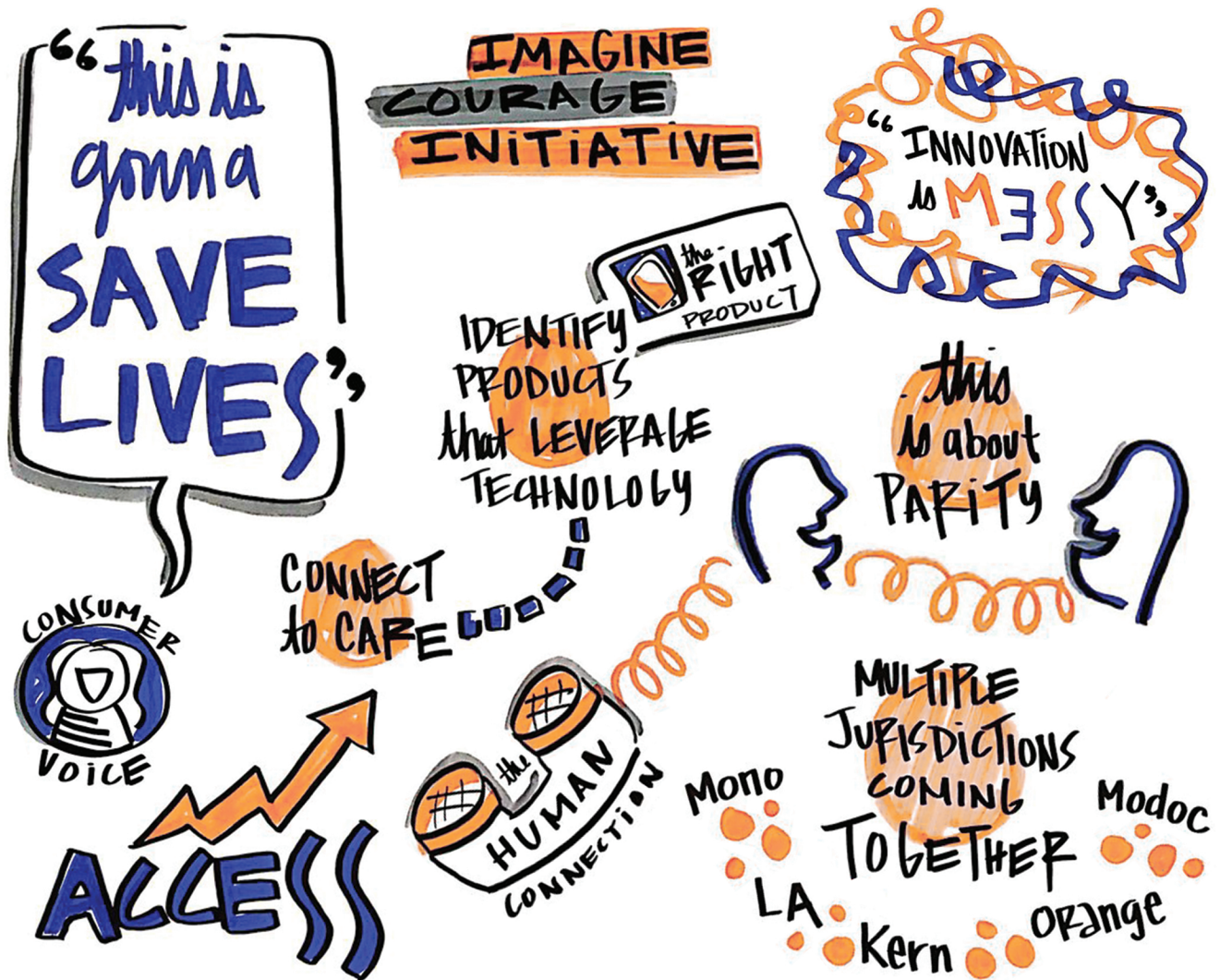


# “THE TECHNOLOGY SUITE”

DRIVING ACCESS TO BEHAVIORAL HEALTH CARE THRU INNOVATION



MENTAL HEALTH OVERSIGHT  
AND ACCOUNTABILITY COMMISSION

JULY 5, 2018

# “THE TECHNOLOGY SUITE” MHSOAC STATUS REPORT

## Table of Contents

- 1. Progress Overview: Accomplishments & Milestones**
  - a. Statewide Collaborative
  - b. Individual Counties
  
- 2. About the Collaborative Innovation**
  - a. Overview Flyer
  - b. Over-Arching Goals & Learning Questions
  - c. Target Populations
  - d. Clinical Integration Continuum
  
- 3. Collaborative Development & Approach: A Statewide Innovation Platform**
  - a. Collaborative Approach
  - b. Driving Innovation
  - c. Collaborative Events
  - d. Implementation: Phases
  - e. Cultural and Linguistic Adaption Cultural and Linguistic Adaption
  
- 4. Peer Involvement**
  - a. Peer Roles
  - b. Peer & Underserved Cultural Community Groups User Testing
  
- 5. Technology Procurement**
  - a. Selection Process
  - b. Budgeting & Pricing
  - c. Contract Administration
  - d. Initial Vendors
  
- 6. 7 Cups**
  - a. About the Organization
  - b. Overview of the App
  - c. Summary of Evidence Basis
  - d. Frequently Asked Questions
  - e. Glossary



## 7. Mindstrong

- a. About the Organization
- b. Overview of the App
- c. Summary of Evidence Basis
- d. Frequently Asked Questions
- e. Glossary
- f. Biographies

## 8. Outreach and Marketing

- a. Contracted Firm: RSE and Team
- b. Approach to Branding, Media Campaign Development
- c. Example Marketing Materials

## 9. Privacy and Security

- a. Contracted Firm: Intrepid Ascent
- b. Approach to Informed Consent & Data Sharing
- c. Guiding Principles

## 10. Evaluation and Performance Monitoring

- a. Selected Evaluator
- b. About the Evaluation
- c. App Reports & Analytics

## Progress Overview

### Statewide Collaborative Accomplishments & Milestones

TIMEFRAME	ACTIVITY	OUTCOME
Oct 2017	<b>Collaborative Development:</b> Kern and Los Angeles Counties submit proposals to the MHSOAC for a statewide collaborative Innovation project	MHSOAC Commissioners approved statewide collaborative and two inaugural counties to create the foundation for the collaboration
Nov – Dec 2017	<b>Collaborative Development &amp; Approach:</b> CalMHSA engaged to provide administration of the statewide collaborative	<ul style="list-style-type: none"> <li>• CalMHSA assigned staff to begin vendor acquisition activities</li> </ul>
	<b>Technology, Evaluation, Outreach &amp; Marketing Procurement:</b> <ul style="list-style-type: none"> <li>• RFSQ developed and distributed for 5 tech components of the tech suite</li> <li>• Panel convened to review submissions to identify set of qualified vendors in each component category</li> </ul>	Qualified vendors selected in the following categories: <ul style="list-style-type: none"> <li>• Digital Applications (5 vendors)</li> <li>• Outreach and Marketing (1 vendor)</li> <li>• Evaluation (2 vendors)</li> </ul>
Jan – Feb 2018	<b>Collaborative Development &amp; Approach:</b> <ul style="list-style-type: none"> <li>• Mono County submits proposal to the MHSOAC to join the collaborative</li> <li>• Opportunity to join collaborative shared with CBHDA Governing Board</li> </ul>	MHSOAC Commissioners approved Mono County to join collaborative
	<b>Implementation:</b> <ul style="list-style-type: none"> <li>• Collaborative Project Manager hired through CIBHS</li> <li>• Plan for collaborative infrastructure developed</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed infrastructure development launched (see tab 3, page 22)</li> <li>• Individualized county development launched (per existing plans)</li> </ul>
Mar – Apr 2018	<b>Technology Procurement:</b> <ul style="list-style-type: none"> <li>• Prequalified vendors provided a project orientation</li> <li>• Each vendor conducted an in-person demo and presentation of their apps for teams from initial 3 counties, including peer representatives</li> <li>• County staff and peers practiced with pre-qualified apps to identify initial set of apps</li> </ul>	<ul style="list-style-type: none"> <li>• Initial vendors and apps selected (see tab 5, page 36) :               <ul style="list-style-type: none"> <li>• <a href="#">7 Cups</a></li> <li>• <a href="#">Mindstrong</a></li> </ul> </li> <li>• CalMHSA provides vendors with initial planning contracts to support readiness work</li> </ul>
	<b>Collaborative Development &amp; Approach:</b> <ul style="list-style-type: none"> <li>• Modoc and Orange counties submitted proposal to the MHSOAC to join the collaborative</li> </ul>	<ul style="list-style-type: none"> <li>• MHSOAC Commissioners approved /Modoc and Orange Counties to join collaborative</li> <li>• CalMHSA executed Participation Agreement with Los Angeles and Kern Counties</li> </ul>



TIMEFRAME	ACTIVITY	OUTCOME
	<ul style="list-style-type: none"> <li>Monthly call launched for county MHSA Coordinators across the state to support their community planning efforts and Innovation proposal development</li> </ul>	<ul style="list-style-type: none"> <li>Learning from initial counties is regularly shared with interested counties to increase their understanding of the opportunity, support useful local adoption of the apps and promote greater readiness once approved</li> </ul>
	<p><b>Outreach and Marketing</b></p> <ul style="list-style-type: none"> <li>Based on limited respondents to initial RFSQ in Nov. 2017, a focused RFP is issued for an outreach and marketing vendor</li> </ul>	<p>CalMHSA's distribution of the RFP resulted in 15 letters of interest and then 5 proposal submissions.</p>
	<p><b>Evaluation:</b> RAND engaged to assist with approach to evaluation, including development of over-arching approach and critical qualifications and capabilities of collaborative evaluator.</p>	<p>Collaborative determined to proceed with a follow-up Request for Qualification (RFQ) to select an evaluator to support development of evaluation plan as well as conduct the actual evaluation.</p>
	<p><b>Peer Roles:</b> Participating counties begin preparation of their plan to engage peers to support individual use of apps, as well as inform needed improvements and advancements to those apps</p>	<p>County leads reach out to and engage initial peer reps into planning activities.</p>
	<p><b>Implementation:</b> Budgeting and pricing methodology created to support flexible, formula driven contracts with vendors driven by size of participating county, desired level of customization and allocation of funds for shared needs as well as local supports.</p>	<ul style="list-style-type: none"> <li>Vendors oriented to formula driven approach to pricing that enables periodic addition of counties to their contract without re-contracting for each county</li> <li>Initiation of new counties in their budget planning per slide fee schedule based on county size</li> </ul>
<p>May – June 2018</p>	<p><b>Privacy and Security:</b></p> <ul style="list-style-type: none"> <li>CalMHSA conducted search for agency with technical, legal and operational experience with data sharing and associated privacy and security concerns</li> <li>Intrepid Ascent worked with CalMHSA, counties and vendors to determine needs and approach to privacy and security across the elements of the project</li> </ul>	<ul style="list-style-type: none"> <li>CalMHSA engages <i>Intrepid Ascent</i> (see tab 9, page 80) to support development of privacy and security guidelines, associated vendor contract requirements, contract language for data ownership and intellectual property, as well as informed consent</li> <li>Intrepid Ascent develops initial "Privacy and Security Guidelines" (see tab 9, page 83) and "Clinical Integration and Data Sharing Continuum" (see tab 9, page 81) to inform data sharing</li> </ul>
	<p><b>Technology Procurement:</b></p> <ul style="list-style-type: none"> <li>CalMHSA worked with Intrepid Ascent to develop contract for app vendors that support complexity of the project, including:</li> </ul>	<ul style="list-style-type: none"> <li>App vendor contract reflecting the aims, legal complexity, and privacy/security of the collaborative developed, including a Work Order to link each county's Innovation</li> </ul>



TIMEFRAME	ACTIVITY	OUTCOME
	<p>privacy and security issues, customization for specific county size and needs, informed consent and other unique terms and conditions</p>	<p>Proposal and Participation Agreement with the Vendor Contract (see tab 5, page 32)</p>
	<p><b>Peer Roles</b></p> <ul style="list-style-type: none"> <li>• CalMHSA supported a shared learning process to identify the roles of peers in each county’s deployment of apps (see tab 4, page 26)</li> <li>• CalMHSA supported counties to evaluate opportunities for existing peers and peer network to support outreach and engagement of target populations</li> </ul>	<ul style="list-style-type: none"> <li>• Individual counties appointed their lead peers for the project</li> <li>• Individual counties, working with 7 Cups and their local peers, develop the Tech Suite (paid) Peer role and plan recruitment</li> <li>• Individual counties identify existing peer network and plan to engage these individuals in marketing and support of app use</li> </ul>
	<p><b>Outreach and Marketing:</b></p> <ul style="list-style-type: none"> <li>• CalMHSA panel reviewed proposals received in response to RFP and identifies a recommended vendor</li> <li>• RSE worked with app vendors and counties to develop initial marketing outreach materials (shared and customized per county)</li> <li>• RSE oriented project to brand development process (see tab 8, page 74)</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership from initial 5 collaborating counties accepted CalMHSA panel recommendation and <u>RSE</u> (see tab 8, page 72) awarded outreach and marketing role</li> <li>• RSE created prototype handout cards and flyers to be customized for each county (see tab 8, page 77)</li> <li>• RSE developed an expedited branding process to generate collaborative brand and awareness campaign (see tab 8, page 74)</li> </ul>
	<p><b>Evaluation:</b></p> <ul style="list-style-type: none"> <li>• CalMHSA issued a focused RFQ to pre-qualified evaluator candidates to gain deeper understanding of each agency’s capabilities</li> <li>• CalMHSA convened a panel to review RFQ responses and develop recommendation for selection</li> <li>• Demographic reporting requirements (per MHSA Innovation regs) provided to app vendors</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership from initial 5 collaborating counties accepts CalMHSA panel recommendation and <u>UCI</u> (see tab 10, page 88) is awarded evaluator role</li> <li>• App vendors developed method to gain demographic information from end-users in an engaging, person-centered way (to be tested by peers to finalize)</li> </ul>
	<p><b>Implementation:</b></p> <ul style="list-style-type: none"> <li>• Cohort #1 carried out detailed readiness work to support initial “soft launch” of the apps in July and then steady expansion after initial debugging</li> <li>• CalMHSA advanced infrastructure development to support county and vendor</li> </ul>	<p>Counties developed initial plans and readiness associated for their Soft Launch in July (see tab 3, page 20)</p>



TIMEFRAME	ACTIVITY	OUTCOME
	<p>contracting, budgeting and associated transactions (see tab 5, page 32)</p> <p><b>Collaborative Development &amp; Approach:</b></p> <ul style="list-style-type: none"> <li>• CalMHSA convened a day-long kick-off session for initial counties (cohort #1)</li> <li>• CalMHSA supported Innovation proposal development, including budgets aligned with vendor contracting strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Over 100 staff, peers and stakeholders convened in Los Angeles in a shared learning session focused on target population needs, relevant app-based solutions, and IT concerns (see tab 3, page 18)</li> <li>• Over 20 counties indicated interest in joining the collaborative with at least 12 planning to submit Innovation proposals to the MHSOAC in order to join as part of “Cohort #2”</li> <li>• CalMHSA executed Participation Agreements with Orange, Mono and Modoc Counties</li> </ul>
<p>July – Aug 2018 (planned)</p>	<p><b>Implementation:</b></p> <ul style="list-style-type: none"> <li>• Counties launch initial outreach and marketing efforts in association with each vendor (July 16<sup>th</sup>)</li> <li>• 7 Cups launches customized app in Cohort #1 counties (July 16<sup>th</sup>)</li> <li>• Mindstrong launches Health and Care apps in each Cohort #1 county per initial target population (launch dates are county-specific)</li> </ul> <p><b>Outreach and Marketing:</b></p> <ul style="list-style-type: none"> <li>• Branding and marketing campaign to be developed with county input</li> <li>• Counties initiate outreach and marketing efforts for soft launch and plan expanded outreach and marketing to support next phase of implementation</li> </ul> <p><b>Peer Roles:</b></p> <ul style="list-style-type: none"> <li>• Local paid peers to be hired, training and deployed</li> <li>• Local peers in existing networks to be trained to support use of apps by individuals they assist</li> </ul> <p><b>Evaluation:</b></p> <ul style="list-style-type: none"> <li>• UCI to develop evaluation plan and assure core data gathering and reporting capability is developed</li> <li>• App vendors to initiate sharing of county-level dashboards and other analytics</li> </ul> <p><b>Collaborative Development &amp; Approach:</b></p> <ul style="list-style-type: none"> <li>• Counties in Cohort #2 to receive support to maximize readiness for implementation activities once approved to join the collaborative</li> <li>• CalMHSA to plan and prepare for an all-county, all-vendor in-person learning session in Fall 2018 to support transfer of knowledge of Cohort #1 counties to Cohort #2 counties and support all counties planning their next steps to expand (Cohort #1) or initially launch (Cohort #2)</li> </ul> <p><b>Adapting to Local &amp; Population Needs:</b></p> <ul style="list-style-type: none"> <li>• App vendor to work with RSE and their partners to develop translation of their app content; initial translations will be Vietnamese and Spanish (see tab 3, page 25)</li> </ul> <p><b>Technology Procurement:</b></p> <ul style="list-style-type: none"> <li>• App vendor contracts to be finalized</li> </ul>	

## Progress Overview

### Individual County Accomplishments & Milestones

All of the Collaborative milestones described in the previous summary were accomplished with the deep support and involvement of these participating counties. Further, each of the above milestones reflect equivalent progress in the counties, while the items below offer insights into local level work that is assuring the unique needs and objectives of the county are central to deployment of the tech suite in their communities. As such, the following are some highlights of county-specific accomplishments.

<u>Kern County</u>	<u>Los Angeles County</u>	<u>Modoc County</u>	<u>Orange County</u>
<ul style="list-style-type: none"> <li>• Working with two sets of Peers.               <ul style="list-style-type: none"> <li>○ Employed Peer Navigator staff (5) have been trained in 7 cups and are ready to train others.</li> <li>○ Volunteer peers (3) have been trained in 7 cups.                   <ul style="list-style-type: none"> <li>- Several peers have been identified who are interested in interviewing for the Lead Peer position once it is opened in the new Fiscal year.</li> </ul> </li> </ul> </li> <li>• Customization work with 7 Cups:               <ul style="list-style-type: none"> <li>○ Privacy protocol. Completed second tele-conference with privacy and security officers.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• LA Project Team Constructed</li> <li>• Peer Development Activities               <ul style="list-style-type: none"> <li>○ Recruited interim Peer Lead</li> <li>○ LA county specific planning and on-boarding of a peer lead</li> <li>○ Launch at the LACDMH Peer Resource Center</li> </ul> </li> <li>• Outreach and Marketing               <ul style="list-style-type: none"> <li>○ Construct digital marketing campaign</li> <li>○ Participating in brand development activities</li> <li>○ Coordination with LACDMH PIO for local brand development and outreach media (ongoing)</li> </ul> </li> <li>• Community Planning Events:               <ul style="list-style-type: none"> <li>○ Regular stakeholder engagement/community planning presentations to our System Leadership Team</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Peer Lead team established/activated/training</li> <li>• Tech Suite Team established/activated</li> <li>• Tech Suite Implementation Planning completed</li> <li>• Customization with 7 cups</li> <li>• Customization with Mindstrong initiated</li> <li>• Customization with RSE completed</li> <li>• Quality Improvement Report/Endorsement</li> <li>• BH Advisory Committee Report/Oversight (audience included peers from Access California Northern Region)</li> <li>• Vetted materials from 7 Cups</li> <li>• Peer-led 7 Cups presentation to Modoc County peers</li> <li>• Peer-led 7 Cups presentation to Access California personnel</li> </ul>	<ul style="list-style-type: none"> <li>• OC Peer Lead and local Tech Team identified and participate in collaborative and OC customization calls.               <ul style="list-style-type: none"> <li>○ Team includes staff from INN, IT, PIO, MHSA Office and Compliance</li> </ul> </li> <li>• INN staff facilitated focus groups with specific target populations to gather input on the role of the peer and marketing strategies. This information is shared during OC customization calls to discuss OC specific needs.</li> <li>• OC IT and Compliance staff have been working with 7 Cups and Mindstrong vendors to vet products for security and privacy requirements</li> <li>• OC IT, INN, MHSA and County staff have engaged in</li> </ul>



<u>Kern County</u>	<u>Los Angeles County</u>	<u>Modoc County</u>	<u>Orange County</u>
<ul style="list-style-type: none"> <li>○ Updated county resources for “Neighborhood” page</li> <li>○ Waiting for them to determine beneficial training dates for agency clinicians.</li> <li>● Beginning to orient stakeholder groups to upcoming soft launch:               <ul style="list-style-type: none"> <li>○ NAMI executive group</li> </ul> </li> <li>● Working with RSE, marketing group editing graphics for Kern.               <ul style="list-style-type: none"> <li>○ Prepping for soft launch mid-July with identified team.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ Long Beach MHC Wellness Clinic presentation for feedback</li> <li>● Engagement Presentations:               <ul style="list-style-type: none"> <li>○ Piloting and demonstration of the 7 Cups app with youth, peers, and various community members at the We Rise mental health event</li> <li>○ Recruitment of LACDMH Peer Wellness Outreach Workers to assist with the technology suite</li> <li>○ API Underserved cultural community meeting</li> </ul> </li> <li>● Customization of apps:               <ul style="list-style-type: none"> <li>○ Peer planning and roll out for 7 cups peer plan</li> <li>○ Mindstrong implementation and development call weekly (developing the escalation patterns)</li> <li>○ 7 cups target populations identified (API, older adults, TAY, social isolated, friends/family/caregivers)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● 7 Cup webinar training for clinicians</li> </ul>	<p>preliminary discussions about the launch of Mindstrong clinical integration into County clinics</p> <ul style="list-style-type: none"> <li>● OC PIO staff has been working with RSE marketing vendor to provide input on soft launch marketing materials</li> <li>● OC INN staff confirmed the soft launch location and met with the staff to prepare for the soft launch.</li> </ul>

\*Mono County has postponed its participation in the Tech Suite until Fall 2018 due to unexpected shifts in organizational priorities and demands.



# “THE TECHNOLOGY SUITE”

## DRIVING ACCESS TO BEHAVIORAL HEALTH CARE THROUGH INNOVATION

This California statewide collaborative project is bringing interactive technology-based mental health solutions into the public mental health system through a highly innovative set or “suite” of mobile applications. These solutions are intended to reach large populations with digital mobile applications that put choice for care in the hands of individuals and deliver individualized, person-center care.

**Aim:** By creating a complementary and integrated set of proven mobile applications, participating counties aim to increase access to mental health care, promote early detection of mental health symptoms, and predict the onset of mental illness.

**Innovation:** This project represents a new approach and service modality for the overall mental health system, including prevention and early intervention. The innovation will provide diverse populations with free access to mobile applications designed to educate users on the signs and symptoms of mental illness, improve early identification of emotional/behavioral destabilization, connect individuals seeking help in real time, and increase user access to mental health services when needed.

### **Objectives:**

- Detect and acknowledge mental health symptoms sooner
- Reduce stigma associated with mental illness by promoting mental optimization
- Increase access to the appropriate level of support and care
- Increase purpose, belonging, and social connectedness of individuals served
- Analyze and collect data to improve mental health needs assessment and service delivery

### **Intended beneficiaries/users of these technology-based mental health solutions include:**

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Individuals with sub-acute mental health symptom presentations, including those who may not recognize that they are experiencing symptoms.

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Family members with either children or adults suffering from mental illness who are seeking support.

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Socially isolated individuals, including older adults at risk of depression.

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Clients or potential clients in outlying or rural areas who have difficulty accessing care due to transportation limitations.

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Individuals at increased risk for or in the early stages of a psychotic disorder.

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Existing mental health clients seeking additional support or seeking care/support in a non-traditional mental health setting.

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Individuals identified as at risk for developing mental health symptoms or who are at risk for relapsing back into mental illness.

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High utilizers of inpatient psychiatric facilities.

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### **Initial Applications Offered by the Suite**

- **Mindstrong:** Mindstrong provides a digital phenotyping, artificial intelligence (AI) enabled, telemedicine network for outpatient management of behavioral health disorders that reduces resource utilization, increases access and improves patient outcomes by diagnosing behavioral comorbidities early, detecting relapse early, and intervening early.
- **7 Cups:** 7 Cups is an on-demand emotional health and well-being service. It anonymously and securely connects real people to real listeners in via one-on-one text chat. Anyone who wants to talk about whatever is on their mind can quickly reach out to a trained, compassionate listener through their network. They have hundreds of listeners who come from all walks of life and have diverse experiences.

