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2-2-2023

### Digital Biomarkers Provide a Way for Doctors & Patients to Work Collaboratively at a Distance

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## **Digital Biomarkers Provide a Way for Doctors & Patients to Work Collaboratively at a Distance**

*Troy Mohamed*

02/01/2023

Digital biomarkers are user-generated and reflect data points that are related to a health outcome. More specifically, a digital biomarker is a measurable characteristic or signal that is captured and analyzed using digital technology, such as a smartphone or wearable device. These biomarkers can include physiological signals, such as heart rate and sleep patterns, as well as behavioral and cognitive data, such as physical activity and social interactions. This concept has grown in popularity due to the widespread use of wearables, such as the Fitbit and Apple Watch, but can also be found in the form of pocket EKG's and other new technologies and sensors. [The global market for medical wearable devices is projected to reach over \\$30 billion by 2026, according to Markets and Markets.](#) Digital biomarkers are currently being used from fitness goals to managing [Alzheimer's](#), and these large volumes of data can be analyzed in order to improve lifestyle and even prevent adverse health outcomes. One key advantage of digital biomarkers is that they can provide objective data that can be used to track the progression of a disease or monitor the effectiveness of a treatment. For example, a digital biomarker that can detect sleep patterns can be used to track the progression of a sleep disorder and monitor the effectiveness of a sleep aid. Similarly, a digital biomarker that can detect the heart rate can be used to track the progression of a heart condition and monitor the effectiveness of a medication.

One innovative use of digital biomarkers is to non-invasively screen for premature birth, the second leading cause of infant mortality in the U.S. [WHOOP](#) is a company that has used

digital biomarkers, collected by users, for this purpose. WHOOP conducted [a study](#) that revealed maternal heart rate variability trends as a potential marker for preterm birth. Chief Medical Officer of Axia Women’s Health, [Dr. Elizabeth Cherot](#), says “Accessible, noninvasive screening options for premature birth can serve as early warning signs for pregnant people, giving them more time to find and administer interventions to improve health outcomes.”

A key advantage of digital biomarkers is that they can be used to gather large amounts of data from a large number of patients. This can be useful for identifying patterns or trends that may not be apparent from a small sample of patients. Digital biomarkers promote preventative medicine by using data to predict future health outcomes, as opposed to reacting after something has already happened, a lesson well-learned throughout this pandemic. “As technology continues to advance, people will be better equipped to understand what’s going on with their own health in real time, just through their wearable devices,” says [Dr. Michael Snyder](#), Genetics Chair & Professor at Department of Genetics and team member of the Stanford Healthcare Innovation Team. Through health technologies that enable patients to collect their own health data, doctors and patients will be able to rely on each other as a team for prevention and health maintenance, no matter the distance.

In summary, digital biomarkers have the potential to revolutionize healthcare by providing real-time, continuous monitoring of patients, without the need for frequent in-person visits.

*The author has no conflicts to report.*