Promoting the Meaningful Integration of Mental Health Apps into Schizophrenia Care through Provider Assisted App Selection

Module 4

THE DIVISION OF DIGITAL PSYCHIATRY AT BIDMC | Beth Israel Deaconess Medical Center | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Curriculum Overview

Module 1: Current landscape of mental health apps

Module 2: The APA app evaluation framework

Module 3: Navigating the mental health app marketplace with MINDapps

Module 4: Recommending apps in a clinical setting

Recommending Apps in a Clinical Setting

Module 4

Learning Objective

This module aims to educate you on our best practice recommendations for how to safely and feasibly integrate apps into care and create a clinical workflow best suited for your practice.

Disclaimer

While we do not know the absolute best way to integrate apps into care and understand the clinical workflow will look different for each clinician, we can educate you on the common barriers that have previously prevented app integration, and suggest measures that will facilitate meaningful engagement and safety.

Module Overview

When utilizing apps in care, there are key factors that can regulate app use and promote meaningful adoption

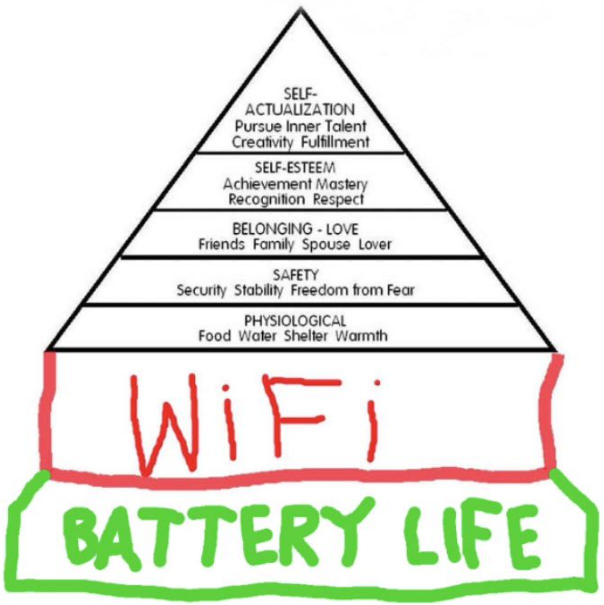
1. Digital Literacy
2. Engagement
3. Safety
4. The Digital Navigator

This module will take you through these concepts and end with a use use case of clinical app integration (The Digital Clinic) and patient testimonials.

Digital Literacy

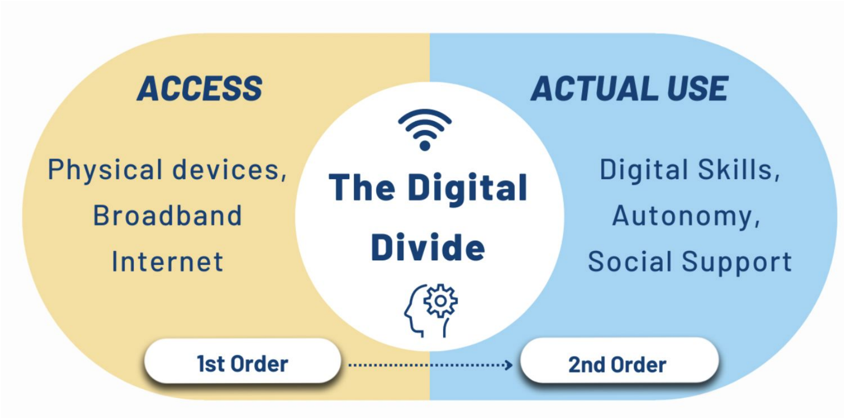
Digital Literacy

- Digital literacy is the ability of an individual to use and interact with technology
- Given its ability to affect engagement with online health resources, it is increasingly recognized as a social determinant of health [1-5]



The Digital Divide

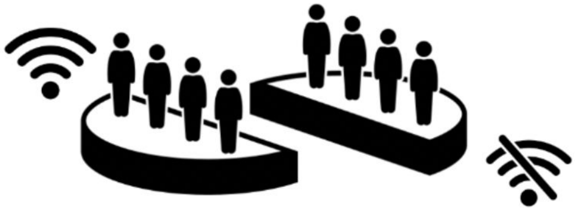
A digital health divide exists between those who can confidently access and navigate technology and those who cannot [2, 6, 7]. Lack of access to technology serving as a "first-order" barrier, while low digital literacy is categorized as a "second-order" barrier in the divide [8].



