

Pain, Opioids, and Suicide Mortality in the United States

Although estimates vary depending on the method used to assess pain, millions of adults in the United States have chronic pain, which is associated with a great individual and societal burden (1). Persons with a chronic pain condition may endure considerable suffering, including poor functioning, depression, and anxiety (2). In addition, many studies have linked chronic pain to a higher risk for fatal and nonfatal suicide attempts (3). The elevated rates of suicidal behaviors in persons with chronic pain reflect the direct and indirect ways chronic pain relates to suicidal thoughts, plans, and attempts.

The study by Petrosky and colleagues (4) provides further evidence of the sizable number of suicides that occur among persons with chronic pain. To the best of my knowledge, this analysis of data from 18 states participating in the National Violent Death Reporting System is the largest ever to examine pain in suicide decedents. This study includes several important findings. The overall prevalence of chronic pain in persons who die by suicide is notable and has increased over time, with more than 10% categorized as having pain in 2014, the most recent year analyzed. Because Petrosky and colleagues had access only to data collected after death, which often are incomplete, the estimated percentage of the decedents with pain in this study probably underestimates the true prevalence of pain in those who die by suicide.

Chronic pain may take many forms, and Petrosky and colleagues documented a long and varied list of pain conditions present in suicide decedents. Although not mutually exclusive, back pain, cancer pain, and arthritis accounted for a large proportion of pain conditions in persons who died by suicide. Likewise, anxiety and depression were diagnosed more often in suicide decedents with pain than in those without it. These findings mirror the broader epidemiology of pain in the United States, in which similar pain conditions and comorbid psychiatric disorders are common (1), yet the vast majority of persons with co-occurring pain and anxiety or depression do not die by suicide. Petrosky and colleagues did not identify a distinct high-risk group with a unique clinical profile appropriate for high-intensity suicide prevention efforts. Instead, suicide decedents with pain seem to be a diverse group with several risk factors for suicide (5). This argues for a general suicide prevention approach whereby all persons with chronic pain are asked about mental health symptoms as well as recent and lifetime suicidal thoughts and behaviors.

Given the current national opioid epidemic (6), it is important to consider the potential ways opioids might be a link between pain-related suffering and suicide. Two very different and competing initial hypotheses exist for how opioids may relate to suicide risk in persons with chronic pain. On one hand, opioids are potentially

lethal in higher quantities, and the suicide prevention literature has consistently demonstrated that access to lethal means can increase the risk for suicide (7). On the other hand, opioids may reduce suffering in persons with chronic pain, and ongoing efforts to reduce higher-dose opioid prescribing might lead to an increase in suicide among those with pain (8). Although Petrosky and colleagues did not provide a direct test of either of these hypotheses, their results indicate that among suicide decedents with chronic pain for whom toxicology results were available, opioids were much more likely to be present at the time of death (51.9%) than in those without pain (18.8%). In addition, death by opioid overdose was the second most common cause of death in persons with chronic pain who died by suicide (16.2%, compared with 3.9% in those without chronic pain). Firearms were the most common method of suicide in both those with pain (53.6%) and those without it (51.4%). Thus, although a substantial number of suicides among those with chronic pain seem to involve opioid use, many suicide decedents with access to opioids—at least as indicated by the presence of opioids in toxicology results—die by another method. This finding is consistent with previous work in U.S. military veterans showing higher suicide rates among those receiving higher opioid dosages; this research also found that the vast majority of suicides involved firearms, even in veterans receiving the highest opioid doses (9).

These results argue for a more nuanced view of the role of opioids in suicide among persons with pain. A minority of persons with pain who receive opioids may be at higher risk for suicide by opioid overdose, whereas others with pain may receive some benefit from opioids and will not become suicidal. The literature on the efficacy of opioids for chronic pain indicates that these medications often are imperfect in treating pain over the long run (10), and the association between higher opioid dosages and a greater risk for suicide (9) may reflect the fact that those with a higher opioid dosage are more likely to have poorly controlled pain. The review of suicide notes provided by Petrosky and colleagues highlights that more than two thirds of suicide decedents with a pain condition mentioned their pain, as well as longstanding suffering from this pain, as a direct contributor to the suicidal crisis. This observation highlights the need to improve pain treatment, not only for the direct effect on pain and functioning but also as a method to raise hope in persons with chronic pain.

Petrosky and colleagues' work underscores that suicide may be a potentially lethal consequence of suffering in patients with pain. Suicide prevention involves making effective pain interventions more available, which extends beyond providing access to opioids and should also include, if appropriate, other medications,

interventional programs, physical therapy, and psychosocial approaches (8). These pain-related interventions need to be supplemented with mental health treatment in persons with pain and depressive and anxiety-related symptoms to foster hope and help address suicidal thoughts and plans.

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