them up? Call:
Health Resource Center Help Desk: **877-470-5947 | Monday to Friday: 7 a.m. – 7 p.m. CT.**
Office of Connected Care Help Desk: **866-651-3180 | 24/7**

Instructions:

Draft version 3.0   Updated: 12MAR2021

VA Telehealth

Increase your access to high quality VA care from home, the clinic, or the hospital.

VA Telehealth programs and technologies make it easier for you to connect with your VA care team and access care when and where you need it.

☐ **Remote Patient Monitoring – Home Telehealth (HT), Low Intensity, Low Acuity (L2)**

☐ **Synchronous Telehealth**
Connect with your VA care team through secure, real-time video.

☐ **Asynchronous Telehealth**
Send secure messages, photos, or videos to your VA care team.

☐ **Veteran requests telehealth visits and is video-capable** (i.e. has a computer, tablet, or smartphone and internet) and requests help for VA Video Connect setup.

☐ **Veteran requests telehealth visits, but is not video-capable** (i.e. lacks computer, tablet, or smartphone and internet) and wants referral to the equipment loan program.

☐ **Veteran needs/wants help** to become video capable.
Talk to your provider about whether VA telehealth could be right for you. For more information and a list of VA telehealth specialties, visit *telehealth.va.gov.*
To discuss options selected above, contact:

Name: _____

Contact: _____

annie

Improve your self-care online or through mobile text messaging.

Annie is the VA's automated text message system that sends automated messages to help you manage your care. You can receive health text messages without having to log into any system. Any mobile device with texting capabilities can receive Annie messages.

Learn more and sign up for the protocols listed below at *mobile.va.gov/annie.*

Annie protocols recommended today:

☐ **Coping during COVID-19**
☐ **Coronavirus Precautions**
☐ **COVID-19 Vaccination Support**
☐ **Oncology Symptom Reporting**
☐ **Stress Management**
☐ **Tobacco Cessation**
☐ **Weight Management**
☐ **Other:** _____

Send feedback on this draft version to: *surveymonkey.com/r/VAVirtualCare*

Appendix F. Mobile Health Security and Privacy Handout for Veterans and VA Health Care Staff

The handout below provides Veterans and VA health care staff with information on the protection of mobile health data. This handout can be used as a resource to frame discussions VA health care staff may have with Veterans interested in mobile health security.

Mobile Devices: Tips to Protect and Secure Health Information

- Use a password or other user authentication.
- Install and enable encryption.
- Install and activate wiping and/or remote disabling.
- Disable and do not install file-sharing applications.
- Install and enable a firewall.
- Install and enable security software.
- Keep security software up to date.
- Research mobile applications (apps) before downloading.
- Maintain physical control of your mobile device.
- Use adequate security to send or receive health information over public Wi-Fi networks.
- Delete all stored health information before discarding or reusing the mobile device.

HealthIT.gov — Advancing America's Health Care

Appendix G. Top 20 FAQ

1. **Q:** How much do VA and DoD apps cost?

   A: They are free.

2. **Q:** How do we get the apps?

   A: Information on all the apps can be accessed on the VA App Store at **mobile.va.gov/appstore**. Some apps are mobile apps that users can download onto a smartphone or tablet, and others are web apps that users can access directly through a web browser. Most mobile apps are available for both iOS and Android devices, but some apps are only available on either iOS or Android. Web apps can be accessed through a web browser and require the user to sign in. VA and DoD mobile apps can be downloaded from app marketplaces — Apple's App Store for iOS devices and Google Play for Android devices.

   To download an iOS app:

   - Using an Apple device (e.g., iPhone, iPad), select the App Store icon to search for the app.
   - Once you find the app, select Get, and then follow the installation instructions.
   - Once the app is installed, select the app icon and follow the on-screen instructions.
   - Read and accept the end-user license agreement.
   - You are ready to use the app.

   To download an Android app:

   - Using an Android device, open Google Play.
   - Search for the name of the app.
   - Select the desired app, then select Install.
   - Once the app is installed, open the app and follow the on-screen instructions.
   - Read and accept the end-user license agreement.
   - You are ready to use the app.

3. Q: Who can see the data in the apps?

A: All of VA's apps keep data securely protected, enabling you to use the apps to improve health and wellness without privacy concerns. Although all VA apps keep personal information secure, some apps do so in different ways than others. Where the data is stored and who can see it is different based on whether a VA app is a connected or self-contained app.

Connected apps are apps that connect to the VA network, so additional data security is required to make sure protection meets strict federal standards. These apps require secured user authentication with DS Logon, ID.me, or My Health*e*Vet Premium sign-in credentials and enable Veterans to share information with their VA care teams. Data from connected apps can be seen by VA health care staff. Examples of connected apps include Virtual Care Manager and the Annie app.

