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Commentary
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COVID-19 Has Provided 20/20 Vision Illuminating Our Nation's Health Crises

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The COVID-19 pandemic has illuminated many health care crises facing our nation. The epidemics of chronic pain, substance use disorder, gun violence, suicide, and loneliness affect each of us [1]. When these epidemics affect our families, neighbors, coworkers, and friends, we are all affected. We know these conditions are experienced disproportionately by those who are impoverished, people of color, those who are marginalized, and those experiencing racial health inequities. Although poverty is one of the root causes of these societal problems, existing long before the COVID-19 pandemic landed in the United States, these problems were rapidly intensified as millions lost their jobs and could not access primary care clinicians; receive pain management, mental health, or addiction services; or even attend a 12-step meeting.

Prior to this global pandemic, opioid overdose deaths and chronic pain had been identified as dual public health crises needing urgent attention. During 2018, at least 50 million Americans suffered from chronic pain, more than 10 million people misused opioids, 1.6 million people were diagnosed with an opioid use disorder, and nearly 70,000 died from an opioid overdose death [2–4]. The dangerous rise in both licit and illicit substances such as alcohol, benzodiazepines, and stimulants such as cocaine and methamphetamine cannot be overstated [4]. Simultaneously, the nation has seen a surge in both suicide completion and gun violence. In

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2018, the completed suicide number rose to 48,344, with suicides due to gun violence continuing as the most common method of lethal injury [5]. Firearm owners in the United States are most likely to kill or injure themselves or a loved one rather than successfully use a firearm in self-defense [5].

Loneliness, another emerging health crisis, particularly affects the Western world, with severe health consequences [6]. These include diabetes, dementia, and heart disease, with a risk approximating that of smoking 15 cigarettes per day [7]. Loneliness exacerbates mental health and substance use issues, including psychosis and suicide [7, 8]. Health care utilization is far greater for individuals over 60 experiencing loneliness, escalating the cost to the health care system as individuals seek social contact through clinician visits [9]. Approximately 42 million Americans suffer from loneliness, which significantly worsened throughout the country as the COVID-19 pandemic forced more Americans to stay at home [9]. Most continue to rightfully shelter in place when possible, and others have rigid restrictions imposed on those who may come to visit them. Individuals confined to congregant settings, such as nursing home residents, hospitalized patients, and those who are incarcerated, must follow regulations preventing their loved ones from visiting and often isolating them from anyone else in the facility. Even individuals with a wealth of friendships or family around them may suffer from the subjective experience of loneliness, due in part to a need for presence, empathic understanding, and lack of experience in perspective-taking [10].

Not surprisingly, people experiencing homelessness, poverty, and health care disparities are at increased risk to suffer from one or more of these health care crises [11]. Mental health diagnoses, addiction, and chronic pain are conditions especially prone to stigma and shame, preventing many people from seeking help and treatment. The interrelatedness of these public health crises is extraordinary. When chronic pain is severe and undertreated and mental illness goes unrecognized, the risk of substance abuse and suicide multiplies, particularly when compounded by the additional stress of poverty and loneliness. When loneliness goes unchecked, chronic pain and substance use disorder worsen as well.

Cohen et al. [12] convened a diverse group of pain specialists in a recent consensus report to recommend best practices in pain management during the COVID-19 pandemic. This report suggests that patients suffering with chronic pain that is managed by certain medications, such as steroids and long-term opioid analgesics, may have an added risk of morbidity if they acquire COVID-19 due to the immunosuppression mechanism of action (of steroids and opioid analgesics) and the respiratory depression mechanism of action (with opioid analgesics) [12]. Patients with addiction who receive long-acting opioid substitution medications as part of their medication-assisted treatment (MAT) and patients with other chronic conditions may also have similar increased risks if they contract COVID-19. The COVID-19 pandemic has shed enormous light on these many health conditions as individuals are shut in, unable to get needed medical help and social support.

Not since the Spanish Flu in 1918–1920 has a pandemic provoked patients and health care workers alike to become so fearful of contracting a virus from each other. First responders and all frontline clinicians must prioritize COVID-19 patients and their own safety first. They continue to face daily struggles regarding acquisition of personal protective equipment, ventilators, and intensive care unit beds [13, 14]. Prioritizing COVID-19 has led to a sharp reduction in the diagnosis and treatment of other medical conditions (frequently diagnosed cancers, heart disease, and cerebrovascular disease), modification of previous treatment protocols, and an increase in opioid overdose deaths and continued adverse health effects from climate change [15–20].