The Digital Divide and SMI

Individuals with serious mental illness (SMI) are at high risk of digital exclusion due to low digital literacy or access to technology [9].

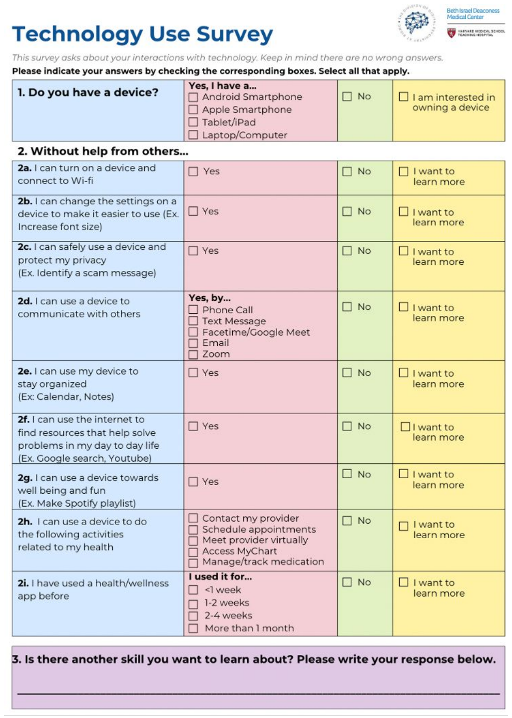
A 2024 survey of 249 individuals with a diagnosis of schizophrenia, delusional/psychotic illness, or bipolar disorder found that 42% of participants lacked foundational digital skills (ie. turning on a device), and 46.2% lacked life skills related to technology (i.e. online problem solving) [10].



Assessing Digital Literacy

To increase health equity and meaningfully integrate apps into care, it is essential to first ensure your patient has the (1) tech access and (2) digital literacy skills to interact with an app. If they do not have the access/skills, it is important to address the gaps and facilitate digital learning.

To facilitate this process, our team developed a one page digital literacy assessment, the ***Technology Use Survey***.


Technology Use Survey

This survey asks about your interactions with technology. Keep in mind there are no wrong answers.

Please indicate your answers by checking the corresponding boxes. Select all that apply.

1. Do you have a device?	**Yes, I have a...** ☐ Android Smartphone ☐ Apple Smartphone ☐ Tablet/iPad ☐ Laptop/Computer	☐ No	☐ I am interested in owning a device
2. Without help from others...			
2a. I can turn on a device and connect to Wi-fi	☐ Yes	☐ No	☐ I want to learn more
2b. I can change the settings on a device to make it easier to use (Ex. Increase font size)	☐ Yes	☐ No	☐ I want to learn more
2c. I can safely use a device and protect my privacy (Ex. Identify a scam message)	☐ Yes	☐ No	☐ I want to learn more
2d. I can use a device to communicate with others	**Yes, by...** ☐ Phone Call ☐ Text Message ☐ Facetime/Google Meet ☐ Email ☐ Zoom	☐ No	☐ I want to learn more
2e. I can use my device to stay organized (Ex: Calendar, Notes)	☐ Yes	☐ No	☐ I want to learn more
2f. I can use the internet to find resources that help solve problems in my day to day life (Ex. Google search, Youtube)	☐ Yes	☐ No	☐ I want to learn more
2g. I can use a device towards well being and fun (Ex. Make Spotify playlist)	☐ Yes	☐ No	☐ I want to learn more
2h. I can use a device to do the following activities related to my health	☐ Contact my provider ☐ Schedule appointments ☐ Meet provider virtually ☐ Access MyChart ☐ Manage/track medication	☐ No	☐ I want to learn more
2i. I have used a health/wellness app before	**I used it for...** ☐ <1 week ☐ 1-2 weeks ☐ 2-4 weeks ☐ More than 1 month	☐ No	☐ I want to learn more

