

INNOVATION IS THE KEY TO CHANGING THE PARADIGM FOR THE TREATMENT OF PAIN AND ADDICTION TO CREATE AN AMERICA FREE OF OPIOID ADDICTION

The Biotechnology Innovation Organization (BIO) and our member companies are committed to unleashing the power of scientific innovation to develop solutions that will allow for an America free of prescription opioid addiction.

BIO believes this plan should rest on three legs.

1. ADVANCE OUR UNDERSTANDING OF THE BIOLOGY OF PAIN AND ADDICTION TO ENABLE THE DEVELOPMENT OF INNOVATIVE TREATMENTS FOR PAIN AND ADDICTION AND ENSURE APPROPRIATE AND OPTIMAL USE OF EXISTING THERAPIES

- Support a more comprehensive understanding of the preclinical pain and addiction environment
- Support investment in research at National Institutes of Health (NIH) and other major centers focused on the biology of pain and addiction

2. ENSURE PATIENTS SUFFERING FROM PAIN OR ADDICTION ARE ABLE TO RECEIVE THE RIGHT TREATMENT AT THE RIGHT TIME WITH THE RIGHT SUPPORT, WITHOUT STIGMA

- Remove coverage and reimbursement barriers that are preventing patient-centric decisions about and access to the most effective treatments for pain and addiction
- Advance implementation of and adherence to laws and regulations protecting and promoting access to resources for comprehensive pain and addiction treatment

3. STIMULATE RESEARCH & DEVELOPMENT (R&D) OF INNOVATIVE TREATMENTS THAT EFFECTIVELY TREAT PAIN AND OPIOID ADDICTION AND PREVENT ABUSE

- Increase leadership engagement, expertise, and resources within the Food and Drug Administration (FDA) and the Drug Enforcement Agency (DEA) to promote effective and efficient review of innovative treatments for pain and addiction
- Modernize and streamline drug development and review processes to enable effective and efficient drug development and review, and stimulate investment in innovation
- Establish and utilize expedited approval pathways and other incentives to stimulate innovation

ADVANCE OUR UNDERSTANDING OF THE BIOLOGY OF PAIN AND ADDICTION TO ENABLE THE DEVELOPMENT OF INNOVATIVE TREATMENTS FOR PAIN AND ADDICTION AND ENSURE APPROPRIATE AND OPTIMAL USE OF EXISTING THERAPIES

Understanding the biology underlying pain and addiction are critical to supporting the discovery of novel and safer treatments for both pain and addiction as well as for ensuring that patients receive the right treatment at the right time, with the right support, and without stigma. Unfortunately, our current understanding of pain and addiction biology is lacking.

Support a more comprehensive understanding of the preclinical pain and addiction environment

A more comprehensive understanding of mechanisms underlying different types of pain as well as biomarkers that allow for the differentiation of pain subsets, and identification of preclinical models that better translate to therapeutic outcomes for people are needed to inform the development of novel and safer treatments.

- Support research investigating potential therapeutic targets with increased receptor/intracellular signaling selectivity
- Support research investigating novel mechanisms for preventing and/or treating opioid addiction and overdose
- Support the identification and validation of biomarkers that identify subsets of pain and more accurately predict treatment response for both pain and addiction
- Support the identification and utilization of more effective drug screening models and assays that better translate to therapeutic outcomes for patients
- Support research focused on elucidating the underlying biological mechanisms of different types of pain and addiction, as well as differences in pain perception

Support a more comprehensive understanding of the clinical pain and addiction environment

Comprehensive methods for evaluating pain in the patient, tools that allow for better diagnosis of pain, as well as the establishment of clinical trial registries, clinical trial networks, and data sharing and analytics will be critical for ensuring that patients are able to receive the most appropriate treatment.

- Encourage the development and use, in both the clinic and clinical trial setting, of more comprehensive and objective tools for assessing pain that take into account acute versus chronic pain, the possible neurobiological and psychosocial mechanisms underlying pain, individual differences in pain perception, and distinctions between somatic and psychic pain
- Support research into the development of diagnostic tools that enable the identification of specific causes of pain

- Promote multi-disciplinary approaches to treating pain and addiction by enabling approaches for determining risk or susceptibility for individual patients, and associate outcomes with the basic neurobiology and/or pharmacological alterations
- Establish clinical trial registries and clinical trial networks for pain and addiction to help develop, validate, refine, and deliver new treatment options to patients
- Encourage public and private payers, academic researchers, and industry sponsors to apply data analytic methodologies to answer important questions about pain and addiction treatment, including but not limited to: Which treatments work best for whom? What is the optimal duration of specific treatments? When should a patient's treatment regimen be changed, and how? Given the critical role that treatment must play in ending the opioid epidemic, every effort should be made to maximize the use of data to guide policy-making decisions that support the most effective approaches.

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ENSURE PATIENTS SUFFERING FROM PAIN OR ADDICTION ARE ABLE TO RECEIVE THE RIGHT TREATMENT AT THE RIGHT TIME WITH THE RIGHT SUPPORT, WITHOUT STIGMA

Patients suffering from pain or addiction should have knowledge of, access to, and coverage for all available medicines in order to make informed decisions about their treatment. A patient-centric approach to the treatment of pain and addiction will help prevent opioid addiction and provide better care for those who are diagnosed with addiction.