For more information and support to join the collaborative, please contact: Karin Kalk at [kkalk@cibhs.org](mailto:kkalk@cibhs.org)



# THE SUITE

## THE "APP" COMPONENTS

**Peer Chat and Digital Therapeutics:** Utilize technology-based mental health solutions designed to engage, educate, assess and intervene with individuals experiencing symptoms of mental illness.

**Virtual Evidence-Based Therapy Utilizing an Avatar:** Virtual manualized evidence-based interventions delivered via an avatar, such as mindfulness exercises, cognitive behavioral or dialectical behavior interventions delivered in a simple, intuitive fashion.

**Digital Phenotyping Using Passive Data for Early Detection and Intervention:** Utilize passive sensory data to engage, educate and suggest behavioral activation strategies to users.

## THE UNIVERSAL COMPONENTS

**Community Engagement and Outreach Engaging Users and Promoting Use:** A strategic approach to access points that will expose individuals to the technology-based mental health solutions.

**Outcome Evaluation:** Outcome evaluations of all elements of the project, including measuring reach and clinical outcomes.

## COLLABORATIVE APPROACH

CalMHSA will serve as fiscal intermediary to facilitate contracting with technology vendors, support a shared evaluation, and maximize outreach and marketing.

Principles and aims for collaboration are:

1. Create choice and a shared learning structure for participating counties.
2. Link the technologies to support a holistic treatment approach.
3. Capitalize on shared learning to advance the scope, coverage and effectiveness of the suite.
4. Involve end users, peers and stakeholders throughout the development and operationalizing of technologies.
5. Utilize data to evaluate impact and inform services/supports for individuals and populations.
6. Maintain accountability and transparency with all stakeholders.

## EVALUATION MEASURES

Experts from the University of California, Irvine are leading the evaluation of the state and county-level impacts on:

- Access to care
- Clinical outcomes
- Self-reported purpose, belonging, and social connectedness
- Consumer's ability to identify cognitive, emotional and behavioral changes and act to address them
- Utilization rates
- Stigma associated with mental illness
- Comparative analyses of population level impacts (tech users vs non-users)
- Penetration or other unmet need metrics

## About the Innovation

### Over-Arching Goals & Learning Questions

The Technology Suite Collaborative is being developed to leverage MHSAs Innovation funds to advance and deploy digital therapeutic technology platforms that expand the capacity and capability of the county mental health systems to serve individuals with a wide array of mental health needs. While traditional mental health services will always play an important role in supporting individuals in need, their capacity is far too small for the overall need and so new solutions are needed.

As described in the project flyer, this collaborative has set out to achieve an array of high-level goals that project participants believe are within reach based on the unique capabilities of new and emerging technology platforms. These goals are:

- Recognize and acknowledge mental health symptoms sooner
- Reduce stigma associated with mental illness as reported by users
- Increase access to the appropriate level of care
- Increase purpose, belonging and social connectedness of individuals served
- Analyze and collect data from a variety of sources to improve mental health needs assessment and service delivery

There is much to be learned in the deployment of digital applications to achieve these transformative goals. In light of this, the collaborative seeks to gain robust knowledge associated with the following 'learning questions':

- Will individuals either at risk of or who are experiencing symptoms of mental illness use virtual peer chatting accessed through a website or through a phone application?
- Will individuals who have accessed virtual peer chatting services be compelled to engage in manualized virtual therapeutic interventions?
- Will the use of virtual peer chatting and peer-based interventions result in users reporting greater social connectedness, reduced symptoms and increases in well-being?
- What virtual strategies contribute most significantly to increasing an individual's capability and willingness to seek support?
- Can passive data from mobile devices accurately detect changes in mental status and effectively prompt behavioral change in users?
- How can digital data inform the need for mental health intervention and coordination of care?
- What are effective strategies to reduce time from detection of a mental health problem to linkage to treatment?
- Can we learn the most effective engagement and treatment strategies for patients from passive mobile device data to improve outcomes and reduce readmissions?
- Can mental health clinics effectively use early indicators of mental illness risk or of relapse to enhance clinical assessment and treatment?
- Is early intervention effective in reducing relapse, reducing resource utilization and improving outcomes and does it vary by demographic, ethnographic, condition, intervention strategy and delays in receiving intervention?



County Behavioral Health  
Technology Collaborative

- Can online social engagement effectively mitigate the severity of mental health symptoms?
- What are the most effective strategies or approaches in promoting the use of virtual care and support applications and for which populations?

The learning associated with these shared questions will be deepened by the unique goals each county has designated based on their stakeholder guidance and local priority needs. The following describes some of the county-specific goals and desired learning this collaborative is driving:

**Los Angeles:** Los Angeles will be one of the main testing grounds for the Tech Suite, with its large population and user base. They also provide a large urban population to test the effects of the intervention, unlike the smaller counties. They share many basic goals as other counties, but have the added focuses of:

- Decreasing emergency service use by high utilizers
- Comparing service utilization across populations
- Tracking how the Suite affects the larger landscape of unmet need metrics of LADMH
- Exploring promotion strategies for different populations
- Culturally adapting the Suite and making it available in all threshold languages

**Kern:** As one of the two inaugural counties of the Tech Suites, Kern County seeks to inform the foundation needed to support a suite of applications and answer the many questions associated with a traditional mental health system's use of such innovative technology. Specifically, Kern County plans to inform how to:

- Collaborate with those providing services to older adults at risk for social isolation, including working with senior apartment complexes, senior centers, Kern County Aging and Adult Services and faith-based organizations who outreach to seniors
- Work with mental health organizations, including the local National Alliance for Mental Illness (NAMI), peer-based community learning centers and local support groups to promote use of technology-based services
- Work with local public locations, including agencies, libraries and other resources to promote technology-based service use
- Engage school systems, including colleges and universities, to promote use of services and supports

**Mono:** Data from this county will not only make results more robust, but will help adapt and customize the interventions for their specific target populations. They seek to gain knowledge about how to reach young adults and other isolated adults who are reluctant to seek traditional services, but whose needs may be met through these new technologies. Additionally, Mono will be using the results from this project to inform ongoing county PEI work.

**Orange:** Orange, similar to Los Angeles in terms of having a large user population, is exploring many basic research questions while also working to create cultural and linguistic translations of applications that match the diversity of county's population.



County Behavioral Health  
Technology Collaborative

**Modoc:** Being a small, rural county, Modoc is focused on providing services and increasing utilization among socially and/or geographically isolated individuals, as well as those concerned with confidentiality in small, close-knit communities. They are also integrating the Tech Suite project into their other Innovation projects.

## About the Innovation

### Target Populations

As the inaugurating counties of the Tech Suite Collaborative, Los Angeles and Kern identified the following array of target populations for the project:

- Individuals with sub-clinical mental health symptom presentations, including those who may not recognize that they are experiencing symptoms
- Individuals identified as at risk for developing mental health symptoms or who are at risk for relapsing back into mental illness
- Socially isolated individuals, including older adults at risk of depression
- Clients or potential clients in the outlying or rural areas who have difficulty accessing care due to transportation limitations
- High utilizers of inpatient psychiatric facilities
- Existing mental health clients seeking additional sources of support or seeking care/support in a non-traditional mental health setting
- Family members with either children or adults suffering from mental illness who are seeking support
- Individuals at increased risk or in the early stages of a psychotic disorder

While these are the shared target populations of the collaborative, each participating county defines specific target populations based on guidance from stakeholders during the community planning process. As peers and stakeholders will continue to be involved in this project, each county's target populations will both grow in diversity as well as in specificity (e.g. subpopulations within larger segments). In this early stage of the project development, each county's target populations are noted below:

#### Los Angeles:

- Individuals with sub-clinical mental health symptom presentations, including those early in the course of a mental health condition who may not recognize that they are experiencing symptoms, including college students.
- Individuals identified as at risk for developing mental health symptoms or who are at risk for relapsing back into mental illness.
- Socially isolated individuals, including older adults at risk of depression.
- High utilizers of inpatient psychiatric facilities.
- Existing mental health clients seeking additional sources of support.
- Family members with either children or adults suffering from mental illness who are seeking support.
- Individuals at increased risk or in the early stages of a psychotic disorder.

#### Kern:

- Those with sub-clinical mental health symptom presentation, including those who may not recognize that they are in the early course of a mental health condition.
- Those at risk for mental illness or relapse of mental illness.



- Socially isolated individuals, including older adults.
- Those experiencing high frequency of inpatient psychiatric care.
- Current behavioral health clients in need of additional support.
- Family members of children and adults with mental illness in need of additional support.

**Mono:**

- Individuals in remote, isolated areas of the county who have less access to social support and mental health services.
- Students attending Cerro Coso Community College in Mammoth Lakes (TAY).

**Modoc:**

- Individuals in remote, isolated areas of the county who have less access to social support and mental health services
- Transition-aged youth with first-break psychosis.
- Transition-aged youth and adults, engaged in whole-health wellness plans, who desire to track passive data for personal wellness and treatment planning.

**Orange:**

- Individuals with sub-acute mental health symptom presentations, including those who may not recognize that they are experiencing symptoms
- Family members of children or adults suffering from mental illness who are seeking support
- Socially isolated individuals, including older adults at risk of depression
- Clients or potential clients in outlying or rural areas who have difficulty accessing care due to transportation limitations
- Individuals at increased risk for or in the early stages of a psychotic disorder
- Existing mental health clients seeking additional support or seeking care/support in a nontraditional mental health setting
- Individuals identified as at risk of developing mental health symptoms or who are at risk for relapsing back into mental illness
- High utilizers of inpatient psychiatric facilities

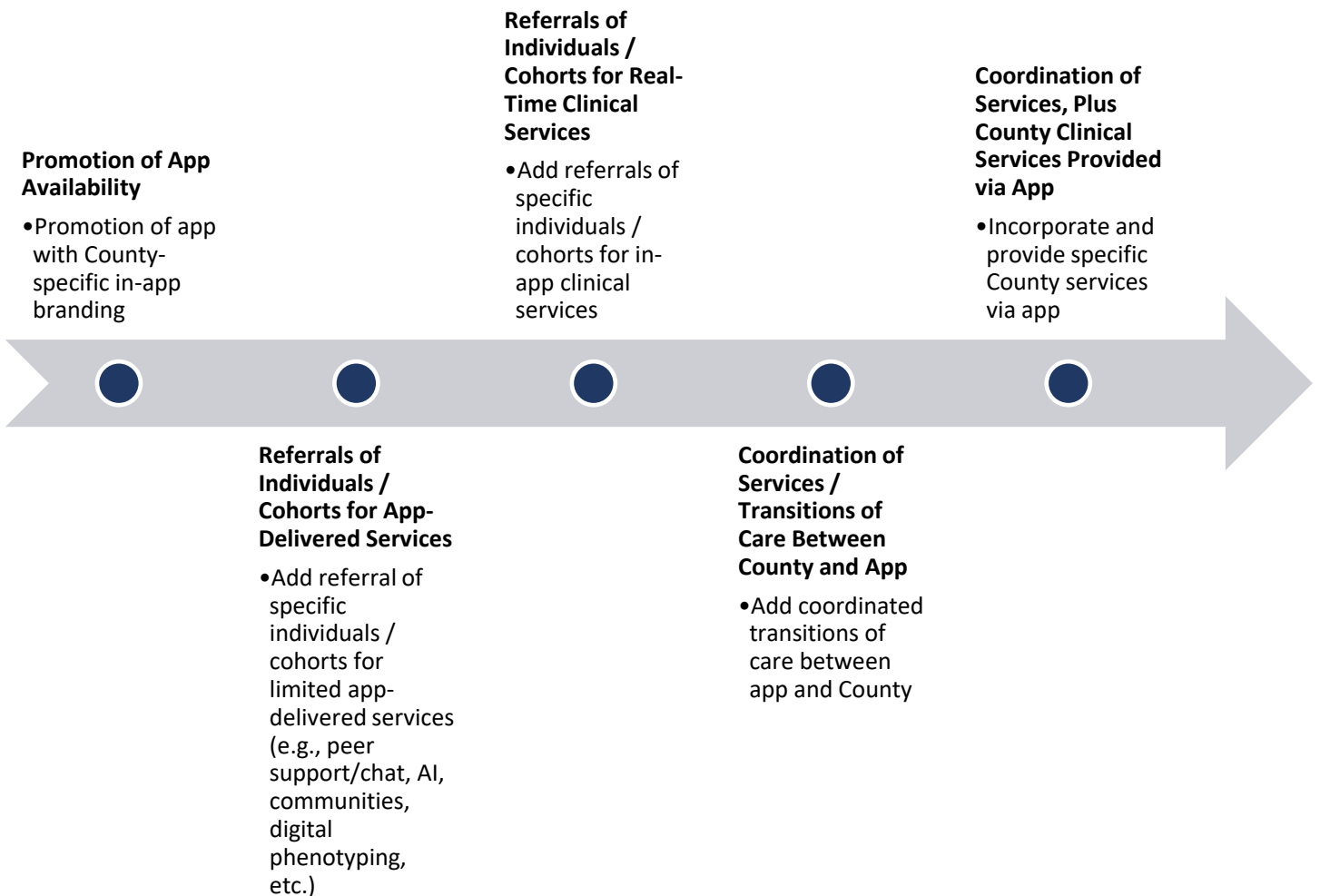




### About the Innovation

#### Clinical Integration Continuum – A Working Draft

The Clinical Integration Continuum (below) is a framing of the Tech Suite’s approach to service models in various levels of application integration within a County. It is intended to show a progression from limited integration (e.g., promotion of the application to Clients in the County) to full integration with County behavioral health services to support care coordination, transitions of care, and clinical services within the application. For each level of integration, the continuum also identifies the types of data to be shared and the essential privacy and security requirements. The particular service model and progression within the continuum will be determined by each County depending on their stated project goals, objectives, and capabilities.



## Collaborative Approach: A Statewide Innovation Platform

The Tech Suite’s collaborative approach to the innovation creates a variety of opportunities and benefits for participating counties. Some of the most immediate benefits are:

- Increased choice for counties;
- Accelerated learning in this new modality for service delivery;
- Cost sharing for app acquisition, infrastructure and administration, and shared supports like evaluation and marketing; and
- Expanded innovation to meet the diversity of populations and needs within and across counties.

**Choice:** By design, the suite will create a “menu” of technology options or apps. Once pre-qualified by CalMHSA, app vendors remain on a list of available technology providers to participating counties. Over time, additional vendors can be qualified and added to the menu of technology options. As a result, counties joining, may elect to “purchase” the same array of apps as those who are part of the collaborative, or they may create their own package from the qualified vendors (including new vendors preferred and qualified through CalMHSA’s process.)

**Shared Learning:** To promote shared learning and manage the complement of participating counties, counties will be grouped into ‘cohorts’ based on the order of their MHSOAC approval timing. Cohort #1 consists of Kern, Los Angeles, Modoc, Mono and Orange Counties. Each cohort of counties will go through readiness and implementation together to allow learning from each other and to utilize vendor and expert supports as efficiently as possible. This will also allow newly formed cohorts to learn from those who preceded them. This spread of knowledge is expected to make app deployment increasingly simple, manageable and predictable.

Examples of current activities that advance implementation efforts while simultaneously sharing learning include:

- Weekly calls with county leaders and project leads;
- Weekly calls with county project leads;
- Weekly calls with each vendor and county project leads;
- Twice-monthly all vendor/all county calls;
- Periodic county-specific calls for specific topics (peer role, app customization, outreach, general readiness); and
- In person kick-off (May 11<sup>th</sup>)

Also, as each app vendor works with individual counties to customize their technology for the local needs, their knowledge and ability to support individual counties grows and becomes more efficient.

Finally, focused cross-county learning will also be facilitated in terms of large populations. Staff from counties with the same target populations will be organized into groups that will share their learning, successes and challenges with those populations. These groups will also work with app vendors to apply that shared learning to advance their apps’ effectiveness with these population segments.

**Cost Sharing:** Central to the intention of the collaborative method is cost sharing. This assists in several aspects of the project:

- Pooling funds for shared needs (procurement and contract administration, evaluation, outreach and marketing, and other technical expertise);
- Technology fees adjusted by size (making access to innovative apps affordable for small counties, among other benefits); and,
- Prevention of duplicate overhead and administration associated with local deployment of apps.

This collaborative and shared cost structure makes the development and conduct of technical infrastructure affordable for all participating counties. Each of the following functional areas are required to support deployment of mobile technology in a county and, through collaboration, does not need to be created in each county. By collaborating, cost-effective use of Innovation funds to gather the knowledge necessary to develop and maintain this functionality is possible.

- Application Management & Advancement
- End User Experience & Guidance
- Outreach & Marketing
- Clinical Integration for Wellness & Recovery
- Evaluation & Performance Management
- Work Force Development Support
- Privacy & Security Monitoring, Safeguards
- Accounting & Contract Management

Finally, the collaborative structure itself is a platform for innovation. As collaborative grows, so does the opportunity for innovation.

## Collaborative Approach: A Statewide Innovation Platform

### Driving Innovation

Innovation is possible when there exists an environment for learning and the resources (funding and talent) to act on that learning. Each instance a county joins the collaborative, both of these elements grow and there exists an opportunity to explore new possibilities and greater effectiveness for those served.

The counties in Cohort #1 are currently driving innovation on a variety of fronts, including the collaborative approach itself. However, counties seeking to join the collaborative have goals that represent additional innovative opportunities. These opportunities tend to fall into two categories: population segments and app functionality.

The following innovation areas will be come possible if the next cohort of counties is allowed to join the collaborative.

- Populations:
  - hearing impaired
  - criminal justice involved
  - older adults
  - foster youth
  - visually impaired
  - others we cannot predict!
  
- Capability
  - referrals
  - clinical services via mobile app
  - evidence based practices (e.g. Strengths Model)
  - others we cannot predict!

## Collaborative Events

CalMHSA will periodically host in-person sessions to leverage the assets of collaboration.

Cohort #1 Kick-Off: One of these has already been held; on May 11, CalMHSA hosted Cohort #1's formal Kick-Off. This highly successful event was attended by over 100 staff, peers and stakeholders from Kern, Los Angeles, Modoc and Orange counties, statewide entities, as well as Tech Suite app vendors and experts.

Participants had the opportunity to see demonstrations of the initial apps, work in groups to understand how the apps can help specific target populations and identify issues to be addressed during readiness and implementation steps. See the next page for the agenda and specific objectives.



Learning Session #1: A similar event will be held in early October and will include teams from both cohorts #1 and #2. This two-day, in-person session will have the following objectives:

- Process and synthesize the learning to date to make it useful for all participating counties;
- Share Cohort #1 counties' learning with Cohort #2 counties;
- Support Cohort #2's readiness for launch;
- Support Cohort #1's expansion beyond the scope of initial soft launch;
- Convene population specific, cross-county groups to begin focused efforts to advance apps to better meet the needs of those populations; and
- Create an "innovation community" with a sense of its identity as a group leading a large scale change into the future.

Learning sessions such as the one target for October 2018 will be hosted every three to six months, depending on the needs of participants.



## INNOVATION TECHNOLOGY SUITE KICK-OFF AND CLINICAL INTEGRATION PLANNING

Friday, May 11, 2018

9:00 – 4:00

Crowne Plaza Los Angeles Airport  
5985 West Century Blvd, Los Angeles

### ATTENDEES:

- Counties: LA, Kern, Mono, Orange, Modoc,
- County Representatives: Leadership, Clinical Leadership/Management, Peers, Social Media Managers
- Vendors: Mindstrong, 7 Cups, Outreach & Marketing Vendor
- Other: Intrepid Ascent, NorCal MHA, CalMHSA & CIBHS Key Staff

### OBJECTIVES:

- Celebrate the Tech Suite start!
- Map applications to the continuum of care and begin planning for integration with existing clinical operations
- Plan approaches to end-user engagement to inform consent 'standards and guidelines' and readiness activities
- Begin to delineate role of peers (paid/local, volunteer/vendor) in engagement and clinical integration activities
- Inform approaches to county-specific social media strategies and methods

### AGENDA

- 8:00 – 9:00** *Continental Breakfast*
- 9:00 – 9:15 Introductions & Meeting Objectives
- 9:15 – 10:00 Brief Visioning Activity & Ice-Breaker
- 10:00 – 10:15 Review of Preparation for the Soft Launch & Goals for the Day
- 10:15 – 10:45 Brief Demos by 7 Cups & Mindstrong
- 10:45 – 11:00** *Break*
- 11:00 – 12:15 Matching Apps to Need by Target Population (breakout groups)
- 12:15 – 1:15** *Lunch & Celebration*
- 1:15 – 1:45 Report Out on the Continuum of Care Mapping Results
- 1:45 – 3:00 Strategies for Engaging Target Populations (breakout groups)
- 3:00 – 3:15** *Break*
- 3:15 – 3:45 Report Out on Engagement Brainstorming Results
- 3:45 – 4:00 Wrap-Up

## Implementation Phases

To manage the scope of county participation and maximize the benefit of the collaborative structure, counties will be supported in groups or “cohorts”. This is intended to facilitate both shared learning across counties within the same cohort, as well as transfer knowledge from early counties to those who join in a later phase. At this point, the first five counties (Kern, Los Angeles, Modoc, Mono and Orange) are in Cohort #1, at least 12 counties are preparing join Cohort #2 and at least seven more are looking to join in the future.

**Phases:** Learning to date has guided the organization of implementation into the following four phases, which Cohort #1 will apply and inform in order to improve on for future counties.

- Phase 1 - Develop the Business & Management Framework: This phase is focused on the planning and pre-work for a “soft launch” of the suite with the basics in place, including app and marketing material customization. The scope of outreach will be small and intended to allow for the shift into phase 2.
- Phase 2 - Deepen and Strengthen Clinical Integration for Wellness & Recovery: During this phase, counties will work to create linkage with their existing care processes, as appropriate, as well as support referral activity generated by app use.
- Phase 3 - Expand Marketing & Outreach: Once clinical linkages and associated data sharing is in place, the scope of the outreach and marketing will be expanded through a variety of means, including media campaigns, local outreach, etc.
- Phase 4 - Generate Sustainability & Continuous Improvement: Once outreach and marketing has reached nearly full scale, counties will shift into to assuring that capabilities developed to date can be sustained, that continuous quality improvement is part of day to day management of the applications and use of app-generated data is normed.

These phases are intended to allow the scope and complexity to grow gradually, with learning and problems solving to be sufficient to lay the ground for steady, methodical growth that assures desired results are achieved.

**Phase 1 - Soft Launch:** Specific readiness activities associated with Phase 1 include achieving:

- Vendor selection (through CalMHSA’s menu of apps)
- Initial county programs and target populations identified (per specific criteria for identification)
- Initial engagement strategies for each county program and/or target population delineated and ready (including role of peers)
- Initial customization of apps delineated and applied
- Program staff and peers trained and ready to support clients in use of initial apps (including clinical integration)
- Early phase of evaluation ready (related to scope of soft launch)

- Social media links and management ready
- Information security in place in each county and with each vendor
- Tracking processes ready to support daily monitoring of activities and identification of glitches, etc.



