How to make sense of the dizzying proliferation of mobile apps for behavioral health care: An evidence-based approach

Telebehavioral Health Institute, Inc.

Marlene M. Maheu, PhD
Executive Director
Contact@telehealth.org
619-255-2788
TELEBEHAVIORAL HEALTH INSTITUTE

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www.Telehealth.org
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Smartphone Use
% of U.S. adults who do not use broadband at home but own smartphones, by age

Source: Surveys conducted 2013-2016. Data for each year based on a pooled analysis of all surveys containing broadband and smartphone questions fielded during that year.

PEW RESEARCH CENTER
% of U.S. adults who do not use broadband at home but own smartphones, by race

Source: Surveys conducted 2013-2016. Data for each year based on a pooled analysis of all surveys containing broadband and smartphone questions fielded during that year.
African Americans and Technology Use

A Demographic Portrait

BY AARON SMITH

Main Findings

This report on African Americans and technology is the first in a series of demographic snapshots of technology use and adoption among different groups of adults in the United States. Based on a survey of 6,010 American adults, including 664 who identify as African American, it offers a detailed look at a number of key subgroups within the black population such as: men vs. women, old vs. young, low income vs. high income, and parents vs. non-parents.

The black/white “digital divide” continues to persist, but is not consistent across technology platforms or demographic groups

African Americans have long been less likely than whites to use the internet and to have high speed broadband access at home, and that continues to be the case. Today, African Americans trail whites by seven percentage points when it comes to overall internet use (87% of whites and 80% of blacks are internet users), and by twelve percentage points when it comes to home broadband adoption (74% of whites and 62% of blacks).
% of U.S. adults who do not use broadband at home but own smartphones, by gender

Source: Surveys conducted 2013-2016. Data for each year based on a pooled analysis of all surveys containing broadband and smartphone questions fielded during that year.

PEW RESEARCH CENTER
% of U.S. adults who do not use broadband at home but own smartphones, by income

Source: Surveys conducted 2013-2016. Data for each year based on a pooled analysis of all surveys containing broadband and smartphone questions fielded during that year.
Apps

Programs that extend the functions of smartphones, “pad” or “tablet” PC and wireless medical devices, also known as “mHealth” or “mobile health

1. Can serve a stand-alone function or
2. Link to other devices or computers
Types of Health Care Apps

- Clinical Apps/Diagnostic
- Remote monitoring
- Reminders & alerts
- Reference
- Health living
- Productivity
Benefits of Using Clinical Apps

- Increased touchpoints given shrinking clinical time
- Can promote alignment with patient in treatment
- Can introduce early in stepped care model
- mHealth and Meaningful Use (consumer engagement, reduction of disparities, and patient access to data)
- More ecologically valid data
Ecological Validity and Ulric Neisser

“contemporary studies of cognitive processes usually use stimulus material that is abstract, discontinuous, and only marginally real. It is almost as if ecological invalidity were a deliberate feature of the experimental design.”

U.S. mHealth apps market, by type, 2014 - 2025 (USD Million)

To learn more about this report, request a free sample copy
https://www.grandviewresearch.com/industry-analysis/mhealth-app-market
Evaluating & Selecting Apps
U.S. Department of Defense Mobile Health Practice Guide

Defense Health Agency
Connected Health
Third Edition – December 2017
Benefits

- **Geographic** – Supplements medical care (Coulon, Monroe, & West, 2016), especially for geographically dispersed patients (Poropatich, Lai, McVeigh, & Bashshur, 2013).

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

- **Extension of care** – Expands health care beyond face-to-face visits (Bush, Skopp, Smolenski, Crumpton, & Fairall, 2013).

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

- **Compliance** – Increases patient compliance and engagement with care (Dale & Hagen, 2007; Dennison, Morrison, Conway, & Yardley, 2013; Gaggioli & Riva, 2013; Reger et al., 2013).
Benefits

- **Cost** – Provides potential for significant cost reduction though leveraging mobile technologies across a range of health care activities (Cortez, 2013).

