



**COUNTY OF LOS ANGELES – DEPARTMENT OF MENTAL HEALTH
MHSA IMPLEMENTATION AND OUTCOMES DIVISION**



MHSA Innovation 3 Project – Increasing Access to Mental Health Services and Supports Utilizing a Suite of Technology-Based Mental Health Solutions

The Los Angeles County Department of Mental Health (LACDMH) proposes to contract with one or more virtual mental health care providers with capacity to implement technology-based mental health solutions accessed through multifactor devices (for example, a computer, smartphone, etc.) to identify and engage individuals, provide automated screening and assessments and improve access to mental health and supportive services focused on prevention, early intervention, family support, social connectedness and decreased use of psychiatric hospitals and emergency services.

The innovation proposed here is to test out and implement a group of technology-based mental health solutions that utilize passive data collection as a method to identify the early signal biomarkers for mental health symptoms and offer prompt, timely intervention.

The goals of this project include:

- Increase purpose, belonging and social connectedness for users
- Increase access to care needed and desired
- Reduce stigma associated with “mental illness” by promoting mental optimization
- Reduce time to recognition and acknowledgement that a symptom needs to be addressed and reduce time to receiving appropriate level of care.
- Increase ability to analyze and collect data from a variety of sources to improve mental health needs assessment and delivery of services.
- Advance outcome measurement through passive data analysis and comparison of passive and active data sets.

This would be considered a 3 year demonstration project.

Innovation Primary Purpose

Overall, the primary purpose of this Innovation project is to increase access to mental health care and support and to promote early detection of mental health symptoms, or even predict the onset of mental illness.

This project will dismantle barriers to receiving mental health services by utilizing multifactor devices as a mode of connection and treatment to reach people who are likely to go either unserved or underserved by traditional mental health care. It will also serve to reduce the stigma associated with mental health treatment through the use of virtual innovative engagement strategies, care pathways and bidirectional feedback.

Target Population

The target population or intended beneficiaries or users of technology-based mental health solutions:

- Individuals with sub-clinical mental health symptom presentation, including those early in the course of a mental health condition 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
- 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.

Technology-Based Mental Health Solutions

The components of this Innovation project are as follows:

- 1. Utilize technology-based mental health solutions designed to engage, educate, assess and intervene with individuals experiencing symptoms of mental illness, including:**
 - 1.1. Virtual Peer chatting through trained and certified peers with lived experience.
 - 1.2. Virtual communities of support for specific populations, such as family members of children or adults with mental illness, those experiencing depression, trauma and other populations.
 - 1.3. Virtual chat options for parents with children engaged in the mental health system.
 - 1.4. Virtual chat options for parents of adults with mental illness
 - 1.5. Virtual manualized interventions, such as mindfulness exercises, cognitive behavioral or dialectical behavior interventions delivered in a simple, intuitive fashion.
 - 1.6. Referral process for customers requiring face-to-face mental health services by LAC DMH.

- 2. Utilize passive sensory data to engage, educate and suggest behavioral activation strategies to users, including:**
 - 2.1. Incorporate passive data from mobile devices into an interactive approach to digital phenotyping where the technology analyzes factors associated with cell phone usage (passive data) and interacts with the user via pop-up or chat functionality that allows for the increased user understanding of thought and feeling states. Web-based analytics would inform targeted communications and recommended interventions.

- 2.2. Incorporate emerging research in the field of mental health early detection to target individuals at risk of or experiencing early symptoms of mental illness and use passive data collection to identify risk/symptoms or potential for relapse.
- 3. **Create a strategic approach to access points that will expose individuals to the technology-based mental health solutions described above, including:**
 - 3.1. Engaging school systems, including higher education, to promote use
 - 3.2. Engaging users through social media, the DMH website and other digital platforms and approaches.
 - 3.3. Engaging mental health organizations such as the National Alliance for Mental Illness (NAMI) groups to promote use.
 - 3.4. Engaging senior centers and other key locations where senior adults are likely to congregate to promote use.
 - 3.5. Engage public locations such as libraries or parks in setting up kiosks or in encouraging use.
- 4. **Develop method and conduct outcome evaluation of all elements of the project, including measuring reach and clinical outcomes.**
 - 4.1. Increased well-being of users.
 - 4.2. Reduced duration of untreated or under-treated mental illness.
 - 4.3. Increased ability for users to identify cognitive, emotional and behavioral changes and act to address them.
 - 4.4. Increases in quality of life, as measured objectively and subjectively (by user and by indicators such as activity level, employment, school involvement, etc.).

