

Using Emerging Digital Psychiatry and Mobile Health Technologies to Improve Mental Health Access

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Outline

- Digital Phenotyping
- Digital Navigators
- Broader Context of Apps in Care
- Self Help Apps



Improving Access By Improving Understanding

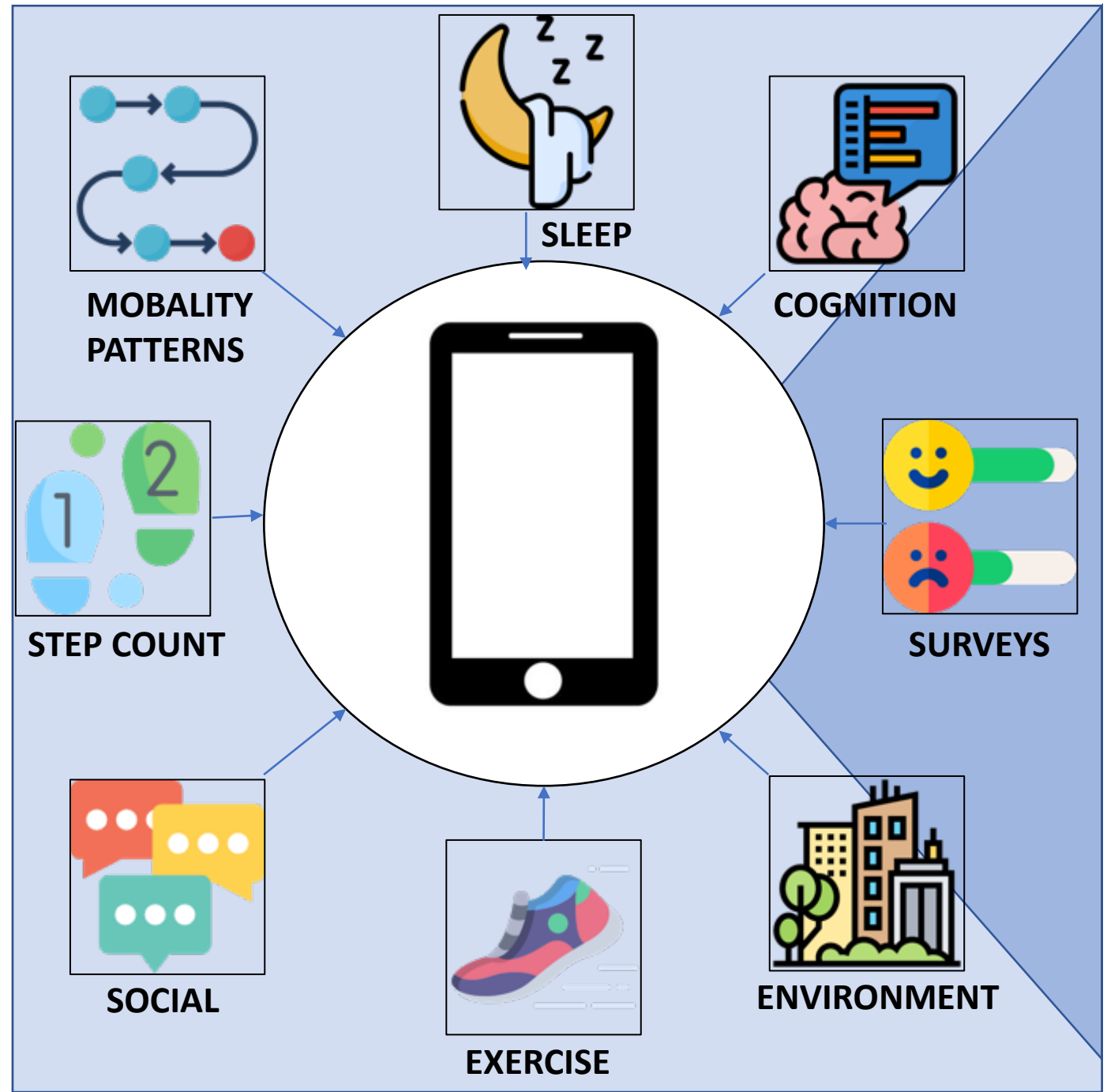
*“To develop robust neurocognitive models of mental illness, we must invest in new methods that can deliver on substantially **richer, multivariate** data sets and **larger samples** than are feasible in the traditional **small, single-site studies** that dominate the field”*



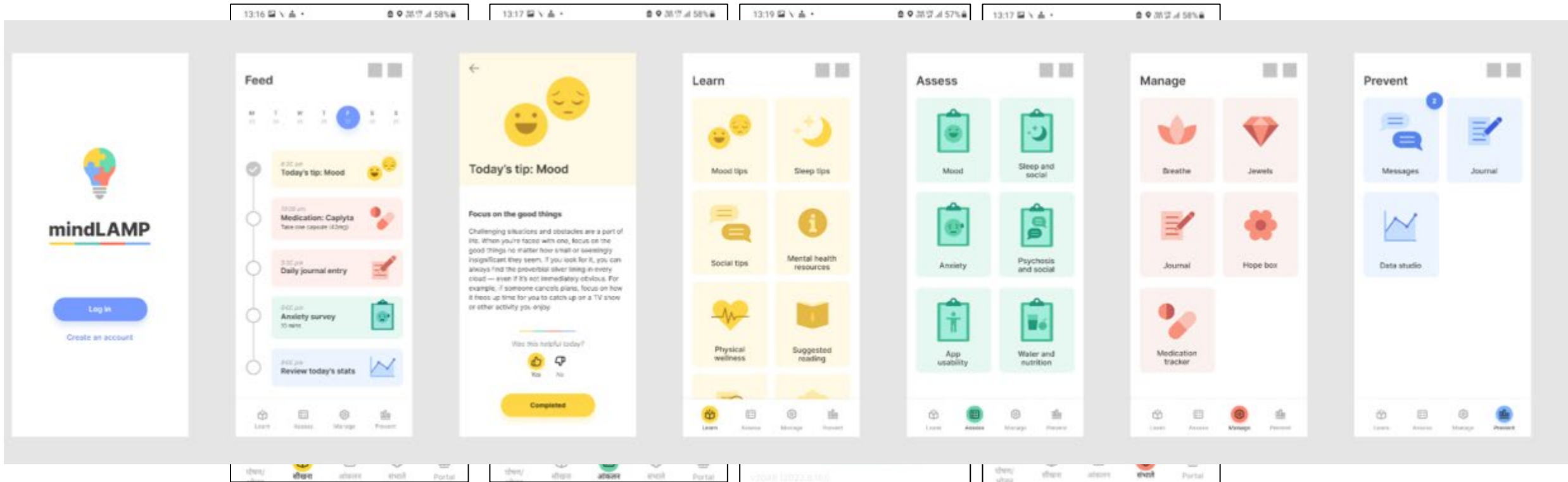
Active and “Passive
Data”