- **Data quality** – Can improve the validity of patient reports through real-time symptom tracking (Bush, Oullette, & Kinn, 2014; Kuhn, Greene, et al., 2014).

- **Reach** – Has the potential to reach those who do not seek face-to-face care due to concerns about confidentiality and perceived stigma (Sloan, Marx, & Keane, 2011; Whealin, Kuhn, & Pietrzak, 2014).

- **Best practice** – Has been identified as a best practice by front-line clinicians (Fernandez & Short, 2014).
Barriers

- **Utilization gap** – Although use of mobile devices is high among service members, use among military providers is lower (Bush & Wheeler, 2015).

- **Provider perception** – Adoption is slowed by a lack of awareness of mobile health apps built to support evidence-based treatments, concerns about privacy and safety, and a lack of understanding of the evidence base for these tools (Gagnon, Ngangue, Payne-Gagnon, & Desmartis, 2015).

- **Technology limitations** – The technology infrastructure at many military treatment facilities does not fully support the integration of mobile health apps in clinical care, because data security requirements are stricter in the military than in civilian environments (Armstrong et al., 2017).
II. Mobile Health in Clinical Care: Five Core Competencies

When providers are trained in mobile health, what are the core competencies that they need to learn? Based on years of development, research, training and demonstrated excellence in practice, we have established the five core competencies for effective mobile-health clinical integration. When providers are effectively trained, a framework for mobile health in clinical care can be established and these skills can be generalized to a variety of mobile tools.

Mobile Health in Clinical Care: Five Core Competencies

1. Evidence Base
2. Clinical Integration
3. Security & Privacy
4. Ethical Issues
5. Cultural Considerations
mHealth Applications ("Apps") for Psychologists, 2013

The Interactive Mobile App Review Toolkit (IMART): a Clinical Practice-Oriented System

Abstract

The inadequacy of infrastructure for bringing mobile healthcare apps from developers to clinical practitioners has kept the 165,000+ currently available healthcare apps from integration into routine clinical practice. The absence of regulatory and certification processes and the unlikelihood that many apps will be tested with credible clinical trials leaves it up to expert reviews to lead clinicians to high-quality apps. However, most app reviews are not collected in an easily searchable location that facilitates comparison of the merits of alternative apps, and surveys of existing expert reviews reveal a lack of standards for objective and reliable assessments.
Pace: Technology vs. Research

Avg. Time to Build an App = 4-5 months
Source: https://www.appsterhq.com/blog/how-long-takes-to-build-a-mobile-app/

Avg. Time of Randomized Clinical Trial = 3-5 years
Define mHealth “Evidence Base”

1. Key Studies, Clinical Reviews
2. Clinical Judgment
3. Patient preferences and values
Telebehavioral Health Standards, Guidelines, Best Practices & Other Statements*


American Academy of Child & Adolescent Psychiatry (AACAP): Practice Parameter for Telepsychiatry With Children and Adolescents. *Practice Parameter for Telepsychiatry With Children and Adolescents*

American College of Physicians (AMP) and the Federation of State Medical Boards (FSMB) (2013). *Online Medical Professionalism: Patient and Public Relationships: Policy Statement From the American College of Physicians and the Federation of State Medical Boards.*


American Medical Informatics Association: *Guidelines for the Clinical Use of Electronic Mail with Patients*


American Psychological Association (2013). *Guidelines for the Practice of Telepsychology*

American Telemedicine Association (ATA): *Clinical Guidelines for Telepathology*

American Telemedicine Association (ATA): *Core Operational Guidelines for Telehealth Services Involving Provider-Patient Interactions*

American Telemedicine Association (ATA): *Guidelines for TeleICU Operations*
Clinical App Recommendation Criteria