Self-contained apps are apps that do not require any sign-in process and do not connect to the VA network. Examples of self-contained apps include PTSD Coach and COVID Coach.

The following video covers how to demonstrate an app and respond to Veterans' security and privacy questions: *bcove.video/2TjsxB9*

4. Q: How do you know which apps are connected and which are self-contained?

A: Connected apps have a lock on the lower right-hand corner of their app icon.

5. Q: Why are VA mobile apps not available on BlackBerry or Windows phones?

A: Most people have devices that support either the iOS or Android operating systems. There is simply not enough of a market to justify the cost of developing apps for the less common platforms.

6. Q: What are the benefits of using VA apps in health care?

A: Some of the benefits include:

- 24/7 access to health assessments and educational content.
- Confidentiality when security settings are in place.
- Ability to download apps privately, offsetting the stigma of in-person care.
- Integration of the Veteran into real-time symptom monitoring and management.
- Remote monitoring and reporting to inform various medical and behavioral metrics.
- Digital information that can be tracked across multidisciplinary teams.
- Wearable sensors that enable tracking and recording of physiological coordinates.
- Education and assessment features that support preventive health care.
- Tracking that facilitates the review of clinical trends and chronic disease management.
- Mitigation of barriers to care (e.g., appointment scheduling, time off work).
- Accurate, analyzable data that can be uploaded to an Electronic Health Record.
- Data that enables systematic assessment of treatments and outcomes.

7. Q: Is there evidence to support that using apps improves patient outcomes?

A: All apps developed by VA and DoD are built on evidence-based foundations such as cognitive behavioral therapy and prolonged exposure therapy. In addition, several apps have had additional research comparing the use of the app in treatment with traditional delivery of treatment. At this time, published randomized control trials with PTSD Coach and Virtual Hope Box have been completed. See Kuhn et al. (2017) for the PTSD Coach study and Bush et al. (2017) for the Virtual Hope Box study.

8. Q: How many people have used these apps?

A: As of October 2020, VA connected apps have more than 1 million cumulative users, and VA self-contained apps and DoD apps have been downloaded more than 9 million times. The number of cumulative users and downloads for VA and DoD apps on all their platforms include:

VA Connected Apps

- Annie (web) – over 30,000 total Veterans
- Ask a Pharmacist (web) – 1,366 cumulative unique users
- Mental Health Checkup (web) – 273 cumulative unique users
- My VA Images (web) – 371 cumulative unique users
- Pain Coach (web) – 1,672 cumulative unique users
- Patient Viewer (web) – 3,123 cumulative unique users
- Rx Refill (Android, iOS) – 27,555 downloads
- Sync My Health Data (Android, iOS) – 256 cumulative unique users
- VA Health Chat (Android, iOS, web) – 4,647 cumulative unique users
- VA Video Connect (Android, iOS, web) – 803,355 cumulative unique users
- Virtual Care Manager (web) – 95,565 cumulative unique users

VA Self-Contained Apps (total downloads = more than 4 million)

- ACT Coach (Android, iOS) – 246,183 downloads
- AIMS for Anger Management (Android, iOS) – 222,407 downloads
- CBT-i Coach (Android, iOS) – 635,873 downloads
- Concussion Coach (retired) – 177,605 downloads
- Couples Coach (Android, iOS) – 28,830 downloads
- COVID Coach (Android, iOS) – 243,634 downloads
- CPT Coach (Android, iOS) – 202,839 downloads
- Insomnia Coach (Android, iOS) – 31,668 downloads
- Mindfulness Coach (Android, iOS) – 733,760 downloads
- Mood Coach (retired) – 206,236 downloads
- Moving Forward (retired) – 182,440 downloads
- Parenting2Go (retired) – 384,704 downloads
- PE Coach (Android, iOS) – 207,232 downloads

- PFA Mobile (Android, iOS) – 97,107 downloads

- PTSD Coach (Android, iOS) – 470,310 downloads

- PTSD Family Coach (Android, iOS) – 175,250 downloads

- STAIR Coach (iOS) – 154,191 downloads

- Stay Quit Coach (Android, iOS) – 157,370

- VetChange (Android, iOS) – 145,427 downloads

DoD Apps (total downloads = more than 5 million)

- Antimicrobial Stewardship (web) – 3,569 unique page views

- Breathe2Relax (Android, iOS) – 2,198,945 million downloads

- Decide + Be Ready (iOS) – 5,746 downloads

- Dream EZ (Android, iOS) – 75,473 downloads

- LifeArmor (Android, iOS) – 47,955 downloads

- Pain and Opioid Safety (Android, iOS) – 447 downloads

- Pediatric to Adult Care (Android, iOS) – 212 downloads

- Positive Activity Jackpot (Android) – 48,074 downloads

- Provider Resilience (Android, iOS) – 70,281 downloads

- Sesame Street for Military Families (Android, iOS) – 87,159 downloads

- Tactical Breather (Android, iOS) – 117,669 downloads

- The Big Moving Adventure (Android, iOS) – 919,290 downloads

- T2 Mood Tracker (Android, iOS) – 456,404 downloads

- Virtual Hope Box (Android, iOS) – 766,120 downloads

9. **Q:** Are these apps secure?