=

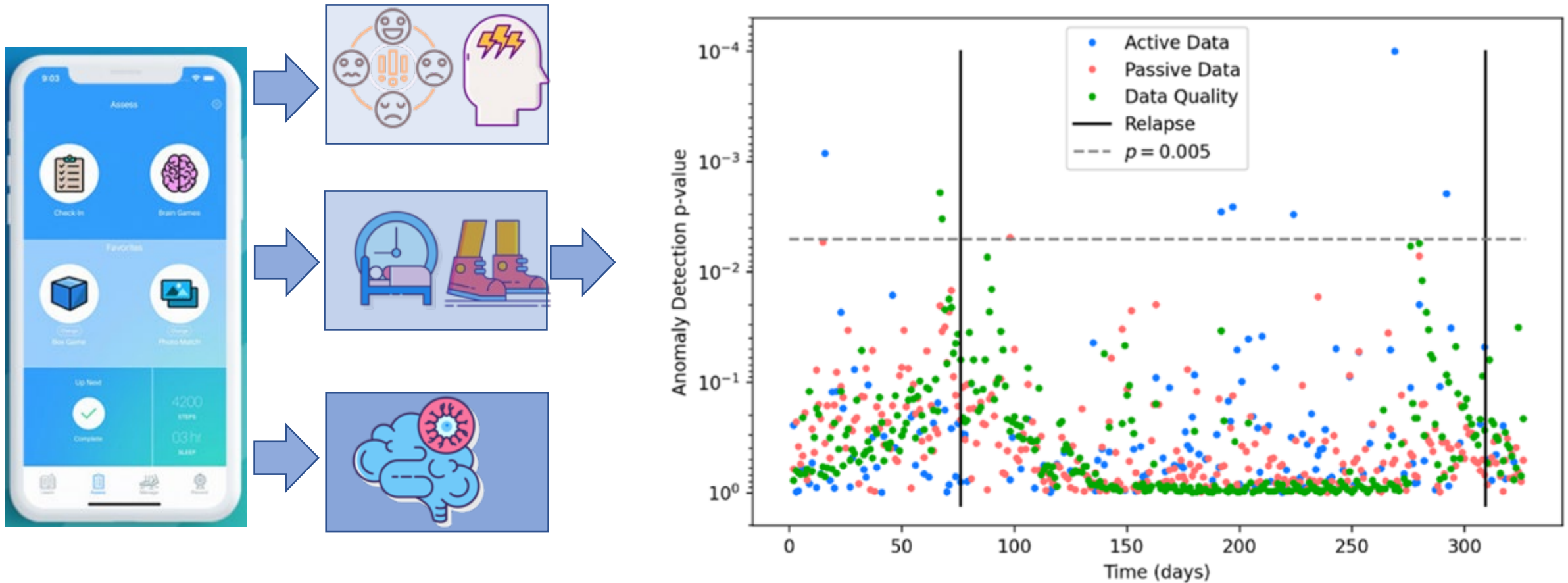
Digital Phenotyping



Digital Phenotyping+ for Patients and Clinicians

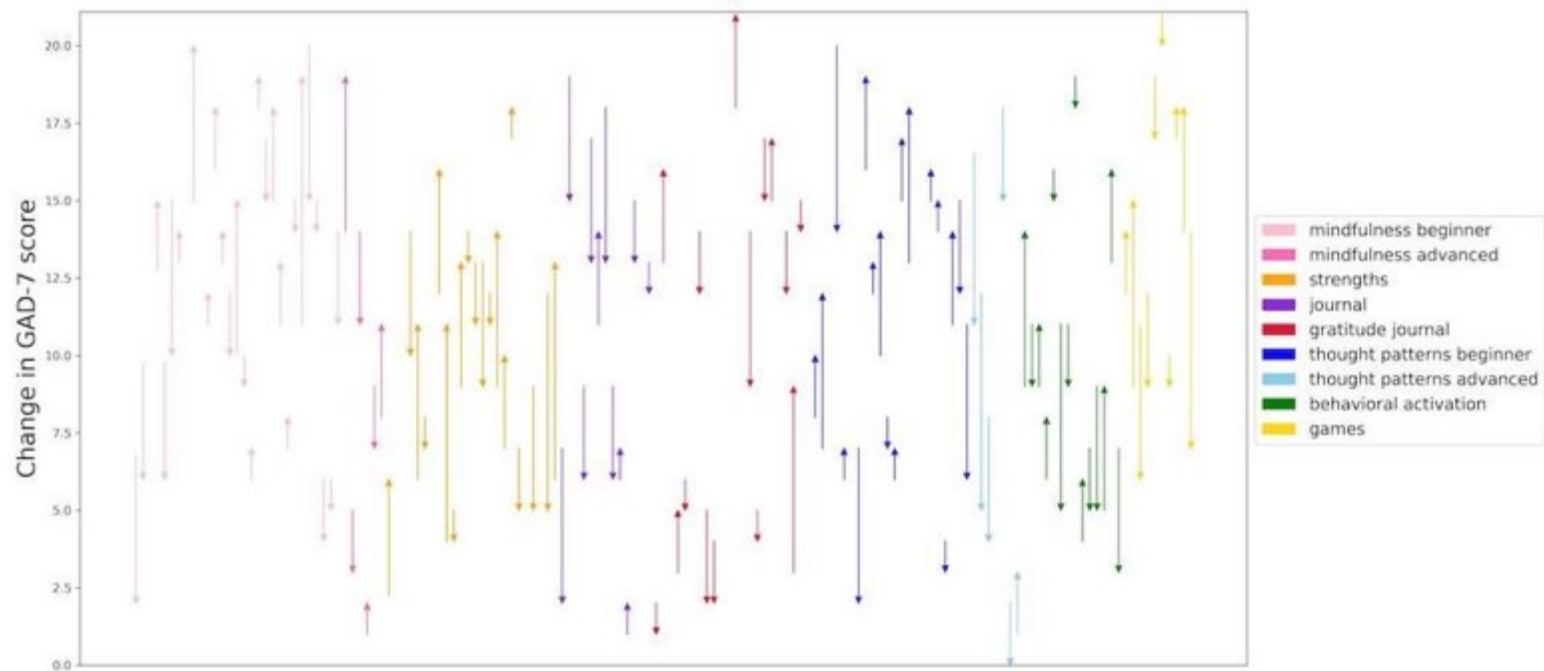