⑤ **Validity** -

a) **Does the app measure what it is suppose to measure?**

b) **Does the app’s hardware allow the underlying principles to be implemented adequately?** (e.g., phototherapy is not yet effective through a smartphone)

c) **Is there empirical support for the underlying theory, or for the app itself?** Has independent research established the validity of the app itself?
Evidence-Base

 Smoking cessation (Ubhi et al., 2016)
 Eating disorders (Juarascio, Manasse, Goldstein, Forman, & Butryn, 2014)
 Alcohol use disorders (Fowler, Holt, & Joshi, 2016; Quanbeck, Chih, Isham, Johnson, & Gustafson, 2014)
A Smartphone Application to Support Recovery From Alcoholism: A Randomized Clinical Trial

David H. Gustafson, PhD; Fiona M. McTavish, MS; Ming-Yuan Chih, PhD; Amy K. Atwood, PhD; Roberta A. Johnson, MA, MEd; Michael O. Boyle, MA; Michael S. Levy, PhD; Hilary Driscoll, MA; Steven M. Chisholm, MA; Lisa Dillonburg, MGW; Andrew Isahm, MS; Dhavane Sheeh, PhD


ABSTRACT

Importance Patients leaving residential treatment for alcohol use disorders are not typically offered evidence-based continuing care, although research suggests that continuing care is associated with better outcomes. A smartphone-based application could provide effective continuing care.

Objective To determine whether patients leaving residential treatment for alcohol use disorders with a smartphone application to support recovery have fewer risky drinking days than control patients.

Design, Setting, and Participants An unmasked randomized clinical trial involving 3 residential programs operated by 1 nonprofit treatment organization in the Midwestern United States and 2 residential programs operated by 1 nonprofit organization in the Northeastern United States. In total, 349 patients who met the criteria for DSM-IV alcohol dependence when they entered residential treatment were randomized to treatment as usual (n = 179) or treatment as usual plus a smartphone (n = 170) with the Addiction–Comprehensive Health Enhancement Support System (A-CHESS), an application designed to improve continuing care for alcohol use disorders.

Interventions Treatment as usual varied across programs; none offered patients coordinated continuing care after discharge. A-CHESS provides monitoring, information, communication, and support services to patients, including ways for patients and counselors to stay in contact. The intervention and follow-up period lasted 8 and 4 months, respectively.

Main Outcomes and Measures Risky drinking days—the number of days during which a patient’s drinking in a 2-hour period exceeded 4 standard drinks for men and 3 standard drinks for women, with standard drink defined as one that contains roughly 14.8 g of pure alcohol (12 oz of regular beer, 5 oz of wine, or 1.5 oz of distilled spirits). Patients were asked to report their risky drinking days in the previous 30 days on surveys taken 4, 8, and 12 months after discharge from residential treatment.

Results For the 8 months of the intervention and 4 months of follow-up, patients in the A-CHESS group reported significantly fewer risky drinking days than did patients in the control group, with a mean of 1.39 vs 2.75 days (95% CI, 0.46-2.27; P = .003).

Conclusions and Relevance The findings suggest that a multifaceted smartphone application may have significant benefit to patients in continuing care for alcohol use disorders.
Activity Sheet 1: Integrating Mobile Health Apps into Clinic Workflow

Instructions: To understand how the use of mobile apps might impact your clinic’s workflow, create a diagram showing the current workflow and how you might offer apps to patients.

1. Think about the following elements that make up your clinic workflow. Identify all the steps and the staff involved in each step.
Five Key Steps for Mobile Health Clinical Integration

1. Workflow
   How to think through how your clinic workflow may be impacted

2. Introduction
   How to introduce an app to clinical care

3. Prescription
   How to prescribe an app to a patient to support a treatment plan

4. Data Review
   How to review the data collected on the app with the patient

5. Documentation
   How to document the use of an app in the patient’s records
What do you need to know about legal/ethical issues?
Interjurisdictional Practice?