3. Is there another skill you want to learn about? Please write your response below.

Technology Use Survey

To develop the ***Technology Use Survey***, we…

- Drew on over seven years of research and experience developing and teaching our homegrown digital literacy training program, DOORS (discussed in upcoming slides) [11, 12, 13, 14]
- Performed clinical review of widely accepted digital literacy scales to ensure thorough coverage of key concepts [15, 16, 17]
- Consulted with an individual living with schizophrenia to promote inclusive language and design

The scale is currently under peer review

Teaching Digital Literacy

Once digital literacy has been assessed, it is important to address the gaps and facilitate digital learning.

To facilitate this process, our team has developed ***DOORS*** (*Digital Outreach for Obtaining Resources and Skills*), a community-created, research-backed digital literacy training program.

DOORS

Digital Outreach for
Obtaining Resources & Skills

DOORS

Consisting of eight core learning modules, the DOORS program is designed to help teach essential laptop and smartphone skills through distinct learning modules, powerpoints, and handouts [11, 12, 13, 14]

DIGITAL OUTREACH FOR OBTAINING RESOURCES AND SKILLS MODULES

	TITLE / OBJECTIVE	SKILLS
Module 1	**The Fundamentals**	Setting up device and connecting to WIFI
Module 2	**Accessibility**	Changing settings to make devices easier to use
Module 3	**Navigating Internet + Online Safety**	Identifying a scam message
Module 4	**Communication (Messaging)**	Sending an email *Text messaging *Taking and sending photos
Module 5	**Communication (Video)**	Joining a Zoom call **Facetime or Google Duo*
Module 6	**Staying Organized**	Adding an event to calendar *Get directions through Maps **Create a note* *** Create a Google Doc*
Module 7	**Expanding Your Knowledge: YouTube**	Searching Youtube to learn a new skill ***Bookmarking*
Module 8	**Well-Being and Fun**	Signing up for a patient portal (MyChart) Creating a Spotify account

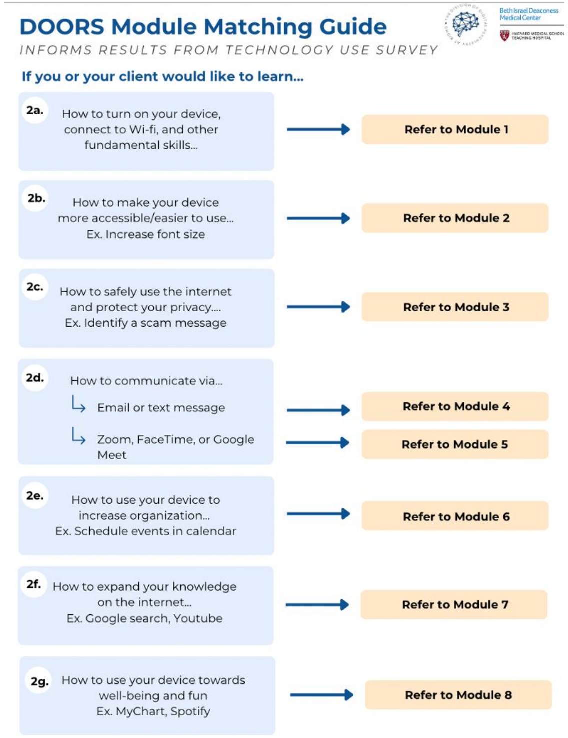
**Smartphone modules*
***Laptop modules*

DOORS

- Delivery designed to be adaptable to a specific person, population, or setting
- Training content encompasses the essential technological knowledge needed to engage with technology meaningfully
- Not all learning points are directly specific to healthcare, as many focus on functional outcomes necessary for thriving in the digital age
- Currently available in both English and Spanish
- To learn more and access DOORS content, visit: **https://www.digitalpsych.org/doors-program.html**

Bridging Assessment & Training

To bridge the utility of the ***Technology Use Survey*** and ***DOORS*** training content, we developed a ***Module Matching Guide*** that translates survey results into a tailored digital literacy training program.


