



White Paper

Transformational Insights for the Addiction Professional

**New visibility into patient
condition in the treatment
of substance use disorder**



Transformational Insights for the Addiction Professional

The Vivi360 Recovery Solution is enabling new visibility into patient condition in the treatment of substance use disorder

Dramatic changes in the world are affecting those struggling with addiction as well as the clinicians who care for them. Over the last four decades, technology has been advancing at unprecedented speeds, both enabling and demonstrating the potential for exponential growth in innovations over time.¹ The COVID-19 Pandemic is rapidly changing how therapeutic support is delivered and the results have changed attitudes toward remote monitoring and support. A mobile health study in 2016 found that only 16% of patients were aware of mobile-based telehealth monitoring even though clinical trials of mobile-based health interventions were promising.² Now in 2020, in an industry well-known for cautious technology adoption, the global requirements for personal isolation have compelled new awareness and usage of digital health solutions has changed due to the large-scale impact of COVID-19, including use of “wearables to track resting-heart-rate, sleep-duration and temperature” and “artificial intelligence (AI) for diagnostic and quantitative analysis through AI based algorithms.”³ This necessity-driven adoption of technology is the vanguard of a new and irreversible wave of interdisciplinary capabilities in health care and will dramatically impact the treatment of addiction and recovery support.

Many factors, including the most recent pandemic, appear to be having a catastrophic effect on what was already an

addiction epidemic. In the most recently available published National Survey on Drug Use and Health in 2018, which was published before increases in opioid and prescription drug use and global changes from COVID-19, approximately 20.3 million people in the United States age 12 or older had a substance use disorder related to their use of alcohol or illicit drugs in the past year and less than 2% received any substance use treatment.⁴ Disruptions in care and the need to greatly reduce face-to-face clinical encounters has further hindered treatment, while the stress and hardship of heavily restricted economies and lifestyle have made a bad situation worse. According to reports being collected



in real time, “new data from around the U.S. confirms that drug overdoses are spiking during the coronavirus pandemic, rising by roughly 18%”⁵ and “more than 40 states have reported increases in opioid-related mortality as well as ongoing concerns for those with a mental illness or substance use disorder.”⁶ This means that roughly 3 million more people may be struggling with substance use due to COVID-19. The extra-regulatory expansion of virtual counseling has been a “grass roots” effort by clinicians to engage patients using business IT systems, with the results initiating a call for broader efforts that “will require new partnerships, unprecedented use of technology, and the dismantling of antiquated regulations.”⁷

With the range of real and imagined possibilities for digital therapeutic intervention growing, the urgency of the moment cannot be overstated. Individuals in recovery need treatment that matches the challenges bearing down on them now. To effectively achieve favorable outcomes, these people need the means to be more actively involved in collaborating with their treatment providers to attain their treatment goals.⁸

THE CHALLENGE

Lasting recovery also requires a rigorous honesty about the condition and activity of the person in recovery. All people in isolation can be challenged to objectively assess their own physical and mental state, and even with moment-to-moment awareness, the ability to communicate this is inherently difficult. Addiction can make this situation worse.

This leads to clinicians having to probe deeply in an attempt to determine the ongoing and recent experiences and status of their patient, and this inference is not always a completely objective rendering. Adding to this challenge is the normative circumstance that individuals in recovery may only be in a clinical setting a small fraction of their day or week. All of these factors can contribute to limited awareness regarding the person in recovery by their care team.

Mutual support groups are a key component of recovering from substance abuse disorders.⁹ Establishing and maintaining sobriety critically requires connection—meaningful relationships for the individual that help overcome aloneness and enable reflection on their condition through the people around them. Connection is built via an accurate and shared understanding of the individual’s condition, and has essential effectiveness when it brings together therapists, case workers, family members, and trusted supporters.

Stated more directly: effective relationships require a carefully maintained alliance where the ongoing, everyday condition and activity of the patient is known and observed. Sufficient clinical support like this necessitates a more complete understanding of both the challenges that the patient is facing and the context in which they are living.

Measurement during treatment that tracks the real-time personal circumstances, the quality of the person’s engagement and level of therapeutic alliance allows for progress-dependent modification of strategies and levels of care.¹⁰ To do this effectively, clinicians must be building this therapeutic alliance on the everyday condition and activity of the client.

Numerous clinical studies have demonstrated that prompting someone to pause and practice a moment of mindfulness or mind-body relaxation reduces the use of drugs and alcohol and is effective in long-term relapse prevention.^{11 12 13 14}

Today, the worldwide pandemic has affected the ability of clinicians to meet with patients in person, making it more difficult to observe what is going on in the patient’s life. Substance use disorder is on the rise.^{15 16 17} Opioids and drug dependence continue to affect the health of millions of people.¹⁸

THE OPPORTUNITY

Treatment for recovery from substance use disorder finds itself at an important crossroad.