## Implementation Example Tools

<b>COUNTY:</b>				
<b>ITEM</b>	<b>PREP FOR SOFT LAUNCH</b>	<b>DESCRIPTION OF PLANNING OUTCOME / DECISIONS / PLANS</b>	<b>STATUS</b>	<b>TARGET DATE</b>
<b>1. County-specific project team</b>	Recruit and convene representatives from: <ul style="list-style-type: none"> <li>• Peer program</li> <li>• Clinical leadership/management</li> <li>• Social media team</li> <li>• Privacy/information security office</li> </ul>			
<b>2. Initial county programs and target populations</b>	Describe each target populations by: <ul style="list-style-type: none"> <li>• Key demographics / identifiers</li> <li>• Need(s) to be addressed</li> <li>• Location(s) for engagement activities</li> </ul>			
<b>3. Methodology for paid peers</b>	Delineate approach to paid peers			
<b>4. Initial engagement strategies for each target population delineated and ready</b>	Develop method to outreach and engage each target population, including: <ul style="list-style-type: none"> <li>• Role of peers, program staff, vendor staff, etc.</li> <li>• Materials needed to support outreach</li> </ul>			

<b>COUNTY:</b>				
<b>ITEM</b>	<b>PREP FOR SOFT LAUNCH</b>	<b>DESCRIPTION OF PLANNING OUTCOME / DECISIONS / PLANS</b>	<b>STATUS</b>	<b>TARGET DATE</b>
<b>5. Initial customization of apps delineated and applied  customization (continued)</b>	<p>Work with vendors to customize their apps for county-specific needs / approaches / branding.</p> <p>Initiate planning with a “customization session” with each vendor.</p>			
<b>6. Approach to clinical integration</b>	<p>Work with vendors to determine approach for use of apps in care settings for each target population.</p> <p>Initiate planning with a ‘clinical integration session” with each vendor.</p>			
<b>7. Early phase of evaluation ready</b>	<p>Provide evaluator and vendors list of demographics for each target population.</p> <p>Provide evaluator list of desired outcomes to monitor for each target population,</p>			
<b>8. Social media links and management are ready</b>	<p>Create links to apps in county’s social media sites:</p> <ul style="list-style-type: none"> <li>• Facebook</li> <li>• Instagram</li> <li>• Twitter</li> </ul>			

<b>COUNTY:</b>				
<b>ITEM</b>	<b>PREP FOR SOFT LAUNCH</b>	<b>DESCRIPTION OF PLANNING OUTCOME / DECISIONS / PLANS</b>	<b>STATUS</b>	<b>TARGET DATE</b>
9. Program staff and peers trained and ready to support clients in use of initial apps				
10. Information security in place in each county and with each vendor				
11. Tracking processes to support routine monitoring of activities, identification of glitches, etc.				
12. Communication strategy (internal and external, OAC)				
13. Simulations with various apps conducted and processes smoothed				

## Cultural and Linguistic Adaptation

An important developmental pursuit of the Tech Suite will be the cultural and linguistic translation of our vendors apps for the diverse populations within California.

This translation work, to be conducted by the vendors, will be supported by RSE.

The RSE team, which includes Solsken PR (API Outreach Specialists), MSC Consulting (Latino Outreach Specialists) and CPEHN, share a common philosophy – that effective communication with California’s diverse populations begins with an acknowledgement that those from the community know best how to engage the community. Decades of experience have also demonstrated that even within a specific ethnicity, there will be differences based on geography and these differences must be embraced and honored. With this in mind, RSE and its team members have developed the following categories of cultural adaptation built on best practices.

1. **Language + Culture:** Cultural relevance moves beyond translation. Communities must be engaged very early on to explore historical trauma(s), where trust does or does not exist with other entities and challenges of daily life.
2. **Function + Form:** As communities develop trust and engage in the process, the RSE team recognizes not to assume the answer or solution. Rather, they embrace the fact that both the form and messaging of the campaign will evolve within each community.
3. **Community Engagement:** Sustained impact within a community is contingent on lasting relationships and trust. This is built through continued engagement throughout the campaign and materials development process to allow for input on draft documents, messages and campaign themes. Allowing for review and approval of all elements of the campaign builds ownership and greatly enhances the efficacy of their efforts.

The initial translations to be developed are Spanish and Vietnamese. Through this work, our app vendors and RSE will develop a collaborative process to assure the translations benefit from these processes and involve key constituents from each cultural group.

## Peer Involvement

### Peer Roles

Peers and future end users have been involved throughout the development of the Tech Suite. To date, they have participated in a variety of activities, which represents just the initial key roles and activities for peers in the Tech Suite:

- **Application Vendor Selection:**
  - Participation in vendor demo/presentations;
  - Experimentation/practice with pre-qualified apps; and
  - Providing feedback on potential apps to inform final selection.
  
- **Implementation:**
  - Local readiness overall;
  - Outreach and engagement strategies and networking;
  - Guidance on marketing messages and materials;
  - App design; and
  - Development of the Paid Peer role.

An early example of involvement in app design involves 7 cups, which is in need of a clinical assessment process that gathers the needed demographic information about end users per the MHSA Innovations regulations. As is described in the next section, 7 Cups is developing a Peer / End User Testing Group to guide improvements to the 7 Cups approaches, the first of which is this clinical assessment/data gathering capability. This initial testing process is supporting development of an effective design for data gathering while also creating the functionality to test future changes. Peer / end user informed change will be the norm for the Tech Suite and the pathway for it is being developed through this initial change area.

While engaging end users in early stages, the role of peers in the overall design and approach to the Tech Suite has been emerging. The learning to date has underscored the centrality of peers in every aspect of the suite. As such, peer roles are being developed in the following areas:

- **State Lead:** Assuming the collaborative expands in the coming months, the collaborative has budgeted to hire a full-time lead to support the role of peers throughout the project. If the collaborative does not expand, this will be a part-time role.
- **Local Lead:** Each county is assigning a lead peer to be part of the local project team, support the recruitment of Tech Suite Paid Peers, guide outreach to existing local peer network, and assure peer representation in all aspects of the Tech Suite and its development.
- **Tech Suite (Paid) Peers:** In conjunction with 7 Cups, each participating county will have paid peers to support the applications in their county.
- **Peers in the Local Network:** In each county, the Local Lead and Tech Suite Peers will reach out to the county's existing peer network to provide training on the apps, support these peers in their outreach and engagement of individuals they support, etc.

Below are initially identified roles and responsibilities for Tech Suite (Paid) Peers in association with the 7 Cups application. These have been developed through leadership from Sue Bergeson, a national leader in this area and now a member of the 7 Cups team, and with Cohort #1 counties. Counties included their locally appointed peer leads and peer representatives to develop these job duties; a preliminary list of these is provided below.

- Using their own lived experience perspective, the 7 Cups Peer Specialist (7CPS) will promote the Tech Suite apps to other consumers within clinics, provider organizations, drop in centers, advocacy organization meetings, during county events, at health fairs and in other places where consumers might gather. They will set up meetings, create and leverage opportunities to present to groups of consumers.
- Distribute information while persuading and engaging providers, consumer leaders and other who might connect with consumers to help promote the program and engage those consumers they serve in the Tech Suite programs.
- Provide training and education for groups of consumers to help them become comfortable with the software and the apps and reduce any fears or barriers to using the programs.
- Recruit “Super users” who love using 7 Cups and other Tech Suite apps and who are willing to volunteer to walk others through signing up and using the program, including problem solving around downloading the app and other simple tech issues. Deploy these volunteers through the 7 Cups platform to help individuals. Engage super users to teach and provide tech support at specific times and in specific locations.
- Recruit county active listeners who understand the culture, speak the languages and reflect the priority population including older adults, specific monolingual populations and college students.
- Recruit consumers who are interested in facilitating county discussion boards and facilitate online groups, especially with target populations.
- Provide specific outreach to targeted population based on specific assignments. This includes developing outreach strategies, events and being present where these populations gather, for example have a table at a church health fair, presenting information at a table during a street festival; talking to people at a food pantry.
- Solicit, categorize, track, and communicate user issues, questions, and feedback to support constant app improvement iterations.
- Identify gaps in 7 Cups listing of community resources, seek to fill gaps, add additional services that are meaningful to consumers and communicate changes in existing listing.
- Lead at least one facilitated chat specific to the county and one discussion board time slot specific to the county each week.



## Peer & Underserved Cultural Community Groups User Testing

The 7 Cups community consists of millions of people. Many of these people have lived experience and have taken time and energy to help evolve 7 Cups. We listen very closely to our community because we believe it is essential to making a support system that people want to utilize and tell others about.

We will be expanding our user testing processes to incorporate a more formal peer user testing group comprised of peers across several counties. There will be different categories of peer groups that focus on specific product iterations. Broadly, the peer testing user process will work like this:

- 7 Cups team will create a beta version of a product or change to be tested.
- 7 Cups will email each peer in the peer user testing group and ask them to access this special version of the software.
- Peers in the user testing group will test the new product or enhancement.
- Peers will complete a form where they enter their name, role, county, and specific feedback on the new product change.
- 7 Cups team will collate the feedback, review, and make changes to the product.
- Peers in the user testing group will be asked to review again and make any additional comments.
- The new changes will be pushed to the live site.

In addition, 7 Cups will work closely with county Underserved Cultural Community Groups (UsCC) and will follow a similar process as outlined above. This process will start with Los Angeles. LA UsCCs include:

1. Deaf, Hard of Hearing, Blind, and Physical Disabilities
2. LGBTQI2-S
3. African/African American (AAA)
4. American Indian/Alaska Native
5. Asian Pacific Islander (API)
6. Eastern European/Middle Eastern
7. Latino

We will locate the peers by asking advocacy groups and peer run organizations in each county to nominate one or more people to serve in the testing groups. We will also seek nominations from organizations that focus on each of the seven underserved cultural community groups identified above.

## Technology Procurement Selection Process

The following summarizes the steps conducted by CalMHSA to select the Suite's initial set of vendors. CalMHSA plans to conduct them at least annually to develop an evolving set of pre-qualified app vendors that result in a diverse menu of options available to participating counties.





## Technology Procurement Budgeting & Pricing

**Goals:** The Tech Suite project budget model is designed to achieve a variety of interdependent goals representing a variety of perspectives. It is intended to serve as a planning tool and a methodology for supporting the array of transactions anticipated, as well as means to ensure the wise and fair use of each county's Innovation funds. These informing goals and perspectives are as follows:

### Counties:

- Support counties' initial and ongoing budgeting for proposal development, future expansion, etc.
- Offer a fair fee structure that prorates for county size and resources.
- Create a cost sharing approach that supports "statewideness".
- Licensure at the county-level to allow participating county full access to selected vendor apps for as broad a scope of use as desired.
- Use of Innovation funds for unique county needs.

### Vendors:

- Provide a formula-driven contract that flexes as counties join for different durations, scopes (e.g. array of vendors selected), etc.
- Allow easy means to calculate fees for invoicing as the collaborative grows and changes.
- Provide three categories of fees to vendors: start-up, ongoing development, and licensure.

### CalMHSA:

- Minimize the volume of contracting with vendors (e.g. avoid having to amend a vendor's contract every time a new county joins).
- Easily process/adjudicate quarterly invoices from contractors as counties join the project.
- Create a means to link OAC-approved budgets and the Participation Agreement budgets with a clear fee schedule based on preferred array of technology.

### The Future:

- Create a reserve to allow future technologies to be added to the suite.

**Structure:** The structure of the budget and budget planning tool incorporates the following categories of expenses and rationale for county-specific proration.

- Overhead: CalMHSA Overhead (5%) to cover the costs of collaborative activities, administration, expert team travel, site visits, etc.
- Direct Expenses: Direct expenses will be incurred in three areas:
  - Experts: To build the project's collaborative and integrated functionality, the following expertise will be hired/contracted:
    - Project Management: A full-time project manager to support the design, development and operation of this Innovation collaborative.
    - Start-Up Guidance: In the initial start-up phase, experts will be brought in to guide early planning and decision-making. These experts will assist in, peer engagement within

individual counties, evaluation design, legal issues for critical topics like privacy/security safeguards, intellectual property rights, etc., and recruitment of long-term expert staff and/or contractors.

- Peer / End User Expert: A lead peer/end-user expert will be recruited to work on a full-time basis to support state and county-level involvement of individuals with lived-experience. Activities will include supporting existing peers to support individual use of apps, development of local “super users”, and gather end-user feedback on improvements/advancements desired in the technology. This expert will also guide vendors in use of paid peers in each county’s local preferences.
- App/Technology Expert: An expert in health and well-being apps will be recruited to assist individual counties and the collaborative as a whole in the deployment of selected apps, as well as the specification of desired customization and additions to those apps. This expert will work with vendors to assure apps are effectively maintained as well as advanced per collaborative participant needs and goals.
- Informaticist: A behavioral health informaticist will be recruited to work in two critical areas: evaluation oversight and real-time performance monitoring. In terms of the evaluation, this informaticist will assure each vendor is appropriately engaged in the formal evaluation and the evaluation is informing the learning objectives, etc. A substantial role will be assisting each county with the regular use of data generated by the various vendors. This will include effective use of clinical data for individuals as well as targeted populations. Finally, this individual will use this data to monitor overall performance of the suite to guide the continuous improvement process.
- o Each Vendor: The cost structure planned for individual vendors will be based on the following categories of fees:
  - Start-Up Fee (year 1 only): To cover planning, customization and implementation
  - Development Fund: To cover future advancements in technology (“not to exceed”)
  - Licensure/Annual Fees: Each county pays a single licensing fee to use app(s) (for either a quarter or a year - TBD); when selecting a vendor, the county receives all apps in that vendor's platform to be used as much or as little as desired.
  - Customization: Each county may elect to purchase additional customization of the vendor apps, in terms of functionality, target populations and other changes relevant to their Innovation plan.
- o County-Specific, Local Costs: To be determined by each county for paid peers, local supports, etc.

**Cost Sharing:** The approach to cost sharing and payment to vendors is based on a simple formula which will assure fair and appropriate contribution by each participating county. This formula is:

$$\text{Vendor-Specific Fee Variable} \times \text{County-Specific Relative Size Unit (RSU)} = \text{Fee to Vendor per County}$$

- Relative Size Unit: Each county is assigned a relative size Unit (RSU) based on the MHSA allocation schedule published in DHCS Notice 17-041 (September 17, 2017). The RSU is calculated by dividing a county’s assigned allocation percentage in the MHSA scale and by the statewide median percentage.

## Technology Procurement Contract Administration

**CalMHSA Participation Agreement(s) with a County:** Once a county obtains MHSOAC approval of their Innovation plan, the county has the option to join/participate in CalMHSA's Innovation Tech Suite Program. If the county elects this approach, they work with the CalMHSA JPA Administrative Manager to commence the process of seeking approval from their Board of Supervisors via a Participation Agreement. Key aspects to development and execution of these agreements are described below:

- **Participation Agreement** – In collaboration with key program staff from the county, the JPA Admin Manager will draft a Participation Agreement based on the county's MHSOAC approved Innovation Plan.
- **County Department(s) and Board of Supervisors (BOS) Approval** - Once developed, the plan is vetted internally with the county (legal counsel, finance, auditor and contracts) departments until the agreement terms have been mutually agreed upon by both the County and CalMHSA. Once mutual agreement is reached, it is scheduled to be presented to the Board of Supervisors. Upon BOS approval, the county may proceed in program participation and receive services.
- **Content of Participation Agreement** – The agreement consists of three sections: Program Description, General Terms and Conditions, County-Specific Scope and Funding.
  - **Program Description:** Describes the Innovation Tech Suite which includes the various technology based applications, marketing and outreach and evaluation.
  - **General Terms and Conditions:** Defines the responsibilities of each party (CalMHSA and County), duration and term, withdrawal/termination, fiscal provisions and indemnifying language.
  - **County Specific Scope and Funding:** This section clearly defines which components from the Innovation Tech Suite they wish to participate in, for how long, the target population, and the fiscal commitment (total funding, followed by a breakdown per fiscal year).

**Vendor Contracting:** Given the complexity of the project's collaborative approach, the vendor agreements are extensive. Through these agreements, CalMHSA represents its members and has a fiduciary responsibility to the California State Department of Mental Health, CalMHSA members, and the public to ensure funds are used appropriately and all shared data/information is secure and protected.

- **Content of Vendor Agreements:** The CalMHSA-app vendor agreement is extensive and includes the following 15 Exhibits: General Terms and Conditions, Statement of Work, County Work Order Template, Fees, Functional and Technical Requirements, Services Levels and Performance Standards, Maintenance and Support, CalMHSA's Administration, Contractor's Administration, Business Associates Agreement, Information Security and Privacy Requirements, Additional Terms, Terms of Use, Escrow Agreement and Work Order form.



- **Statement of Work (Exhibit B):** Will be tailored for each specific vendor with some language remaining applicable to all vendors.
  - **Fees (Exhibit D):** A fee schedule has been developed for each vendor, which specifically defines the billable fee amounts per county based on a formula that include county size, and population amongst other criteria.
  - **Work Order (Exhibit O):** This form clearly defines the scope of work, target populations, etc. for each county participating in the program. This provides clear direction to the vendors for work to be performed at each location. See example template at the end of this summary.
- **Vendor Negotiations:** CalMHSA meets with each vendor and presents the agreement to include an Exhibit O (Work Order) for each participating county. Once the parties come to mutual agreement on final terms, the vendor will commence work immediately.

**Contract Management:** Vendors are required to provide regular reporting to CalMHSA and counties, including monthly, quarterly and annual reporting. Given the ever-changing nature of innovative technology, these reporting requirements are important as they will ensure services are being provided as requested and needed by the participating counties.

As part of contract management, CalMHSA will ensure vendors are continuously maintaining all necessary licenses, security measures and insurance requirements. Noncompliance of these requirements could impact payments to the vendor and/or termination of the contract.

**Budget Management, Invoicing and Payments:** Given CalMHSA's extensive background with contract management, processes are in place that will allow for ease of tracking and issuing payments. These include:

- **Budget Management:** CalMHSA has been monitoring the overall budget and will continue to do as follows:
  - Track funds committed, received and spent by county.
  - Track funds by county by reversion year, to ensure funds subject to reversion are spent first.
  - The above steps will allow CalMHSA to easily develop annual reports of expenditures for each county, as required by the state.
- **Invoicing:** Vendors will be required to submit quarterly invoices based on the number of counties being serviced and fee schedule.
  - CalMHSA will be reviewing invoices as they are submitted for accuracy.
  - CalMHSA's program staff, project manager and accounting team will meet regularly to discuss any issues that may arise with a given vendor.
- **Payments:** Payments will be made within 30 days of receipt of invoice unless issues are encountered, at which time they will be addressed prior to issuing payment.

## County Work Order Template

<b>County</b>			
<b>Project Summary</b> <i>[Summary of the project explaining services, timeline, where Services will be performed, and other general requirements.]</i>			
<b>County Goals and Objectives</b> <i>[Specific goals and objectives, including learning lessons, as outlined in the County’s OAC proposal.]</i>			
<b>Funding Timeframe</b> <i>[Commencement and termination dates for this Work Order.]</i>	<b>Start Date</b>	<b>End Date</b>	<b>Total # of Months</b>
<b>Detail of Services Required</b> <i>[Describe Services to be completed by Vendors, including requested apps and applicable fees:</i>			
<i>(1) Start-up – initial County customization</i>			
<i>(2) Development</i>			
<i>(3) Licensure</i>			
<i>(4) Customization – additional county-specific application development and/or services]</i>			
<i>(5) Networking and Collaboration</i>			
<i>(6) Contract Management</i>			



<b>Tasks</b>			
<i>[Tasks necessary to support the project, including (a) a description of all subtasks and deliverables; (b) scheduled beginning and end dates; and (c) reporting timeframe and frequency].</i>			
	<b><u>Description of all Subtasks and Deliverables</u></b>	<b><u>Beginning and End Dates</u></b>	<b><u>Reporting Frequency</u></b>
<b>Deliverable No. 1:</b>			Upon completion of start-up phase
<b>Start-Up</b>			
<b>Deliverable No. 2:</b>			Quarterly
<b>Development</b>			
<b>Deliverable No. 3: Licensure</b>			Quarterly
<b>Deliverable No. 4:</b>			Quarterly
<b>Customization</b>			
<b>Deliverable No. 5: Networking and Collaboration</b>			Quarterly
<b>Deliverable No. 6: Contract Management</b>			
6.1	Participation in regular and ongoing contract management meetings as determined with Contract Manager.		Quarterly
6.2	Submit Quarterly Status of Deliverables Reports to CalMHSA.		Quarterly
6.3	Submit additional program/activity reports and data as determined by CalMHSA.		As requested
6.4	Submit Annual Report to CalMHSA at the end of each year addressing the following:		
(a)	Describe the accomplishments of each deliverable within the contract.		Annually
(b)	Describe the external resources that were leveraged to complete activities.		Annually

## Technology Procurement

Initial Vendors: 7 Cups and Mindstrong

The Tech Suite has selected two initial digital technologies; these are:

- **Mindstrong:** Mindstrong provides a digital phenotyping, artificial intelligence (AI) enabled, telemedicine network for outpatient management of behavioral health disorders that reduces resource utilization, increases access and improves patient outcomes by diagnosing behavioral comorbidities early, detecting relapse early, and intervening early.

Website: <https://mindstronghealth.com/>

- **7 Cups:** 7 Cups is an on-demand emotional health and well-being service. It utilizes anonymous bridging technology to securely connect real people to real listeners in one-on-one chat. Anyone who wants to talk about whatever is on their mind can quickly reach out to a trained, compassionate listener through their network. They have hundreds of listeners who come from all walks of life and have diverse experiences.

Website: <https://www.7cups.com/>

Brief video: <https://www.7cups.com/demo/member/>

Sections 6 and 7 have the following information for 7 Cups and Mindstrong, respectively:

- Overview of their organization;
- Descriptions of their applications;
- Evidence basis for their applications;
- Frequently Asked Questions about their applications;
- A Glossary of Terms related to their applications.

See the Outreach and Marketing section for initial descriptions of their applications.



## History

7 Cups started at a kitchen table. The founder, a licensed psychologist, was talking to his wife, a therapist, about a problem. She listened to him and he immediately felt better. He asked himself, "What do people do when they don't have a therapist for a partner?" It occurred to him that everyone should have access to a great listener.

He started with an ambitious vision: to build the emotional support system for the Internet. Anyone should be able to open an app or go online to share what is on their mind. 7 Cups was born and launched in June 2013 through the support of Y Combinator (YC), the startup accelerator behind massively successful companies like Dropbox and AirBnB. The person that created Gmail and the Facebook feed, Paul Buchheit, was the YC partner that focused on 7 Cups.

7 Cups is now helping millions of people a month. Early on they had a small, dedicated team of 20 listeners. Now they have over 260,000 listeners providing support in 140 languages across 189 countries. The site was very basic to start, but now has robust training, growth paths, sub-communities, licensed professionals, and iPhone and Android apps. Additionally, 7 Cups has won the Stanford MedX Award for Health System Innovation and serves dozens of organizations like MIT and Harvard.

7 Cups has the infrastructure, the technology, and the know-how to expand its reach to include entire counties as it presently reaches 1-3% of the population in any given region. Today's adults and teenagers, beset with ever-increasing levels of stress, are struggling to thrive more than ever. Fortunately, 7 Cups is an ideal source of emotional support, as more and more of our society looks online for emotional wellness options. Health systems can easily integrate 7 Cups' member support system into their already existing systems, thereby encouraging a culture of awareness and support across the membership body. By increasing emotional support and referring people in need of enhanced care to mental health services, 7 Cups can help increase access and reduce costs.

7 Cups is well on its way to realizing its ambitious starting vision. The team at 7 Cups firmly believes in collaboration and wants to help you further support your members so that they can thrive right along with you.



# Founder

Glen Moriarty is the founder and CEO of 7 Cups, a web and mobile peer to peer emotional support platform. He is a psychologist passionate about the Internet's power to help people lead better lives. He has been involved in a number of services and organizations that support people in need. 7 Cups of Tea is his most recent endeavor, marrying his background in psychology with his love for technology.

# Advisory Board

## **Tom Insel**

Chair of Advisory Board

## **Amy Kennedy**

Education Director for the Kennedy Forum

## **Linda Rosenberg**

CEO of National Council

## **Ken Duckworth**

CMO of NAMI, Harvard, BC/BS Head of Behavioral Health

## **Henry Harbin**

Former CEO of Magellan

# Values

## **Your work saves lives**

Work with purpose, step up to help others.

## **Grow through the path of problems**

Face problems head on to continually develop, solve the most critical ones in the way.

## **High expectations and high warmth**

Deliver quality work supported through learning, safety, and candor.

## **Accountability**

Own your work and hold others to theirs, speak up and act.

## **Grit**

Drive yourself, mental agility to push past barriers.

## **Believe in equality**

Value equally everyone's background, work, and ideas; collaborate across teams and levels.

## **Have fun and keep full**

Enjoy the experience, take care of yourself in order to give back.

# Mission

7 Cups is for anyone who wants to live in a world where the human experience is free from stigma and stereotypes and rich with love and support. A world where all 7 billion of us can grow and feel like we truly belong.

We believe that each one of us is inherently valuable. We do not measure people based on where they are from, what they look like, or what position they hold. We recognize that people make sense in the larger story of their lives. We understand that people are complicated and that life is not simple or easy.

We are all on the same path. Some of us are just starting out. Others are further down the road. No matter where we are, being kind, compassionate, and accepting of one another enables us all to grow.

We do not tolerate people being mean, harmful, or rejecting of others. We do not judge or look down on people.