DOORS Module Matching Guide

INFORMS RESULTS FROM TECHNOLOGY USE SURVEY

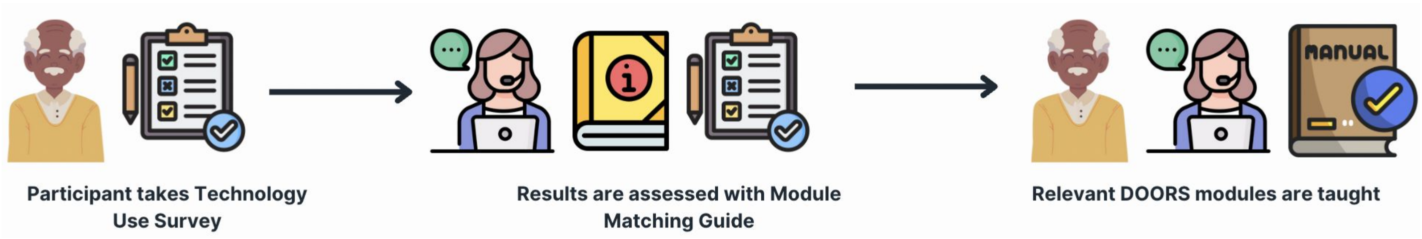
If you or your client would like to learn...

2a. How to turn on your device, connect to Wi-fi, and other fundamental skills...	**Refer to Module 1**
2b. How to make your device more accessible/easier to use... Ex. Increase font size	**Refer to Module 2**
2c. How to safely use the internet and protect your privacy.... Ex. Identify a scam message	**Refer to Module 3**
2d. How to communicate via... ↳ Email or text message	**Refer to Module 4**
↳ Zoom, FaceTime, or Google Meet	**Refer to Module 5**
2e. How to use your device to increase organization... Ex. Schedule events in calendar	**Refer to Module 6**
2f. How to expand your knowledge on the internet... Ex. Google search, Youtube	**Refer to Module 7**
2g. How to use your device towards well-being and fun Ex. MyChart, Spotify	**Refer to Module 8**

Tailored Assessment & Training

Essentially, results from the ***Technology Use Survey*** are interpreted alongside the ***Module Matching Guide*** which informs the delivery of an individualized ***DOORS*** education.

Since each patient has different learning needs, this process is designed to individualize the training period and bypass unnecessary time spent on training.



Engagement

Engagement = Dose Effect

In digital interventions, engagement is the equivalent to the dosage of a prescribed medication.

Just as medication has no efficacy if a patient does not ingest it, apps have no potential if the patient does not engage with it.

Lack of Engagement

Lack of engagement with mental health apps is a well-recognized phenomena and major setback in meaningful clinical integration [18-24]

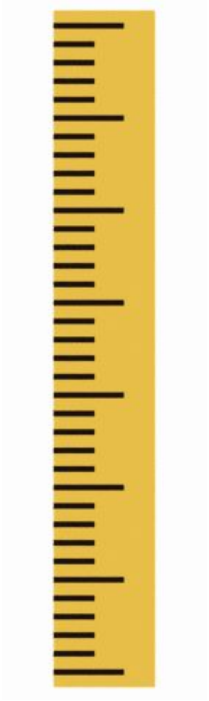
- A landmark 2019 study of 93 mental health related smartphone apps found that the median 15-day retention rate was 3.9% [22]
- A 2023 survey of US veterans noted that while up to 76% reported apps are important for their mental health, only 5% ever reported having tried an app at least once [25]

Value of Human Support

Common themes raised to boost engagement often include the need for personalized app experiences, social and/or therapeutic support, customization, in-app guidance, and use of sensors to offer users real time feedback [20]

An analysis of patient engagement with a schizophrenia specific app found that naturalistic engagement was much lower than clinical engagement, suggesting "... the importance of clinical involvement as one factor in driving engagement for mental health apps." [24]

How do you measure engagement?