Relapse Prediction with Anomaly Detection

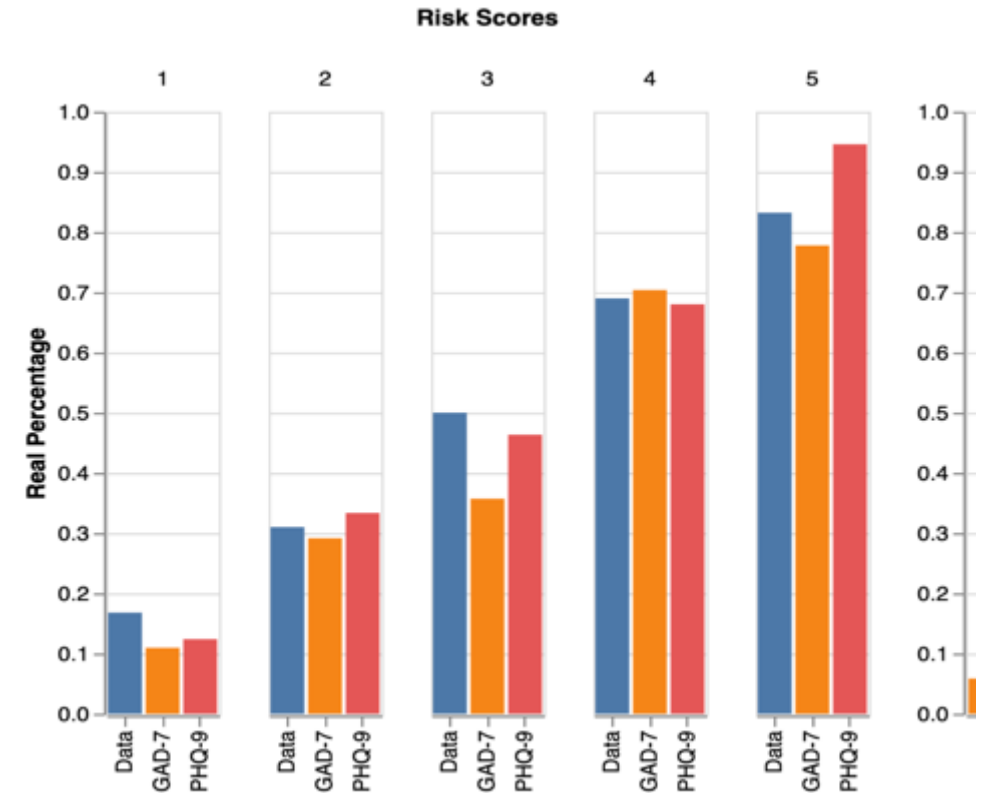
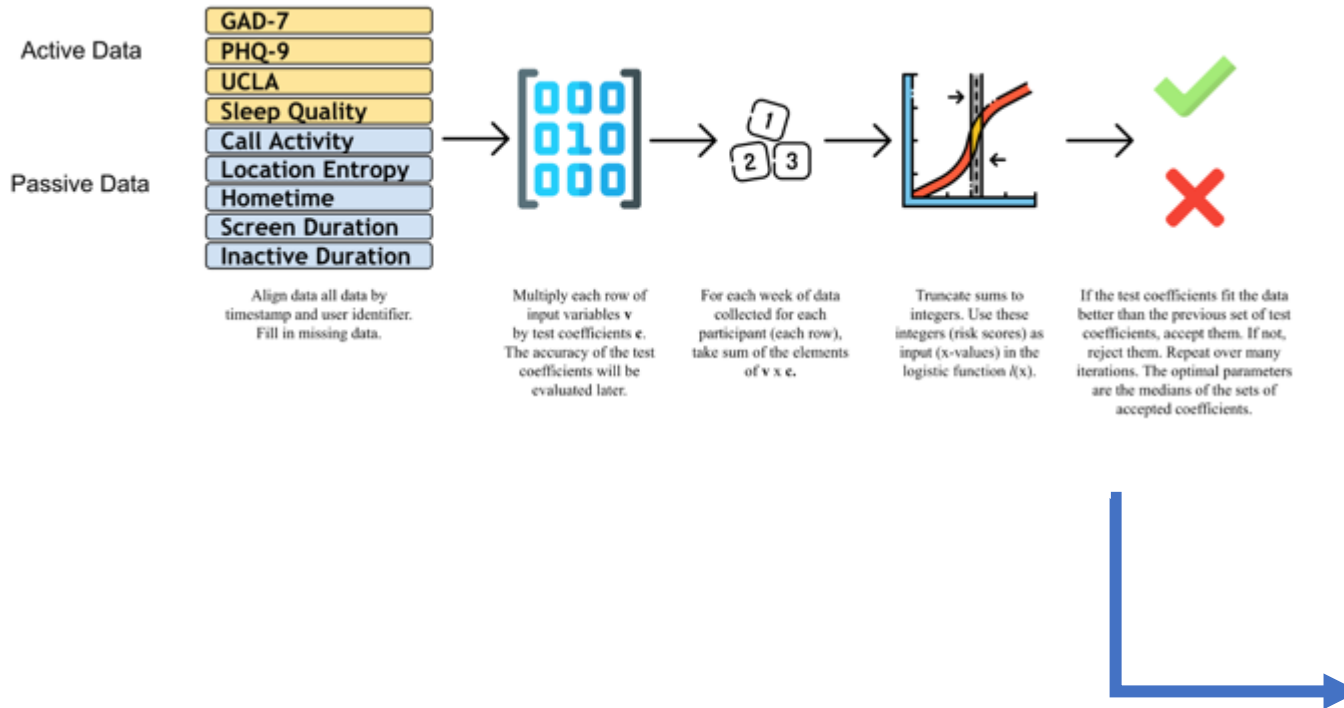


