



Creating a Roadmap for Future Addiction Research

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Twice a decade, NIDA crafts a new strategic plan to guide our research priorities. Over the past few months, we have been soliciting input from the research community and the public to help guide our strategic thinking for the next five years. One of our top priorities for the institute as we enter the third decade of this century is the usability of the science we fund. It is never enough to simply create new and improved interventions or just add to our knowledge about the causes and consequences of addiction. New science and new interventions need to be accessible, appealing, and readily applied by those in the field. That includes treatment professionals and counselors, as well as patients.

As in years past, the three main goal areas of NIDA's 2021-2025 strategic plan are understanding drug use, behavior, and the brain (including basic science and epidemiology); development and testing of new prevention, screening, treatment, and recovery strategies; and implementation science. But to facilitate usability, the new plan will emphasize the interconnection of these goals. Scientific studies should be designed to provide the evidence that will be most helpful to the real-world experience of people with substance use disorders. It means that new interventions must be widely accessible and usable in the lives of real people, and interventions must be designed to address the needs of the patients.

Tailoring interventions to the needs of patients and providers is an important key to their adoption by professionals in the field and to patient

compliance with treatments. One example of patient input impacting NIDA research is the Patient-Focused Drug Development Initiative (PFDD) meeting hosted in 2018 by a partnership among NIDA, FDA, and the Addiction Policy Forum. The purpose of this meeting was to gather input from patients with opioid use disorder to better understand their desires and needs in order to find new ways to measure meaningful improvement in key symptoms based on how they affect their functioning and quality of life. Among other things, we heard loud and clear from this patient group that there was a need for treatments for specific symptoms of SUD such as sleep disturbance.

This meeting led to a thrust for research aimed at developing treatments with less ambitious and sometimes more circumscribed endpoints than facilitating abstinence from illicit drugs. Among the tangible outcomes of the PFDD meeting was a project to develop the orexin receptor antagonist suvorexant into a medication to address disturbed sleep in people with OUD. It is just one example of how better understanding the experiences and needs of patients can be used to drive research even in the basic (preclinical) phase.

Another dimension of usability of NIDA science is increasing focus on the real-world complexity of drug use and addiction. Past research has tended to focus on single-drug effects, yet the reality is that people use multiple substances. Also, addiction commonly co-occurs with other disorders—not only mental illness but also infectious diseases like HIV/

HCV and infections related to drug injection. Research methods and data analytics have advanced to a point where it is now feasible to study these kinds of complexities and develop interventions that address the various intersecting substances and disorders relevant to real individuals.

As NIDA Director Nora Volkow wrote this past February in the *American Journal of Psychiatry*, the future of addiction treatment is toward more personalized, targeted, and fluid approaches that can be combined in unique ways to address an individual's unique treatment needs as they evolve over time (2020).

Enhancing the usability of NIDA-funded science is the aim of our Office of Translational Initiatives and Program Innovations (OTIPI), which for several years has been helping biotech startups develop and bring to market innovative user-friendly products and tools. For instance, NIDA-funded startups have developed apps to deliver or support the delivery of psychosocial and medication-based treatment or aid individuals in their recovery. We have also funded technologies that use smartphones, wearable devices, and other personal electronic devices like smart speakers to detect overdoses. Given the successes we've seen so far, these kinds of investments in novel technologies and support of small businesses will be a priority for NIDA in the years to come.

Ongoing research initiatives at NIDA are also seeking ways to integrate efforts across sectors, including behavioral healthcare, into a more comprehensive approach to addressing the needs of people with SUDs. For instance, the HEALING Communities study in 67 rural and urban

communities and the Justice Community Opioid Innovation Network (JCOIN) are testing linkages among health systems, justice systems, and community resources to improve addiction care. By determining which evidence-based interventions are best suited to various contexts, this work is poised to generate knowledge that improves the capacity of communities to respond to their specific version of the nationwide addiction crisis.

These are just some of the ways NIDA research is rising to the challenge of generating impactful solutions for the real world. Our vision for the future is to continue collaborations among researchers, clinicians, and other groups that enable science to deliver better solutions to people with SUDs. The more we can make our science usable by clinicians and counselors, as well as patients, the more hope we have of reducing the burden of substance use disorders and the other conditions that often overlap with them.

References

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Jack Stein, PhD, MSW, joined the National Institute on Drug Abuse (NIDA) in August 2012 as the Director of the Office of Science Policy and Communications (OSPC). In addition to this position, Stein was appointed the NIDA Chief of Staff in March 2019. He has over two decades of professional experience in leading national drug and HIV-related re-search, practice, and policy initiatives for NIDA, The Substance Abuse and Mental Health Services Administration (SAMHSA) and the Office of National Drug Control Policy (ONDCP) where, before coming back to NIDA, he served as the Chief of the Prevention Branch.



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