

# Preventing Prescription Opioid Overdose Deaths

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Over the past decade, the US has seen a rise in unintentional opioid overdose deaths that has mirrored a rise in the prescribing of opioids and misuse of these drugs. While this is largely an unintended consequence of our efforts to treat pain more aggressively, well-meaning efforts that focus solely on decreasing the prescribing of opioids may lead to other unintended consequences.

When prescribing opioids, as with any medication, practitioners must weigh the benefits and risks. The challenge is finding the optimal balance between the risks of over-prescribing, which may lead to addiction, overdose and diversion, and under-prescribing, which may lead to under-treatment of pain. Unfortunately, we have sparse evidence to guide us when making this decision. Only a small minority of patients who are prescribed opioids will develop addiction, but as the prescribing of opioids has become increasingly routine, the numbers of patients who are at risk for overdose and develop addiction has risen. While opioids are indicated for the treatment of moderate to severe acute pain when other agents are insufficient, we should reconsider the common practice of prescribing opioids for minor injuries or after minor procedures, especially since evidence suggests that non-steroidal antiinflammatory medications are as (if not more) effective.<sup>1</sup>

When dealing with chronic pain, the decision to prescribe opioids is a more difficult one. On the one hand, chronic opioids can reduce pain and improve function in some patients. On the other hand, abuse and addiction are growing problems, and the risk of overdose is not trivial. In one study, the yearly risk of serious or fatal overdose among patients prescribed opioids who had a history of a substance abuse diagnosis was approximately 1 in 300; for those without such a history, it was 1 in 1,000.<sup>2</sup> Guidelines for treating chronic pain patients with opioids call for baseline assessment of risk of misuse, initiating trials of opioids with the use of treatment agreements, and monitoring with urine drug testing. These guidelines are based on expert opinion and have not been shown to reduce opioid

addiction or overdose rates in controlled studies. In order to justify the risks, we would like to see a demonstrable benefit in function and quality of life when we prescribe these medications. However, for many patients, particularly those who have been taking opioids for many years, this is often difficult to assess.

A growing body of research has given us some insight into the risk factors for prescription opioid misuse and overdose. For prescription opioid misuse, these include a history of illicit substance use or a substance use disorder (including smoking), chronic mental illness and disability; and for overdose, these include higher doses of medication<sup>2</sup> and concurrent use of sedative hypnotics. Moreover, there are “aberrant medication-taking behaviors” that are associated with misuse and overdose,<sup>3</sup> which include taking more medication than was prescribed, obtaining medications from multiple practitioners and taking opioids for reasons other than treating pain; these can be used clinically to identify individuals who may be misusing prescription opioids or have developed addiction.

Prescription opioid overdose is increasingly receiving the attention of government and regulatory agencies. Federal and state agencies have recommended measures including increased education for prescribers and patients, prescription monitoring programs (PDMP), drug take back events and limiting the doses of opioids prescribed. Unfortunately, none of these measures have yet been shown to reduce overdoses. For example, PDMPs would theoretically “catch” doctor-shopping patients who are receiving opioids from multiple practitioners, but have not been shown to reduce overdoses,<sup>4</sup> probably because they identify only a minority of those at risk and are not used routinely. Making PDMPs more user-friendly and encouraging (or mandating) practitioner use may make these more effective. Limiting the doses of opioids is a more controversial issue. While higher doses of opioids are associated with an increased risk of overdose, receiving higher doses may simply be a marker for someone at risk, and limiting the dose has not been shown to reduce this risk.

Reducing the supply of opioids will likely be insufficient to address overdose and addiction, and furthermore, without other measures, it falls short of our responsibility as physicians to relieve suffering. It is not enough to detect patients who are misusing and stop prescribing to them. We must try to lower their overdose risk by educating them about the risks and providing treatment to those with opioid

use disorders. Overdose prevention education coupled with distributing naloxone rescue kits (analogous to epinephrine kits for patients with anaphylaxis) is a measure that could be deployed in primary care and shows promise in reducing overdose fatalities. Recent research has demonstrated that overdose prevention education and naloxone rescue kits for heroin users are associated with reduced overdose deaths.<sup>5</sup>

The patient with overlapping pain and opioid addiction presents a conundrum to care providers—treating pain with opioids may trigger or exacerbate opioid addiction. However, withdrawing opioids likely worsens pain and thus may trigger cravings and relapse. For those with opioid addiction, simply withdrawing opioids is not a treatment, and it is not enough to “cure” addiction. Addiction is a chronic relapsing condition that requires ongoing treatment, including relapse prevention. For opioid addiction, we are fortunate to have two established and effective agonist treatments, methadone and buprenorphine. These medications appear to work similarly for patients with prescription opioid dependence as they do for people with heroin dependence. Opioid agonist treatment has been shown to reduce the risk of overdose among illicit opioid users. Once opioid addiction has been identified, linking patients to such treatments should be providers’ primary goal. Buprenorphine has the advantage of being accessible to in office-based settings and, thus, is a valuable tool that physicians can access when addressing the needs of a patient who has become addicted to prescription opioids.

Although the rise in opioid-related deaths is attributed to increasing prescription opioids, not heroin, these are overlapping public health problems. As access to prescription opioids is tightened, we can expect to see more heroin use. Decreased opioid prescribing to people at high risk may seem like a simple solution to the problem, but will likely result in under-treatment of pain for some patients, and other patients will be driven toward heroin use or

obtaining prescription opioids through other sources. When addressing the problem of rising prescription opioid abuse and overdose, we can learn valuable lessons from our years of experience with illicit opioid abuse. While more judicious use of opioids may help prevent some from becoming addicted to these drugs, efforts that solely focus on decreasing the supply of opioids are unlikely to help those who are already dependent. Those taking opioids, whether licit or illicit, deserve the education and tools to reduce their risk of overdose, and all of those who have problems with opioids deserve access to evidence-based treatment.

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**Conflict of Interest:** *The authors declare that they do not have a conflict of interest.*

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