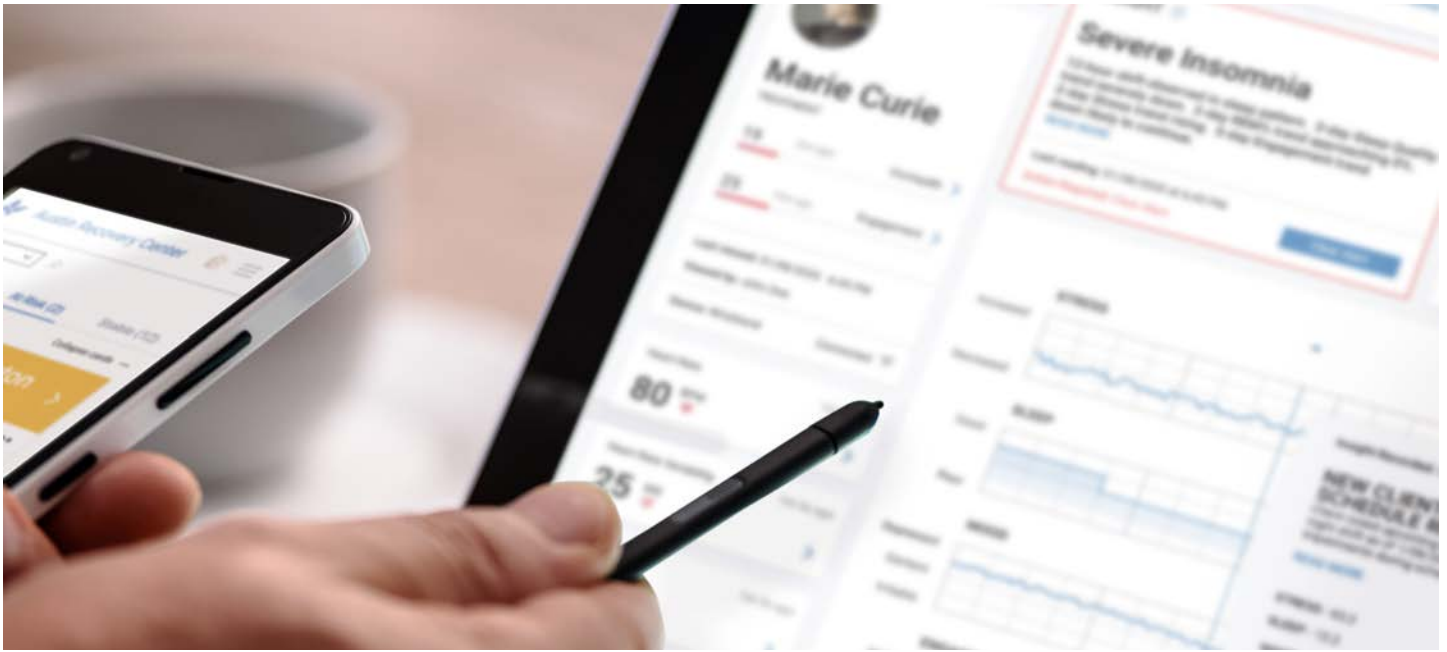


Figure 1: ViviClinic® Clinical Dashboard

Technology has emerged in new ways to track vitals, strengthen accountability, and allow for ever-present interpersonal connection.

Remote patient monitoring and telehealth can make meeting attendance more accessible. Adding these capabilities can increase meeting attendance and add to the capabilities of clinical practitioners.

Machine learning and artificial intelligence have converged to serve as powerful tools to process unprecedented amounts of data and can be employed to develop predictive analytics that can uncover the risk of relapse before it happens. Because clinicians by themselves cannot always be with the client to track real-time activities and behaviors every moment of the day, they often do not have access to real-time data about their patients' health, mood, sleep, and stress levels.

The result can be that many clinicians have limited ways of gaining insight into the condition and activity of their patients. The insight they may gather can be limited in scope and may be filtered by incomplete disclosure or subjective discovery efforts.

The convergence of technology offers tremendous opportunities to connect treatment practitioners to objective, measurable and ongoing data about the client.

ANALYZING THE MEASURABLE AND OBSERVABLE

Using a combination of technologies can transform the understanding of client condition from subjective material into measurable and actionable information.

Technology can regularly administer brief, clinically demonstrated surveys to measure how clients are doing throughout the day emotionally and behaviorally. Treatment plan compliance can be reinforced regularly throughout each day, by checking attendance at meeting locations, administering blood alcohol concentration (BAC) checks, and tracking the administration of therapeutic drugs.

Health can be monitored on a regular basis with wearable devices, enabling access to critical information about vital signs, sleep analysis, exercise, and more. These may be used to identify subtle indicators of and triggers for relapse that, combined with clinical knowledge, may pre-empt relapse.

THE INSIGHTS THAT TRANSFORM

Collecting a plenitude of data on its own is not the answer. Data must be evaluated to determine the quality of the individual's engagement and combined with observable contexts through scientifically sound algorithms to convert that data into usable insight to inform treatment decisions.

Getting such data processed and delivered in a reasonable scale with optimal relevance is greatly aided by advances in machine learning and artificial intelligence—employing modern technology and digital tools. Treatment providers are focused on clinical care and have limited training in technology or data science. Busy doing the important work of treating their patients, clinicians often have minimal time or tools to analyze extensive volumes of data in order to decipher correlations and connections.

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Vivi360 automates that insight delivery. Utilizing advanced technological solutions to transform dozens of data streams such as sleep, mood, heart rate variability, blood oxygen level, respiration, location, movement, exercise, engagement and more, the Vivi360 Insight Engine provides real-time, personalized, actionable considerations to clinicians to support their treatment decisions. The person in recovery receives stateful aid, real-time cues, and support for their ongoing life decisions. Most importantly, Vivi360 supports the clinicians' unique treatment approach and therapeutic delivery.

Insight generated regularly, effectively, and accessibly affords clinicians enhanced treatment opportunities. They are empowered to make the best clinical decisions and provide therapeutic support in ways that may not have been possible otherwise. The anticipated positive outcomes will bring dramatic new developments in standards of care and practice.



ViviHealth exists to transform recovery treatment through insights and technology to support sustainable and lasting recovery that saves and improves lives.

The Vivi 360 Recovery System is a comprehensive insight platform that combines real-time health monitoring devices, clinical insight dashboards, and personalized client care applications to help create a deeper therapeutic alliance with patients and better support treatment centers.

Vivi360 delivers empirical clinical outcomes built on years of evidence-based scientific research from top universities and board-certified addictionologists.

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