

reduction. With that goal achieved we would consider re-treatment if the nodule regrows and/or is symptomatic. For further research we think that it will be important to identify factors associated with nodule regrowth to properly counsel patients for repeat RFA, while conversely eliminating the need for repeat procedures in those who are very likely to do well after single-session RFA.

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1. Park AW, Jung HB. Radiofrequency ablation therapy for large benign thyroid nodules. *Mayo Clin Proc.* 2018;93(9):1327-1328.
2. Hamidi O, Callstrom MR, Lee RA, et al. Outcomes of radiofrequency ablation therapy for large benign thyroid nodules: a Mayo Clinic case series [published online ahead of print March 21, 2018]. *Mayo Clin Proc.* <https://doi.org/10.1016/j.mayocp.2017.12.011>.
3. Baek JH, Lee JH, Sung JY, et al; Korean Society of Thyroid Radiology. Complications encountered in the treatment of benign thyroid nodules with US-guided radiofrequency ablation: a multicenter study. *Radiology.* 2012;262(1):335-342.

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The Root Causes of the Current Opioid Crisis



To the Editor: I read with a great deal of interest the article by Rummans et al¹ and the accompanying editorial by Srivastava and Gold² in the March 2018 issue of the *Mayo Clinic Proceedings*.

Both sets of authors should be commended for attempting to address the root causes of the opioid epidemic. In particular, Srivastava and Gold deserve recognition for looking beyond the “supply-side”

approach to the crisis: too often, potential solutions to the epidemic focus solely on the role of pharmaceutical manufacturers or physician prescription patterns.

In their description of the “demand side” of the equation, Srivastava and Gold rightly point to the importance of assessing for the presence of concurrent psychiatric illness in patients with substance use disorders. They also state the necessity of treating addiction as a chronic, relapsing disease, one that requires long-term follow-up.

But in other, critical ways, their editorial paints an incomplete picture. There are additional root causes of the opioid epidemic, which the authors neglect to mention at all—namely, those related to widespread social upheaval.

The past few decades have been characterized by rising unemployment, poverty, and wealth inequality due to neoliberal austerity measures and a fraying social safety net. In disadvantaged communities, social capital becomes supplanted by feelings of isolation and hopelessness. Meanwhile, the US government continues to engage in drug interdiction efforts, which, in turn, lead to the emergence of synthetic and deadly heroin alternatives in the domestic black market.³

The end result of these seemingly disparate processes, of course, is what we see before us today: increasing overdoses and other “diseases of despair.”⁴ No discussion of the “underpinnings and evolution of the current opioid crisis” is thus complete without an account of these structural factors.

I agree with the authors’ recommendation that “more resources need to be devoted to addressing the opioid epidemic,” including implementing comprehensive care programs. I worry, however, that other recommendations, such as developing personalized

neurotherapeutics, would draw attention away from what many in the public health community are beginning to realize: structural disadvantage contributes to addiction, and overcoming it will require more than a biomedical approach.

Physicians are in a privileged position to guide the conversation around this important topic. In addition to spreading the important message of “addiction as a disease,” we should be advocating for social change.

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1. Rummans TA, Burton MC, Dawson NL. How good intentions contributed to bad outcomes: the opioid crisis. *Mayo Clin Proc.* 2018;93(3):344-350.
2. Srivastava AB, Gold MS. Beyond supply: how we must tackle the opioid epidemic. *Mayo Clin Proc.* 2018;93(3):269-272.
3. Dasgupta N, Beletsky L, Ciccarone D. Opioid crisis: no easy fix to its social and economic determinants. *Am J Public Health.* 2018;108(2):182-186.
4. Case A, Deaton A. Mortality and morbidity in the 21st century. <https://www.brookings.edu/wp-content/uploads/2017/08/casetextsp17bpea.pdf>. Accessed June 27, 2018.

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In Reply I—Root Causes of the Opioid Crisis



To the Editor: We thank Dr. Pendyal for the thoughtful and articulate response to our article.¹ We agree that a thorough examination of opioid use disorders and overdoses includes evaluation of structural- and societal-level factors. Indeed, income inequality, social disparities, and other structural inequities are important considerations in chronic illnesses, disease management, premature deaths, infant mortality,

maternal illness, and all epidemics past and present, not just the current opioid epidemic. Similarly, depression, despair, hopelessness, and suicide are not exclusively linked to the current opioid crisis but are reflective of the state of health and wellness in our society. The current zeitgeist has worsened the opioid epidemic, but it is not specific to it, nor does it necessitate drastic revisions to the proposals we addressed in our article.