The problem is–engagement is a slightly arbitrary metric–there is not agreement on how to measure it in the field.

To fully understand the effect an app has on your patient, you must understand how they are individually engaging with it. Thus, it is important to understand the different types of engagement.

Engagement Types

Objective vs. Self reported

- Objective = Screentime, completed activities (ie. journal entries)
- Self reported = Patient estimates of use

Cognitive vs. Passive

- Ex. Were they actively/cognitively participating in an activity or actively scrolling?

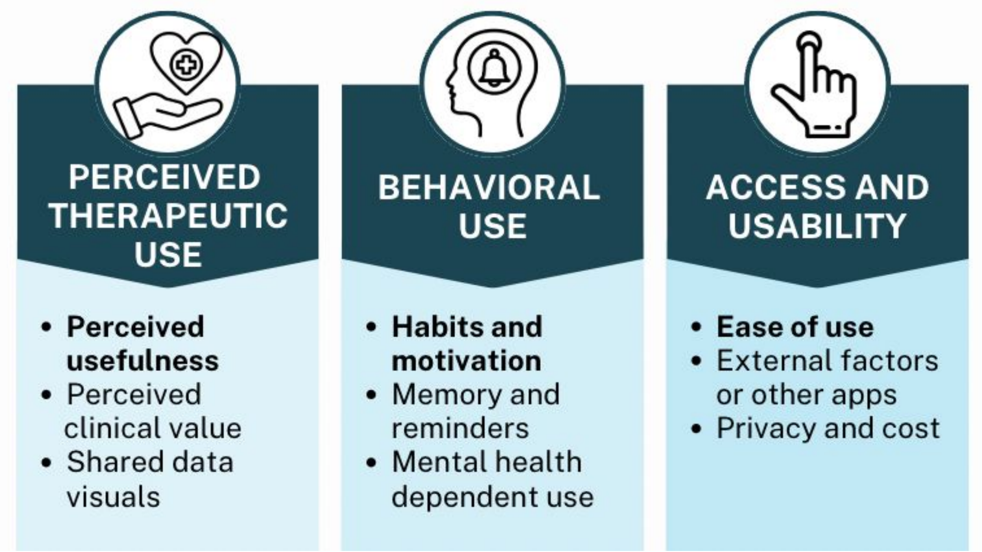
Engagement Study

A 2024 study piloting personalized mental health app recommendations through digital phenotyping data assessed different types of app engagement over a four week period [26].

Both objective and self-reported engagement metrics were collected through screen time data and a qualitative survey [26].

Engagement Study

Through qualitative analysis, a team of coders identified 3 overarching themes related to mental health app engagement [26].



Engagement Study

In essence, preliminary data suggests that key impact factors are: how much patient believes an app is helping them (Perceived Therapeutic Use), their habitual around using it (Behavioral Use), and how easy/accessible they find it to interact with (Access and Usability). In fact, habit formation seems to be the biggest factor driving <u>sustained</u> engagement, or long-term use of the app. [26]

Engagement Tips

By understanding your patients perspective on the app with these key factors in mind, you can more directly target limiting engagement factors.

On the next three slides, we recommend specific questions to help address these factors and understand your patients relationship with the app in order to promote sustained engagement.