Although there are forces that tend to disempower and create division, we stand together as we compassionately care for and champion one another. We see our differences as a strength. We are united in our shared goal of creating a place where all can find acceptance and be welcomed to a home where we all belong.



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7Cups.com



# 7 CUPS in California

7 Cups is an on-demand emotional health and well-being service. Our bridging technology anonymously and securely connects real people to real listeners in one-on-one chat.

7 CUPS AT A GLANCE



7 CUPS BY THE NUMBERS

**58,270,696**  
messages sent

**2,041,724**  
people helped\*

**20,846**  
listeners

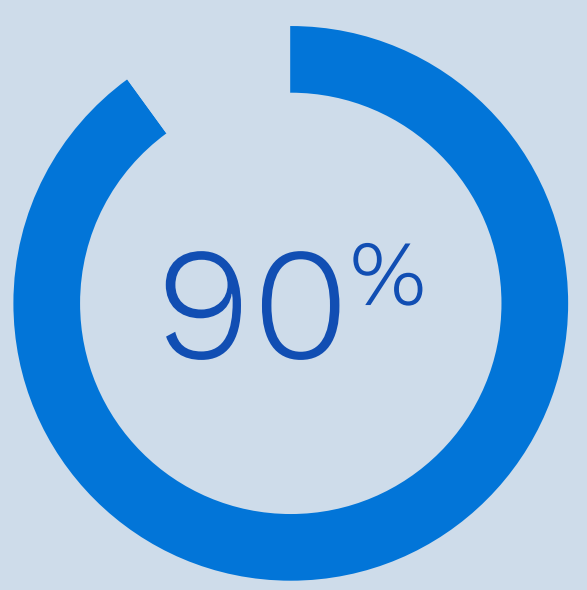
\* since 2014

used in  
**58 Counties**

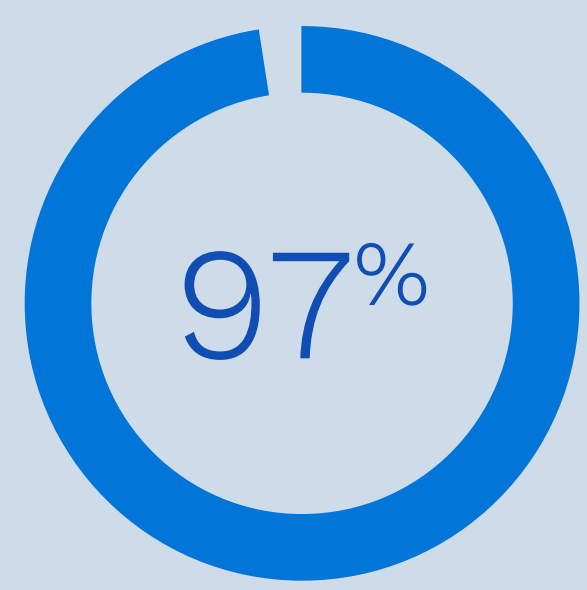


county with the largest number of people helped  
**LA 413,555**

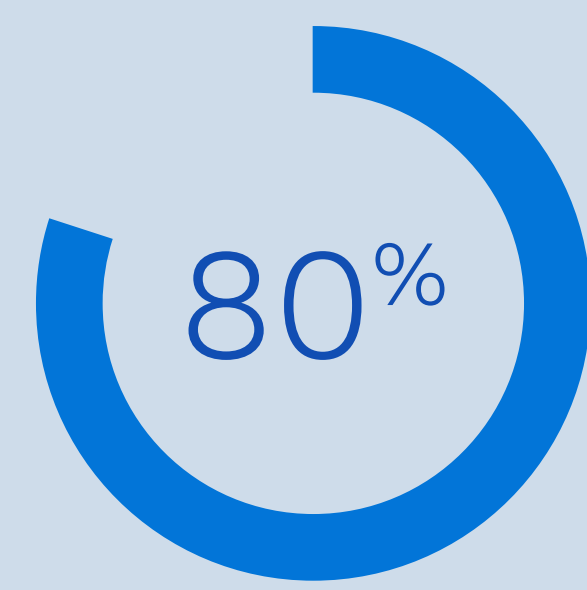
## 7 Cups makes a positive impact in people's lives



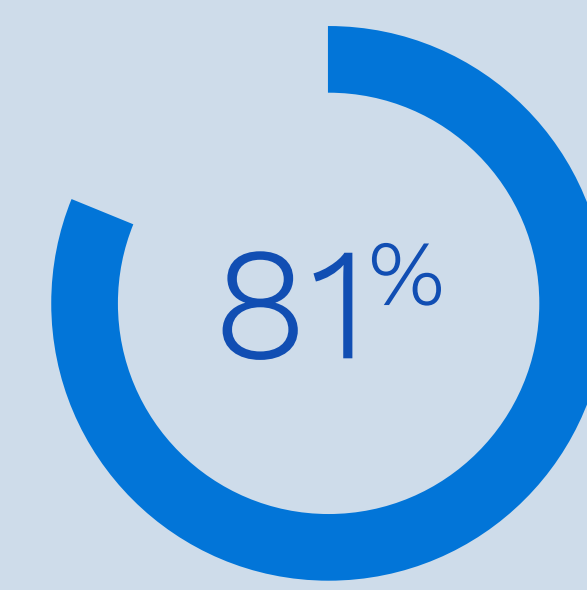
90%  
people feel better after talking to listeners



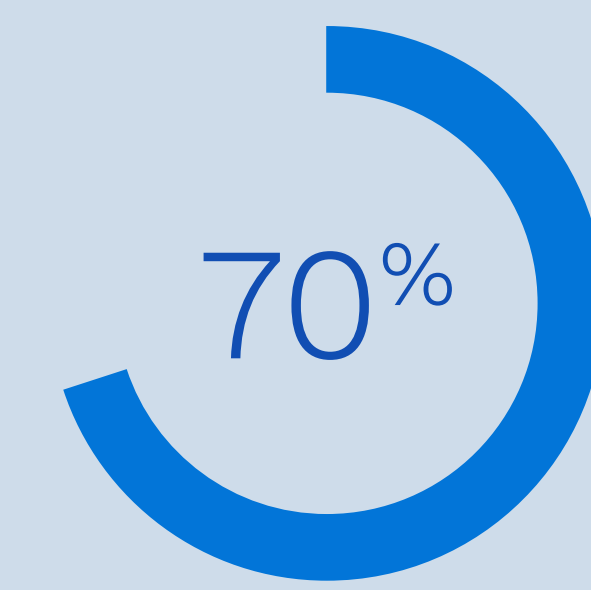
97%  
people view their listener positively



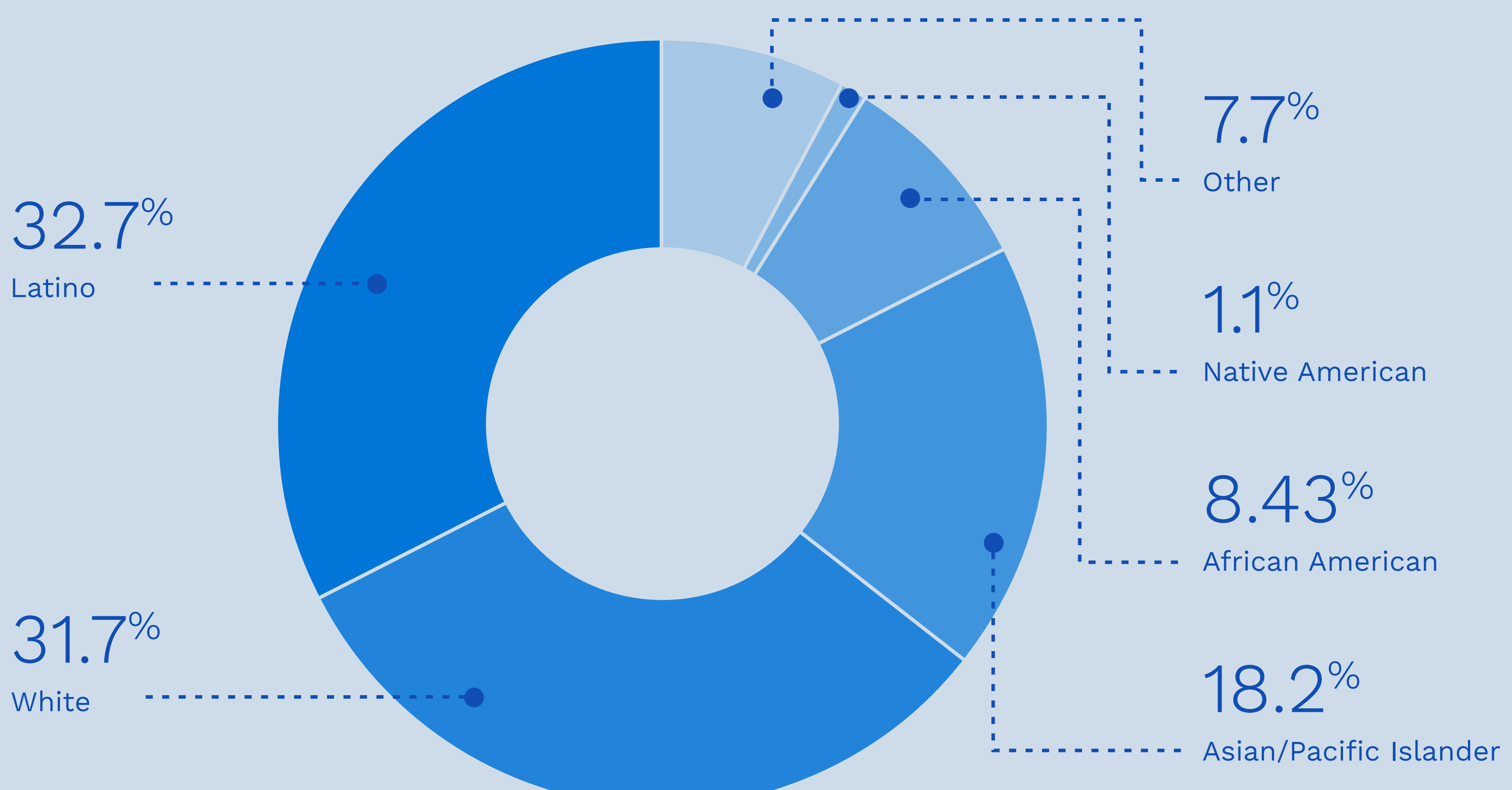
80%  
people believe listeners can help people with mental health issues



81%  
users consider 7 Cups as a helpful service



70%  
people feel support provided by 7 Cups listeners is just as or more helpful than that provided by psychotherapy



Find the 7 Cups research here:  
<https://www.7cups.com/about/research-stats.php>

F.A.Q.

## What is 7 Cups of Tea?

7 Cups of Tea is an online emotional support service. Through a secure, anonymous bridging technology, we connect those in need of emotional support with our network of Active Listeners, individuals from all walks of life who want to provide compassionate care. Connections to Listeners are private, one-on-one conversations initiated on demand.

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## What is Active Listening?

Active Listening is a set of communication skills that demonstrate empathy, compassion, understanding, and respect. Active Listening is different from the normal listening we do in our everyday conversations. Instead of just “waiting to talk” or thinking about what we’re going to say once our conversation partner stops speaking, active listening requires that the listener completely focus on absorbing, comprehending, and reflecting what the speaker is saying.

Active listening is a great technique to help people feel better when they are going through hard times, dealing with loss, struggling with health issues, or just need to vent. Because active listening directs all focus towards the speaker, it removes potential sources of stress, conflict and discomfort that can happen in a regular conversation.

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## How does 7 Cups of Tea connect Active Listeners with people in need of support?

Since all connections are on demand, our service is run like a marketplace. When an individual reaches out to connect, we notify our available Listeners that a request has come in. The first Listener to respond can then begin a conversation with the individual in need of support. If an individual wants to connect to a specific Listener, they can request a direct connection by visiting that Listener’s profile.

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## Is 7 Cups of Tea really anonymous?

Yes. 7 Cups of Tea is really anonymous. Listeners only know what is disclosed to them by the person they are helping. Contact information is kept strictly confidential.

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## Do Active Listeners receive training?

Yes. Listeners are required to complete an online course which helps develop Active Listening skills. The course also goes over certain scenarios in which a Listener may need to refer the person with whom they are speaking to a professional licensed therapist, counselor, or emergency contact. While many of our Active Listeners happen to be licensed professional counselors and therapists, they do not give medical or psychological advice during conversations.

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## Can I become a listener?

We'd love to have you! Anyone can sign up to become an Active Listener. All Listeners must successfully complete our online course, which includes a mock chat. [Sign up here to begin!](#)

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## What's the story behind 7 Cups of Tea?

It's pretty simple. The founder, Glen, was sitting at his kitchen table talking to his wife about a problem he was having. Her close listening made him feel a lot better, and it occurred to him that he was incredibly lucky. For one, he is married to a Licensed Counselor. Furthermore, she was available when he needed to talk. Glen realized that many people do not have this same opportunity.

Not everyone has a friend or family member to talk to at all times, nor do they always feel comfortable doing so if they can. The only other real option is therapy, but that can be expensive and carries an unfortunate stigma, plus it involves scheduling. Glen envisioned 7 Cups of Tea as a third space to fill the gap in between the two current options.

---

## Where does the name "7 Cups of Tea" come from?

7 Cups of Tea is actually the name of a famous Chinese poem. The suggestion is that each cup provides a different level of healing. It's important that our community feels that 7 Cups of Tea is a place where you can sit down and have several cups of tea with a friend. It isn't just a one-time meeting. You can touch base as much as you like.

### **7 Cups of Tea, by Lu Tong (795 - 835 CE)**

The first cup kisses away my thirst,  
and my loneliness is quelled by the second.  
The third gives insight worthy of ancient scrolls,

and the fourth exiles my troubles.  
My body becomes lighter with the fifth,  
and the sixth sends word from immortals.  
But the seventh—oh the seventh cup—  
if I drink you, a wind will hurry my wings  
toward the sacred island.  
*Translated by Christopher Nelson*

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## How does 7 Cups of Tea ensure that listeners are high quality?

Our application to become a listener includes many steps. Listeners must complete the Active Listening Training Course and receive a perfect score on the accompanying quiz. Additionally, every listener is reviewed and may be subject to a background check to ensure they are friendly, considerate, and competent. Anyone can see how well a listener is doing simply by looking at their reviews' cumulative score, and by checking out the badges that they have earned.

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## How do I contact 7 Cups for subscription support?

For any billing issues, contact [billing@7cups.com](mailto:billing@7cups.com) or (844) 755-8757

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# 7 CUPS

## Research-Backed, Evidence-Based Online Emotional Support



Four peer-reviewed publications support the efficacy of 7 Cups for a broad spectrum of mental health populations including perinatal mood disorders, postpartum depression, anxiety, and schizophrenia spectrum disorders



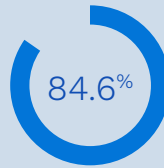
7 Cups demonstrates real clinical outcomes including a mean score reduction of approximately 2.5pts on each of the depression, anxiety and stress subscale of the Depression Anxiety Stress Scales (DASS) for our members experiencing the most emotional distress (members in the 10th percentile severity group)



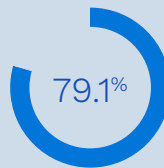
7 Cups listeners reach similar therapeutic alliance levels in 19-minute message-based conversations as licensed therapists in face-to-face settings



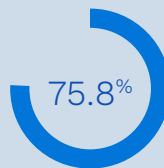
100% of research participants would recommend 7 Cups to people who suffer from perinatal mood disorder



84.6% indicated that the listener is a good supporter



79.1% indicated that they would like to chat with the listener again



75.8% of participants indicated that they feel much better after chatting with a listener



70% of research participants rate support from volunteer listeners on 7 Cups as equally, or more, effective than traditional psychotherapy

On a scale of 0 to 100, after chatting with a listener, 7 Cups users rated:

**85** Feeling heard and understood by the listeners

**84** Being able to talk about what they wanted

**81** Being satisfied with the listener's approach

**77** Overall rating of the session

44

The 7 Cups platform includes 32 evidence-based therapy protocols based on the best empirically validated treatment techniques to reduce symptoms in clinical studies

**CBT**

Cognitive-behavioral therapy

**MBCT**

Mindfulness-based cognitive therapy

**DBT**

Dialectic behavioral therapy

**ACT**

Acceptance and Commitment therapy



7 Cups administers three different empirical diagnostics:

- > DASS
- > PHQ-9
- > GAD-7



7 Cups offers a continuing education program of 50 topic-specific trainings for listeners based on microcounseling skills



The Wellness Engagement Engine - the core of the 7 Cups platform - is built on Prochaska and DiClemente's (1983) stage of change model to pace movement toward wellness based on predictable tasks necessary within each stage



7 Cups has been recognized with the Stanford MedX Prize for Health System Innovation

We have strategic research partnerships with organizations at the intersection of clinical psychology, computer science, and computational linguistics, including:

- ✓ University of Oregon Center for Digital Mental Health
- ✓ Harvard Medical School
- ✓ Harvard School of Global Health and Social Medicine
- ✓ Qntfy

We are actively pursuing research on our platform with experts in the following areas:



Psychological aspects of natural language use



Digital phenotyping, i.e., passively collecting behavioral data via monitoring naturalistic language and smartphones/wearable usage



Mental health analysis via natural language processing (e.g. language markers of depression, anxiety online)



Mobile social support in college students with depression and anxiety



Effectiveness of novel treatment strategies to improve access to mental health care for adult and adolescent populations



Chatbot/ Avatar perceptions and efficacy in providing emotional support



Adolescent emotional development



Neuropsychology of mental illness



# 7 Cups Glossary

for California Counties Tech Suite Initiative

## User Types

Term	Definition
<b>Guest</b>	someone exploring the site who has not made or signed into an account yet
<b>Member</b>	a person coming to seek help/support on 7 Cups (loosely synonymous with client) who has signed up for an account
<b>User</b>	any participant on 7 Cups - could be a member, a listener, or a therapist
<b>Listener</b>	aa volunteer support provider on 7 Cups, trained in active listening. Can be thought of as a peer counselor
<b>Therapist</b>	a licensed, professional therapist who provides online therapy via text on 7 Cups
<b>Moderator (or “Mod”)</b>	a member or listener designated as having a special role in supporting the community, and having powers to enforce rules.
<b>Community Mentor</b>	someone who combines leading discussions with moderating forums in a subcommunity
<b>Community Mentor Leader</b>	someone responsible for overseeing a subcommunity
<b>Ambassador</b>	the highest level of leadership role in the community
<b>Verified Listener</b>	a listener who has met an experience requirement and has been recommended by a more experienced listener following a mock chat is granted a Verified Listener badge that enables them to show up in filtered searches for more experienced listeners
<b>Admin</b>	a user term for staff members or high level volunteers who can solve problems
<b>Noni</b>	A chatbot that engages in limited conversation with guests and members who are waiting in the general request queue, and that can also take part

in 1-to-1 chats, guide users through scripted interventions, or lead a chatroom discussion.

Noni is usually referred to as she or her, as if female.

She uses artificial intelligence and machine learning to offer empathy and support, based upon outcome-driven data. (In the tech suite specifications, she would be called an “avatar”).

Noni can also offer to send users reminders and will check in with them from time to time unless asked not to

## Features

Term	Definition
<b>Forum</b>	an online written discussion where individuals can anonymously post questions or comments, and others can respond. All responses are published to be viewed by others
<b>Thread</b>	a discussion about a particular topic in a forum.
<b>Chat</b>	a system that connects people so that they may send messages to each other with very little delay, so that the effect is quite like a real life conversation
<b>Chatroom</b>	a system that connects multiple people to chat with each other at the same time. 7 Cups contains many chatrooms, each of them intended for particular topics or groups of participants.
<b>Group support</b>	a chatroom-based place for a group of people to connect over shared experience.
<b>Discussion</b>	A scheduled and often somewhat formal session in a chatroom, led by one or more designated people and with a focus on a particular topic. Also, a discussion in a forum.
<b>1-on-1</b>	A conversation, held via text/chat between two users. At least one of the people in a 1-to-1 chat must be a listener, a therapist, or a bot, because and members cannot chat 1-to-1 with other members on 7 Cups.
<b>PM</b>	“Private message”. This is a message sent directly from one user to another, and cannot be seen by anyone else.

<b>Community</b>	The area on 7 Cups that contains all group interactions, such as forums and chatrooms. It is where users can connect with one another. This also includes Q&A and wiki sections. Sometimes referred to as <i>the</i> community as opposed to any one particular (sub-)community.
<b>Subcommunity</b>	An issue specific community where one can find relevant resources, such as specialized listeners, chatrooms, and forums. Also sometimes referred to as a community.
<b>Feed</b>	A sequence of posts, which are personal statements by the owner of the feed. Members, listeners and therapists can have feeds. This is similar to a Facebook feed, where a user's feed will display posts made by anyone they are following.
<b>Repost</b>	To copy a post from a feed into your own feed, which brings it to the attention of people who follow your feed.
<b>Follow</b>	A way to read all the future posts in someone's feed. The posts of all the people you follow appear in your own feed.
<b>Upvote</b>	A sign of approval for a post in a forum thread.
<b>@-sign, or "@ mention"</b>	In a feed post or forum post, a prefix that turns the name of a member, listener or therapist into a tag (sometimes called tagging or mentioning someone).. For example, @Boris tags the account named Boris. The account tagged will receive a notification containing a link to the feed or thread.
<b>Growth Path</b>	a series of interactive written or video exercises, based on evidence-based protocols. You can think of each as a self-help treatment plan. 7 Cups currently has growth paths on 32 different mental health topics, but new ones can be developed at any time.
<b>General Request</b>	when a help seeker submits a request to be connected to any available listener
<b>Personal Request</b>	when a help seeker submits a request to be connected to a specific listener
<b>EARS</b>	"Effortless Assessment of Risk States". This is a separate app by which passive data is collected for the purpose of providing users with additional information about their behavior and symptoms.

<b>Bot/Chatbot</b>	A computer program that behaves in some way like a person. The only bots on 7 Cups are Noni and Sophia (the therapy intake bot). (Originally short for robot.)
<b>AMA</b>	Ask Me Anything” A forum thread in which someone invites questions and answers them.
<b>Status</b>	An indicator that shows whether an account is online, offline or (only for listeners) busy.
<b>Offline</b>	A status setting indicating that a listener is not necessarily available to respond to messages. Listeners who are logged in can respond while offline at their discretion, but they are not required to. For members, it indicates that the person is logged out.
<b>Online</b>	A status setting indicating that a listener is active on 7 Cups and available for new chats. For guests, members and therapists it indicates that the account is logged in.
<b>Onboarding</b>	The process of welcoming people “on board” 7 Cups, or the parts of the website designed to introduce new members. (The current 7 Cups onboarding design is codenamed “Campfire.”)
<b>Wiki</b>	Part of the website containing a linked library of articles maintained by the community
<b>My Impact -</b>	A private page giving information about a listener’s activity on 7 Cups (as opposed to the public information in the listener’s profile).
<b>My Progress</b>	a private page given a member details about their ongoing progress.

## Moderation & Reputation

Term	Definition
<b>Badge</b>	A displayed award, earned through the 7 Cups reputation system - such as by gathering hearts and cheers (see below), and engaging in other useful ways on the site. A badge usually unlocks various privileges within the site. It can also be used to group users of a certain type together--for instance, all NAMI listeners will have taken the NAMI training, and earned the NAMI badge
<b>Hearts</b>	There are little heart icons next to all messages on 7 Cups. If a user feels that something said by another user (in a chatroom, forum, or 1:1

messaging) was particularly helpful or empathetic, the user can click on the heart icon, giving the other user a point toward earning badges and improved reputation. It is also just another way of showing support and appreciation.

<b>Cheer</b>	A point awarded for activity on 7 Cups. Cheers accumulate and form part of the system of reputation. Some people have accumulated more than a million cheers. <i>Also sometimes referred to as compassion heart</i>
<b>Reputation</b>	A cumulative record of an account's activity at 7 Cups, particularly the number of cheers, which the system represents as a level.
<b>Ratings</b>	A system for evaluating 1-to-1 chats based on the qualities helpfulness, professionalism, empathy and response time, with up to five stars being awarded for each. The system includes an optional written review.
<b>Ban</b>	A setting that prevents an account from using 7 Cups. Used to protect the community after some rule has been broken.
<b>Block</b>	A setting that prevents a pair of accounts from having any contact with each other. Used to protect people from unwanted chats or messages.
<b>Mute</b>	A setting that prevents someone from participating in a chatroom. Used to protect the room after some rule has been broken.
<b>Flag</b>	A reporting system for inappropriate content in forum posts, feed posts, or profiles.