Are you engaged in live or store-and-forward communication with patients over state lines?
Duty to Report / Duty to Warn

(v) Failing to comply with the child abuse reporting requirements of Section 11166 of the Penal Code.

(w) Failing to comply with the elder and adult dependent abuse reporting requirements of Section 15630 of the Welfare and Institutions Code. CA Business and Professions Code Sections 4989.54 (cont.)
Examples of Pre-Market Submissions that Include MMAs Cleared or Approved by FDA

Following are some examples of mobile medical applications the FDA has cleared or approved since 1997. The list is intended to show examples of mobile medical apps and does not include all the mobile medical apps we have cleared. For more information about any of the apps below, please search either the FDA 510(k) medical devices database by 510(k) number or the PMA database by PMA number.

FDA Cleared Mobile Medical Applications
Last updated (January 9, 2017)

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Applicant</th>
<th>510(k) or PMA number</th>
<th>Clearance Date</th>
<th>Product Code</th>
<th>Product Code Description</th>
<th>Regulation</th>
<th>Regulation Description</th>
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<tbody>
<tr>
<td>JiveX</td>
<td>VISUS TECHNOLOGY TRANSFER GMBH</td>
<td>K162008</td>
<td>9/18/2016</td>
<td>LLZ</td>
<td>System, image processing, radiological</td>
<td>892.2050</td>
<td>Picture archiving and communications system.</td>
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<tr>
<td>SOFTNETA UAB</td>
<td>MedDream</td>
<td>K162011</td>
<td>10/14/2016</td>
<td>LLZ</td>
<td>System, image processing, radiological</td>
<td>892.2050</td>
<td>Picture archiving and communications system.</td>
</tr>
</tbody>
</table>
Should Mental Health App Developers Back Up Their Claims With Clinical Evidence?

We asked three experts to weigh in.

Millions of people with mental health disorders, including depression and bipolar disorder, are not getting the help they need. The World Health Organization (WHO) estimates that up to 50% of people in developed countries and 85% in developing ones lack proper access to treatment.

But many of these underserved people do have access to smartphones. And a simple search on Apple's App Store yields hundreds of apps, which claim to do everything from diagnosing depression to treating insomnia. As you might imagine, these apps range in quality. Some are peddling pure snake oil (one app even billed itself as a cure for bipolar disorder), while others have limited ability to help you properly manage your condition.
Clinical App Recommendation Criteria

**Theoretical Orientation** -

a) Have you or your staff looked at the app to see if it fits your treatment plan, values, terms and concepts?

b) Are value judgments clearly defined as such?

c) Does the app encourage the patient to participate in activities that you wouldn’t recommend?
Informed Consent

a. Legal & Ethical Issues – all legal and ethical requirements apply

b. Active vs. Static informed consent?
Clinical App Recommendation Criteria

Informed consent

a) Represents a “meeting of the minds”
   a) Subject matter is often complex and technical
   b) Clinician thinks she is speaking English
   c) Client/Patient may be under stress (or may assert so later)
   d) Mental illness

b) Informed consent document only serves as important evidence that the process took place
Activity Sheet 6: Adapting Your Informed Consent Document When Using Mobile Health Apps in Clinical Care

Instructions: Create a few lines of text that you might add to your current informed consent form that relate to the use of technology in sessions. How does this compare to the guidance provided in the ethics section of this guide?
App Evaluation Criteria

Security – Maintaining privacy

a) Self-monitoring vs. open communication channel?

a) Lost/stolen device protections (e.g. data encryption, passwords, biometric identity validation)

b) Validating that it is actually a client/patient and clinician are communicating rather than an impersonator (name can automatically be entered into phone app where clinician's children can access)
App Evaluation Criteria

Security – Maintaining privacy

c) Making sure data are not lost, diverted or altered by an unauthorized agent
HIPAA imposes requirements on us as “covered entities” - not on technology
Three HIPAA Rules:

• Transmission
• Security
• Privacy
App Evaluation Criteria

Security & Privacy

a) Intentionally transmitted information brings up another set of issues and HIPAA:

a) Personal health information (PHI) can be intercepted during wireless transmission (Firesheep)
The application of health privacy rules to health information on mobile devices is getting the attention of federal regulators as well members of congress.
HIPAA Privacy Rule

- Data are “individually identifiable” if they include any of the 18 types of identifiers, listed below, for an individual or for the individual’s employer or family member, or if the provider or researcher is aware that the information could be used, either alone or in combination with other information, to identify an individual:
HIPAA Privacy Rule (cont.)

1. Name
2. Address (all geographic subdivisions smaller than state, including street address, city, county, zip code)
3. All elements (except years) of dates related to an individual (including birth date, admission date, discharge date, date of death and exact age if over 89)
4. Telephone numbers
5. Fax number
6. Email address
7. Social Security number
8. Medical record number
9. Health plan beneficiary number
10. Account number
11. Certificate/license number
12. Any vehicle or other device serial number
13. Device identifiers or serial numbers
14. Web URL
15. Internet Protocol (IP) address numbers
16. Finger or voice prints
17. Photographic images
18. Any other characteristic that could uniquely identify the individual
Search results for **hipaa compliance**

[1] HIPAA Compliance with G Suite and Cloud Identity
   Help article - G Suite Administrator
   To demonstrate our compliance with security standards in the industry, Google has sought and received security certifications such as ISO 27001 certification and SOC 2 and SOC 3 Type II audits. For customers who are subject to the requirements of the Health Insurance Portability and Accountability...  

[2] Accept the HIPAA Business Associate Amendment
   Help article - G Suite Administrator
   To review and accept a HIPAA Business Associate Agreement (BAA) for G Suite or Cloud Identity, you must be signed in to an Admin.  

[3] HIPAA compliance
   Help article - G Suite Administrator
   G Suite organizations subject to Health Insurance Portability and Accountability (HIPAA) should enable Meet and use it instead of classic Hangouts video, which is not compatible with HIPAA. More info.  

   Help article - G Suite Administrator
   HIPAA Compliance. For customers with HIPAA compliance needs, Google offers a Business Associate Amendment. To review and accept this BAA, you must be signed in to an administrator account for your G Suite or Cloud Identity domain. Non-administrator G Suite or Cloud Identity users or users of Googl...  

[5] Compliance
   Help article - Google Cloud
   We are proud to comply with regulations across the world and across various industry sectors such as healthcare and education. You can use our services with confidence that Google provides the tools a.  

[6] Requirements
   Help article - G Suite Administrator
   G Suite editions This feature is available with the G Suite Enterprise or Business or Basic8.  

[7] Best practices to avoid sending Personally Identifiable Information ...
   Help article - Google Analytics
   Unless otherwise specified in writing by Google, Google does not intend uses of Google Analytics to create obligations under the Health Insurance Portability and Accountability Act, as amended, (“HIPAA”), and makes no representations that Google Analytics satisfies HIPAA requirements. If you are (or become a...  

[8] Set up rules for content compliance
   Help article - G Suite Administrator
   As a G Suite administrator, you can set up rules to handle messages that contain content that matches one or more expressions. For example, you can: Reject outbound messages that might.
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Security

1. Does the app authenticate the user?
   - Passwords to lock; passwords to access networks
   - Biometric authentication (voice for telephones is in vogue)

2. Does the app transmit Protected Health Information (PHI)
   - If yes, is the transmission channel secure?
   - Did you sign a BAA?
Security

3. Do device(s) use antiviral and malware programs?
   - Many programs exist. Search for them online or at https://telehealth.org/directory
   - CounterACT is a security control platform that automatically identifies which devices and users are on a network, controls access to the network, blocks threats, remediates security violations at endpoints, and measures compliance to an organization's security policies.
Security

4. Warn your clients/patients about security issues related to their allowing app developers to track “errors” and upload that information to improve the app.