A: For the VA and DoD apps that are available on Apple's App Store and Google Play, data on the app is encrypted so that nobody but the user, or someone who has access to their device, can view what is in the app.

Apps that connect to VA's Electronic Health Record (EHR) require secured user authentication and typically have a lock image on the lower right-hand corner of the app icon. These security controls help make sure protection meets strict federal standards of security and privacy.

Apps allowing access to a Veteran's EHR require VA authentication. Connected apps require Veterans to sign in using approved VA credentials (i.e., DS Logon, ID.me, or My Health*e*Vet Premium). To learn about how a Veteran can upgrade their My Health*e*Vet account to Premium, visit ***myhealth.va.gov/mhv-portal-web/upgrading-your-my-healthevet-account-through-in-person-or-online-authentication***.

The connected apps for VA care teams are available only through VA's secure network. These apps require authentication to sign in via personal identity verification (PIV), PIV exemption, or VistA sign-in credentials. VA health care staff members can learn how to link their PIV at ***mobile.va.gov/sites/default/files/piv-linkage-process.pdf***. They can also watch the following two-minute tutorial on setting up PIV-D: ***youtube.com/watch?v=DyA5YUBCCUQ&feature=youtu.be***.

All VA connected apps are web apps, meaning they are accessed via a website and are not downloaded from Apple's App Store or Google Play. All of these apps can be accessed via ***mobile.va.gov/appstore***.

10. **Q:** Can anyone else see the personal data I save on a VA or DoD app that I downloaded in Apple's App Store or Google Play?

A: Neither VA nor DoD staff can see any of the information that users include in VA self-contained apps (those that do not require sign-in authentication). For VA connected apps (those that require user sign in and connect to VA's network), the VA care team may be able to view the data you include in these apps.

11. Q: What do we do if we find a bug or technical issue in an app?

A: There are several ways to send feedback or report issues:

- In app stores: For apps that are downloaded from Apple's App Store or Google Play, users can provide feedback through the app stores. Users can also provide feedback for any VA app through the VA App Store at *mobile.va.gov/appstore*.

- Within the app: Users can access the app menu to send feedback or report an issue.

- Phone: VA care teams or Veterans needing assistance can call the Office of Connected Care Help Desk at 866-651-3180, 24 hours a day, seven days a week.

- Email: VA care teams or Veterans who need help with VA self-contained apps (e.g., PTSD Coach, COVID Coach, Mindfulness Coach) can email *MobileMentalHealth@va.gov*.

12. Q: Why were these apps built?

A: To increase access to health care and to help Service members and Veterans overcome stigma and barriers to asking for help. Although apps can supplement treatment and reinforce the benefit of face-to-face care, they are not a substitute for therapy.

13. Q: Who develops these apps?

A: Although the stand-alone apps created by the VA and DoD are developed primarily for Service members, Veterans, and their families, anyone with a smartphone or tablet can access the information and tools available in the apps at no cost. For VA connected apps, they are only available to Veterans and VA health care staff with proper authentication credentials needed to log in to the apps.

14. Q: Can you recommend apps that are not built by VA or DoD?

A: Although Veterans can use any app they choose, and most of the guidelines included here apply to some extent to all apps, VA and DoD do not recommend any specific commercial products or devices because of the organizations' regulations. If you select a commercial app, VA and DoD recommend that you verify that it is made by a trusted source. Also, understand which permissions the app requires before downloading.

15. Q: Are there companion websites available for these apps?

A: Available online programs, some of which are online versions of the mobile apps, can be found here: ***www.ptsd.va.gov/appvid/courses.asp***

16. Q: What security and privacy policies were followed to build these apps?

A: Applicable policies and guidelines include:

- Privacy Act of 1974
- Health Insurance Portability and Accountability Act of 1996 (HIPAA)
- HIPAA Security Rule (2003)
- Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009
- Child Online Privacy Protection Act of 1998 (COPPA)

Federal organizations that provide oversight to security and privacy for mobile health tools include:

- U.S. Department of Health and Human Services
- Health IT Standards Committee
- Health IT Privacy Committee
- Defense Health Agency Privacy and Civil Liberties Office
- Office of the National Coordinator for Health Information Technology

17. Q: Are the apps available in languages other than English?

A: Most VA and DoD apps are available only in English. PTSD Coach and COVID Coach are available in English and Spanish. The language can be changed within the app. From the home screen, select the lateral menu (three horizontal bars in the top-left corner). Then, select "Personalize" then "Language" to see the options. PTSD Coach has also been versioned for use in a number of other countries, often in other languages (e.g., French, German). For more information, email ***MobileMentalHealth@va.gov***.