## Technology

Term	Definition
<b>Badge</b>	<b>App or mobile app</b> - for 7 Cups, the downloadable apps for Android or iOS, as distinguished from the website.
<b>Website</b> , or "browser" experience	for 7 Cups, the website as accessed via a web browser, whether on a desktop/laptop device or a mobile device. The 7 Cups website is designed in a "progressive" framework that provides a good mobile experience even for devices that do not support or users who do not wish to install the mobile app.
<b>UX</b> , or user experience	the overall experience a user has interacting with the product or service (website or app), the sum of all the various interactions and the

relationships that is formed between the user and the service. Distinguished from UI or User Interface, which deals with the details of interactions on each screen or interactive experience.

**UI**, or user interface, also just interface

the details of the screen or other interactive elements, such as boxes, buttons, links, animations, scrolling, tapping, clicking, dragging, etc.

**Artificial intelligence (AI)**

Various ways to automate and speed up logical insight, inference, pattern recognition, and other forms of “intelligent” processing.

**Machine Learning (ML)**

an algorithmic approach to artificial intelligence somewhat analogous to expert systems but trained on as large as possible a set of examples rather than by feeding in a set of a priori rules. Allows for a feedback loop of learning from data, while simultaneously integrating what has been learned.

**SEO**

or Search Engine Optimization - techniques intended to ensure that our content and services rank high in searches (like google) for relevant topics, so that we can be discovered by and ultimately enroll and support as many people as possible.

**New Message Notifications**

notifications of new messages that may be sent via email or push notification and that accumulate in the header of the website until read.

**Notifications**

General notifications of mentions in forums and feed sites, or of updates in subscribed communities or forum threads, may also be delivered via email or push notification.

**Push Notifications**

in a mobile app, a notification that may come directly to your device even if the app is not currently running.

**Alerts**

on 7 Cups, messages that go out to the entire community or to targeted subsets of the community (such as listeners, or teens).



# mindstrong

## About Mindstrong Health

Mindstrong is a healthcare innovation company transforming brain health through pioneering work in measurement science and new models of care delivery. Mindstrong's health platform connects patients and providers with continuous, objective measures of cognition and mood giving patients agency in their care and providers confidence that they will be alerted to early signs of mental health deterioration. For overburdened mental health clinics, Mindstrong *Health Services*, a California professional corporation, provides wrap-around health services using the health platform to increase patient tenure in the community using high touch escalating levels of care. These escalating levels move from care management services, to psychologist provided therapies to psychiatrist delivered psychopharmacology. For populations at high risk of a mental illness, Mindstrong's health platform increases patient self-awareness, and its health services provides immediate access to care.

# The Mindstrong Solution, Including *Health Services*

## The Mindstrong Solution

The Mindstrong Solution consists of *Health* by Mindstrong, *Care* by Mindstrong, and Mindstrong *Health Services*.

*Health* by Mindstrong is a smartphone application downloaded onto patients' smartphones. The app comprises: 1) measurement through passive capture of human-computer interaction (HCI) data; and 2) management through communication and engagement functionality. *Health* by Mindstrong enables providers to remotely manage patients and allows patients to access their providers.

*Care* by Mindstrong is a portal provided as a smartphone or tablet application and web portal and utilized by Mindstrong *Health Services*. *Care* by Mindstrong enables Mindstrong *Health Services* to: 1) review and triage patients who are exhibiting high risk of relapse; 2) review trend history; and 3) facilitate communication between Mindstrong *Health Services* and partner clinical staff.

Mindstrong *Health Services* comprises certified care professionals that deliver evidence-based assessment and intervention via *Care*. Mindstrong *Health Services* will review patients' *Health* by Mindstrong data daily. If it appears that a patient is demonstrating a risk signal, Mindstrong *Health Services* will contact the patient. During this contact, Mindstrong *Health Services* will conduct a brief assessment and determine the appropriate course of action, including brief intervention, referral back to the patient's existing clinical providers, or refer to immediate crisis response.

## Mindstrong Care Delivery Models

The Mindstrong program demonstrates the improvement in patient functioning and reduction in rates of relapse, transition to higher levels of care, and clinical service utilization that are achievable with the Mindstrong Solution, which includes *Health* by Mindstrong, *Care* by Mindstrong, and Mindstrong *Health Services*.

The program offers patient enrollment into two care models: Self-Referred Care and Clinician-Referred Care. These two models span the continuum of care. Individuals that are healthy but at a high-risk for a mental illness such as depression, schizophrenia, perinatal mood disorder, or post-traumatic stress disorder will self-select into the Self-Referred Care enrollment. In contrast, individuals that have been diagnosed with a mental illness will be sent to Clinician-Referred Care enrollment during clinic visit or discharge from a County facility. The steps in the two care models are summarized below.

### Self-Referred Care

- User self-enrolls following public awareness campaign, back-to-school night at a high-school, registration at a community college or word-of-mouth
- User installs *Health* by Mindstrong application and is greeted by Mindstrong *Health Services* during onboarding
- Mindstrong *Health Services* provides psychoeducation and care assistance
- Mindstrong *Health Services* may recommend additional County services
- User can request higher levels of care provided by Mindstrong *Health Services* to discuss any concerning thoughts, emotions, or behaviors



### Clinician-Referred Care

- Patient is referred to Mindstrong on discharge from a County facility or clinic
- Patient installs the *Health* by Mindstrong application
- Patient is greeted by Mindstrong *Health Services* during onboarding
- Following installation of the *Health* by Mindstrong application, the *Care* by Mindstrong application synchronizes the patient's medical data with the County medical records
- The patient now appears in the *Care* by Mindstrong application to the Mindstrong *Health Services* team that will be responsible for delivering continuity of care between clinic visits and strengths model based care including telehealth psychoeducation, motivational interviewing, tele psychiatric care and wrap-around service referral
- Mindstrong *Health Services* schedules an outpatient clinic appointment that appears in the patient's *Health* by Mindstrong app directing the patient to a county or community clinic for clinic-based care

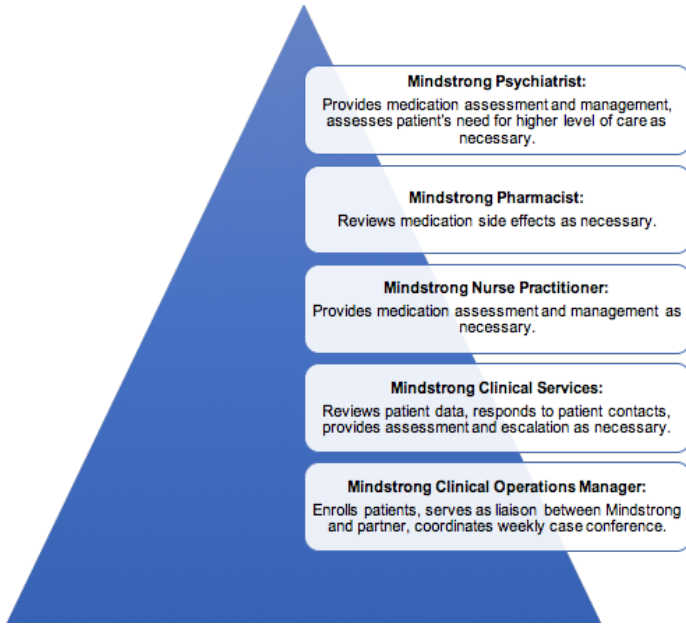
Both self-referred and clinician-referred users will have access to Mindstrong *Health Services* 24 hours a day, 7 days a week. Self-referred users accessing the services for the first time will go through an intake process that is triaged to their level of acuity. Established patients under care that initiate contact with Mindstrong *Health Services*, will undergo a brief assessment and, in partnership with partner clinical staff and/or according to agreed upon protocol, will follow an appropriate course of action.

### Mindstrong Healthcare Model

The implementation of the services partnership will leverage staff from Mindstrong *Health Services* and the County. A typical model for roles, responsibilities, and communication is outlined below and can be customized based upon the County's specific needs and structure.

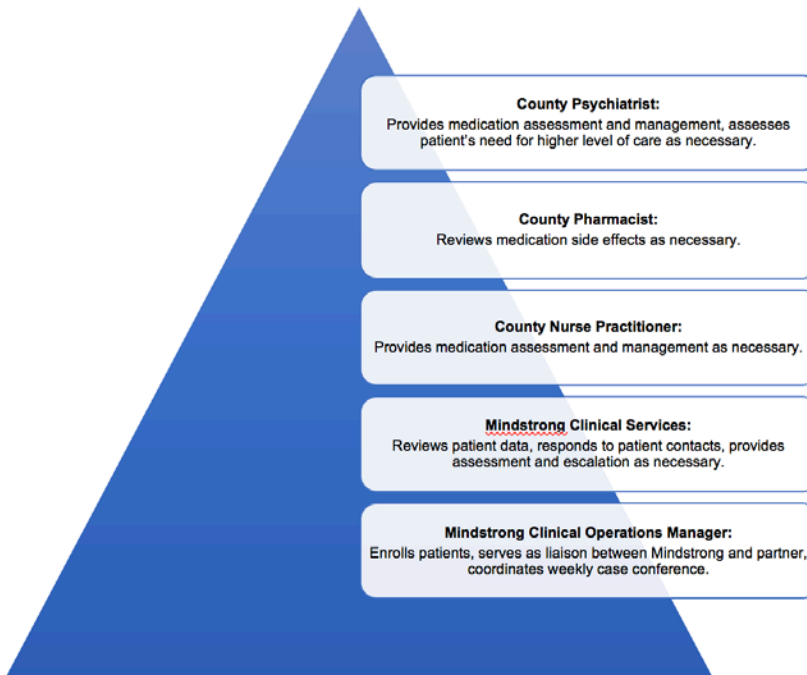
#### Full Service Model

In this model, Mindstrong *Health Services* provides full psychopharmacology and psychological care management of patients between clinic visits, maintains care plan adherence and clinic follow up appointments, and provides 24 x 7 access. The *Care* by Mindstrong application enables care coordination across the various levels of care from clinical operations manager to psychiatrist. The patient receives the care interactively through the *Health* by Mindstrong application.



#### Hybrid Model

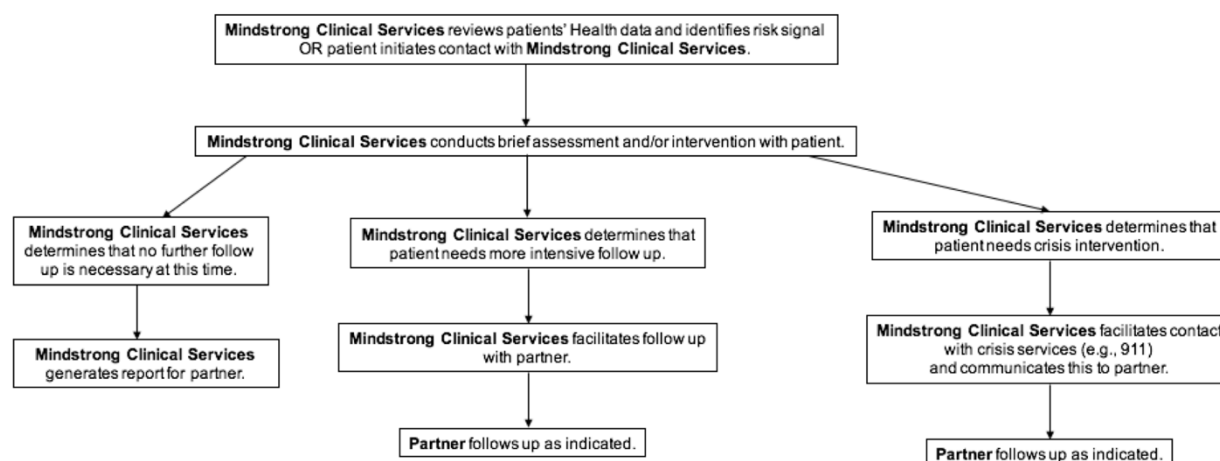
In this hybrid model, continuity of care between clinic visits is shared by Mindstrong and the County. Mindstrong supports the lower two tiers of disease interception and care management and the County provisions the upper three tiers of care. As in the first model, the *Care* by Mindstrong application is used across all tiers of care for care coordination and care interaction with the patient that is received through the *Health* by Mindstrong application.



## Real-Time Needs Assessment, Stabilization and Escalation

Mindstrong coordinates closely with County/partner mental health providers to deliver continuity of patient care. Mindstrong *Health Services* escalation pathways ensure each patient receives the appropriate level of care referral without delay that results in improved outcomes at reduced total cost of care. A patient case summary accompanies an escalation referral by a Mindstrong referring clinician to a County/partner clinician.

### Escalation Pathway



### Assessment and Intervention

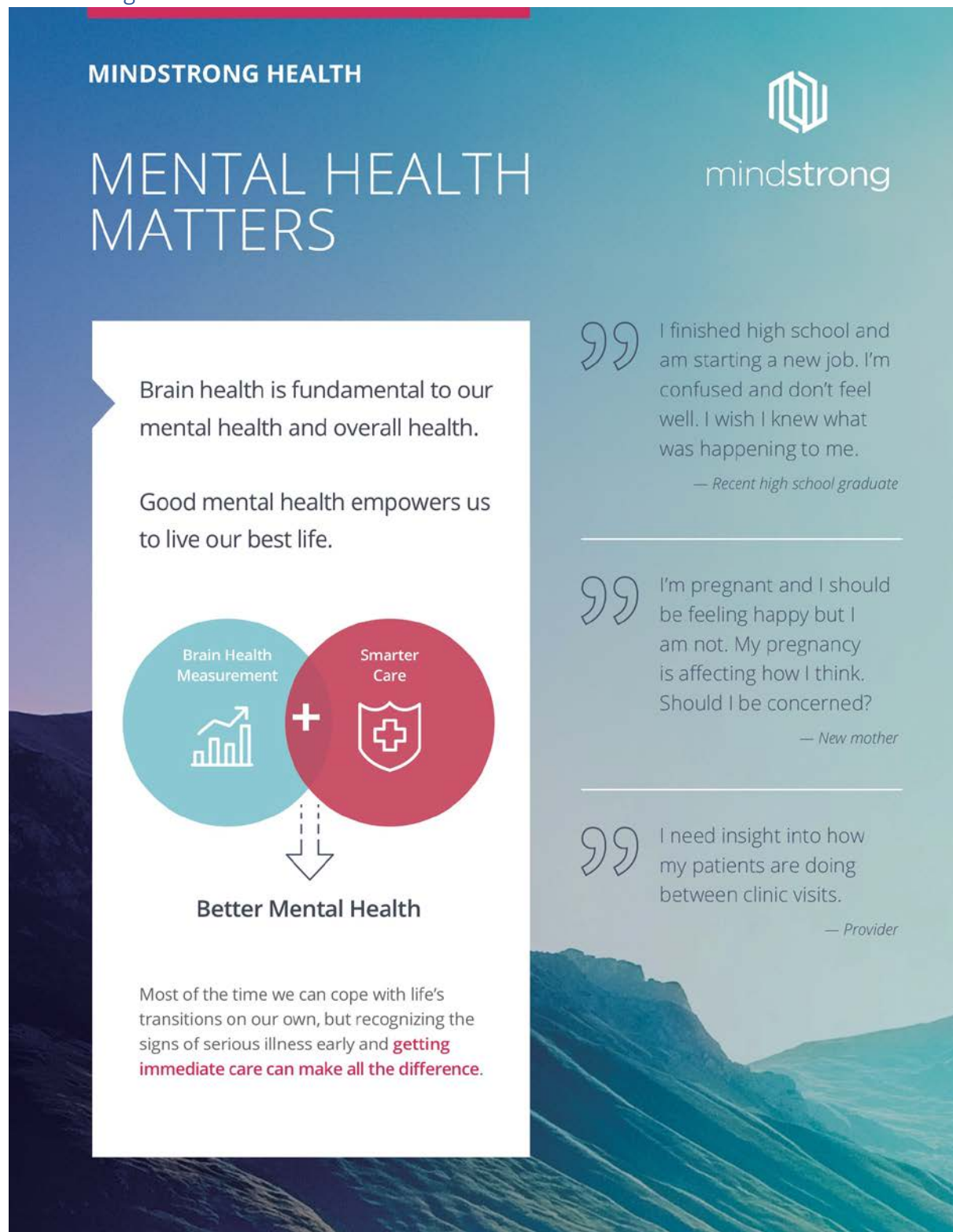
Mindstrong *Health Services* utilizes an evidence-based assessment and intervention workflow to provide care to patients via *Care* by Mindstrong. The clinical assessment and intervention workflow includes general areas that are applicable to all patients (e.g. safety risk, medication compliance) and specific areas that are relevant to specific patient populations (e.g. substance use disorder, mood/anxiety disorders, psychosis). The assessment and intervention workflow is designed to allow clinicians to flexibly move between areas of assessment and intervention that are most relevant to the individual patient's needs. For a full schematic of the assessment and intervention workflow see the Assessment and Intervention Decision Tree.

Structurally, the assessment determines the intervention needs. For example, if a patient reports non-adherence to medication, a medication adherence intervention is initiated. If the patient reports adherence to his or her medication regimen, a prompt to positively reinforce this behavior is initiated.

Areas of assessment and intervention are hierarchically structured from most important to least necessary. Clinicians are prompted to opt out of assessment and intervention modules that are deemed to be unnecessary. Whenever appropriate, the clinician is prompted to provide positive reinforcement of treatment-consistent behavior and to provide motivation in response to treatment-inconsistent behavior. Finally, upon completion, a patient contact report is generated from the assessment and/or intervention encounter to fully document the interaction for the patient's full clinical team.

# Marketing Collateral Examples

Mindstrong Flier



The flier features a blue and teal background with a mountain range at the bottom. The Mindstrong logo is in the top right. The main headline is 'MENTAL HEALTH MATTERS'. A central white box contains text and a diagram. The diagram shows two overlapping circles: a teal one labeled 'Brain Health Measurement' with a bar chart icon, and a red one labeled 'Smarter Care' with a shield icon. A plus sign is between them, and a dashed arrow points down to 'Better Mental Health'. Three quotes are on the right side, each with a quote icon and a horizontal line below it.

**MINDSTRONG HEALTH**

mindstrong

## MENTAL HEALTH MATTERS

Brain health is fundamental to our mental health and overall health.

Good mental health empowers us to live our best life.

Brain Health Measurement + Smarter Care

**Better Mental Health**

Most of the time we can cope with life's transitions on our own, but recognizing the signs of serious illness early and **getting immediate care can make all the difference.**

“ I finished high school and am starting a new job. I'm confused and don't feel well. I wish I knew what was happening to me.  
— Recent high school graduate

“ I'm pregnant and I should be feeling happy but I am not. My pregnancy is affecting how I think. Should I be concerned?  
— New mother

“ I need insight into how my patients are doing between clinic visits.  
— Provider

## Digital Biomarkers of Brain Health

Mindstrong Health scientifically validated a way to measure brain health on a daily basis. It's like a weight scale or vital signs, but for your brain.

Patterns of touchscreen interactions like taps and swipes on your smartphone are used to recreate gold-standard measurements of brain health, including cognition and mood.

Mindstrong doesn't capture any content, like what you type or who you talk to, your location, passwords or browser searches.

### The Solution: Health by Mindstrong

Health by Mindstrong provides daily measurements about your brain health and how it is affected by your mood, sleep, and worries.

Through Health by Mindstrong, you can access licensed counselors, therapists, and doctors through text messaging, live chat and telehealth. Mindstrong augments and extends existing provider care team capabilities.

You can sign up through a referral from a participating healthcare provider, or through an in-network health plan.



[WWW.MINDSTRONGHEALTH.COM](http://WWW.MINDSTRONGHEALTH.COM)

Mindstrong Health: Brain Health for Life.

# Mindstrong Health Clinical Evidence: 2013-2018

Mindstrong has a five-year history of clinical research in developing and bringing to market digital biomarker measures of cognition and mood. Mindstrong's unique approach is based on creating digital signals from human-computer interaction patterns. Mindstrong's clinical research has focused largely on touchscreen interactions from a user's smartphone. By capturing the patterns and the timing of these events, and not their content, Mindstrong has shown in repeated sponsored clinical studies and partnerships with leading academic centers that its digital biomarkers reproduce the major gold standard measures of cognition and mood in use clinically today.

Prior attempts to create digital phenotypes have relied on GPS signals, search terms, websites visited, Facebook postings, and other expressions of behavior and personal preferences. These approaches are beleaguered with ethical and privacy concerns. They also do not demonstrate strong and consistent signals with clinical outcomes that limit their clinical use. Distinct from these approaches, Mindstrong's science uses millisecond variability in reaction times from repeated multi-step touchscreen activities to create digital biomarkers proven in repeated clinical trials to have very high validity and reliability with gold standard neuropsychological assessments [1,2].

Mindstrong has been awarded five US Patents for its discovery that led to digital biomarkers of neuropsychological and neurocognitive function from human-computer interaction patterns [3-7]. Mindstrong's strong patent portfolio enables the company to freely publish its clinical results in prestigious peer-review journals and to include its clinical data and algorithms for public review of reproducibility [8]. Mindstrong promotes open science and collaboration to further the field of digital biomarkers for measuring mental health and illness. It has sponsored clinical studies that use its digital biomarker platform in the US, UK and Asia [9], and it has directly sponsored collaborators in the field [10].

Mindstrong's biomarkers have been licensed by pharmaceutical companies as sensitive functional endpoints in the development of new drugs for major depression and schizophrenia [11,12]. They are also in use for patient stratification of response for companion diagnostics and companion therapeutics [13,14].

In clinical practice, Mindstrong's digital biomarkers are used in patient care for severe mental illnesses and for substance-use disorders in private clinics in the US. They have demonstrated high sensitivity and specificity in detecting early changes in deterioration and improvement with an ROC exceeding 80% in clinical programs [15] and in quality improvement programs. Clinics receive regular consult notes from Mindstrong *Health Services* with the following information:

- Mindstrong's digital biomarker evaluation reports six NIMH gold-standard, trans-diagnostic criteria of cognition and mood. The report contains trend (stable, increasing, decreasing), volatility (stable, increasing, decreasing), peak and trough performance relative to the patient's targets and percentile rank normed to age, education and gender.
- Mindstrong assessment of the effectiveness of the current care plan and persistent gaps in care and adherence that relies on the objective digital biomarker evidence.

For counties that opt in for a higher level of service by Mindstrong *Health Services*, referring clinics benefit from 24x7 coverage of their patients between clinic visits to predict and pre-empt deterioration and illness early. By delivery of escalating levels of care through the Mindstrong health platform, Mindstrong *Health*

*Services* increases patient tenure in the community. For these counties, scheduled progress notes additionally include the following:

- Subjective information acquired through the patient’s engagement with Mindstrong *Health Services* through the *Health* by Mindstrong and *Care* by Mindstrong applications. This includes a summary of care plan changes since the last consult note and changes in patient symptomatology and functional impairment as reported by the patient during structured interviews and objectively observed in the digital biomarker chart.
- Care plan recommendations including psychopharmacology, CBT, DBT, psychoeducation, family and peer involvement, digital therapeutics, other.

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# Frequently Asked Questions

## About the Mindstrong App

### ***How does the Mindstrong app work?***

Mindstrong developed the first continuous measurement system of cognition and mood. Brain functions such as memory and attention are reflected in the way you use your phone. Using swipes, taps and other touchscreen events on your smartphone, Mindstrong measures biomarkers of cognition and emotion that provide information about your brain health.

Mindstrong does not collect the content of your typing, or any personally identifiable, credit card, and other sensitive information such as voice calls, locations, passwords, or browser searches.

### ***What data is collected by the Mindstrong application?***

We collect data about the patterns in your smartphone use such as swipes, taps, and other touchscreen activities, and the timing of those patterns.

Mindstrong does not collect any personal information, including what you type or who you talk to, your location, passwords or browser searches. More information can be found in Mindstrong's Privacy Policy, see here: <https://mindstronghealth.com/privacy/>

### ***What data is collected from other applications?***

We don't collect data from other applications.

### ***Will the app affect how my phone works or cause overage of my data plan?***

The Mindstrong app does not interfere with your phone's normal functionality. It has no noticeable effect on battery consumption or data usage.

