This app may one day curb opioid relapses, UW-Madison researchers say

UW-Madison researchers say their app can tell when its users are most likely to relapse, and then connect them to support resources.

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Researchers from the University of Wisconsin-Madison say their app may one day help prevent relapses in patients recovering from opioid addiction.

The app aims to identify high-risk relapse periods, then connect a patient to support services "just in time" before an opioid relapse actually occurs. It does this by using cellphone data — such as a person's location, the content of their text messages and who they call — to identify signals that may indicate that a patient is at risk for relapsing.

These signals could include increased communication with former dealers or visiting locations where the patient previously used drugs. Once the app identifies these behaviors, it would alert the patient and connect them to support services to prevent a relapse.

The researchers hope their app will address the country's lack of continued addiction treatment care and lower relapses among patients recovering from opioid addiction.

"We do a fairly good job of helping people become abstinent from alcohol and other drugs, but as a country, we're horrible at providing any continuing care after that initial abstinence period," said John Curtin, a UW-Madison psychology professor and one of the head researchers on the project. "It's an area we've really fallen short."

Their project has garnered interest from the National Institutes of Health, which awarded UW-Madison, in partnership with Aurora Health Care, a roughly $3 million grant last week to test the app's efficacy in a clinical trial.

The idea for the project builds off a body of research suggesting that similar data-tracking apps may lower relapses in patients recovering from substance use disorders. A 2014 clinical trial with about 350 participants — published by the same UW-Madison group in the journal JAMA Psychiatry — showed that patients recovering from alcohol dependence reported fewer risky drinking days while using an app that offered support services.

The group, however, wants to push its technology further with the multimillion NIH grant. With the funding, researchers hope to build an app that can predict when patients recovering from opioid addiction are most at risk for relapsing.

"The focus there has been trying to develop a system to provide essentially the kind of support you would get in the 12-step group but in real time when you need it," said Dhavan Shah, scientific director at UW-Madison's Center for Health Enhancement System Studies, which is involved with the project.

Shah also noted that relapsing does not necessarily equate with treatment failure — recovering from a chronic disease like addiction, he said, comes with challenges that may interrupt progress.

Curtin voiced similar sentiments.

"These are lifelong diseases and relapse can happen at any point," Curtin said.

Once up and running in a clinical trial, the app will require a massive amount of sensitive — and potentially incriminating — data in order to predict relapse risk. Curtin said the NIH granted the project protection from police subpoena and that users would be made aware of data collected before agreeing to the trial.

Still, the group's work to integrate mobile technology and health care treatment follows a recent trend in medicine that has utilized apps and gamification to address health care issues, such as smoking prevention.

Shah said it is a promising route for new health care interventions.

"We live a lot of our lives on our phones, so it's a pretty good window into what we're thinking and doing," he said. "From that standpoint, I think apps on smartphones have a clear future in health care."

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