Perceived Therapeutic Use

- Do *you* feel the app is useful?
- What features about the app do you find useful?
- What do you not like about the app?
- Have you used the app in a moment of stress? If so, was is helpful?
- Would it be helpful to discuss the data collected in the app (ie. your journal entries)?

Behavioral Use

- What time of day are you most likely to use the app?
- How can we integrate this app into your daily life?
- Would reminders/notifications help you remember to use it?
- What motivates you to use the app?
- Would you prefer to use it “as needed” ie. when you are feeling overwhelmed? *Not suggesting to use in crisis*

Access and Usability

- Were you able to download it on your phone?
- Do you feel confident navigating the app?
- Are there any barriers that might prevent you from using it (ie. cost, privacy concerns)?
- How can we make the app more accessible?

Safety

Safety

- It goes without saying that when prescribing any intervention, safety is the top priority.
- Next, we provide key safety tips to ensure apps are used in the safest way possible.
- We would like to stress that apps are NOT a replacement for care, especially crisis care, they are merely a tool to supplement existing care.

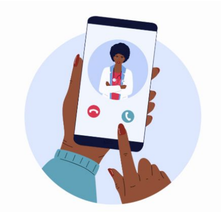
Safety Tips: To Your Patient

Clearly communicate to your patient that…

1. Apps are not monitored in real time
   a. Ex. if your patient indicates they are in a crisis, their provider will not be notified
2. Apps are NOT a substitute for care
3. They should <u>always</u> seek emergency care in a crisis, never rely on the app

Safety Tips: As the Provider

- You should assess the app before prescribing it → Understand its features, functionality, and limitations
  - For example, ensure that if the app provides an emergency helpline, the helpline works!
  - We recommend utilizing an app for few days to get a well-rounded sense of it
- You should only treat people in the state you are licensed to see them
- It is important to note there is data to suggest apps do not make people paranoid or delusional [FIND]

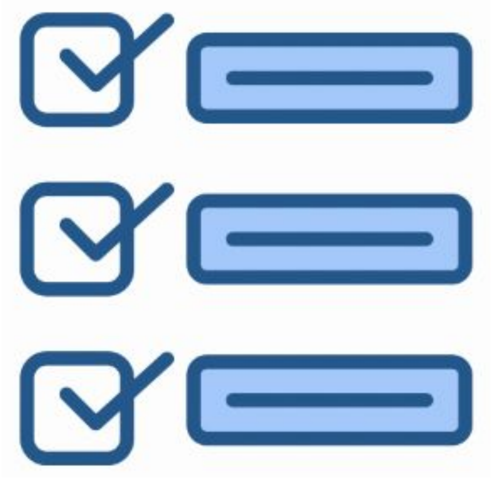


The Digital Navigator

Who can help promote digital adoption?

- Who assesses digital literacy?
- Who facilitates engagement?
- Who can help promote safety?

…A Digital Navigator [27]!



What is a Digital Navigator?

A Digital Navigator is a training member of the clinical or community team, whose goal is to support the uptake and implementation of technology into care. Their roles and responsibilities can include: Tech support, digital literacy training, and resource connection.

The Digital Navigator

It goes without saying that there is already more than enough for a clinician to do during a patient visit, and these factors may add to the to-do list.

The digital navigator role is not clinical in nature so it does not require a formal degree. Given the innate technological knowledge of most young people, it 1) decreases the barrier to entry for individuals looking to enter the healthcare field and 2) increases the healthcare workforce at large.

Digital navigators can be college volunteers, medical students, clinicians, researchers, social workers, entry-level mental health workers, tech professionals, or anyone interested who undergoes the proper training [27]!

Digital Navigator Training

- Our team has developed a 1-2 day Digital Navigator Training Program and executed it at sites around the country
- Among other things, we teach participants to 1) assess and teach digital literacy skills 2) facilitate app engagement 3) promote safety mechanisms with technology

Scaling the Digital Navigator Role

We are not the only team who uses the digital navigator model, it is gaining traction in healthcare at large [29] and we encourage you/your organization to find digital navigators in your community, or reach out to us!