Algorithms to Predict Symptom Change

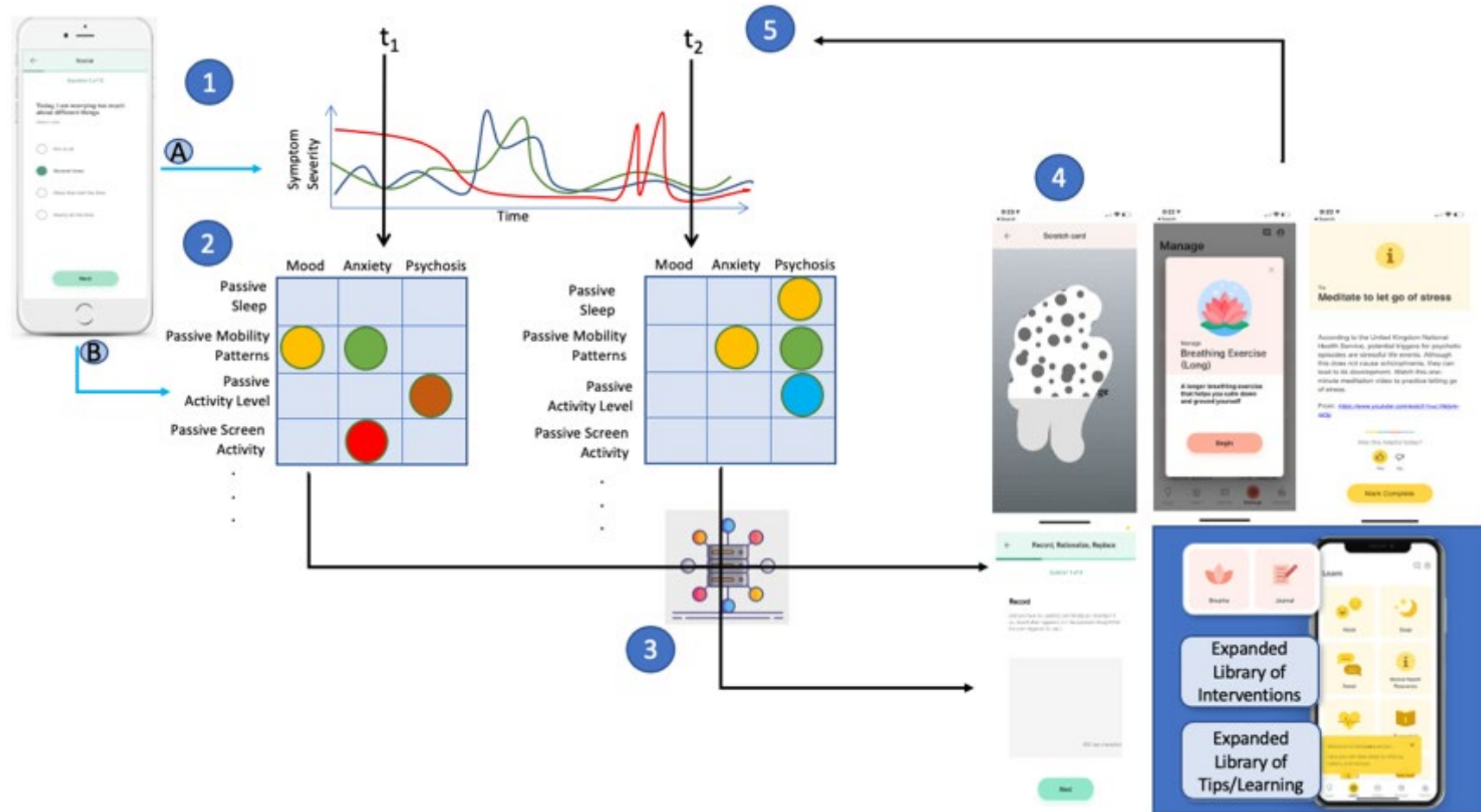
- Possible but requires good technology **and** good clinical science
- But most studies are 1) not pre-registered or 2) replicated.