5. Is the app sending unencrypted email or text to them, other providers or you?
HIPAA Security: Audit trail? Breach notification tools?
Privacy Threats

1. Not tested:
   - Solution: Only recommend apps that have been tested for privacy functions and clearly describe these tests in their product materials.
Could Smartphone Use Improve Patient Engagement?

By Vera Gruesner on May 15, 2015

Patient engagement strategies are key for healthcare providers who are looking to meet the latest objectives of the meaningful use requirements. While the Medicare and Medicaid EHR Incentive Programs focus mainly on patient portal adoption and usage, mobile health applications can play a vital role in engaging patients with their overall wellness and care.

A survey from the Commonwealth Fund polled community health centers to determine whether physicians and other medical staff are utilizing smartphones to better engage their patients. The findings show that the utilization of mobile phone applications in the healthcare setting is at the earlier stages of deployment. Additionally, polled providers mentioned that mobile health tools can be useful with managing patients with chronic diseases.

It is believed that mobile health strategies can better engage patients who live in poorer communities and are harder to reach. Smartphone adoption is high even among low-income individuals throughout the US, the report states. This means that text messaging and Internet-based applications can target the health of patients who have previously been underserved with regard to healthcare services.

Mobile health initiatives in this segment population can be used to send text messages with reminders and educational messages to improve patients’ overall wellness. The researchers from the Commonwealth Fund specifically looked at safety-net communities, which are at greater risk for preventable chronic conditions. Due to its low cost of implementation, text messaging may be a viable option for developing greater patient engagement among this particular consumer group.

Out of 181 respondents to the survey, 86 percent stated that patient engagement has been filled with barriers specifically when it comes to adopting healthy behaviors and complying with treatment protocols including prescribed medications. Additionally, 89 percent of those polled said that, out of several areas their organization would prefer to engage patients in, chronic disease management topped the list.
Mobile Medical Applications

• **What are mobile medical apps?**
• **How will the FDA regulate mobile medical apps?**
• **Mobile medical apps that the FDA will regulate**
• **Mobile apps for which the FDA intends to exercise enforcement discretion**
• **Does the FDA regulate mobile devices and mobile app stores?**
• **Does the guidance apply to electronic health records?**

The widespread adoption and use of mobile technologies is opening new and innovative ways to improve health and health care delivery.

Mobile applications (apps) can help people manage their own health and wellness, promote healthy living, and gain access to useful information when and where they need it. These tools are being adopted almost as quickly as they can be developed. According to industry estimates, 500 million smartphone users worldwide will be using a health care application by 2015, and by 2018, 50 percent of the more than 3.4 billion smartphone and tablet users will have downloaded mobile health applications ([http://www.research2guidance.com/500m-people-will-be-using-healthcare-mobile-applications-in-2015/](http://www.research2guidance.com/500m-people-will-be-using-healthcare-mobile-applications-in-2015/)). These users include health care professionals, consumers, and patients.

The FDA encourages the development of mobile medical apps that improve health care and provide consumers and health care professionals with valuable health information. The FDA also has a public health responsibility to oversee the safety and effectiveness of medical devices – including mobile medical apps.
Does the FDA regulate mobile devices and mobile app stores?

FDA’s mobile medical apps policy does **not** regulate the sale or general consumer use of smartphones or tablets. FDA’s mobile medical apps policy does **not** consider entities that exclusively distribute mobile apps, such as the owners and operators of the “iTunes App store” or the “Google Play store,” to be medical device manufacturers. FDA’s mobile medical apps policy does **not** consider mobile platform manufacturers to be medical device manufacturers just because their mobile platform could be used to run a mobile medical app regulated by FDA.
Mobile apps for which the FDA intends to exercise enforcement discretion

For many mobile apps that meet the regulatory definition of a “device” but pose minimal risk to patients and consumers, the FDA will exercise enforcement discretions and will not expect manufacturers to submit premarket review applications or to register and list their apps with the FDA. This includes mobile medical apps that:

- Help patients/users self-manage their disease or condition without providing specific treatment suggestions;
- Provide patients with simple tools to organize and track their health information;
- Provide easy access to information related to health conditions or treatments;
- Help patients document, show or communicate potential medical conditions to health care providers;
- Automate simple tasks for health care providers; or
- Enable patients or providers to interact with Personal Health Records (PHR) or Electronic Health Record (EHR) systems.