Particularly relevant is the work of the late David Musto, a Yale physician, historian, and expert on drug policy under the Carter administration.² The first epidemic, occurring from 1898 to 1914, involved the purchase of then-legal heroin by rural, middle-class females and generally subsided with the introduction of the Harrison Narcotics Tax in 1914. The second is perhaps more instructive, occurring from 1960 to 1968, and it involved mostly minority young men and was linked to urban crime. In Washington, DC, response to the crisis and its inextricable link to crime, universal testing for all criminal offenders, and access to methadone treatment was provided through the Narcotics Treatment Administration, resulting in substantial public health and safety successes: heroin overdoses fell from 74 to 3, and the crime index in Washington, DC, fell by 50%. Nationally, President Nixon launched an effort to similarly attack the “demand” side of the crisis, culminating in the 1973 founding of the National Institute of Drug Abuse under Robert DuPont, MD, providing a center for cutting-edge research and policymaking that has helped curb epidemics of past years.³

The lay news coverage of affected areas notwithstanding, the current opioid epidemic has affected rich and poor alike. Pain, access to pain medications, and failure to educate the patient

of the risks of opioids have caused major consequences to patients in VA clinics, pain patients with Medicare and Medicaid, and individuals with enough capital to afford illicit oxycodone at \$1/mg. Access to drugs and lack of opportunity may be more relevant to methamphetamine, cannabis, and alcohol use, which afflicted the same communities as those disproportionately afflicted by opioids today.⁴ Drugs of abuse are an equal opportunity destroyer of lives and families, and we strongly emphasize the importance of prevention rather than ignoring the entire scope of the problem and trying to treat the consequences.⁵

Although the current opioid epidemic differs from that of the 1960s, the fundamental components of the approach—prevention, identification (in which law enforcement is an ally, not an adversary), entry into treatment, maintenance of recovery through mutual support groups, and continuing care—which may very well involve finding meaningful employment, establishing community, and focus on overall health and wellness, and ultimately a celebration of recovery—are still readily applicable today.

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1. Srivastava AB, Gold MS. Beyond supply: how we must tackle the opioid epidemic. *Mayo Clin Proc.* 2018;93(3):269-272.
2. Musto DF. *The American Disease: Origins of Narcotic Control.* New Haven, CT: Yale University Press; 1973.
3. DuPont RL. National Institute on Drug Abuse at its first 35 years. *Drug Alcohol Depend.* 2010; 107(1):80-81.
4. Center for Behavioral Health Statistics and Quality. *2016 National Survey on Drug Use and Health: Detailed Tables.* Rockville, MD: Substance Abuse and Mental Health Services Administration; 2017.

5. DuPont RL. The opioid epidemic is an historic opportunity to improve both prevention and treatment. *Brain Res Bull.* 2018;138:112-114.

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In Reply II—Root Causes of Opioid Crisis



To the Editor: Dr Pendyal highlights an important point that the opioid crisis is much bigger than just the “supply side” of the problem. It is truly a biological-psychological-social-spiritual problem that impacts both the “supply side” and the “demand side.”¹ However, in his description of the social factors, of which there are many, he too fails to acknowledge many of the drivers of the opioid crisis. Many of the drivers go beyond “unemployment, poverty, and wealth inequality,” with an increasing number of those dying from opioids being employed, middle- and upper-class individuals.

In addition to socioeconomic drivers, 50% to 80% of those who die from overdose had a history of chronic pain, which suggests they began their opioid use trying to address pain. Likewise, a history of mental health and/or substance abuse is common in opioid deaths because they are also more likely to be prescribed opioids.² These situations are not then created by social factors alone. Often the nonmedical users of opioids report getting opioids from friends or relatives to experiment or get high. Nonmedical use of opioids is higher in men than in women, but women are more often prescribed opioids. Yet, emergency department visits for overdoses are equal between them. Nonmedical use and overdose is highest in whites and American Indians/Alaska natives rather than in blacks or Hispanics, which