Turn All the Data into a RISK score



Digital Phenotyping to Improve Access



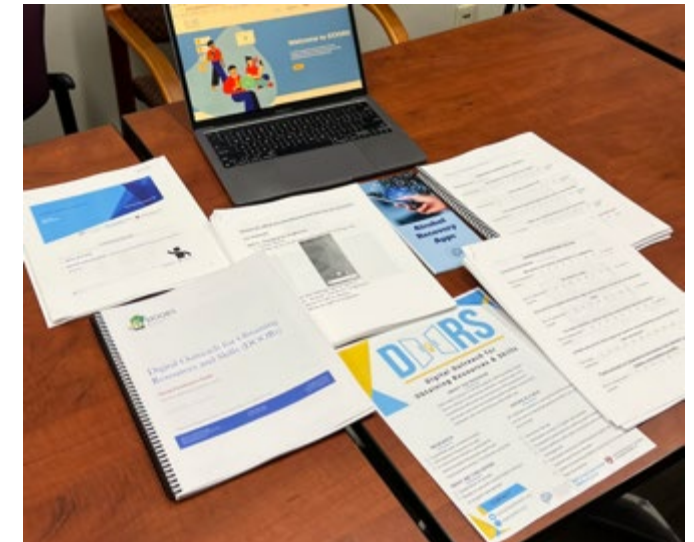
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True Access is More than Technology



Hoffman L, Wisniewski H, Hays R, Henson P, Vaidyam A, Hendell V, Keshavan M, Torous J. Digital Opportunities for Outcomes in Recovery Services (DOORS): a pragmatic hands-on group approach toward increasing digital health and smartphone comperelatedness, and alliance for those with serious mental illness. Journal of psychiatric practice. 2020 Mar;26(2):80.tencies, autonomy,











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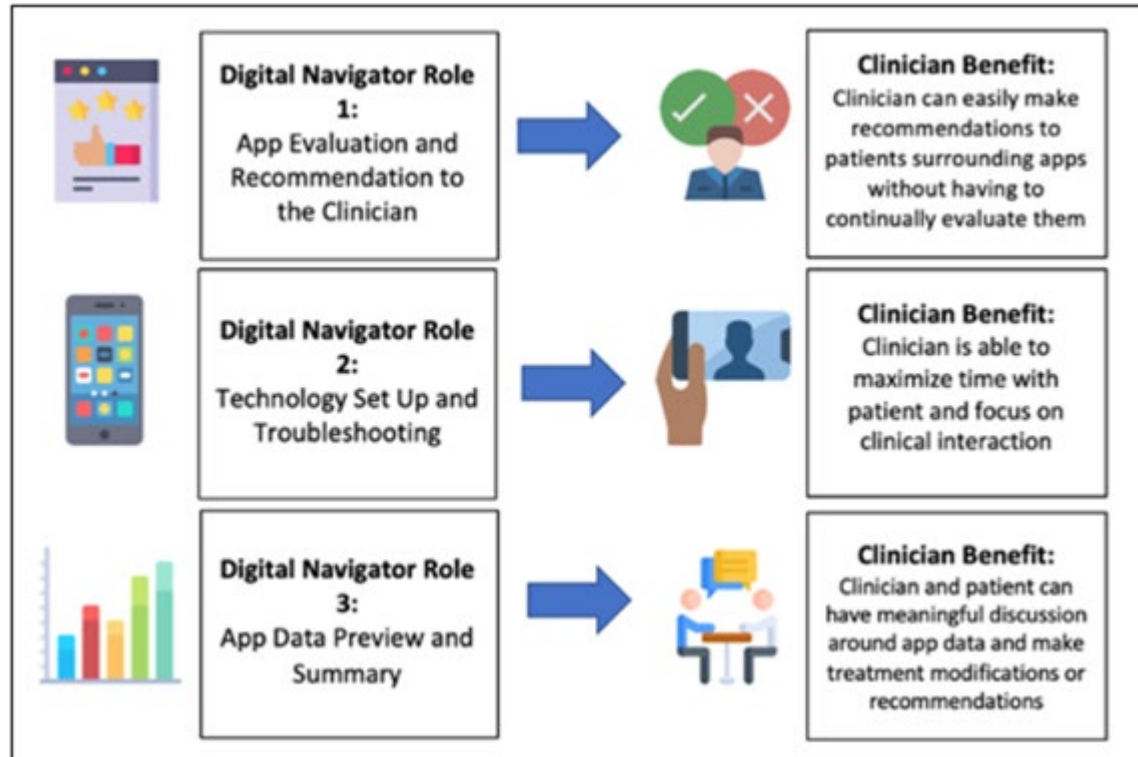
Can we use this to help people today?

<p>Session 1</p>  <p>Setting up our Smartphones</p> <ul style="list-style-type: none">- Getting a smartphone- Connecting to WIFI- Changing brightness- Changing Font size	<p>Session 2</p>  <p>Building Wellness Habits</p> <ul style="list-style-type: none">- Tracking step count- Tracking screen time	<p>Session 3</p>  <p>Managing Responsibilities</p> <ul style="list-style-type: none">- Adding calendar events- Getting directions- Good password practices	<p>Session 4</p>  <p>Staying Connected</p> <ul style="list-style-type: none">- Sending a text message- Video calling- Being safe on social media
<p>Session 5</p>  <p>Connecting Professionally</p> <ul style="list-style-type: none">- Setting up an email account- Sending an email- Setting up a voicemail greeting	<p>Session 6</p>  <p>Expanding your Knowledge</p> <ul style="list-style-type: none">- Using YouTube- Using Google- Trustworthy Sources- Bookmarking a webpage	<p>Session 7</p>  <p>Navigating the Internet Safely</p> <ul style="list-style-type: none">- Internet Safety- Reading an app's privacy policy- Looking at app reviews	<p>Session 8</p>  <p>Enjoying Downtime</p> <ul style="list-style-type: none">- Downloading a game or music app- Creating a playlist- How to find help with your phone



Increasing Access Via Digital Navigators

- Yes, but we need to make sure it is implemented



The BIDMC Digital Clinic: Access via Hybrid Care

A New Connection

The mindLAMP app is one of the digital mental-health aids designed to enhance interaction between therapists and patients. Here are the basics of how it works:



Traditional face-to-face therapy sessions are held either in person or over a videoconferencing platform.