Qualifications for Innovation Project

<p>“Innovative Project”: This is a project that the county designs and implements for a defined time period, and evaluates to develop new best practices in mental health. An Innovative Project meets one of the following criteria:</p>	<p>Select One</p>
<p>1. Introduces a new approach or approach that is new to the overall mental health system, including, but not limited to, prevention and early intervention.</p>	<p>X</p>
<p>2. Makes a change to an existing practice in the field of mental health, including but not limited to, application to a different population</p>	
<p>3. Introduces a new application to the mental health system of a promising practice or approach that has been successful in a non-mental health context</p>	

The challenge to be addressed by this Innovation Project and Why it is a County Priority:

This project seeks to test out novel approaches to outreach and engagement as well as the delivery of manualized therapeutic interventions and supportive services through technology-based mental health solutions, delivered by trained peers.

One of the primary objectives of the Mental Health Services Act is to identify and engage individuals with mental illness who are either un-served or under-served by the mental health system. The Los Angeles County Department of Mental Health, through the Mental Health Services Act, has funded outreach and engagement staff, Service Area Navigators, Promotores to outreach and engage individuals with mental health needs into mental health care. While these approaches have been effective, in order to make a greater impact in reducing the duration of untreated mental illness and disparities in mental health treatment, outreach and engagement strategies must evolve. This project seeks to utilize technology as an outreach, and real-time engagement strategy to reach individuals for whom we have not been successful in identifying or engaging through methods that have become increasingly relevant to specific populations.

This project also will also expand the Department's use of peer support, creating new roles for peers in the delivery of engagement and service delivery through a virtual platform that has never been utilized by the Department before.

Overarching Learning Questions

1. 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?
2. Will individuals who have accessed virtual peer chatting services be compelled to engage in manualized virtual therapeutic interventions?
3. 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?
4. What virtual strategies contribute most significantly to increasing an individual's capability and willingness to seek support?
5. Can passive data from mobile devices accurately detect changes in mental status and effectively prompt behavioral change in users?
6. How can digital data inform the need for mental health intervention and coordination of care?
7. What are effective strategies to reduce time from detection of a mental health problem to linkage to treatment?
8. Can online social engagement effectively mitigate the severity of mental health symptoms?
9. What are the most effective strategies or approaches in promoting the use of virtual care and support applications and for which populations?

Stakeholder involvement in proposed Innovation Project

LACDMH's stakeholder process meets Welfare and Institutions Code 5848 on composition of the System Leadership Team (SLT) and meaningful involvement of stakeholders related to mental health planning, policy, implementation, monitoring, quality improvement, evaluation and budget allocations. The composition of the System Leadership Team meets California Code of Regulations Section 3300 on stakeholder diversity.

To create meaningful stakeholder involvement, LACDMH engages 3 levels of stakeholder involvement in ongoing mental health service delivery planning: The SLT, SLT Ad Hoc and Standing Committees that inform recommendations made to the SLT and each of the 8 Service Area Advisory Committees (SAACs).