18. Q: Can apps be used with telehealth?

A: Absolutely! Health technologies can be used in many different combinations. The goal is to meet the Veteran's needs and deliver the highest quality of care possible. It is recommended that VA health care staff become familiar with all VA's available health technologies, so they may offer the technologies that best support the delivery of care.

19. Q: What is the number one VA health technology that VA health care staff should recommend to Veterans?

A: Although there are many options, and what is "best" will change based on Veteran needs, My Health*e*Vet is the baseline health technology that all Veterans should have access to. There are two reasons for this:

- Although this is the VA Mobile Health Practice Guide, and My Health*e*Vet is not an app (it is a web platform), it is still the first choice out of VA health technologies to recommend to Veterans. The reason for this is because My Health*e*Vet is VA's online patient portal, and when Veterans have a Premium account, they can download their VA health records, refill VA prescriptions, send secure messages to VA health care staff, schedule VA appointments, and access many other VA health resources.

- Once a Veteran has a My Health*e*Vet Premium account, those sign-in credentials (i.e., username and password) are the same ones they can use to sign in to any of the VA connected apps for Veterans.

20. Q: What if someone has a question on this material?

A: They can send an email to *CHimplementation@va.gov*.

Appendix H. Script for Assessing Veteran Readiness To Use VA Apps

This section provides a hypothetical walk-through of an interaction between a VA health care staff member and Veteran who is seeking VA health care. The provider introduces the PTSD Coach app to be used in conjunction with the Veteran's care.

In the example below, Mr. Jackson has been experiencing a variety of symptoms, including weight loss, difficulty sleeping, and chronic tension. At his VA primary care clinic, the provider conducting the evaluation suspects that Mr. Jackson's complaints are the manifestation of a behavioral health condition — possibly depression or, given his combat experience, posttraumatic stress disorder (PTSD).

The primary care provider recommends a referral to a psychologist. Mr. Jackson is reluctant at first, voicing his concern, but finally agrees to see the specialist. During the face-to-face intake, the specialist Dr. Martin determines that Mr. Jackson is presenting with PTSD. She also recognizes that Mr. Jackson is hesitant about engaging further in psychological treatment.

Dr. Martin: Do you own a smartphone?

Mr. Jackson: Yes, ma'am. I have an iPhone.

Dr. Martin: Do you have any apps to track health issues?

Mr. Jackson: Yes, I have been tracking my steps and heart rate through this app. I wear this device around my wrist that tracks it for me.

Dr. Martin: How has that been working for you?

Mr. Jackson: It has been really helpful in reminding me to get my steps in each day. I've already started losing weight too.

Dr. Martin: That is wonderful. VA has developed many health technologies to support care, including apps. Let's look at this Clinician's Guide for VA virtual care tools (see Appendix D) to see what's available.

Mr. Jackson: I didn't realize that VA had created so many apps! Are they free?

Dr. Martin: Yes, they are all free. Let's look at what is available to support learning and coping with symptoms of PTSD. There are several options available: PTSD Coach and PE Coach, which supports prolonged exposure therapy. Since you currently aren't in prolonged exposure therapy, PE Coach isn't a good fit. PTSD Family Coach is for your family members and loved ones to learn about how to support you, so it is one that you can share with them. For you, the best choice would be PTSD Coach. You have an iPhone, and this app is available for download through Apple's App Store. Do you know how to download an app?

Mr. Jackson: Yes, I do. Should I download it now?

Dr. Martin: Sure! Let me know if you need any help.

Mr. Jackson: OK. It's downloaded.

Dr. Martin: That's good. Now let's walk through the app, and I'll show you the sections we'll be working on together. I'll write the sections that I want you to focus on in this Prescription Pad for VA virtual care tools (see Appendix E), which you can take to remind you once you get home.

## Appendix I. How To Sign In to VA Connected Apps

How Veterans Can Sign In to VA Connected Apps

Many VA apps access the VA Electronic Health Record (EHR). Therefore, for your security, they require you to sign in with your DS Logon Level 2 (Premium), ID.me, or My Health*e*Vet Premium account credentials.

DS Logon Access Instructions

DS Logon uses two-factor authentication, requiring you to enter a single-use PIN sent to you by text or phone call. Follow the instructions below to get started:

1. Access the connected app of your choice from the VA App Store.

2. You will arrive at an Identity Provider Selection screen. Select **DS LOGON**.

3. You will arrive at a Secure Login Redirect screen.

4. Select **Accept** to proceed, or select **Cancel** to return to the identity provider selection screen.

5. If you selected Accept, you will arrive at a DS Logon screen.

6. Type your DS Logon Level 2 (Premium) Account username and password, and then select **Login**.

7. You will then be asked how you would like to receive your single-use PIN. You can receive either a text or a phone call. Select the circle under Text or Phone Call next to the phone number you would like to be contacted at, and then select **Continue**.