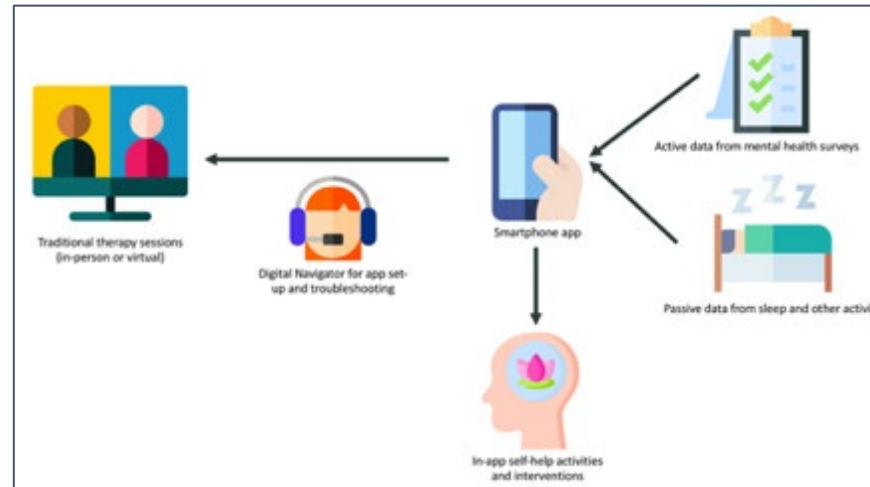


A "digital navigator" handles the technical aspects of the digital interaction between therapist and patient, from app setup and customization to data presentation and troubleshooting.

The mindLAMP app allows patients to access suggested mental-health resources and tips; complete customized surveys about their symptoms, moods and activities; complete activities and learn skills to manage symptoms; track their own treatment progress, and communicate with their therapist. It also tracks physical activity—like the patient's daily number of steps, screen time and hours of sleep—that can be analyzed to see if it is affecting the patient's mental health.



Source: Division of Digital Psychiatry, Beth Israel Deaconess Medical Center; Kevin Hand/THE WALL STREET JOURNAL