The 58 member SLT is composed of individuals representing the following organizations, cultures and interests:

- *LA County Chief Executive Office*
- *Representation from each Service Area Advisory Committee*
- *Consumer and family member representation, including NAMI, self-help and the LA County Client Coalition*
- *Department of Public Social Services*
- *Health Care, including the Hospital Association and LA County Department of Public Health, LA County Department of Health Services*
- *LA Police Department*
- *Probation*
- *Housing development*
- *Older Adult service providers and LA County Community and Senior Services*
- *Under-Represented Ethnic Populations, including Asian Pacific Islanders, American Indian, African American, Latino and Middle Eastern/Eastern European perspectives*
- *Clergy*
- *City of Long Beach*
- *Veterans*
- *LA County Mental Health Commission*
- *Unions*
- *Co-Occurring Joint Action Council*
- *Education, including the LA Unified School District, universities and charter schools*
- *Lesbian, Bisexual, Gay, Transgender and Questioning (LBGTQ)*
- *LA Department of Children and Family Services*
- *LA County Commission on Children and Families*
- *Junior blind*
- *Statewide perspective*
- *Mental health providers, including the Association of Community Human Service Agencies (ACHSA)*

Planning for this project began after a meeting convened by the Mental Health Services Oversight and Accountability Commission at Google-Verily headquarters in South San Francisco on technology – mental health partnerships. A proposal was presented to the

System Leadership Team on June 21, 2017 with a request for feedback. The plan was publically posted on the Department's website on July 21, 2017 and remains posted. In addition, an overview of the proposal was presented to the County's Mental Health Commission on June 22, 2017. Feedback received from all proposal vettings was overwhelmingly positive. Feedback beyond that has been categorized in the following manner:

- Populations of interest:
 - Request to include older adults, particularly those who are socially isolated.
 - Individuals who are socially isolated or who have geographic barriers to accessing care.
 - Specific cultural groups will particularly engaged with technology, while others may not.
 - Ensure language capacity
 - Concern related to the quality of connectedness (face to face vs. virtual)
 - Concerns regarding increasing paranoia of users or the unintended consequences of the passive use of data to users (concerns about "big brother").
- Availability of computers, tablets, smart phones
- Ensuring selected vendor outreaches and promotes use of the product to underserved communities and in a culturally competent manner.
- Ensure that vendor can identify users who require more care and assist them in getting mental health care.
- Consider how mental health clinics can promote and/or use the elements of the technology suite with their clients to enhance clinical assessment and treatment effectiveness.

Feedback has been considered and much of it incorporated into the proposal or will be incorporated into the implementation phase of this project.

Board of Supervisor Proposal Support

Jonathan E. Sherin, M.D., Ph.D., Director of the Los Angeles County Department of Mental Health, has briefed each Board of Supervisor and has received an endorsement to move forward with this proposal.

Timeframe of the Project and Project Milestones

Upon approval from the Mental Health Services Oversight and Accountability Commission, the Department will issue a solicitation to identify one or more technology companies with capacity to immediately initiate the deliverables in this project proposal. The projected timeframe is as follows but, due to the innovative nature of this project, actual implementation steps may deviate in terms of sequence and/or timeframes:

- July 21, 2017: 30 Day Public Posting of Proposed Project.
- August 24, 2017: Conceptual presentation to the MHSOAC.
- October 26, 2017: Presentation of full proposal to the MHSOAC.
- October – December 2017: Review and approval of solicitation.

- December 2017 – February 2018: Selection and awarding of contract.
- March 2018: Creation of a technology suite steering committee comprised of one or more family members, clients (including a transition age youth client), Department Information Technology staff and other stakeholders that provide feedback on implementation and guide use and scaling of project, as well as shaping the evaluation. This committee will also make recommendations on the use of the technology suite in clinical settings and the role of the services within the county’s mental health system of care.
- March 2018: Launch of virtual services on the Department’s website.
- March – April 2018: Identify analytics to be collected and reported on, including developing reporting framework.
- March 2018 – June 2018: Launch of virtual services through identified strategic access points, including schools, libraries, NAMI, client run organizations, social media, senior centers, etc. focused on tablet, smart phone or desktop/laptop computer.
- March 2018 – August 2018: Development, testing and implementation of digital phenotyping (deliverable #2) and introduction of technology-based mental health solutions to users via schools, social media, and other key community organizations.
- FY 2018-2019: Development, testing and implementation of deliverable 2.2, including identifying key access points.
- FY 2019-2020 through FY 2020 – 2021: Continued use, evaluation and scaling and a final evaluation to the Department.

