

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.<sup>2</sup> 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.<sup>3</sup>

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.<sup>4</sup> 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.<sup>5</sup>

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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## 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.”<sup>1</sup> 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.<sup>2</sup> 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

currently make up a larger proportion of those unemployed or in the poverty range. Although much of the unemployment, homelessness, and poverty is found in the big urban areas, it is the rural areas, even more than the urban areas, that are being hit the hardest with the opioid crisis, but this too is changing rapidly. Therefore, the data that exist today point to both the “demand” side and the “supply” side contributing to the problem we have with opioids.

So where does that leave us? Much has been and more is needed to investigate possible biological components of addiction and its treatments as well as of other mental health conditions. However, what we are dealing with now involves more than just the biology of a disease. It involves the social issues that we have been discussing. It also

involves the spiritual issues for each human being living now in an increasingly secular world. Finding meaning and purpose in our lives and ability to live with the imperfections that we all have and will have must be part of the discussion if we are ever to find a solution that will begin to turn this crisis around.

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## CORRECTION



In the Brief Report entitled, “**Gut Microbial Carbohydrate Metabolism Hinders Weight Loss in Overweight Adults Undergoing Lifestyle Intervention With a Volumetric Diet**” published in the August 2018 issue of *Mayo Clinic Proceedings* (*Mayo Clin Proc.* 2018;93(8):1104-1110), a second corresponding author was not listed. The second corresponding author is Vandana Nehra, MD, Division of Gastroenterology and Hepatology, Mayo Clinic, 200 First St SW, Rochester, MN 55950 ([nehra.vandana@mayo.edu](mailto:nehra.vandana@mayo.edu)).

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