DIGITAL CLINIC TREATMENT MANUAL

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Early Results

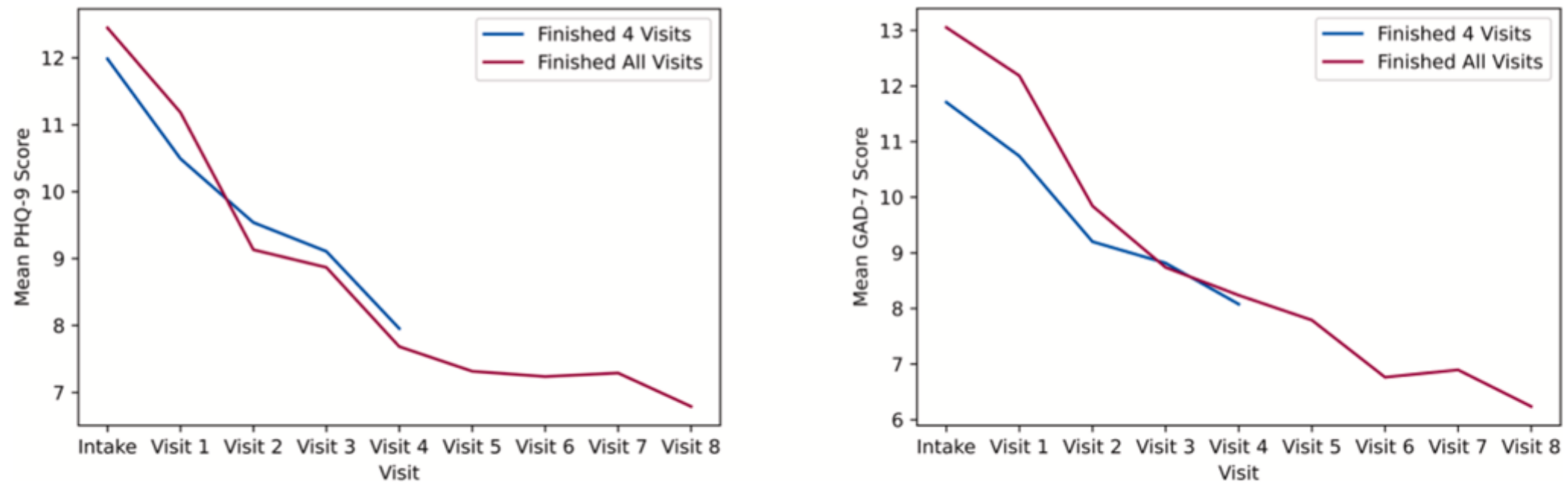
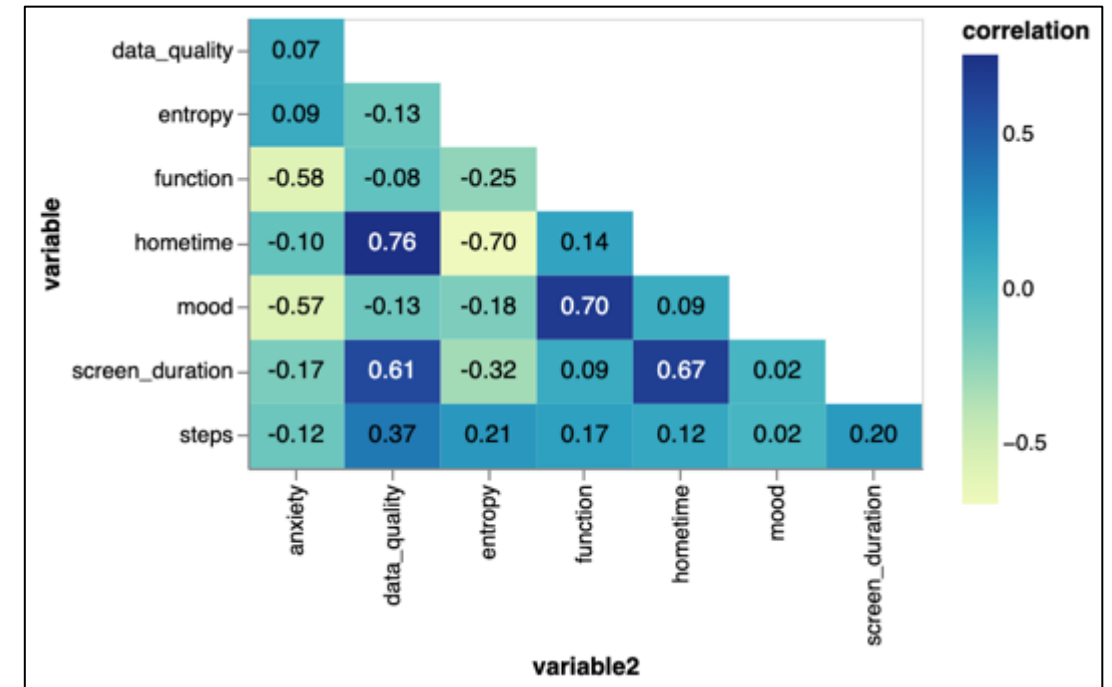
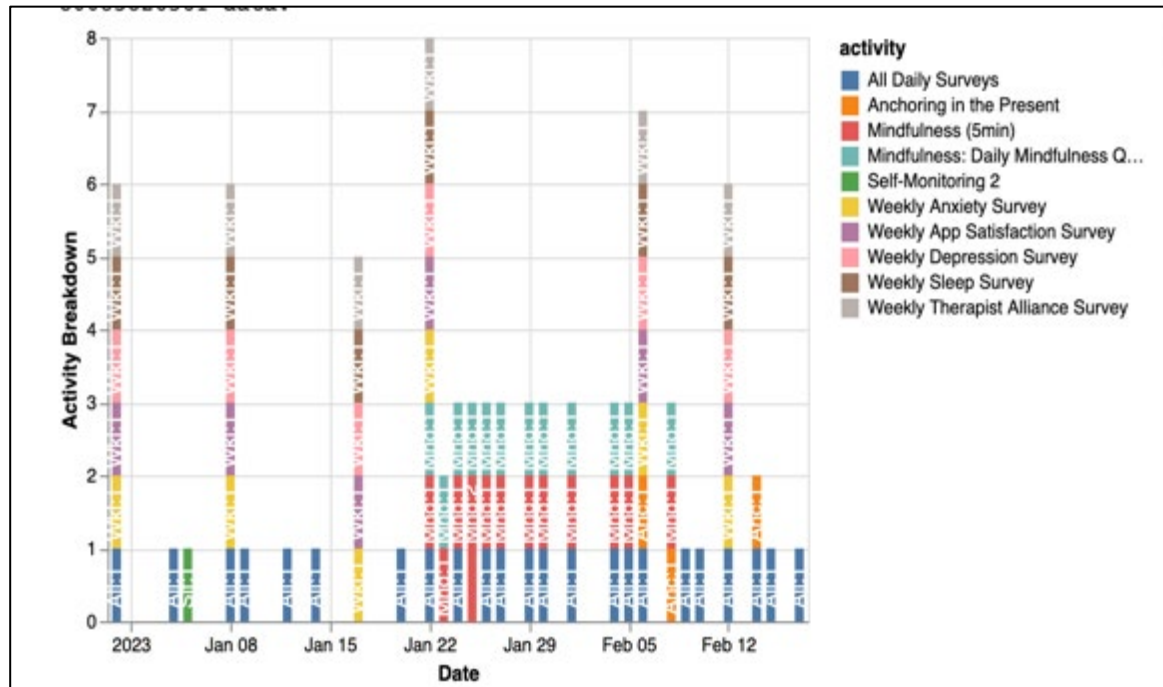


Fig. 1. Mean PHQ-9 scores (left) and GAD-7 scores (right) for both the cohort that finished up to four visits and the cohort that completed all eight visits.