Learn more about digital navigators here:
https://www.digitalinclusion.org/digitalnavigatormodel/#:~:text=Digital%20navigators%20are%20trusted%20guides,%2C%20devices%2C%20and%20digital%20skills.

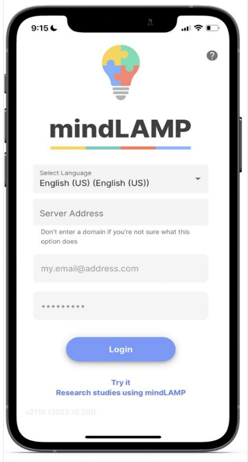
The Digital Clinic

Example of Clinical App Integration

Digital Clinic
INTEGRATING TECHNOLOGY INTO CARE

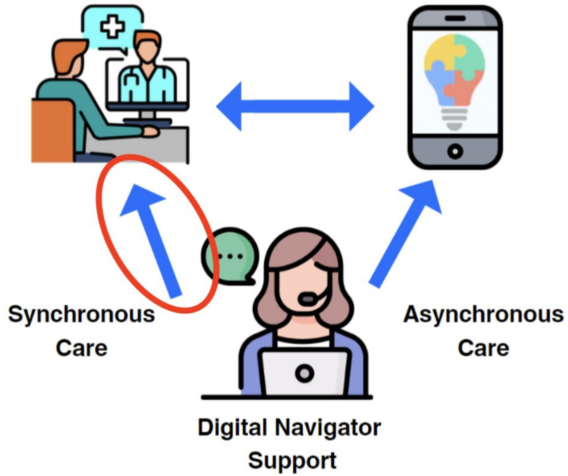
This section will explain the Digital Clinic, a hybrid therapy model piloted by our lab [30].

We are not suggesting each clinician follow this model exactly, it is just an example of clinical app integration that ties together the concepts discussed in this module.



What is The Digital Clinic?

- Hybrid virtual therapy clinic
- Patients use mindLAMP throughout duration of care
  - mindLAMP = our homegrown digital phenotyping mental health app [31]
- Patients see clinicians for therapy once per week
- Patients **also** see a digital navigator once per week to troubleshoot with the app and interpret app data
- Clinicians are encouraged to use app insights in care, but not required!



Learn more about mindLAMP here:
https://www.digitalpsych.org/mindlamp1.html

How does the Digital Clinic model directly target regulators of digital adoption (digital literacy, engagement, safety) through clinical care and the Digital Navigator?

Digital Literacy

- Prior to starting therapy in the digital clinic, all patients are screened for baseline digital literacy. If their results indicate of lack of necessary tech skills, they can be referred to the DOORS training curriculum
- During weekly **digital navigator** meetings, digital navigators troubleshoot app problems and answer questions about mindLAMP

Engagement

- During each clinical session, the clinician checks in with the patient about their mindLAMP use and discusses any insights the patient or clinician feel relevant
- Weekly **digital navigator** sessions also promote app use. During these sessions, **digital navigators** interpret the digital phenotyping data to the patient to help them understand insights without giving ANY clinical opinion. There is literature to suggest that sharing back data is an effective way to increase and sustain engagement [FIND SOURCE]

Safety

- Both the clinician and **digital navigator** continuously remind the patient mindLAMP is NOT a substitute for care, and they should always seek emergency services in the event of a crisis
- Patients are informed about the limitations of apps, and reminded about the voluntary nature of their engagement (ie. they can always stop using it).
- Since we developed mindLAMP, we are are confident in its privacy (ie. how their data is protected) and can confidently relay this to patients.

Patient Testimonials

Patient Testimonial

Key Takeaways

Best Practice Recommendations

1. Ensure your patient has the digital literacy skills and technology access to interact with an app
2. Create a plan to promote sustained engagement with the app
3. Emphasize and monitor safety
4. Explore the Digital Navigator role and how its capacity within your practice or organization

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