For a more detailed list of examples of these types of mobile medical apps that do not require FDA review, please visit the webpage Examples of Mobile Apps for which the FDA will exercise enforcement discretion.
Cultural Competence with mHealth

Step 1: Understand the cultural variables.
- Ethnic, racial, linguistic and culturally diverse populations
- Availability of technology
- Access to technology (socio-economic status) and geographic location
- Literacy and level of education
- Familiarity with technology (digital native vs. digital immigrant)
- Variables unique to a specific population (e.g., military culture)
Cultural Competence with mHealth

Step 2: Identify your own 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 (digital native) or not (digital immigrant)?
- Do you tend to embrace or reject new technologies (technology adoption style)?
Cultural Competence with mHealth

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 ethno-relativity (Bennett, 1993).
Cultural Competence with mHealth

Step 4: Use a framework to better understand how you experience these differences.

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Cultural Competence with mHealth

Perception of Technology in Clinical Care by DMIS Stage

- **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.

Ethnocentrism

Seeing the world through the lens of your own culture
Cultural Competence with mHealth

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.
### Cultural Competence with mHealth

#### Evolutionary Strategy (Bennett, 2004)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
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<tbody>
<tr>
<td>From Denial to Defense</td>
<td>Subject acquires an awareness of difference between cultures.</td>
</tr>
<tr>
<td></td>
<td>I’m starting to realize that although I don’t use smartphones, almost everyone else does.</td>
</tr>
<tr>
<td>From Defense to Minimization</td>
<td>Negative judgments are depolarized, and the person is introduced to similarities between cultures.</td>
</tr>
<tr>
<td></td>
<td>Although those young kids are using smartphones, I remember how excited I was when new technologies came out when I was their age.</td>
</tr>
<tr>
<td>From Minimization to Acceptance</td>
<td>Subject grasps the importance of intercultural difference.</td>
</tr>
<tr>
<td></td>
<td>Smartphones are here to stay and people seem to like them, so I guess I’ll be open to it.</td>
</tr>
<tr>
<td>From Acceptance to Adaptation</td>
<td>Exploration and research into the other culture begins.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>From Adaptation to Integration</td>
<td>Subject develops empathy for the other culture.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
Cultural Competence with mHealth

Step 5: Determine your patient’s relationship with technology.

Culturally competent providers need to consider how their relationship with technology may differ from that of their patients, because the difference may impact the quality of care. This process begins by using a framework for cultural differences and by understanding one’s own level of acculturation (Martinez & Eddy, 2005; Tata & Leong, 1994).
Cultural Competence with mHealth

What is your patient's technology adoption style?

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

1. Innovators (2.5 percent of the population) – the first individuals to adopt an innovation

2. Early Adopters (13.5 percent of the population) – the second-fastest category of individuals to adopt an innovation

3. Early Majority (34 percent of the population) – those who adopt an innovation after a varying degree of time

4. Late Majority (34 percent of the population) – those who adopt an innovation after the average member of society

5. Laggards (16 percent of the population) – the last group to adopt an innovation
Resources

1. DoD Apps

2. Handouts:

3. Telebehavioral Health Institute Bibliography
   www.telehealth.org/bibliography
Questions?

Marlene M. Maheu, Ph.D.
Telebehavioral Health Institute, Inc.
Phone: 619-255-2788
Email: contact@telehealth.ORG