New Tools for Patients and Clinicians



New Tools for Patients and Clinicians



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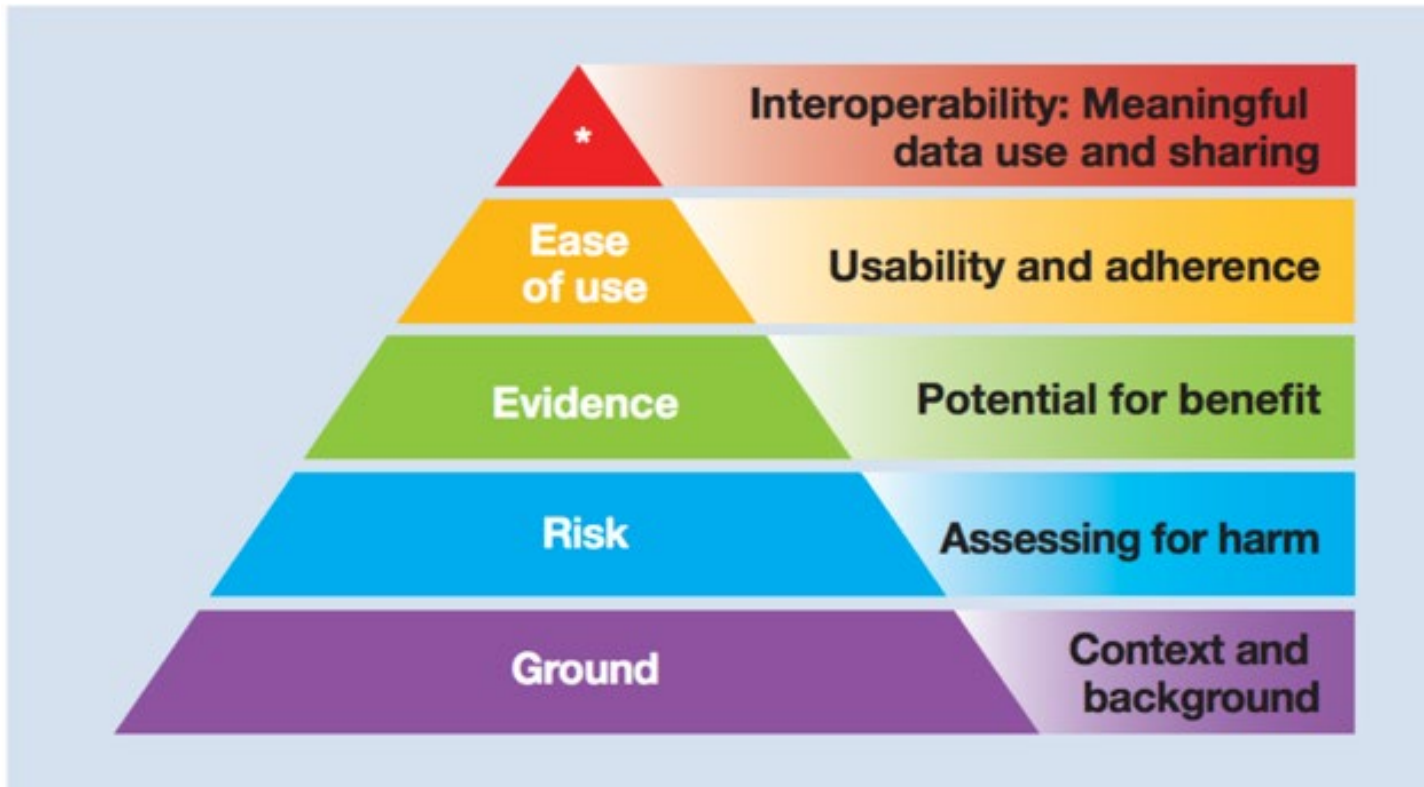


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Access Via Self Help Apps

- We know the VA already offers some of the best apps?
- How can we help people find these best apps?
- How can we help people avoid harmful apps?

Guiding People To Make More Informed Choices



John Torous, M.D.,
M.B.I.



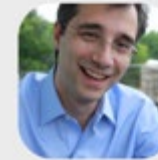
Stephon Proctor, Ph.D.



Darlene King, M.D.



Keris Jan Myrick,
M.B.A., M.S., Ph.D.c.



David Gratzner, M.D.



Margaret Emerson,
D.N.P.



Patrick Aquino, M.D.



Steven Chan, M.D.,
M.B.A.



Karen Fortuna, Ph.D.,



Sonia Matwin, Ph.D.



Nicole Benson, M.D.



Julia Tartaglia



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Using mindApps.org to Find Better Apps

MIND M-HEALTH INDEX & NAVIGATION DATABASE

Application Library Framework Community

Search Filters

- Cost
- Developer Types
- Supported Conditions
 - ☐ Mood Disorders
 - ☐ Stress & Anxiety
 - ☐ Sleep
 - ☐ Phobias
 - ☐ OCD
 - ☐ Schizophrenia
 - ☐ Eating Disorders
 - ☐ Personality Disorders
 - ☐ Self-Harm
 - ☒ PTSD
 - ☐ Substance Use
 - ☐ Substance Use (Alcohol)
 - ☐ Substance Use (Smoking & Tobacco)

App Library

Search: ptsd All Platforms

Application

Application	Supported Conditions	PTSD
MHCP by American Psychiatric Association		
CPT Coach by US Department of Veterans Affairs (VA)		
PTSD Coach by US Department of Veterans Affairs (VA)		
Sinaspriite by Litesprite		
Warriors For Freedom by BFAC		
Lyf - Social That Cares by Lyf App Pty Ltd		
Talkspace Counseling & Therapy by Talkspace		
PatientsLikeMe by PatientsLikeMe		
Sleep Restore		

MINDAPPS.ORG

MIND: the Mobile-Health Index and Navigation Database

With over 10,000 mental health related apps available today, which is right for you? Browse the largest database of mental health apps and find ones that best match your preferences and needs.

FIND THE BEST APP FOR YOU IN 5 STEPS:

1. Visit mindapps.org

2. Click on any filter on the left hand side of your screen. A drop down menu will appear

Use filters to help narrow down your search for the right app for your needs.

3. Add as many filters as you would like

The filters you have selected will appear under the horizontal 'search' bar

4. Once you have a list of apps that meet your filtered criteria, click 'grid view' to read an app description

5. Download the app onto your smartphone using the app store to test it out

Search Filters

Cost

Developer Types

Supported Conditions

Functionalities

Uses

Features

Engagements

Evidence & Clinical Foundations

Privacy

Using the list of filters above, what are your top 3 most important filters?

- 1 _____
- 2 _____
- 3 _____

Using the steps to your left, what are 3 apps that best fit your needs?

- 1 _____
- 2 _____
- 3 _____



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MindApps.org: An Active Research Project with Direct Clinical Uses

“Websites like [Mindapps.org](#) offer information on hundreds of apps, including data privacy.”

To make it slightly easier to compare the options, he and his colleagues created [MIND](#), a database that allows you to sort through mental health apps by filtering for features that matter to you





 CALIFORNIA
Need mental health help? There are apps for that, but picking the right one is tough



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Example of Using MindApps.org

FIGURE 1. Example of app selection using MINDApps^a



^a Mention of any app is an example and does not imply endorsement.



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Thank You

Digitalpsych.org

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