

UCLA launches major mental health study to discover insights about depression

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Apple watch. Credit: Apple

While the capability to diagnose cancer and heart problems has advanced by giant steps in recent years, methods to detect depression have stubbornly stayed the same for more than a century: Observe patients,

and ask them how they are doing.

UCLA has launched a major new study, sponsored by and in collaboration with Apple, designed to help revolutionize detection and treatment of [depression](#).

The three-year study, which begins this week, was co-designed by researchers at UCLA and Apple to obtain objective measures of factors such as sleep, [physical activity](#), heart rate and daily routines to illuminate the relationship between these factors and symptoms of depression and anxiety.

The research will utilize Apple technology including iPhone, Apple Watch and a Beddit sleep-monitoring device. Making the connection between quantifiable data and symptoms of anxiety and depression could enable [health care providers](#) to note warning signs and prevent the onset of depressive episodes, track the effectiveness of treatment and identify causes of depression.

"As a neuroscientist by training with expertise in sleep, I am incredibly excited about this collaboration and am hopeful that it will lead to significant strides in mental health research," said UCLA Chancellor Gene Block.

Dr. Nelson Freimer, distinguished professor of psychiatry and director of the UCLA Depression Grand Challenge, is principal investigator on the study.

"This collaboration, which harnesses UCLA's deep research expertise and Apple's innovative technology, has the potential to transform behavioral health research and clinical care," Freimer said. "Current approaches to treating depression rely almost entirely on the subjective recollections of depression sufferers. This is an important step for

obtaining objective and precise measurements that guide both diagnosis and treatment."

The study is the latest milestone for the Depression Grand Challenge, an ambitious UCLA initiative involving researchers from across disciplines to identify genetic and environmental factors that contribute to depression, understand the biological changes that depression causes in the brain and body, accelerate progress in diagnosis and treatment and end the stigma associated with the disorder. UCLA chose to take on this challenge because depression afflicts more than 300 million people worldwide, resulting in nearly 1 million suicides a year.

The pilot phase of the study, involving 150 participants recruited from among UCLA Health patients, begins this week. The main phases, to take place from 2021 through 2023, will involve some 3,000 participants, drawn both from UCLA Health patients and the UCLA student body.

Participants will need to download a research app on their personal iPhones. They will receive an Apple Watch and Beddit sleep monitor, which they will use for the duration of the study. Participants will share relevant information through periodic clinical interviews and questionnaires, as well as from data obtained from the phone, watch and sleep monitor.

Freimer emphasizes that ensuring the privacy and security of study participants' data is a high priority for both UCLA and Apple. UCLA will process and maintain study data in a secure environment, with access limited to members of the UCLA research team. UCLA and Apple will analyze the data only after they are coded and stripped of names and other contact information.

The study comes as the COVID-19 pandemic has disrupted lives and

spurred a focus on anxiety and depression, and when physical distancing requirements have made scientific research challenging.

"UCLA and Apple have designed this study so that all aspects of participation can be accomplished remotely," Freimer said. "The pandemic has heightened anxiety and depression globally, and has increased awareness of the importance of behavioral health to overall wellbeing. At the same time, physical distancing requirements have limited in-person mental health assessment and treatment, leading to expanded use and acceptance of telehealth. These changes highlight the importance of incorporating technologies like those to be tested in this study into clinical research and eventually into practice."

The UCLA Depression Grand Challenge has already made significant advances in understanding and treating depression. Professor Jonathan Flint, who led a study proving for the first time the relationship between specific genetic factors and a tendency toward depression, has embarked on ambitious genetic research of tens of thousands of depression sufferers to understand the origins of the disease at the molecular level. In 2017, UCLA became the first university to offer voluntary depression and anxiety screening and immediate treatment to students through the STAND program developed by Professor Michelle Craske. This year, the Depression Grand Challenge created a COVID-19 Care Package and to offered it for free to members of the public to ease stress and anxiety associated with the pandemic.

These efforts, including the study that starts this week, form a comprehensive, multi-disciplinary approach to understanding depression, developing treatments and wiping away the stigma that has upended lives.

"The analyses made possible by the scale, length and design of this study will provide the most extensive evidence available to date regarding the

possible uses of digital tools for assessing and tracking behavioral health," Freimer said. "We envision a future in which these tools will become indispensable for depression sufferers and those providing them care."

Provided by University of California, Los Angeles

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