Remove coverage and reimbursement barriers that are preventing patient-centric decisions about and access to the most effective treatments for pain and addiction

The healthcare coverage and reimbursement system includes barriers to current treatment options for pain and addiction, and presents potential barriers for access to advances in treatment. Addressing these coverage issues is imperative to delivery of the right treatment at the right time for each patient suffering from pain and addiction.

- Establish appropriate payer coverage pathways for current pain and addiction treatments and innovative treatment options (some examples include but are not limited to non-opioid treatments, practitioner-administered (or non-oral), and abuse deterrent formulations) including:

- Ensure that the route or location of administration of specific pain or addiction treatments does not hinder patient access to treatment
- Secure timely designation of specific healthcare payment codes for each approved therapy for pain and addiction for adequate reimbursement of therapies
- Eliminate insurance coverage barriers that impact patient access to the most appropriate or most timely course of treatment for their given condition (*i.e.*, step-therapy, fail first, cost sharing requirements, care limits on substance use disorder treatment)
- Provide coverage for medication assisted treatment (MAT) for substance use disorders and for all Food and Drug Administration (FDA) approved substance abuse disorder treatments across health insurance access points
- Withdrawal of coverage for non-abuse deterrent formulations when abuse deterrent formulations with identical patient outcomes are available

Advance implementation of and adherence to laws and regulations protecting and promoting access to resources for comprehensive pain and addiction treatment

Recent and future legislative and regulatory activities include critical reforms to ensure patient access to comprehensive treatment for pain and addiction and activities to combat the opioid crisis.

- Ensure equitable coverage for treatment of substance use disorders as mandated under the Mental Health Parity and Addiction Equity Act (MHPAEA)
- Support proper implementation of the aligned directives and activities of the Comprehensive Addiction and Recovery Act (CARA)
- Support future legislative and regulatory efforts to revolutionize the treatment of and response to pain and addiction

STIMULATE RESEARCH & DEVELOPMENT (R&D) OF INNOVATIVE TREATMENTS THAT EFFECTIVELY TREAT PAIN AND OPIOID ADDICTION AND PREVENT ABUSE

Steady investments in drug discovery are critical for drug development and for bringing treatments to patients that need them. Over the past ten years investments in treatments for pain have been inconsistent. Several factors influence the lack of investments into treatments for pain and addiction including uncertainty in both coverage and access of treatments and drug development and regulatory review requirements. Modernization of drug development and approval processes, increased engagement between the FDA and industry sponsors, and incentives for the development of new therapies will help mitigate some of these issues.

Increase leadership engagement, expertise, and resources within the Food and Drug Administration (FDA) and the Drug Enforcement Agency (DEA) to

promote effective and efficient review of innovative treatments for pain and addiction

Currently, limited resources within the FDA and a lack of communication between the FDA, the DEA, and industry sponsors has led to inefficient review of novel and safer treatments for both pain and addiction and have prevented individuals from receiving appropriate access to medicines that treat pain and addiction. Increased resources within the FDA and improved communication between the FDA and industry sponsors will help clarify the Agency's expectations and speed approval and access to novel and safer treatments.

- Increase engagement of senior FDA leadership to support transparency, consistency, and effective communication between FDA and industry sponsors, throughout the drug approval process
- Increase engagement of senior FDA and DEA leadership to support transparency, consistency, and effective communication with sponsors to enable effective and efficient approval processes and appropriate access to medicines that treat pain and addiction
- Increase resources and expertise within the FDA to ensure efficient and effective review of abuse deterrent formulations of conventional opioids, novel and safer treatments, and innovative treatments that have, in general, lower or no abuse liability
- Advance the development of FDA draft guidance and encourage clarity in existing guidance to address issues related to abuse deterrent formulations and analgesic indications in a way that supports innovation
- Ensure that 'best practices' are adopted by FDA divisions responsible for reviewing treatments for pain and addiction
- Ensure consistent application of warnings and other safety information regardless of diagnosis for all opioid medications approved for the treatment of pain and addiction
- Encourage global harmonization of regulatory requirements for treatments for pain and addiction

Modernize and streamline drug development and review processes to enable effective and efficient drug development and review, and stimulate investment in innovation

Current approval requirements for novel and safer treatments for pain and addiction are often inefficient, redundant, and unsafe. Not only does this slow approval but it is also prohibitive for investments in pain and addiction treatments. The utilization of innovative clinical trial designs, and new data sources, as well as the validation and quantification of biomarkers for pain and addiction will allow for more effective, efficient, and safer drug development and review.

- Modernize and streamline clinical trial requirements by streamlining the number of clinical trials required for each type of pain and utilization of modern approaches for the collection of safety data.
 - Encourage the utilization of innovative clinical trials designs and new data sources that allow for the use of common control data to evaluate efficacy in multiple therapies and reduce the number of individuals exposed to control interventions

- Enable validation and qualification of biomarkers that help identify subsets of pain or risk for addiction

Establish and utilize expedited approval pathways and other incentives to stimulate innovation

While there is a clear need to develop and approve novel and safer treatments for pain and addiction, drug development is risky, and time and resource intensive. Several accelerated approval pathways and incentives have been successfully implemented to encourage innovation and investment in other areas that are in urgent need of treatments, including rare diseases (Orphan Drug Act) and antibiotics that are effective against drug resistant bacteria (Generating Antibiotic Incentives Now (GAIN) Act). Similar approaches should be implemented in order to encourage investments for the development of novel and safer treatments for pain and addiction.

- Support the utilization of expedited approval pathways for novel and safer treatments for pain and addiction
- Support the utilization of additional incentives for novel and safer treatments for pain and addiction