8. Enter the five-digit PIN that you received through text or phone call, and then select **Continue**.

9. After you sign in, you will see a license agreement screen. Read the End User License Agreement and Notice of Privacy Practices. Select **Accept**, and you will proceed into the app.
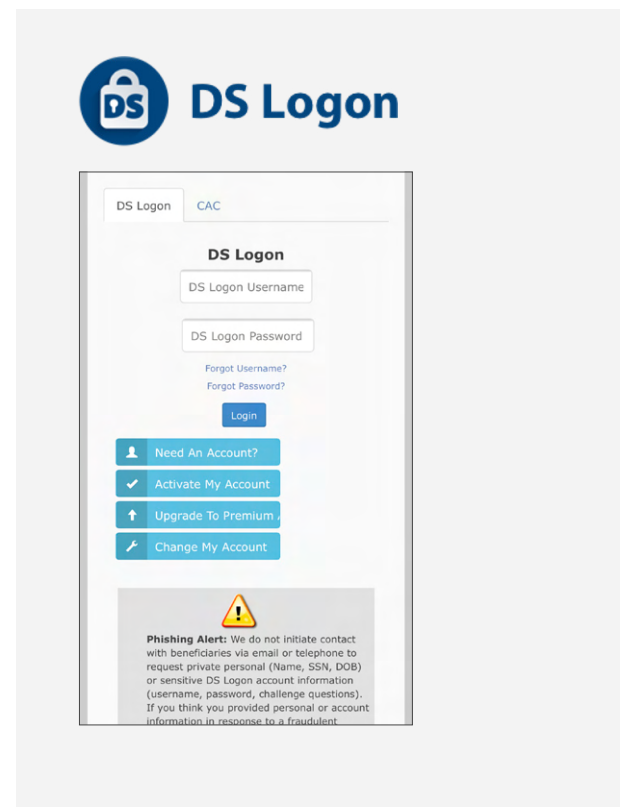
Get a DS Logon Level 2 (Premium) Account

DS Logon is a secure ID that enables you to sign in to multiple VA and DoD websites and apps using a single username and password. A DS Logon Level 1 (Basic) account provides access to some features on some websites. A DS Logon Level 2 (Premium) account is required before you can view personal information in VA and DoD systems. Any VA app that connects to VA's Electronic Health Record (EHR) requires a DS Logon Level 2 account.

DS Logon accounts are available for Service members, Veterans, and caregivers. If you do not have a DS Logon account, or you are not sure, you can register, verify, or update your DS Logon account at the DoD DS Logon Access Center at *myaccess.dmdc.osd.mil/identitymanagement/authenticate.do?execution=e1s1*.

For your security, the process for acquiring a DS Logon Level 2 account requires your identity to be authenticated in person at a VA regional office, over the phone, or by video appointment.

For additional information on the authentication process, visit the My Access Center DS Logon Quick Guide at *myaccess.dmdc.osd.mil/identitymanagement/ consent?continueToUrl=%2Fidentitymanagement%2Fhelp.do%3Fexecution%3De2s1*.

Webinar on the benefits of DS Logon: *youtu.be/lFNUJtZC7Ws*

Quick summary of DS Logon: *youtu.be/MySs__d0wo8*
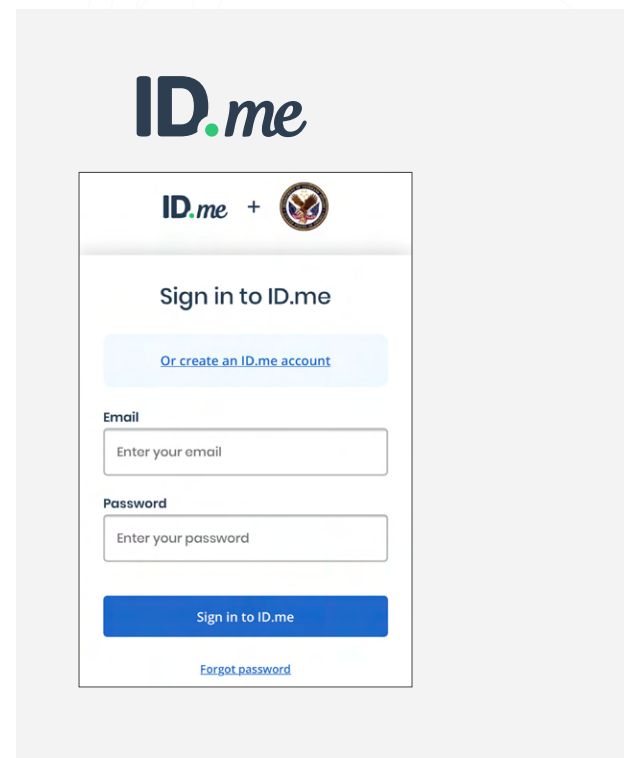
ID.me Access Instructions

1. Access the connected app of your choice from the VA App Store.

2. You will arrive at an identity provider selection screen. **Select ID.me**.

3. You will arrive at a secure sign-in redirect screen. Select **Accept** to proceed, or select **Cancel** to return to the identity provider selection screen.