### ***Where can I find a copy of the web address/URL for the website's authentication portal?***

Mindstrong end users access the applications through a download from the Apple App and Google Play stores.

### ***What is the consent process for the app?***

Users will be provided the terms of service and consent information after initial login. Upon acceptance of the login and consent by clicking "I agree", they will be able to access the application content and features.

## Data Storage & Security

### ***How safe is my data?***

Your data is encrypted at all times using gold standard industry security standards. The data are deleted from the phone when they are uploaded to a secure server.

### ***Are the data from my phone collected and stored securely?***

Your data is encrypted at all times using gold standard industry security standards. This applies to data in-transit and at rest.

### ***Could the app be "hacked", and my data be accessed by unauthorized individuals?***



The data collected by the app and stored in Mindstrong's HIPAA-compliant servers are secured using gold standard industry standard encryption technologies. The data that the app collects does not include personally identifiable information.

***How long is information stored on the vendor servers? (chats, phenotype etc.)***

Historical information will be retained on Mindstrong's servers for a period of at least 8 years following the end of active enrollment for a user as required by state law.

***What happens if someone loses their device and someone else accesses the information on the device?***

Mindstrong's application requires PIN or biometric security to be enabled on the phone, and offers additional security at the application level. In addition, Mindstrong requires that the user be authenticated with username and password to the Mindstrong account. A user may change his/her password which will disable access from any device which was previously logged in.

iOS Questions

***Is there a way to remove predictive text from the keyboard?***

This feature can be turned on or off. You can find it in the "Settings" tab in the Mindstrong App.

***Is there a way to disable keyboard click sounds?***

This feature can be turned on or off. You can find it in the "Settings" tab in the Mindstrong App.

***Can I switch languages with the Mindstrong keyboard?***

Currently the Mindstrong keyboard supports American English. Additional languages will be available in August 2018.

***Do I need to use the Mindstrong keyboard for everything or can I use the default iOS keyboard?***

On iPhones, data about brain health are only collected when the keyboard is installed and in use. As a result, you should use the Mindstrong keyboard. On Android phones you can use any keyboard.

Troubleshooting and Technical Questions

***I tried logging in several times, but after many failed attempts I was locked out of the system.***

Please let your clinician or a Mindstrong team member know that you have been locked out. They will work with the Mindstrong technical team to unlock your account.

***Do I need to do anything to stay enrolled in the Mindstrong App if I get a new phone?***

If you get a new phone, please re-download the Mindstrong Health App from the App store. You can log in with the same information you used on your old phone.

Peer Chat

***Are the peer chats encrypted?***

All Mindstrong communications are encrypted. Chats between Health Users and between Health and Care users are stored in a database and are encrypted on the device, during transmission, and when stored. All communications are sent through a HIPAA compliant messaging channel.

***Are the chats recorded?***

Chat message content is stored in a database. Access to the content is only provided to the user with an active account. Any user will only see his/her chat history and the chat history of any peer connection where the peer has given informed consent for the sharing.

#### Authentication, Data Storage & Security

***Where can I find a copy of the web address/URL for the website's authentication portal?***

Mindstrong end users access the applications through a download from the Apple App and Google Play stores.

***How is information stored on individual devices and the vendor's servers? How long is information stored for?***

Information is stored on vendor devices only while the user is logged into the application in an authenticated state. Historical information will be retained on Mindstrong's servers for a period of at least 8 years following the end of active enrollment for a user as required by state law.

***How long is information stored on the vendor servers? (chats, phenotype, etc.)***

Historical information will be retained on Mindstrong's servers for a period of at least 8 years following the end of active enrollment for a user as required by state law.

***What happens if someone loses their device and someone else accesses the information on the device?***

Mindstrong's application requires PIN or biometric security to be enabled on the phone, and offers additional security at the application level. In addition, Mindstrong requires that the user be authenticated with username and password to the Mindstrong account. A user may change his/her password which will disable access from any device which was previously logged in.

# Glossary for INN Tech Suite Project

Brain health is fundamental to our mental health and overall health. Mindstrong Health developed and validated a new ability to measure brain health on a daily basis, much like we measure weight and blood pressure as basic health metrics.

Patterns generated from touchscreen interactions like swipes and taps on your smartphone reflect the way your brain processes and responds to the world around you. Modern neuroscience shows that millisecond-scale touchscreen interactions reflect the function and integrity of neural circuits that drive cognition and mood, and can give insight into the interplay between brain health, and overall health and disease.

The Mindstrong Health App provides daily measurements about your brain health and how it might be affected by your environment, sleep, and illness.

These signals allow for the early detection of brain health deterioration, and the opportunity for early interception and early intervention, in order to improve clinical and health outcomes.

See below for useful terminology:

<b>Terminology</b>	<b>Definition</b>
<b>Algorithm</b>	An algorithm is a procedural set of steps that a computer follows to solve a problem. Mindstrong generates digital biomarkers through proprietary algorithms that convert patterns of gestures on a smartphone into meaningful signals related to brain function.
<b>Amazon Web Services (AWS)</b>	AWS is Amazon.com’s HIPAA-compliant cloud computing platform. Cloud computing enables scalable data storage and computing. All data that Mindstrong collects is securely stored and processed in AWS.
<b>Artificial Intelligence</b>	Artificial Intelligence is an umbrella term for the concept of machines being able to carry out tasks in a way that humans would consider “smart”, i.e. the capability of a machine being able to imitate intelligent human behavior. <sup>1</sup>
<b>Attention</b>	Attention is the cognitive process that your brain uses to select and prioritize sensory information. This cognitive process filters information so you don’t get overwhelmed.
<b>Augmented Intelligence</b>	An alternative to “artificial intelligence” that focuses on AI’s assistive role, emphasizing the fact that it is designed to enhance human intelligence rather than replace it. <sup>2</sup>

<sup>1</sup><https://www.forbes.com/sites/bernardmarr/2018/02/14/the-key-definitions-of-artificial-intelligence-ai-that-explain-its-importance/#a0e937f4f5d8>

<sup>2</sup> <https://whatis.techtarget.com/definition/augmented-intelligence>

<b>Terminology</b>	<b>Definition</b>
<b>Cognitive Control</b>	Cognitive control is the ability to control your thoughts and actions. It allows you to override an impulse and instead make a decision based on your goals, rather than habit. Cognitive control helps you concentrate, and to stay on a diet, as examples. It can be impacted by mood.
<b>De-identified data</b>	Data that is anonymous, and disconnected from a person’s personal information. It can’t be used to trace back to an individual.
<b>Digital Biomarkers</b>	<p>Digital biomarkers are user-generated physiological and behavioral measures collected through connected digital tools.</p> <p>Mindstrong discovered and patented digital brain biomarkers in psychiatric and neurologic disorders<sup>3</sup>. These biomarkers are generated via machine learning techniques from patterns in smartphone use such as swipes, taps, and other touchscreen activities, and are scientifically validated to provide measurements of cognition and mood. For an introductory overview of Mindstrong’s digital biomarkers see this overview from Rock Health.</p> <p>Mindstrong’s digital biomarkers are collected passively, continuously, objectively and quantitatively through smartphone use. The analysis of these biomarkers enable the monitoring of brain health, and makes timely medical interventions possible.</p> <p>Mindstrong’s digital biomarkers do not rely on the content of typing, any personally identifiable, credit card, or other sensitive information such as voice calls, locations, passwords, or browser searches. Instead, they are based on patterns like “delete-delete” or “scroll-scroll-click”.</p>
<b>Digital Phenotype</b>	Digital phenotypes are patterns of digital biomarkers.
<b>Encryption</b>	Security measures that protect the privacy of personal data, and other data. All data collected by Mindstrong is encrypted at all times.
<b>Executive Functions</b>	Executive functions refer to a set of cognitive processes responsible for the cognitive control of behavior. This includes functions such as attentional control, cognitive inhibition, inhibitory control, working memory, and cognitive flexibility. Executive functions gradually develop and change as we age.

<sup>3</sup> Dagum, npj Digital Medicine; 1:10 (2018)

<b>Terminology</b>	<b>Definition</b>
<b>HIPAA</b>	Health Insurance Portability and Accountability Act of 1996 is United States legislation that provides data privacy and security provisions for safeguarding medical information. As a healthcare company, Mindstrong Health is HIPAA compliant and abides by all state and federal regulations in how data is managed and accessed.
<b>HIPAA covered entity</b>	Your physician and health insurance plan are HIPAA covered entities, as well as their partners who provide care or services on their behalf. They have access to medical and other personal information, and are required to protect it under HIPAA Privacy and Security rules. <sup>4</sup> Mindstrong is a HIPAA covered entity and operates under gold standard encryption and security practices.
<b>Human Computer Interactions (HCI)</b>	The design and use of computer technology, focused on the interfaces between people and computers. Mindstrong has demonstrated that swipes, taps and other activities on the smartphone touchscreen can be used to create digital biomarkers that measure brain health and cognitive processing. Mindstrong is also investigating other modalities of human computer interactions, including augmented reality.
<b>ISO 27001</b>	An internationally recognized cyber security best practice specification for information security management system. This framework of policies and procedures includes all legal, physical and technical controls validates that patient and user data is secure. Mindstrong complies with ISO 27001 regulations.
<b>Machine Learning</b>	Machine learning is a subset of artificial intelligence (AI) in the field of computer science that uses statistical techniques to give computers the ability to "learn" (i.e., progressively improve performance on a specific task) with data, without being explicitly programmed.
<b>Memory</b>	Psychologists consider many different types of memory, such as short-term memory, long-term memory and working memory. Short-term memory is often defined as information that is currently held 'in mind' and has limited capacity, whereas long-term memory refers to information that is stored in the brain. See Working Memory below.
<b>Mindstrong Solution (<i>Health, Care, and Health Services</i>)</b>	Mindstrong's solution includes a patient-facing app ( <i>Health</i> by Mindstrong), a provider-facing product ( <i>Care</i> by Mindstrong), and Mindstrong <i>Health Services</i> that leverage its telehealth enabled measurement science and engagement platform. The solution augments existing care capabilities and infrastructure.

<sup>4</sup> [https://privacyruleandresearch.nih.gov/pr\\_06.asp](https://privacyruleandresearch.nih.gov/pr_06.asp)

Terminology	Definition
<b>Negative mood</b>	<p>Negative mood is similar to negative valence, but refers specifically to a negative emotional state, such as anger, frustration, sadness, and fear.</p> <p>Long term disturbances of mood can sometimes indicate a mood disorder. Someone with clinical depression may experience a state of abnormally low mood and aversion to activity for a prolonged period of time.</p>
<b>Negative valence</b>	<p>Negative valence is how you respond to negative events or situations. It sounds like negative mood, but it's a little different. The word valence means the direction of the response: anger and fear are emotions with a negative valence.</p> <p>Behaviors can also have a negative valence such as avoiding a situation due to fear. If you've experienced loss or grief, you might avoid places, people or activities that bring back difficult memories.</p> <p>Negative valence can affect your cognitive control, verbal fluency and working memory. Think about how hard it is to concentrate when you're feeling anxious or sad.</p>
<b>Personally Identifiable Information (PII)</b>	<p>PII is any data that can be used to identify a specific individual.</p>
<b>Positive mood</b>	<p>Positive mood is similar to positive valence, but refers specifically to a positive emotional state, such as contentment, elation or excitement.</p>
<b>Positive valence</b>	<p>Positive valence is how you respond to positive situations or events. Positive valence is similar to mood, but not quite the same. The word valence describes the direction of the emotion or behavior: joy and pride are emotions that have a positive valence. These kinds of emotions are brought about by positive events, objects, or situations.</p> <p>Behaviors can have a valence too. Think about a time you threw yourself into a new project with enthusiasm. A person with high positive valence takes on new challenges, is eager to engage with the world and takes active care of themselves.</p> <p>When you have low positive valence, you stop enjoying doing the things that usually make you happy, like being with friends and family or taking care of your health.</p>
<b>Processing speed</b>	<p>Processing speed is the time it takes your brain to understand, process and react to new information.</p>

Terminology	Definition
	<p>Your processing speed varies from day to day. Think about a time when you felt sluggish, and it took you longer to do a task or an assignment than usual. Too much alcohol or not enough sleep slows your processing speed.</p> <p>It also varies over the course of our lives. Processing speed increases from childhood to adolescence, remains relatively stable until adulthood and then declines slowly from middle age.</p> <p>This rate of decline varies from person to person, and can be affected by physical health or chronic conditions.</p>
<p><b>Protected Health Information (PHI)</b></p>	<p>PHI refers to all data that a healthcare professional collects to identify an individual and determine appropriate care. This can include demographic information, electronic healthcare records, medical tests, insurance information or information about health conditions.<sup>5</sup> PHI is protected under HIPAA laws.</p> <p>Mindstrong is HIPAA compliant and operates under gold standard encryption and security practices. We have strict policies on privacy, informed consent, transparency and accountability.</p>
<p><b>Verbal fluency</b></p>	<p>Verbal fluency involves accessing your mental vocabulary and selecting the appropriate words when speaking or writing. Think about a time when you failed to recall a word “on the tip of your tongue,” which might indicate lowered verbal fluency.</p> <p>Stress and anxiety can impact verbal fluency. Age and experience are also important: children perform less well on tests of verbal fluency compared to adults.</p>
<p><b>Working memory</b></p>	<p>Working memory is how you temporarily store and actively manipulate information. You use working memory to think through problems, make decisions or do mental arithmetic, and to carry on a conversation since you need to remember the last thing a person said to appropriately respond.</p> <p>Your mood can impact your working memory. Think about a time you were deeply preoccupied. This can make it hard to concentrate, problem solve or engage in conversation.</p>

<sup>5</sup> <https://searchhealthit.techtarget.com/definition/personal-health-information>

# Founder Biographies

Paul Dagum, MD PhD

Founder & Chief Executive Officer

Paul Dagum, MD PhD is a computer scientist, physician and entrepreneur with a track record of creating and launching products in three successful venture-backed companies. Dr. Dagum's early pioneering research in AI is in use in many modern-day applications. He further developed and patented massively parallel algorithms for big data science in use by the world's largest data companies, and created and patented the first ever digital measures of central nervous system function based on human-computer interaction patterns. Dr. Dagum led NSF and NIH grants while at Stanford University, published over 75 peer-review articles and book chapters in computer science and medicine, and was awarded over 25 patents. Dr. Dagum received an MSc in theoretical physics, PhD in theoretical computer science both from the University of Toronto and an MD from Stanford University.

Tom Insel, MD

Co-Founder & President

Thomas R. Insel, MD, a psychiatrist and neuroscientist, is a co-founder and President of Mindstrong Health. From 2002-2015, Dr. Insel served as Director of the National Institute of Mental Health (NIMH), the component of the National Institutes of Health (NIH) committed to research on mental disorders. Prior to serving as NIMH Director, Dr. Insel was Professor of Psychiatry at Emory University where he was founding director of the Center for Behavioral Neuroscience in Atlanta. Most recently (2015 – 2017), he led the Mental Health Team at Verily (formerly Google Life Sciences) in South San Francisco, CA. Dr. Insel is a member of the National Academy of Medicine and has received numerous national and international awards including honorary degrees in the U.S. and Europe.

Richard Klausner, MD

Co-Founder & Executive Chairman

Richard D. Klausner, MD is founder and Director of Juno Therapeutics and founder and Director of GRAIL. He is the former Senior Vice President, Chief Medical Officer and Chief Opportunity Officer of Illumina. He currently chairs the Grand Challenges in Cancer program of Cancer Research UK. Previously, he has served as the Executive Director for Global Health of the Bill and Melinda Gates Foundation. Dr. Klausner was appointed by Presidents Clinton and Bush as the eleventh Director of the U.S. National Cancer Institute between 1995 and 2001. Dr. Klausner served as chief of the Cell Biology and Metabolism Branch of the National Institute of Child Health and Human Development, as well as a past president of the American Society of Clinical Investigation. He is a member of the National Academy of Sciences, the Institute of Medicine and the American Academy of Arts and Sciences.

# Management Biographies

Pravene Nath, MD

Chief Product Officer

Pravene A. Nath, MD previously served as Chief Information Officer and Chief Digital Officer of Stanford Health Care, where he led technology strategy and operations and launched the industry-leading Stanford MyHealth digital platform for patient and consumer engagement. Before Stanford, Dr. Nath was Chief



Medical Information Officer at NYU Langone Medical Center in New York City. Dr. Nath has served on the boards of for-profit and not-for-profit health systems and has practiced emergency medicine as a member of the Stanford University and New York University medical school teaching faculty. He received his BSE in biomedical engineering from Duke University, his MD and MSE in biomedical engineering from The University of Michigan, and his residency training from NYU Langone and Bellevue Hospitals in New York City.

[Greg Ryslik, PhD, FCAS](#)

[Vice President, Data Science](#)

Greg Ryslik, PhD, FCAS, MAAA is a statistician, researcher and AI expert who has worked across a variety of industries including biotech, actuarial science and automotive. Greg led the Data Science team for Service at Tesla Motors and the Data Science & Analytics team at Faraday Future. Previously, Greg performed non-clinical machine learning and bioinformatics research at Genentech as well as actuarial analysis at PricewaterhouseCoopers. His research into cancer genomics, bioinformatics and structural biology has been published in journals ranging from Nature to BMC Bioinformatics and his textbook on actuarial science has been used to teach courses at several universities. He is a member of the American Academy of Actuaries, a Fellow of the Casualty Actuarial Society and has degrees from Yale, Columbia and Rutgers. He also holds an adjunct assistant professorship with the statistics department at Pennsylvania State University.

[Leo Dagum, PhD](#)

[Vice President, Engineering](#)

Prior to Mindstrong, Leo held executive positions in technology at a variety of privately held companies working on, amongst other things, IoT management and optimization solutions, vertical search, online marketing, and demand and supply chain optimization. Earlier in his career he worked on Linux kernel development, performance engineering and parallelization/performance tuning of commercial scientific applications. He is one of the architects of the OpenMP language standard and original authors of the NAS Parallel Benchmarks. Leo has over 30 peer-reviewed publications in computer science, mathematics and rocket science and is inventor on 5 patents. He received his BSc in Engineering Physics from Queen's University, and MSc and PhD in Aeronautics/Astronautics from Stanford University.

[Elaine Cheung, MS](#)

[Vice President, Marketing](#)

Elaine was previously Head of Business Development at GRAIL, Inc. where she was a founding employee and implemented the strategy/transactions to execute the business plan, and strategic collaborations with pharma companies involved in its Series B \$900M+ financing. Formerly, she was Director of Strategic Partnerships at Illumina. There, she led BD for the Oncology Business Unit, and also executed strategy and transactions/M&A in the fields of Non-Invasive Prenatal Testing and Transplant Medicine. Elaine spent 6 years at Genomic Health, where she focused on product pipeline and global commercial expansion. Elaine has a BS in Biological Sciences and an MS in Management Science & Engineering, both from Stanford University, where she was also a Mayfield Fund Fellow.

[Robert Dougherty, PhD](#)

[Head, Translational Science](#)

Bob is a scientist and engineer with expertise in measuring human behavior and the neural basis of cognitive function. Prior to joining Mindstrong, Bob was the Research Director of the Stanford Center for Neurobiological Imaging and has published over 50 peer-reviewed articles in the fields of psychology, neuroscience, and magnetic resonance technology. Bob completed his PhD in Experimental Psychology at the University of California at Santa Cruz, and postdoctoral fellowships at the University of British Columbia and Stanford.

## Boards

### Board of Directors

- Rick Klausner, MD, Co-Founder and Executive Chairman, Mindstrong Health
- Paul Dagum, MD PHD, Founder and Chief Executive Officer, Mindstrong Health
- Virginia McFerran, Partner, Optum Ventures
- Jim Tanabaum, MD, CEO and Founder, Foresite Capital
- Robert Epstein, MD, CEO, Epstein Health
- Tom Insel, MD, Co-Founder and President, Mindstrong Health

### Scientific Advisory Board

- Sir Philip Campbell, PhD, Editor-in-Chief, Nature, part of Nature Publishing Group
- Ian Gotlib, PhD, Professor and Chair, Psychology, Stanford University
- Sophia Vinogradov, MD, Professor and Head, Department of Psychiatry, University of Minnesota
- Amit Etkin, MD, PhD, Associate Professor of Psychiatry and Behavioral Science, Stanford University
- Michael Frumkin, MS, Director, Google Accelerated Science; Alphabet

### Ethical, Legal, Societal Implications Board

- Paul Gionfriddo, President & CEO, Mental Health America
- Brandon Staglin, Director, One Mind
- Nev Jones, PhD, Director of Research, Felton Institute
- Nicole Martinez, PhD, JD, Postdoctoral Fellow, Stanford Bioethics
- Sharon Terry, MA, President & CEO, Genetic Alliance
- Katherine Switz, MBA, Founder & Executive Director, The Stability Network
- Monica Luke, Executive Director, Living Assistance Fund

# RSE and Team

Runyon Saltzman, Inc. (RSE) is a leading communications firm known for its innovation and exceptional strength in the use of online outreach and traditional offline techniques to create positive social impact. Comprehensive array of services includes strategic planning, advertising, branding, digital marketing, public relations, community engagement and evidence-based social marketing — work that has taken us to all California counties and to other states.

After a public review process, RSE was selected based on their outstanding service, knowledge of mental health outreach, creativity, passion, enthusiasm and ability to quickly support counties launching the Innovation and Technology Suite.

RSE's 52 staffers are well versed in and deeply committed to CalMHSA's goals, having worked on many ground-breaking mental health efforts over the last six plus years. For CalMHSA's mental health stigma and discrimination reduction initiative, having created and launched Each Mind Matters: California's Mental Health Movement (SanaMente, Movimiento de Salud Mental de California.) RSE introduced the ReachOut Here/Busca Apoyo Forums in California that uniquely suit them to handle the branding and roll out of the Innovation and Technology Suite. These peer-guided online forums served California's 14-24-year-olds and provided an online community of support. ReachOut Here was visited by 423,266 young people who left more than 55,000 posts.

Other relevant work includes social impact campaigns to reduce childhood obesity, reduce teen pregnancy rates, reduce infant mortality rates in the African American community (Sacramento County), boost college attendance among key ethnic populations and reduce rates of suicide among gun owners in isolated rural communities (Oregon). RSE also developed and introduced CityLinkLA, an initiative sponsored by the City of Los Angeles to provide gig-speed broadband access to all city residents.

Equally impressive were the team members that RSE included to support counties in the development and introduction of the Innovation and Technology Suite, including:

**Solsken Public Relations & Marketing** has worked with RSE team on the Each Mind Matters campaign to develop and implement materials to reach Hmong, Cambodian, Laotian, Korean, Chinese, Vietnamese and Mien audiences. Capitalizing on their success, Solsken PR specialists will continue to reach critically important API audiences and contribute to developing strategy for this target group.

**California Pan-Ethnic Health Network**, which was established in 1992 as a forum for multicultural health advocacy in the wake of riots in South Central Los Angeles to advance health care needs of communities of color. It is the only statewide multicultural health advocacy organization dedicated to improving the health of communities of color through advocacy, research, communications, and community outreach and engagement. In 2010, CPEHN was awarded the contract from the Department of Mental Health Office of Multicultural Services to facilitate the process to create the strategic plan for the California Reducing Disparities Project (CRDP). Building on this critical CRDP work, they developed the Behavioral Health Equity

Collaborative which includes representatives from education, foster youth, immigrant and refugee, and organizations serving people of color in order to reach unserved and underserved populations. CPEHN has completed numerous mental health related projects for several southern California counties include Los Angeles and Kern and has access to networks that will prove invaluable to the successful roll out of the INN Tech Suite.

**RTBIQ** specializes in data-driven digital advertising utilizing vast amounts of consumer data to tailor messaging to the right audience at the right time. RTBIQ's partnerships with cutting edge technology partners result in 90%+ match rates of digital ads via IP address to household addresses allowing seamless digital advertising delivery against specific data targets. In addition, RTBIQ can leverage location data from top GPS data providers to measure where mobile users consistently spend their time, and can match this to US census block data to further determine ethnicity, income levels, and other pertinent data points to precisely target populations that will likely benefit from the Innovation and Technology Suite.

**iHeart Amplify Division** brings radio broadcast partnerships, Clear Channel Outdoor and partner agreements with Outfront, Lamar, Regency Outdoor companies. This network helps penetrate key neighborhoods to deliver Innovation and Technology Suite messaging. They can also deploy a team of grass roots activation specialists and two customizable Mobile Marketing Pavilions to travel the state to deliver Innovation and Technology Suite programs to the people and counties of California.