As with all components of the MHSA, implementation and preliminary outcomes will be reviewed with the LACDMH’s SLT periodically and will be reported on in MHSA Annual Updates/MHSA Three Year Program and Expenditure Plans.

The Department will actively participate in Mental Health Services Oversight and Accountability Commission sponsored Innovation Summits and resulting forums for cross-county learning and support related to the use of technology in the mental health system.

Overall Approach to Evaluation

This project will be evaluated by tracking and analyzing passive data, reach of users, level of user engagement, changes in access to care and clinical outcomes. Furthermore, data from mobile devices would be analyzed to detect changes in mental status and responses to online peer support, digital therapeutics and virtual care. Continuous assessment and feedback would drive the interventions. Specific outcomes include:

1. Increased purpose, belonging and social connectedness for users.
2. Reduced duration of untreated or under-treated mental illness
3. Increased ability for users to identify cognitive, emotional and behavioral changes and act to address them.
4. Increases in quality of life, as measured objectively and subjectively (by user and by indicators such as activity level, employment, school involvement, etc.).

5. For high utilizers of inpatient or emergency services, decreases in utilization for those services.
6. Reduced stigma of mental illness as reported by user.
7. Comparative analyses of population level utilization data in Los Angeles County over the life of the project to determine impact on various types of service utilization.

Disseminating Successful Learning

The Department, as part of a multi-county effort, will share learning as it is occurring internally within the Department and County and externally throughout California. Within the Department/County LACDMH will provide regular reports to Service Area Advisory Committees (SAACs), the System Leadership Team or through other broader countywide opportunities. The Department will also participate in cross-county learning opportunities supported by the Mental Health Services Oversight and Accountability Commission or its partner organizations.

Impact, reach, implementation status and outcomes will be documented in Annual Updates and MHS 3 Year Program and Expenditure Plans. In addition, LACDMH will seek to present the project and its outcomes throughout the project at statewide conferences, meetings and perhaps at relevant national conferences. LACDMH will also seek to partner with other counties who may be engaging in similar work, through venues such as the County Behavioral Health Directors' Association (CBHDA). Finally, there may be opportunity to partner on articles submitted to peer-reviewed journals.

Sustainability

Analytics associated with the suite of technology services, coupled with an evaluation conducted by an outside organization, will inform actions taken by the Department at the conclusion of the third year of the project.

Budget

Estimated expenditures for 3 Fiscal Years shall not to exceed \$30,000,000 with final budget determined prior to solicitation. All funds will be MHS Innovation funds. The budget breakout below is an estimate with the proportion of elements may change according

Categories	Description	3 Year Budget
Staffing:		
Administrative	<ul style="list-style-type: none"> • Public Relations • Marketing • Human Resources • Legal • Accountant • Office Assistant 	\$1,500,000
Leadership	<ul style="list-style-type: none"> • Regional Director • Assistant Director • Director of Research • Director of Outreach • Clinical Director • Director of Community • Objectives and Key Results Coordinator 	\$3,000,000
Direct Service	<ul style="list-style-type: none"> • Hospital Liaisons • Peer Specialists • Family Support Specialists • Trainers • Behavioral Health Coordinators 	\$7,000,000
Technology Development:		
Technology and Digital Phenotyping	<ul style="list-style-type: none"> • Developers • Growth Engineers • Machine Learning • User Experience • Quality Assurance • Product Management 	\$4,000,000
Community Engagement and Outreach:		
Community Engagement and Development	<ul style="list-style-type: none"> • Family Support • School Support • Community Coordinators • Outreach Coordinators • Advertising 	\$7,000,000
Evaluation:		
Evaluation	<ul style="list-style-type: none"> • Researchers • Data Scientists • External Consultants 	\$2,000,000
Operational and Fixed Costs:		
Operational and Fixed Costs	<ul style="list-style-type: none"> • Supplies for Users • Office Space and Furnishings • Machines and Technology Infrastructure • Travel and conferences • Benefits and Insurance 	\$5,500,000
Total		\$30,000,000