4. If you selected Accept, you will arrive at an ID.me sign-in screen. From this page, you can either:

   - Enter your email address and password, and then select **Sign in**, or
   - Sign in via Facebook, Google, or LinkedIn. Select the option you prefer and enter your sign-in information.

   You can also:

   - Select **sign up for an account** to create an account.
   - Select **Forgot your password?** to reset your password.
   - Select **What is ID.me?**, **Terms of Service**, and **Privacy Policy** at the bottom of the screen to learn more.

5. After you sign in, you will see a license agreement screen. Read the End User License Agreement and Notice of Privacy Practices. Select **Accept**, and you will proceed to the app.

If you do not have an ID.me account, or you are not sure, visit *id.me/about*.

*My Health**e**Vet Access Instructions*

1. First, go to the VA App Store to access the connected
    app of your choice. You will arrive at an identity provider
    selection screen.
    Select **My Health*e*Vet**.

2. You will arrive at a sign-in screen. Enter your My Health*e*Vet
    Premium account user ID and password and select **Log In**.
    You can also:

    - Select **Forgot User ID?** to retrieve your user ID.

    - Select **Forgot Password?** to retrieve your password.

3. After you sign in, you will see a license agreement screen.
    Read the End User License Agreement and Notice of Privacy
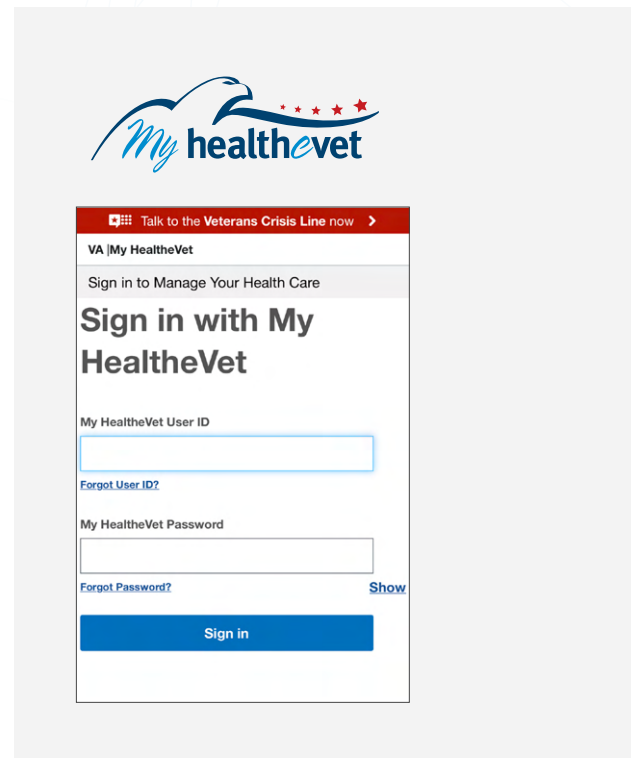   Practices. Select **Accept**, and you will proceed to the app.

If you do not have a My Health*e*Vet Premium account, or you are
not sure, visit ***myhealth.va.gov/mhv-portal-web/user-login***.

How VA Health Care Staff Can Sign In to VA Connected Apps

VA health care staff can sign in to VA connected apps using their PIV, PIV exemption,
or VistA credentials. VA health care staff members can learn how to link their PIV at
mobile.va.gov/sites/default/files/piv-linkage-process.pdf.

Note that you may begin hearing about PIV-D, which will replace PIV exemption. Once that is in place,
you will no longer need PIV exemption. Watch the two-minute tutorial on how to set up PIV-D at
youtube.com/watch?v=DyA5YUBCCUQ&feature=youtu.be.

All of the VA connected apps are web apps, meaning they are accessed via a website and
are not downloaded from Apple's App Store or Google Play. All of these can be accessed at
mobile.va.gov/appstore.

Appendix J. Activity Sheets

Activity Sheet 1: Evaluating the Evidence Base of Mobile Health Apps in Clinical Care

Instructions: *Consider the following questions when evaluating the use of apps for Veterans.*

1. Evaluate the evidence base for the Virtual Hope Box app.

	Yes	No	Level
a. Is there an evidence base supporting the app's content as part of cognitive behavioral therapy (e.g., traditional hope box, pleasant event scheduling, coping cards, breathing techniques such as diaphragmatic breathing and progressive muscle relaxation)?			
b. If so, what is the level of the evidence base? (Use the chart.)			
c. Is there an evidence base comparing the use of Virtual Hope Box in clinical care to the use of the traditional techniques on which this app is based?			
d. If so, what is the level of the evidence base? (Use the chart.)			