Evaluation of RSE communications programs will be conducted by **National Opinion Research Center (NORC)** at the University of Chicago, under the leadership of long-time RSE partner, Larry Bye. He and his team have provided invaluable formative and evaluation studies that guided many key decisions about CalMHSA's Each Mind Matters campaign and other RSE social impact campaigns.



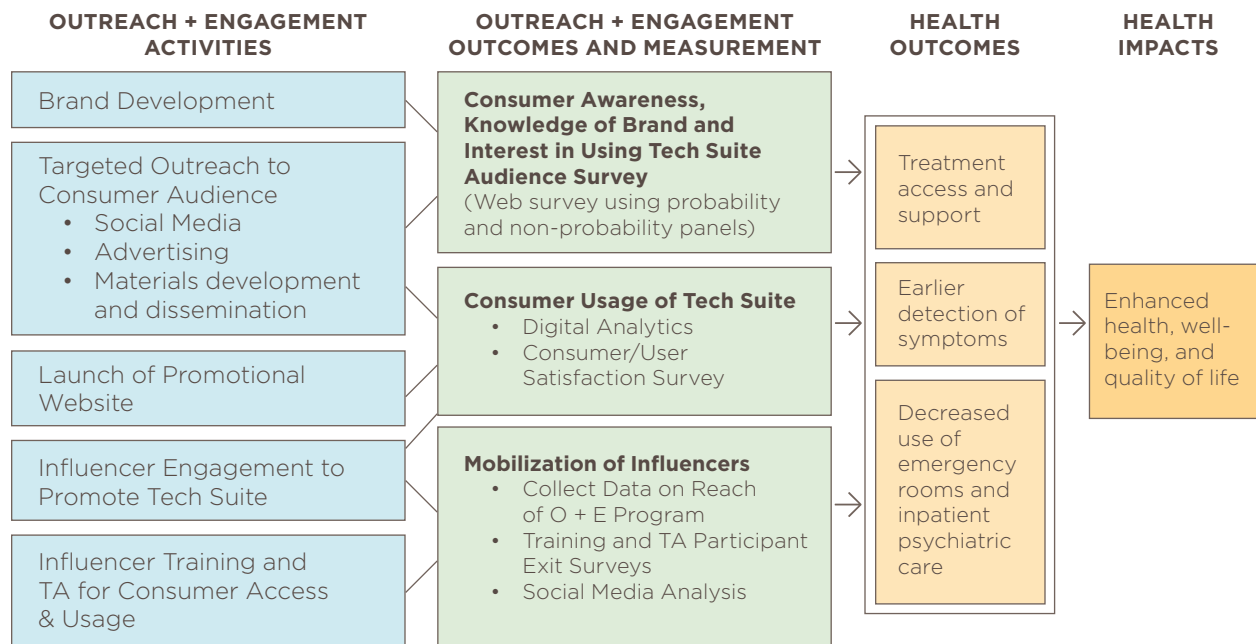
# RSE Approach

The Innovation and Technology Suite is intended to be accessed via a wide range of mediums and devices by even wider and more diverse audiences. County behavioral health departments have intimate and insightful knowledge about the populations they serve and the delivery of mental health. However, these departments are not focused on cutting-edge technology or communications innovation. The RSE team is prepared to help fill this gap. They bring a wealth of data regarding technology adoption and usage in specific audiences, within a rapidly evolving landscape. In addition to resources such as Pew Research Center, American Community Survey and CHIS, RSE has access to multiple data source and tools, including Scarborough, Nielsen, Strata SBMS and View, Media Audit, SQAD, Keyword Planner, Radiant 6, Eleven and Google Analytics that will inform and influence the campaign to promote the Innovation and Technology Suite.

RSE has assembled a team drawn from the most successful and forward-thinking organizations working on mental health and disparity reduction to connect and engage communities with the Innovation and Technology Suite. Their campaign aims include: increasing access to care needed and desired; reducing time between recognition and acknowledgement that a symptom needs to be addressed and the time to receiving appropriate care; increase purpose, belonging and social connectedness for users; and reducing the stigma associated with mental illness by promoting wellness. Ultimately, the campaign will break down barriers and provide a path for people to receive the mental health care and support they deserve when they need it and where they need it. This pathway is best illustrated by the Logic Model developed by RSE for the campaign (See exhibit below).

## Logic Model

### CalMHSA Innovation Technology Outreach + Engagement



One of the reasons RSE was selected through the competitive public bid process was their demonstrated ability to mobilize team resources quickly to actualize the Logic Model and meet aggressive county timelines. Their immediate work has fallen into three objectives, to:

- Create a universal and person-centered brand for the campaign that will appeal to multiple audiences;
- Prepare and support the soft introduction of the Innovation and Technology Suite for the first five counties, and;
- Plan for the official hard launch of the brand and campaign which will include capacity to support added counties once approved by the MHSOAC.

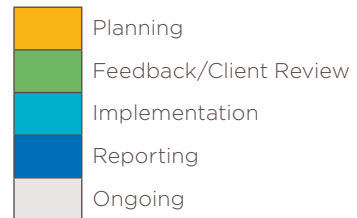
In order to meet these objectives, the RSE team has deployed to complete a number of activities and deliverables in direct support of the counties and Innovation and Technology vendors. Highlights include:

- Identified Innovation and Technology Suite benefits, key supports and core benefits to create a Message Map to guide consistent communication with counties, vendors, peer navigators and others. The final Message Map will be vetted with peer groups and cultural ambassadors to ensure relevancy.
- Applied findings of the Message Map process to begin the exploration of a brand platform for the Innovation and Technology Suite that will guide the development of the name, logo, color pallet, style guide, language and tonality.
- Begun the development of a campaign website including development of wireframes and identification of key website functionalities. Suite vendors have been involved in this process.
- Informed the linguistic and cultural adaptation of the Innovation and Technology Suite for California's diverse audiences.
- Engaged directly with the initial counties to provide customized and direct support for their individual soft roll out needs.
  - Created initial collateral materials for the soft launch including tent cards explaining the component apps of the Innovations and Technology Suite and flyers customized for each county.
  - Development of a paid social media campaign to support LA County
  - TA available for each county as requested/needed for planning and logistics of soft launch events. Customized collateral materials to each county as requested/needed.
  - Development of an API specific outreach plan for Orange County.
  - Development of an API specific outreach plan for LA County.

See below for an approximate timing of activities.

# Campaign Timeline

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
<b>ACTIVITY</b>												
Onboarding	Planning											
Strategic Council	Planning	Feedback/Client Review	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Brand Development	Planning	Planning	Implementation	Feedback/Client Review	Reporting	Reporting	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Stakeholder Meetings	Planning	Planning	Feedback/Client Review	Feedback/Client Review	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Outreach Materials/Website	Implementation	Feedback/Client Review	Planning	Implementation	Feedback/Client Review	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Reporting
Paid Advertising	Ongoing	Ongoing	Planning	Implementation	Implementation	Feedback/Client Review	Feedback/Client Review	Feedback/Client Review	Reporting	Ongoing	Ongoing	Ongoing
Technical Assistance	Feedback/Client Review	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Mini-Grant Program	Planning	Planning	Planning	Feedback/Client Review	Feedback/Client Review	Feedback/Client Review	Feedback/Client Review	Feedback/Client Review	Feedback/Client Review	Feedback/Client Review	Reporting	Reporting
Systems Outreach	Planning	Planning	Planning	Implementation	Implementation	Feedback/Client Review	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Reporting
Media Relations	Ongoing	Ongoing	Ongoing	Planning	Planning	Feedback/Client Review	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Reporting



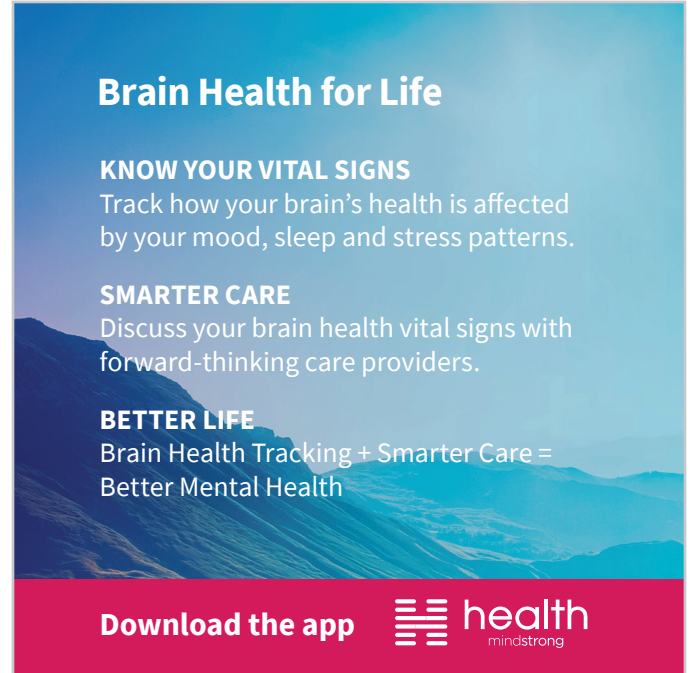
# Tech Suite Draft Materials

## Tent Cards

### Front



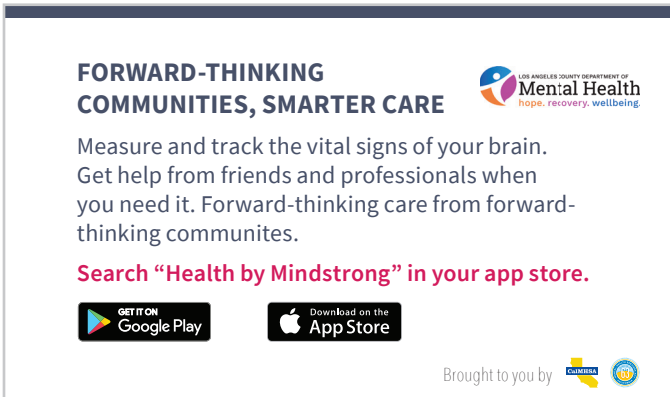
### Interior



### Back



### Alternate Attribution Statement

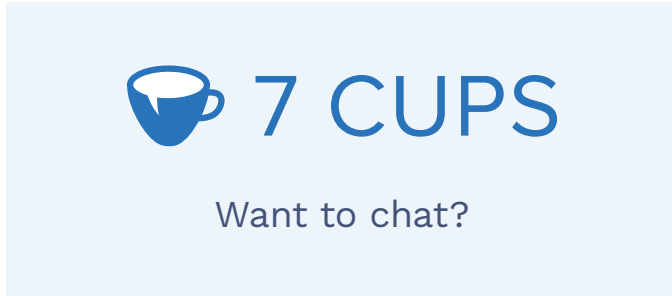




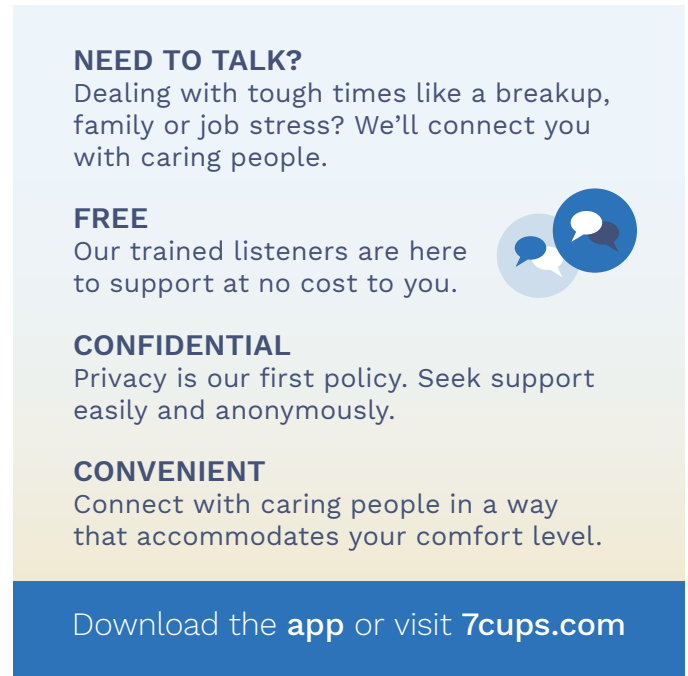
# Tech Suite Draft Materials

## Tent Cards

### Front



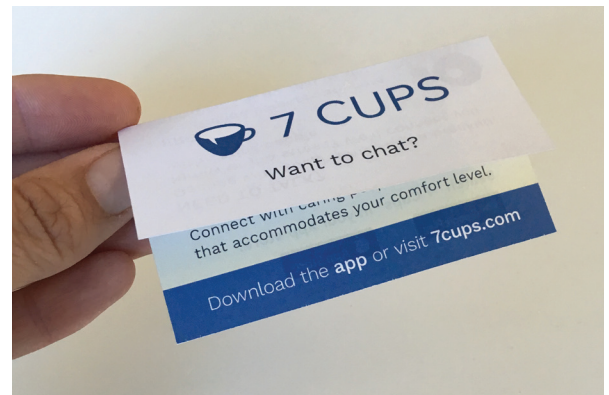
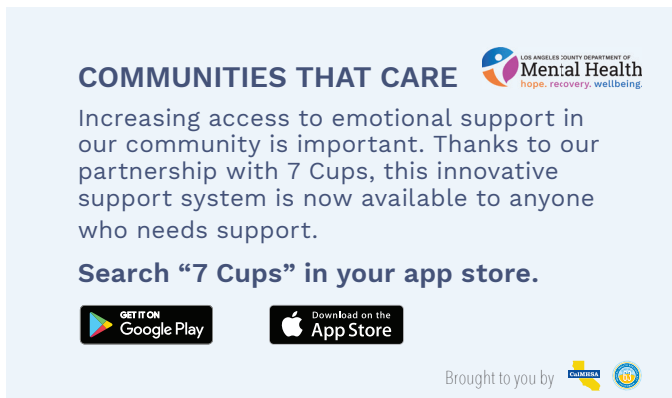
### Interior



### Back



### Alternate Attribution Statement



# YOUR MENTAL HEALTH ON YOUR TERMS



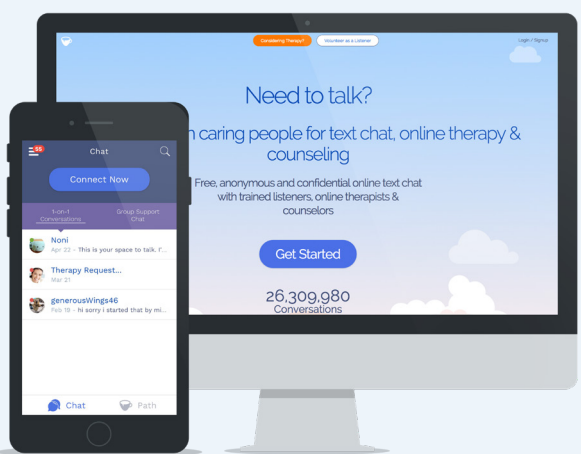
Through a statewide innovation effort, we're using technology to bring forward-thinking mental health services to our community. Get customized support, when you need it, on your terms. With a variety of **free, convenient and confidential** mobile services available, you now have access to a 24/7 support system.

**NOW AVAILABLE**



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- Connect with trained listeners
- Free, anonymous and confidential help
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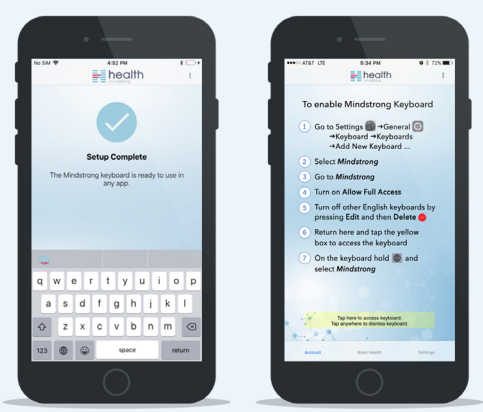
**COMING SOON**



mindstrong

**MINDSTRONG HEALTH USES ADVANCED TECHNOLOGY TO MEASURE YOUR BRAIN'S HEALTH.**

- Get information based on your daily smartphone use
- Track your brain's response to mood, sleep, and stress patterns
- Use this information for better brain health



Download the **app** **health**  
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# How Intrepid Ascent Offers Value

Intrepid Ascent guides organizations through the data management demands of value-based care, with extensive experience orchestrating large-scale collaborative initiatives. We equip clients with the knowledge to make informed decisions, the tools to execute their plans effectively, and the momentum to sustain change. We offer a broad spectrum of professional services including health IT assessments, strategic planning, stakeholder engagement, governance and policy development, vendor selection, workflow redesign, implementation, and outcomes monitoring.



Our team combines expertise in the following areas to lead our clients to success:

- **Health Information Exchange (HIE)** – Intrepid Ascent's team has led HIE planning and implementation projects in California and nationwide, guiding organizations to efficiently and appropriately share data to meet clinical, program, and business needs. We consider priority use cases, technical and operational infrastructure, and data protections to help organizations **establish successful connectivity** with key partners using national interoperability standards. Our team is skilled in convening stakeholders across sectors for HIE consensus-building in support of community-wide care integration projects.

**Population Health Management** – With the health care system transitioning to a focus on health outcomes, thriving in this landscape requires proactive care of specific populations and the data infrastructure to support it. Through comprehensive services from needs assessments to systems selection to implementation and change management, **we help clients optimize analytics and care management tools** within and across organizations to deliver high-value care.

- **Patient-Centered Systems** – Our team **enables clients to implement strategies that put individuals and their families at the center of coordinated care systems**, with transparent access to their health information, clear communication with their providers, and integration of consumer-facing apps with health care IT infrastructure.
- **Data Quality** – Trustworthy data is critical for clinical, program, and financial performance. Intrepid Ascent's data quality services **leverage groundbreaking tools and techniques that assist in identifying and addressing data quality issues**. Our team combines expertise in workflow analysis, quality assessments, and data extraction to address immediate gaps and ongoing processes.
- **Clinical Quality Reporting & Improvement** – Smart approaches to data management form a foundation for clinical quality improvement. **We assist organizations with demonstrating data-driven improvement to meet the needs of clinical programs and changing funding structures**. Our team works closely with health care organizations on selecting measures for reporting and meaningful quality improvement over time.
- **Privacy & Security** – Intrepid Ascent provides guidance on the development and implementation of robust frameworks for health information privacy and security. Our approach goes **beyond focusing on technical infrastructure, addressing the relationships between organizational culture, information governance, and policy** to build a culture of compliance. We conduct assessments on privacy and security risks and organizational behavior; identify the privacy impacts of planned systems and services; and support the development of appropriate policies, governance, and technical infrastructure.



## Our 2018 Clients Include:

California Department of Health Care Services • California Department of Public Health • California HealthCare Foundation • California Mental Health Services Authority • California Health Care Safety Net Institute • Marin County • Merced County • Placer County • San Joaquin County • Sacramento County • Sacramento Covered • San Joaquin Community Health Information Exchange • Santa Cruz Community Health Centers • Redwood Community Health Coalition • North Coast Health Improvement and Information Network • COPE Health Solutions • Object Health • Simi Group • Transform Health

## Privacy and Security

### Informed Consent & Data Sharing

#### Clinical Integration and Data Sharing Continuum – A Working Draft

**Overview:** This Clinical Integration and Data Sharing Continuum describes the service models to support various levels of application integration within a County. It is intended to show a progression from limited integration (e.g. promotion of the application to Clients in the County) to full integration with County behavioral health services to support care coordination, transitions of care, and clinical services within the application. For each level of integration, the continuum also identifies the types of data to be shared and the essential privacy and security requirements. The particular service model and progression within the continuum will be determined by each County depending on their stated project goals, objectives, and capabilities.

**Informed Consent:** The Technology Suite Integration Project Guiding Principles describe the overarching framework that governs the project to ensure the goals, objectives, and outcomes are met. A critical principle is Individual Choice, providing Clients the opportunity and the means to make informed decisions about their participation in the program and how their data is collected, used, and disclosed to other Project participants. It is the intent of all Project Participants to protect the confidentiality and security of Client information through the implementation of policies and procedures, including specifying when permission from the Client is required to share Personally Identifiable (PII) and Protected Health Information (PHI). The approach to informed consent is intended to maintain the confidentiality of Client information, while conforming to applicable State and Federal laws and integrating with County policies and workflows.

For the initial service model – limited integration through promotion of application availability – the informed consent process includes notification to the Client upon initial use of the application on the vendor’s terms of service and how data may be shared with the County. Client acceptance of the terms of service and use of the application serves as consent to sharing aggregate data only, with no PII or PHI being shared outside of the application. Counties have the option of providing additional education on the privacy practices within their existing workflows. As integration with County services progresses along the continuum, explicit consent from the Client is required, in addition to the terms of service and user acceptance. Detailed functional requirements and workflows for consent management will be determined in advance of a County adopting a more integrated service model to ensure policies and procedures are in place for all Project Participants.



Level of App Integration: Activity/Role:	Promotion of App Availability	Referrals of Individuals / Cohorts for App-Delivered Services	Referrals of Individuals / Cohorts for Real-Time Clinical Services	Coordination of Services / Transitions of Care Between County and App	Coordination of Services, Plus County Clinical Services Provided via App
<b>Service Model</b>	Promotion of app with County-specific in-app branding	Promotion + referral of specific individuals / cohorts for app-delivered services (e.g., peer support/chat, AI, communities, digital phenotyping, etc.)	Same + referral of specific individuals / cohorts for clinical services	Same + referrals + coordinated transitions of care between app and County	Same + referrals + coordinated transitions + some County services provided in-app
<b>Current App Vendors</b>	7 Cups (Mindstrong eventually)	7 Cups Mindstrong	7 Cups Mindstrong	Mindstrong	Mindstrong
<b>Data Sharing Model</b>	Aggregate reporting only, no Personally Identifiable Information/ Protected Health Information	Aggregate reporting; PII in referrals	Aggregate reporting; PII in referrals	Aggregate reporting; PII in referrals; bi-directional sharing of PHI	Aggregate reporting; PII in referrals; bi-directional sharing of PHI
<b>Privacy &amp; Security Requirements</b>	<ul style="list-style-type: none"> <li>• Terms of Service with language on data sharing with Counties</li> <li>• Informed consent: User acceptance</li> <li>• Business Associate Agreement between CalMHSA/County and Vendors</li> </ul>	<ul style="list-style-type: none"> <li>• Terms of Service with language on data sharing with Counties</li> <li>• Informed consent: User acceptance + Authorization + County policies and Notice of Privacy Practices</li> <li>• Business Associate Agreement between CalMHSA/County and Vendors</li> <li>• Security controls (e.g. encryption, audit logs, secure file sharing, access controls, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Terms of Service with language on data sharing with Counties</li> <li>• Informed consent: User acceptance + Authorization + County policies and NPP</li> <li>• BAA between CalMHSA/County and Vendors</li> <li>• Security controls (e.g. encryption, audit logs, secure file sharing, access controls, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Terms of Service with language on data sharing with Counties</li> <li>• Informed consent: User acceptance + Authorization + County policies and NPP</li> <li>• Data Sharing Agreement between CalMHSA, Counties, and Vendors</li> <li>• Security controls (e.g. encryption, audit logs, secure file sharing, access controls, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Terms of Service with language on data sharing with Counties</li> <li>• Informed consent: User acceptance + authorization + County policies and NPP</li> <li>• DSA between CalMHSA, Counties, and Vendors</li> <li>• Security controls (e.g. encryption, audit logs, secure file sharing, access controls, etc.)</li> </ul>

## Privacy and Security Guiding Principles

### Purpose

The Technology Suite Innovation Project is a multi-county, multi-vendor collaborative to increase access to mental health care and support and promote early detection of mental health symptoms that predict the onset of mental illness. The project includes offering a suite of virtual mental health care applications (Technology Suite) to counties, conducting outreach and marketing to increase access to care through Client use of the applications, and evaluating outcomes. The purpose of these Guiding Principles is to describe the framework for accomplishing project goals and objectives, as it relates to privacy and security of user data. These Guiding Principles are based on industry best practices, such as the Fair Information Practices, as well as approaches identified by CalMHSA and the Mental Health Services Oversight and Accountability Commission (MHSOAC).

