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Opinion

Our Response to the Opioid Epidemic Needs a Dose of Innovation

By Jeremy Levin

The opioid epidemic is the worst public health crisis in a generation. Millions of individuals, families and communities have been impacted. We need new ideas to help strengthen the calls for action by policymakers and health experts to address this growing national emergency.

Fortunately, if we are willing to learn from past experiences, we can first blunt and then end this crisis. In the 1980s, the United States faced the devastating health crisis of HIV/AIDS. But by marshaling resources and ingenuity, the nation contained and rolled back the worst effects of this crisis.

Those who lived during that period will remember the pain and fear felt by so many as reports of this deadly virus surfaced in one community after another.

America's biopharmaceutical community went to work. Joined by patient advocates, as well as researchers in university laboratories supported by partners at the state and federal levels, we embarked on a determined search for a cure.

By 1996, with the first wave of antiretroviral drugs developed and approved, the crisis began to abate. Death rates plummeted by nearly 85 percent. What was once thought to be untreatable is now beatable.

Innovation was at the center of this medical victory. We need the same level of intensity and commitment to innovation, if we are to achieve similar success against the opioid epidemic. To get at the heart of the solution to this crisis there are three critical areas on which we need to focus.

First, we need better science. The truth is, our understanding of the biology underlying pain and addiction is not as advanced as our understanding of other diseases, such as cancer or heart disease. As a result, doctors often do not have the information needed to make the best decisions for their patients.

For example, when treating a patient with diabetes, a doctor can objectively measure the patients' blood glucose to evaluate the proper dosing of insulin to provide. For pain and addiction, however, we lack similar objectively measurable "biomarkers" for evaluating pain, which in turn makes it difficult to make decisions regarding treatment.

There needs to be a national effort to increase our understanding of both pain and addiction. The National Institutes of Health should be equipped with the resources needed to continue to lead the way on these efforts.

Additionally, as the world's preeminent research institution, the NIH can convene various stakeholders to leverage "big data" and "precision medicine" to help answer questions regarding "what treatments work best for a particular patient" or "what the optimal duration of treatments might be for a particular patient." Through expanding the NIH's ability to advance basic research around the biology of pain and addiction, further innovation in treatments and knowledge regarding appropriate and best use of existing medicines will follow.

Second, patients need access to novel and safer options to treat pain and addiction. Treatment of pain and addiction has experienced little change in recent decades. It's a reality not often acknowledged or widely understood. While current treatments for opioid use disorder, like Buprenorphine are effective, they have been around for many years, and there is a clear need to innovate, identify new and more effective treatments and provide more options for patients.

Contrast these treatments with recent advances in immunotherapy, gene therapy or other curative treatments. We have seen major advances and biomedical breakthroughs enabling effective treatments of AIDS, Hepatitis C and cancer. However are only limited new medicines to treat drug abuse and addiction. In fact, there have been only two novel chemical entities to treat pain approved by the Food and Drug Administration over the past decade.

To change course and to accelerate, we need to modernize the drug development and review processes and couple this with ways to enhance and improve expedited approval pathways for innovative treatments for pain and addiction. We also need to eliminate barriers that impede patient access to the most appropriate treatments. Only through adequate health insurance coverage and the ability to communicate the value of these new medicines will we ensure providers can deliver patients the right treatment, at the right time and with the right support, without stigma.

Third, we need more investments in research and development to find innovative pain and addiction medicines. Both the public and private sectors have neglected this area of research for too long. Over the last 10 years, there has been 17 times more venture investment in oncology R&D than pain management programs; and there has been even fewer investments in novel addiction treatments.

Removing coverage barriers and modernizing drug development and review processes and approaches will help spur investment for new pain and addiction treatments. The FDA must be equipped with the resources and staff expertise it will need to administer an efficient and effective approval process.

Taken together, these three areas — better science, access to more choices for patients and providers, and new investments — will provide the dose of innovation we desperately need to better help those struggling with pain and addiction and end the opioid epidemic once and for all.

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