2. Evaluate the evidence base for the PTSD Coach app.

	Yes	No	Level
a. Is there an evidence base supporting the content of the app (e.g., PTSD Checklist, psychoeducation on PTSD, cognitive behavioral techniques such as pleasant event scheduling, grounding, positive imagery, progressive muscle relaxation)?			
b. If so, what is the level of the evidence base? (Use the chart.)			
c. Is there an evidence base comparing the use of PTSD Coach in clinical care to the use of the traditional techniques on which this app is based?			
d. If so, what is the level of the evidence base? (Use the chart.)			

LEVEL OF EVIDENCE BASE

Level I: Systematic Review, Meta-Analysis, Evidence-Based Guideline
Level II: Randomized Control Trial (RCT)
Level III: Controlled Trial Without Randomization (Quasi-experimental Study)
Level IV: Nonexperimental Study, Case Control, Cohort or Correlational
Level V: Systematic Review of Descriptive and Qualitative Studies
Level VI: Descriptive and Qualitative Study
Level VII: Opinion of Authorities, Expert Committee Report

Activity Sheet 2: Introducing a Mobile Health App in Clinical Care

Instructions: *Create an outline of how you could introduce an app into the care plan of one of the Veterans you serve.*

1. How could you introduce a health app into an appointment with a Veteran?

    _____

    _____

    _____

    _____

    _____

    _____

2. What sections of the app could you show the Veteran, and how could you explain why using the app would benefit them?

    _____

    _____

    _____

    _____

    _____

    _____

3. What questions might the Veteran have regarding the use of the app in clinical care?

    _____

    _____

    _____

    _____

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    _____

Activity Sheet 3: Integrating Mobile Health Apps Into Clinic Workflow

Instructions: *To understand how the use of apps might affect your clinic's workflow, create a diagram showing the current workflow and how you might offer apps to Veterans.*

1. Think about the following elements that make up your clinic workflow. Identify all the steps and the staff involved in each step.

	Steps	Staff
a. Length of time for clinic workflow by Veteran		
b. Identification of symptoms		
c. Key staff and steps		
d. Clinic process steps		
e. Staff handoff		

2. Using the previous elements, draw or write out My Clinic Workflow.

	My Clinic Workflow
a. Length of time for clinic workflow by Veteran	
b. Identification of symptoms	
c. Key staff and steps	
d. Clinic process steps	
e. Staff handoff	

Activity Sheet 3 (CONT.)

3. Using the diagram/list you created, add:

	Steps	Staff
a. Who would prescribe the Veteran the app or website.		
b. Where during the clinical visit the app or website would be prescribed and about how long it would take.		
c. Who would show the Veteran the app and help them set it up.		

Activity Sheet 4: Prescribing a Mobile Health App in Clinical Care

Instructions: *Choose a colleague and role-play prescribing an app to a Veteran.*

1. Identify one person as the provider and one as a Veteran. Have the Veteran choose from one of the case examples below, and then briefly describe their issue to the provider.

2. Have the provider use the Clinician's Guide: VA Virtual Care Tools handout (**Appendix D**) and the Prescription for VA Virtual Care Tools handout (**Appendix E**) to identify at least one app that may be useful to the Veteran.

3. Have the provider complete a prescription and hand it to the Veteran, explaining which app(s) they are prescribing, which app features the Veteran should use and how often, and when they will follow up with the Veteran.

4. Follow-up question: Suppose the Veteran only had a flip phone and no access to a computer. How would that change your possible responses?

Activity Sheet 4 (CONT.)

Case Example 1

A 57-year-old woman with a history of Type 2 diabetes, insomnia, and PTSD.

- Is insulin dependent and takes diphenhydramine at night for sleep.
- Is not yet ready to start treatment for PTSD, but she is interested in learning more.
- Has received a referral to begin cognitive behavioral therapy for insomnia.
- Has a loving family, but they do not understand how to best support her through PTSD treatment.
- Has an Android smartphone and access to the internet at home.

Case Example 2

A 35-year-old man presents with a history of alcohol dependence, chronic pain, and depression.

- Is interested in cutting down on drinking due to his spouse expressing concerns but does not feel ready to quit.
- Feels anger and sadness regarding his deteriorating relationship with his spouse.
- Avoids others and instead stays home in bed.
- Denies current thoughts of suicide or hurting others.
- Has a VA-issued iPad, which provides access to the internet. He does not know whether he has a My Health*e*Vet Premium account.

Case Example 3

A 63-year-old man presents with obesity (body mass index = 40) and high blood pressure and is interested in losing weight and tracking his blood pressure.

- Takes medication to lower blood pressure.
- Interested in the MOVE! Program to lose weight.
- Has an iPhone and access to the internet at home. Has a My Health*e*Vet Premium account and knows his password.

