

BIOMEDICAL INNOVATION CAN HELP SOLVE THE OPIOID CRISIS

Opioid addiction is plaguing communities across the country, leaving in its wake countless victims, devastated families and economic ruin. Long-term solutions to combating this crisis will depend upon biomedical innovation and the development of novel and safer, next generation therapies to treat both pain and addiction. To get these new innovations to the patients whose lives depend on them, we must ensure that the policy and regulatory environment keeps pace with advances happening in the lab.

Unfortunately, the reality is that investments in treatments for pain and addiction are not at the levels of other therapeutic areas because of market and regulatory barriers. The public and private sectors must work together to remove these barriers to investment and unleash the full potential of biomedical innovation to solve the opioid crisis.

At BIO, we are committed to unleashing the power of scientific innovation to develop solutions that will allow for an America free of prescription opioid addiction. Our companies are dedicated to achieving this by changing the paradigm for the treatment of pain and addiction through an advanced understanding of the biology of these complex diseases and enabling access to and development of innovative medicines and approaches to treatment.

By the Numbers

91 people die every day from opioid overdoses

Source: Centers for Disease Control (CDC)

>1,000 men & women are treated in emergency rooms daily for misusing these prescription painkillers

Source: CDC

The epidemic is costing our nation an estimated **\$79 billion** annually in health and social costs

Source: CDC

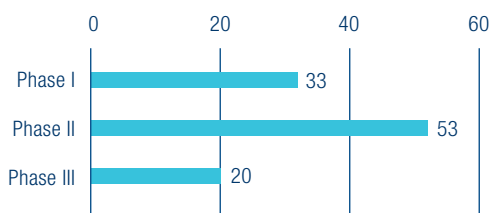
Opioid abuse may explain **20%** drop in American men's labor force participation

Source: Princeton economist Alan Krueger

New Treatments on the Horizon

>70 companies working on novel pain therapies

106 Clinical Programs for Novel Pain Drugs*



*excludes migraine

BIO and Member Companies Seek Solutions

BIO and its members are committed to developing solutions to address America's opioid crisis by:

- ▶ Advancing 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.**
- ▶ Ensuring patients suffering from pain or addiction are able to receive the **right treatment at the right time with the right support, without stigma.**
- ▶ Stimulating R&D focused on developing **innovative approaches** to effectively treat pain and opioid addiction and prevent abuse.

BIO's Member Companies: Innovation in Action

The biopharmaceutical industry offers real solutions to this devastating crisis. Emerging biotechnology companies and established enterprises are working hard to **transform the standard of care for pain and addiction through novel and safer next generation therapies.**

- ▶ **Example:** One technology is an **injectable** that treats knee pain using capsaicin, a by-product produced of chili peppers.
- ▶ **Example:** New therapies that target the body's **peripheral nervous system** to treat pain without inducing addictive side effects.
- ▶ **Example:** **Novel and safer products** for postsurgical pain control and partnering with large hospital chains to develop alternative approaches for pain management.
- ▶ **Example:** One new medicine helps **prevent patients from relapsing to opioid** dependence and overdosing following detox.
- ▶ **Example:** **Abuse-deterrent formulations** of existing therapies that mitigate or prevent abuse of the therapy.

“As America grapples with opioid abuse and searches for answers, we look to biomedical innovation for the solutions we need and deserve. Thanks to extraordinary science and prolific thinking, our industry is uniquely positioned to help solve this crisis through the advances of next generation therapies and cutting-edge technologies.”

— Jim Greenwood, President & CEO
Biotechnology Innovation Organization