

Digital Interventions: The Privileges and Responsibilities of Increased Access

November 26, 2025

Editor's note: This op-ed was prepared by Dr. Molly A. Maloney and Dr. Jennifer E. Merrill. Dr. Maloney is a clinical psychologist and Postdoctoral Research Fellow at the Center for Alcohol and Addiction Studies in the Brown University School of Public Health. Her work aims to better understand and prevent harmful substance use and interpersonal violence, using methods that span bench to bedside (e.g., laboratory experiments, intensive experience sampling, and digital intervention development). Dr. Merrill is a clinical psychologist and Professor at the Center for Alcohol and Addiction Studies in the Brown University School of Public Health. She specializes in research designed to understand and intervene upon heavy drinking and negative alcohol consequences among young adults, using both qualitative and quantitative methods. This op-ed is part of our [Special Series on Addiction and Technology](#) and funded by a research and consulting contract with DraftKings.



Despite being distinct, our paths to focusing on digital interventions converge at one of the greatest strengths of such interventions: access. Initially, we were both drawn to the ways in which technology offered increased access to the psychological phenomena we studied, like motives for alcohol use. We have both used intensive experience sampling methods (e.g., [ecological momentary assessment](#), daily diary methods), which

involves at least daily, but often more frequent, sampling of thoughts, feelings, and behaviors that individuals experience/engage in as they go about their lives. Because these methods allow participants to tell us more accurately and often about their lived experiences, they also afford us an understanding of the unfolding of psychological phenomena, like what may trigger a craving for alcohol, with far greater clarity than previously imagined.

Eventually, several experiences moved us to take what we had learned from these observational studies to use technology to increase access to intervention. One experience was observing shifts in access during the Covid-19 lockdown. We were used to patients traveling hours to access services and the hopelessness that could accompany trying to help them access additional services. During lockdown, Zoom made it possible to truly meet our patients where they were. Digital interventions seemed like one of the best ways to continue to do so. Participants in our [intensive experience sampling](#) studies with young adults who drink heavily also helped to clarify the value of digital interventions. Specifically, they made requests to see their data from studies in aggregate to help them guide

decisions about drinking. We knew digital interventions were easy to access for this population (97% of young adults have a smartphone), but this feedback also indicated that they had the potential to really be engaging to this population.

We are not alone in our reverence for both digital sampling and intervention; the translational path described here has made technology-facilitated precision medicine more possible and common. Digital interventions can not only meet patients where they are in the world, but also in their readiness, ability, and strengths, offering alternatives to the “traditional” treatment model and all its barriers. As researchers of alcohol and other drug use, we’re both especially interested in digital interventions like ecological momentary interventions or [just-in-time adaptive interventions](#) that can address unfolding treatment targets (e.g., cravings, acute intoxication) in-the-moment. The field in general is also moving closer to effective use of passive sensing technology (e.g., geospatial data, transdermal alcohol data, heart rate variability, gait sensors) to know when to intervene without individuals needing to tell us. In other words, we can determine the kind of support someone may need just by passively “observing” their walking, breathing, or perspiration; talk about increased access!

Despite all the strengths of digital interventions, without vigilance to ethics and collaboration with the communities for whom we are building them, increased access to individuals’ sensitive and previously more private experiences could become one of digital interventions’ greatest weaknesses. The first passive sensing alcohol monitor, the secure continuous remote alcohol monitor (SCRAM), has largely been used as a tool of the carceral system to monitor adherence to criminal sentences rather than offer support. Increased access to individuals’ thoughts, feelings, and behaviors is a privilege that we are ethically bound not to take lightly, but ethical practice guidelines have not developed at the rate of the technology they should impact. As ethics catch up with rapid changes in technology and AI, community-engaged research methods offer a way to ensure that our digital interventions maximize the benefits and minimize the harms of increased access to our patients’ lives. There are many frameworks and methods of community engagement, but all share common principles of inviting the people we seek to help into the intervention building and dissemination processes and (most importantly) heeding their feedback.

Given the interest in digital interventions our participants expressed, it was unsurprising to us that qualitative and community-engaged studies largely

suggest individuals' support for digital interventions and passive sensing. We have even found this to be true with populations whom stakeholders were concerned may experience interventions as burdensome or upsetting. In [one of our studies](#), we used a community-engaged approach to create a momentary intervention for young adults with a history of sexual assault who were engaging in risky drinking. Participants dispelled stakeholders' fears that momentary interventions would be intrusive or emotionally triggering and instead gave feedback that is consistent with the general sentiment in the digital intervention field: more frequent support in individuals' daily lives is helpful and empowering. Not only do patients find it helpful, but a great deal of the digital intervention literature also suggests technology-facilitated interventions are effective. Importantly though, effectiveness relies on active engagement with such interventions, which meta-analyses suggest is variable to poor.

This brings us to a final point with which digital interventionists are contending: increased access does not necessarily confer increased treatment engagement. Despite rapid development, few digital interventions are disseminated, and when they are disseminated, they are rarely used. These realities underscore the need to shift our focus from development to implementation. One special consideration in this realm is whether offering incentives to increase use of digital interventions outside of research contexts (in which participants are often paid) is viable. Because our early interest in digital interventions was motivated by their promise to increase both treatment access *and* engagement, we have begun to examine these questions. Using data from a recently completed [NIH-funded R34 randomized pilot trial](#) (PI: Jennifer Merrill), we co-authored a paper that will be presented at a conference next year, which suggested that paying participants just \$1 per day increased their engagement with the intervention relative to participants who received no monetary incentive. If small incentives can ultimately reap larger rewards on health behavior change, and in turn reduce costs to both individuals and society, they should be more seriously considered. What, how, and when incentives work remain empirical questions, as does whether engagement that is motivated by external incentives, rather than internal incentives, is associated with behavioral change.

Mental health and substance use treatment have always had a two-bottleneck problem: it is hard to access treatment and even harder to access evidence-based treatment. Here, digital and traditional intervention are not dissimilar, no matter how innovative digital intervention is. If we are not careful about grounding

digital interventions in theory, engaging end users in the development of digital interventions, and moving beyond creating interventions that people *could* access towards effective digital interventions that people *are* accessing, we risk proliferating innovation to no real human benefit.

- Molly A. Maloney, PhD and Jennifer E. Merrill, PhD