Activity Sheet 4 (CONT.)

Possible Responses for Case Examples 1–3

Case Example 1

CBT-i Coach, PTSD Coach, PTSD Family Coach for family members, Annie protocol for diabetes or medication adherence, My Health*e*Vet, VA Video Connect, VA Health Chat

Case Example 2

VetChange, Pain Coach, STAIR Coach, My Health*e*Vet, VA Video Connect, VA Health Chat

Case Example 3

MOVE! Coach, Annie protocol for weight management, Annie protocol for hypertension, TeleMove! Program, My Health*e*Vet, VA Video Connect, VA Health Chat

Activity Sheet 5: Practicing Integrating Mobile Health Apps in Clinical Care

Instructions: *Design a process of how you would use mobile health apps with Veterans.*

1. Choose one of the VA or DoD apps that you have never used before. Download it and become familiar with it. What app did you choose and why?

   _____

   _____

   _____

   _____

   _____

   _____

   _____

2. How might you use this app with one of the Veterans you serve?

   _____

   _____

   _____

   _____

   _____

   _____

   _____

3. How will you introduce and prescribe the app to the Veteran?

   _____

   _____

   _____

   _____

   _____

Activity Sheet 6: Ethical Dilemmas With Mobile Health Apps in Clinical Care

Instructions: *Brainstorm ethical situations that you could see arising when using apps in practice.*

1. Define the situation.

   _____

   _____

   _____

   _____

2. What standards are in question, and how do they inform the situation?

   _____

   _____

   _____

   _____

3. What are some steps you could take to resolve the dilemma?

   _____

   _____

   _____

   _____

4. What are the possible outcomes or consequences?

   _____

   _____

   _____

   _____

Activity Sheet 7: Adapting Your Informed Consent Document When Using Mobile Health Apps in Clinical Care

Instructions: *Create a few lines of text about the use of technology in treatment that you might add to your current informed consent form. How does this compare with the guidance provided in the ethics section of this guide?*

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Activity Sheet 8: Increasing Your Technological Cultural Competence

Instructions: *Identify your biases regarding the use of health technology and your level of ethnorelativity versus ethnocentricity.*

1. List any biases you may have about who is likely to use health technology or be more willing to adopt it.

Bias	How could these biases harm the Veteran-provider relationship?

2. Put an "X" next to where you are on the following scale:

Ethnocentricity – Seeing the world through the lens of your culture	
Denial of Difference *Only my view exists.* I don't use smartphones, so I know none of my patients do either.	✗
Defense Against Difference *We are different, but I'm better.* My patients may use smartphones, but I'm better because I don't. "Young kids and their stupid smartphones!"	✗
Minimization of Difference *We might be different, but it's no big deal.* I don't use smartphones and my patients do, but it doesn't affect how I deliver care.	✗
Ethnorelativity – Recognizing multiple ways of vieving the world	
Acceptance of Difference *We're different, and I'm OK with that.* I don't use smartphones, but my patients do and I'm OK with that.	✗
Adaptation to Difference *We're different, but I work to think and act in a way that is understanding and respectful of those differences.* I'm not familiar with smartphones, and my patients are. But I'm working to learn how to safely and ethically integrate them into care and to understand the benefits to me and my patients.	✗
Integration of Difference *I respect and value our cultural differences and can operate in both cultures.* Although I didn't grow up in a digital age, I understand how to use smartphone technology, how to choose and prescribe apps to support evidence-based treatment, and how to communicate security and privacy issues to Veterans.	✗

Activity Sheet 8 (CONT.)

3. In the scale below, put an "X" next to the section that best describes your technological cultural competence:

From Denial to Defense *Subject acquires an awareness of difference between cultures.* I'm starting to realize that although I don't use smartphones, almost everyone else does.	✕
From Defense to Minimization *Negative judgments are depolarized, and the person is introduced to similarities between cultures.* Although those young kids are using smartphones, I remember how excited I was when new technologies came out when I was their age.	✕
From Minimization to Acceptance *Subject grasps the importance of intercultural difference.* Smartphones are here to stay and people seem to like them, so I guess I'll be open to it.	✕
From Acceptance to Adaptation *Exploration and research into the other culture begins.* Apps can provide benefits to me and my patient in clinical care. Maybe I should learn how to safely and ethically integrate them into evidence-based practices.	✕
From Adaptation to Integration *Subject develops empathy for the other culture.* I didn't grow up in the digital age, but I can understand the benefits of smartphone technologies, as well as the challenges they may create for both digital natives and immigrants.	✕

4. What are your next steps in improving your technological cultural competence?

_____

_____

5. Now think of a Veteran you want to use technology with. What stage of technological cultural competence are they at, and how similar (or different) is that from you? How might this affect your delivery of care?

_____

_____

VIII.

Contributor List

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