The Guiding Principles are applicable across all Project Participants, which include:

- **Application Vendors** – Organizations contracted with CalMHSA to provide the suite of technology components to Counties
- **Counties** – Approved by the MHSOAC to implement Innovation projects
- **CalMHSA** – Joint Powers Authority providing oversight and management of the Technology Suite
- **Experts** – Organizations contracted with CalMHSA to provide technical assistance and subject matter expertise in carrying out the Project

### Guiding Principles

**Shared Services** – Leverage economies of scale through the pooling of resources while ensuring flexibility to meet specific County needs.

**Sustainability** – Implement Innovation projects to meet intended goals and objectives while establishing a framework for long-term sustainability and growth.

**Innovation** – Promote and support Innovation to find new ways to improve access to mental health services, leverage new technologies, and improve client outcomes.

**Communication and Collaboration** – Promote open, timely communication with Project Participants and stakeholders and work collaboratively to support the goals and objectives of the Project.

**Oversight and Accountability** – Report and resolve issues in a timely manner; monitor overall program to ensure goals and outcomes are met; and provide regular reporting to stakeholders, including MHSOAC.

**Shared Governance and Policies** – Maintain a well-documented governance framework with clear policies supported and endorsed by all stakeholders that allows for the guiding principles to be

implemented, and that can be easily accessed by and shared with other Project Participants and stakeholders.

**Compliance** – Ensure compliance with relevant federal and state laws, regulations, and contractual obligations, including taking all necessary steps to implement or modify policies and procedures to ensure ongoing compliance.

**Health Information Technology Standards** – Wherever possible, utilize widely accepted healthcare information technology standards for data content and transport.

**Data Quality & Integrity** – Ensure the accuracy, completeness, and timeliness of all data and facilitate the sharing of meaningful information across all Project Participants to improve care.

**Security Safeguards & Controls** – Protect the confidentiality of Client information through alignment with national best practices by implementing, or modifying as appropriate, all administrative, technical, and physical safeguards and preventing unauthorized or inappropriate access, use, or disclosure.

**Openness and Transparency** – Be open and transparent about policies, procedures, and technologies, particularly as it relates to how data is used, stored, and shared with and among Project participants. Use every opportunity to inform Clients about what information has collected about them, the purpose of its use, who can access and use it, where it resides, and how they may obtain access to and control who has access to their information.

**Individual Choice** – Provide the opportunity and the means for Clients to make informed decisions about their participation in the program and how their data is collected, used, and disclosed to other Project participants.

The following table further delineates the roles of each type of entity to assure these principles are applied and adhered to throughout the design and conduct of the project.

	App Vendors	Counties	CalMHSA	Experts
Shared Services	Work to standardize service offerings, integration deployments, and product customizations across Counties	Work to co-develop and keep each other informed of special projects, services, and app service offerings	Coordinate sharing of information on services between Vendors and Counties, helping all to stay informed on innovative and/or successful strategies	Assist Participants in adopting successful strategies for shared services and evaluating effectiveness
Sustainability	Develop customizations and service offerings that	Develop sustainability plans and allocate resources at	Develop sustainability plan for shared services in alignment	Evaluate sustainability plans to ensure success and support the cross-



	App Vendors	Counties	CalMHSA	Experts
	fit into sustainability plans	appropriate level to succeed	with individual County plans	pollination of promising approaches between Counties
<b>Innovation</b>	Suggest innovative approaches that have worked in other environments and implement innovative solutions developed by Counties	Develop innovative approaches to services and technologies that fit local use-cases and target populations	Coordinate among Participants to drive real tests of change and share outcomes	Determine how innovations can be expanded and/or improved, and evaluate innovations to ensure they fit into overall Project framework
<b>Collaboration</b>	Collaborate with Participants and communicate in a clear and timely manner	Collaborate with Vendors and internal County stakeholders and communicate in a clear and timely manner	Foster collaboration among counties and between counties and vendors and establish a mechanism for reporting issues	Find new ways for Participants to collaborate, building on past successes and fostering open communication
<b>Oversight and Accountability</b>	Work with Counties and CalMHSA to develop standardized methods for reporting	Submit reports to CalMHSA	Design reporting requirements and provide project oversight	Assist participants in using standardized technologies and processes for reporting, working to ensure limited burden on participants
<b>Shared Governance &amp; Policies</b>	Adopt standard policies and governance developed by Counties	Work to co-develop and keep each other informed of governance and policies	Coordinate governance for shared decision-making and develop associated policies	Assist CalMHSA and Participants in adopting successful strategies for shared governance and decision-making
<b>Compliance</b>	Follow relevant laws, regulations, and policies	Evaluate customizations and innovations for compliance with statutes, share information between counties on strategies for compliance	Develop Project policies; share information between counties on strategies for compliance	Evaluate customizations and innovations for compliance with applicable laws, regulations, and policies
<b>Health Information Technology Standards</b>	Implement customizations and new services using common Health IT	Suggest uses of common Health IT standards by Vendors; support standards-based	Evaluate and, as appropriate, require use of Health IT standards by app	Evaluate proposals for use of Health IT standards, suggest innovative





	App Vendors	Counties	CalMHSA	Experts
	standards whenever possible	data-sharing capabilities in County systems if integrating with apps	vendors and/or Counties	approaches that leverage standards
<b>Data Quality &amp; Integrity</b>	Implement safeguards to ensure data quality and integrity	Manage data quality and integrity, especially where local county IT systems are sharing information with Vendors	Help Counties and Vendors share strategies for managing data quality and integrity, evaluate integrity of reporting data	Assist Participants in identifying strategies for data quality and integrity management, assist in evaluation processes
<b>Security Safeguards &amp; Controls</b>	Implement customizations and new services using common Health IT standards for security whenever possible	Suggest use of common Health IT standards for security by vendors whenever possible	Evaluate and, as appropriate, require use of Health IT standards by app vendors and/or Counties	Evaluate proposals for use of Health IT standards for security, suggest innovative approaches that leverage standards
<b>Openness &amp; Transparency</b>	Adopt standard terms of service and privacy policy to inform Clients about how their data is used and with whom their data will be shared	Establish clear policies and procedures to inform Clients how County is integrating with applications and how data will be used	Help Counties and Vendors share strategies for managing policies and procedures	Assist Participants in finding strategies for implementing policies and procedures
<b>Individual Choice</b>	Implement an informed consent process within the app consistent with standard terms of service and privacy policies	Provide notification to Clients about how their data will be shared with Vendors	Identify minimum requirements for informed consent; Assist Vendors and Counties with implementing an informed consent process	Assist Participants with implementing an informed consent process and evaluate effectiveness

## Evaluation and Performance Monitoring Selected Evaluator

Based on qualification criteria delineated in the next section, **University of California, Irvine** was selected as the evaluator, as they exhibited competence and excellence in the following areas:

- **Applicable Experience and Staffing:** UCI's staff includes a diversity of personnel with a wide array of experience and subject matter expertise including clinical, informatics, and program evaluation. Additionally, their staff has previously been involved in participatory research grounded in cultural anthropology.
- **Previous Evaluation Projects:** In their proposal, UCI detailed a history of very relevant mental health projects including innovate mobile and web-based technologies, digital products and apps, and digital phenotyping. Projects included extensive development and evaluation of self-developed projects as well as those developed by others.
- **Proposed Evaluation Framework:** UCI demonstrated an impressive depth and breadth of thinking related to frameworks involved in the project; they did not just mention appropriate frameworks, they advanced and applied frameworks with obvious care and forethought. The suggested implementation strategy utilizing the frameworks demonstrated similarly careful consideration.
- **Data Collection:** In applying the above frameworks, UCI provided a wide range of interesting questions and ideas for evaluation. They convey an understanding of and willingness to adapt to the program's evolving needs, identifying and anticipating several potentially important challenges.

## Evaluation

### Overview & Approach

The Tech Suite Collaborative Innovation Project has selected a single qualified vendor (University of California, Irvine) to conduct formative evaluations of the statewide implementation of the suite, as well as for each participating county.

A formative evaluation is the chosen approach as it is a “rigorous assessment process designed to identify potential and actual influences on the progress and effectiveness of implementation efforts.” The goals of the formative evaluation approach which match the needs of the Tech Suite evaluation include:

- **Developmental**: plan for successful uptake of an intervention by clearly defining the problem and understanding its context, designing or adapting an intervention to address a problem and utilizing an implementation framework to anticipate negative unintended consequences, and understanding the organizational context (e.g. readiness) and stakeholder perspectives on a planned intervention;
- **Implementation**: help ensure a project is successfully implemented by monitoring key indicators, work with stakeholders to pivot/change/adapt as need arises to respond to both internal and external factors;
- **Interpretation**: create generalizable knowledge for how to successfully implement the intervention in other settings.

**Tech Suite Outcomes to be Evaluated**: The health and clinical outcomes to be assessed through the Tech Suite evaluation include:

- Adherence to a treatment protocol (which may be pre-programmed into an app, such as daily maintenance exercises; or developed by a professional, such as medication adherence).
- Improving safety (e.g. reduce adverse events)
- Increasing quality (e.g. on patient-reported outcome measures)
- Increasing access (to technology products, or to traditional medical services)
- Increasing treatment-seeking behaviors (e.g. utilizing previously unused services)
- Reducing utilization (e.g. ED visits, hospitalization, frequency of in-person visits)
- Improving recognition of and treatment outcomes for vulnerable or at-risk patients
- Increasing community engagement and target population(s) reach

**Evaluator Selection**: The evaluator selection process had two phases: pre-qualification and competitive selection.

1. **Pre-Qualification**: Through an RFSQ solicitation, CalMHSA received from a variety of organizations their qualifications to evaluate the three-year innovation Tech Suite project. An independent panel reviewed these organizations’ proven ability to evaluate the following impacts:

- Changes in user's utilization of inpatient and emergency service.
- Changes in the duration of untreated or under-treated mental illness.
- Changes in ability for users to identify cognitive, emotional and behavioral changes and act to address them.
- Changes in quality of life, as measured objectively and subjectively (by user and by indicators such as activity level, employment, school involvement, grades, etc.).
- Measurement and evaluation of user wellbeing and social connectedness.
- Comparative analyses of population level utilization data in participating counties over the life of the project to determine impact on various types of service utilization.
- Changes in how users with particular biomarkers (characteristics identified either through history or digital phenotyping analysis) respond to treatment options identified through this project.

In addition, they assessed their capabilities to:

- Analyze how the technology suite is used as a source of information and is guiding interventions provided by mental health professionals.
- Conduct an analysis of retrospective and prospective utilization of hospital resources from claims data and medical records data. The analysis shall incorporate disease risk stratification, digital phenotype and digital biomarker measurement, type of intervention, and delay in receiving care. Quality of like impact will include, where applicable, school grades, graduation rates, job retention, and absenteeism.
- Track and report number of users, including ethnicity, gender and preferred language.

Review of the qualifications of respondents led to the selection of two "pre-qualified" evaluator candidates.

2. Competitive Selection: The second step leading to final selection of the innovation evaluator was a competitive comparison of the pre-qualified agencies based on:

- Applicable Experience and Staffing: Experience with formative evaluation methods, including qualitative interviewing, participant observation, surveys, analysis of secondary data, and integrating data collected using mixed methods;
- Previous Evaluation Projects: Description of actual projects involving formative evaluations, with emphasis on those involving mental health interventions, health IT/informatics interventions, and interventions involving participatory research
- Proposed Evaluation Framework: Conceptual frameworks for implementation research and formative evaluation used in previous work and description of how they were applied to address the research question(s).
- Data Collection: Types of research questions, conceptual frameworks, data needed to be

collected, formative evaluation approaches, clinical and health outcomes (from list above), and anticipated challenges that might be relevant to the Tech Suite Innovation project.

### **Evaluation Panel Credentials**

A panel of highly experienced professionals convened to evaluate the proposals of the two ‘pre-qualified’ vendor candidates using the above criteria. This panel represented or had lived experience with/in:

- County and State behavioral health planning, advocacy, and evaluation (executive level)
- CBO and CBO board experience
- Health IT Innovation design, development, and research
- African American Perspectives
- Lived experience; have received mental health treatment
- Rural counties: implementing and evaluating behavioral health programs
- Large (urban) counties: implementing and evaluating behavioral health programs
- Engaging diverse communities in mental health or other social causes
- Completed graduate degree

### **MHSA Evaluation Requirements**

In order to adhere to MHSA regulations (per Section 3580.010) and assure a thorough evaluation of the innovation’s impact on target populations, each application vendor is required to gather the demographic information (listed below) about end users. In turn, the selected evaluator will aggregate, analyze and report on impacts to individuals served in the following attributes:

- Age
- Race
- Ethnicity
- Primary language used by threshold languages for the individual county
- Sexual orientation
- Disability
- Veteran status
- Gender

GENERAL

Dashboard

REPORTS

Overview

Traffic

Users

Time

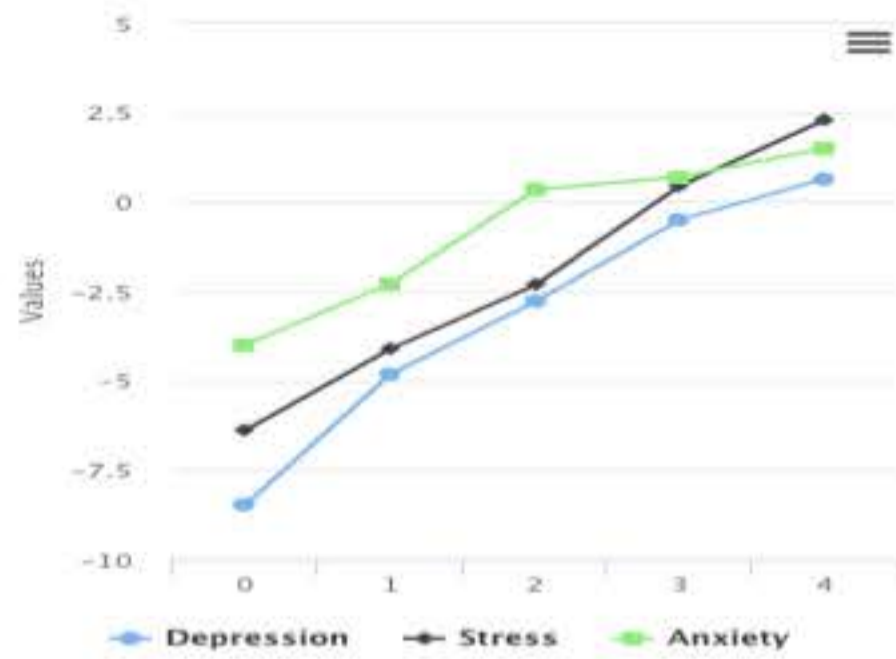
Location

Sources

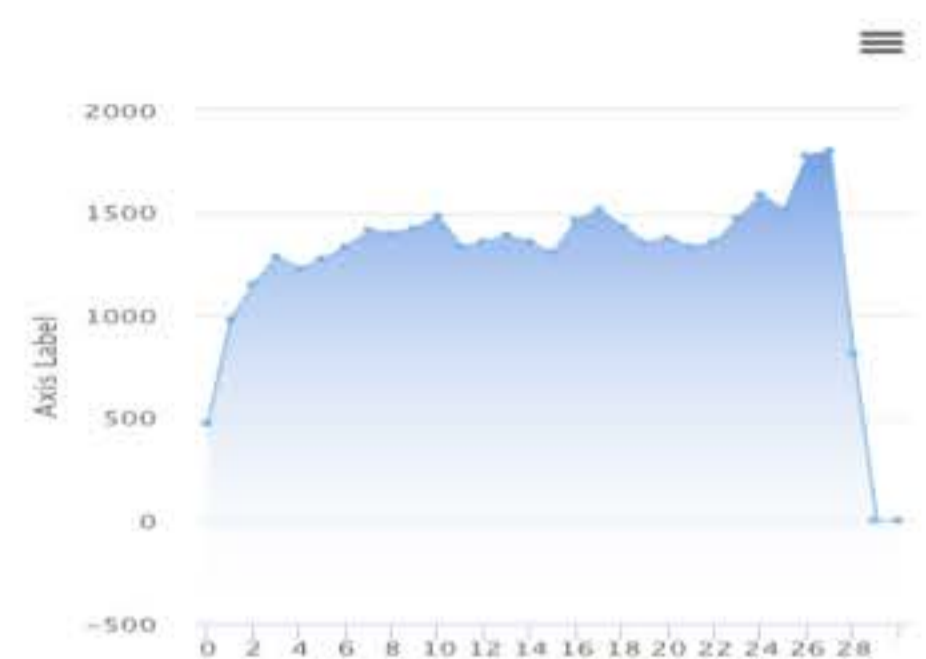
Language

Home / Dashboard / Report

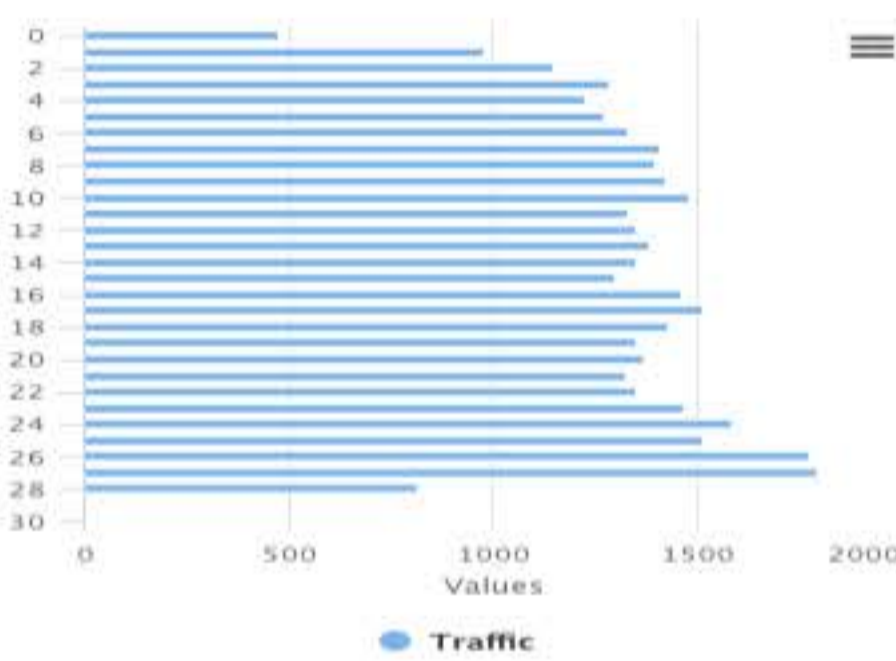
Wellness Test Results (Outcomes)



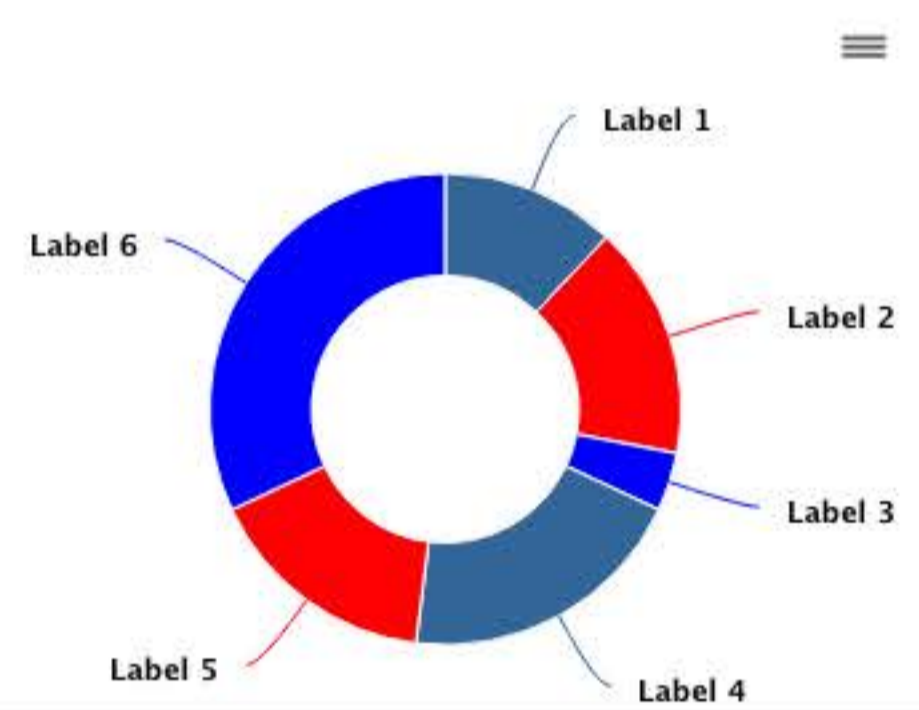
Active Users in LA County



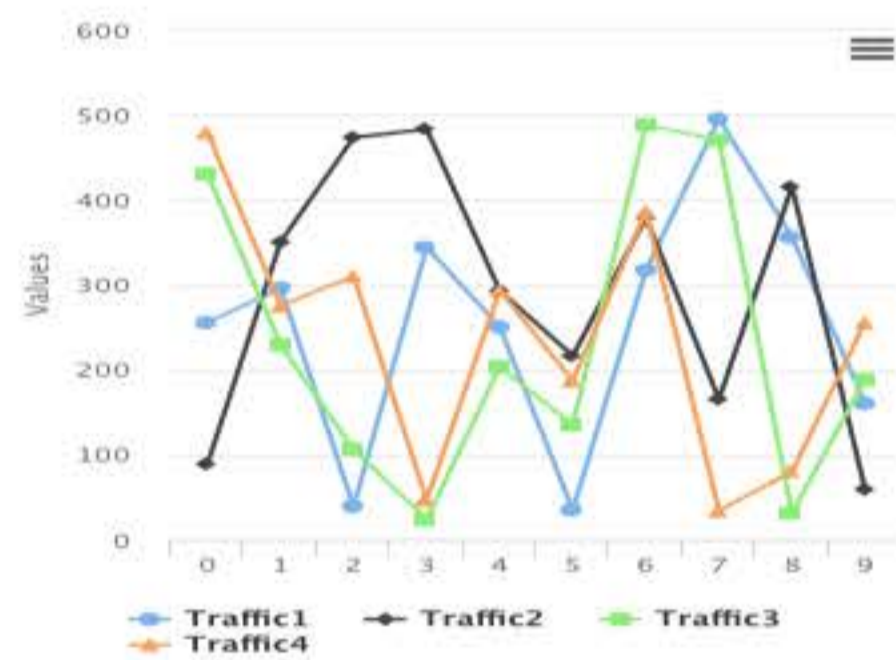
Top Locations in LA County



Top Languages in LA County



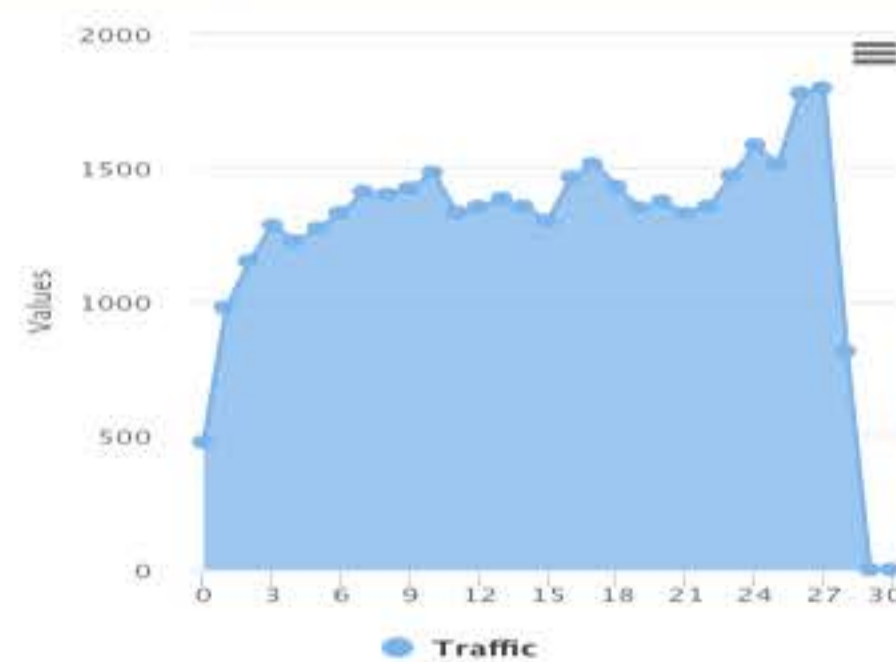
Traffic by Referral Source



All Traffic



Session Length / Time on Site



Percentage of Users in Treatment Before