Common cancer diagnoses fell sharply between March and August 2020, suggesting that patients may not be getting the screening needed for early diagnosis and treatment. This worrisome trend suggests that in the next year, more and more Americans may present to clinicians with advanced and difficult-to-treat stages of cancer [15]. In some regions, cancer care protocols have necessarily had to innovate and modify treatment protocols based on COVID-19 patient, clinician, and community risk [16]. Second, prevention of heart attacks and strokes requires patients to actively collaborate with their clinicians to closely monitor their blood pressure, lab work, nutrition, exercise, medication, and symptoms. The number of heart attacks and strokes has increased significantly since March 2020, and the data suggest that the reasons are multifactorial. At-risk patients are not getting the frequent checkups they need with their doctors, and they are afraid to go to the emergency department when they are symptomatic [17, 18]. Additionally, opioid overdoses are now increasing again after a consecutive 2-year reduction from 2016 to 2018 [19]. The most likely cause of the uptick in opioid overdose deaths is job loss and the inability for patients to access MAT. Lastly, the health effects of climate change—extreme heat in the Southwest, wildfires in the West, and hurricanes in the South—have caused not only additional morbidity and mortality this year but have also magnified the difficulty for first responders to treat COVID-19 safely and effectively [20].

Despite the challenges we are facing as a result of the COVID-19 pandemic, the nation has experienced tremendous innovations in telehealth technology. Clinicians can now obtain evidence-guided, just-in-time information through virtual learning networks such as Project ECHO [21]. They can also connect much more easily with their patients using telehealth for routine patient visits. More than ever before, patients are comfortable accessing internet-based technologies, such as Zoom, to

sign on from the comfort of their living room for a primary care, chronic pain, or mental health appointment [22]. However, even today, many barriers to these innovative technologies still exist, as broadband is not available in many rural and urban underserved regions of the nation. Therefore, the very patients who we are most concerned about—the impoverished, people of color, marginalized populations, and those experiencing homelessness and racial health inequities—do not get to experience these new connection points to the same extent [23].

We desperately need a national strategy to stop the community spread of the COVID-19 pandemic. It is clear that our priority needs to remain the successful elimination of the coronavirus. At the same time, we need to have a cohesive national strategy to think proactively about the hundreds of millions who continue to suffer from the public health epidemics of chronic pain, opioid overdose, suicide, and loneliness while also addressing the drop in cancer screenings and vascular disease prevention and treatment. Many Americans, especially the most vulnerable among us, will be in worse physical and mental health conditions when COVID-19 subsides.

We are a nation that has the fortitude to tackle many difficult problems at once. We have overcome wars, terror attacks, economic instabilities, street riots, and pandemics in prior decades. The medical and public health communities are already working together to improve the lives of all Americans related to the COVID-19 pandemic. This collaborative work will need to involve adequate resources; federal and state support; and deep consideration to identify, prevent, and treat what might be the common drivers of our nation's other health crises. Poverty and a sense of not belonging remain some of the main drivers facing so many in our nation. They are both underlying forces tying many health crises together. Any intervention that not only improves the social determinants of health but that could also enhance a feeling of community or purpose, along with genuine perspective-taking, should be given serious consideration in program development aimed at solving these multiple health crises.

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Addressing the Public Health Crisis of Excessive Opioid Prescribing and Inadequate Pain Management Through Closing the Pain Education Gap

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Knowing how to effectively treat acute and chronic pain—the most common reasons people seek medical care—is often complex and challenging even for an experienced clinician. In recent years, this complexity has been amplified by what the Centers for Disease Control and Prevention (CDC) has called an epidemic of opioid-related abuse, addiction, and overdose [1]. A crucial but overlooked component of the opioid crisis is the profound education gap in basic pain management. Addressing the lack of clinician knowledge and expertise can play a fundamental role in stemming our nation's opioid drug problems, but it will require commitment to curricular reform, novel strategies for workforce retraining, and research to guide these changes. This analysis reviews the public health problem of insufficient pain management education and describes several potentially scalable efforts in undergraduate and postgraduate education that can overcome these deficits.

In 2018, an average of *130* people died every day from opioid-related overdoses [2], and between 1999 and 2017, the CDC estimates that there were 399,230 deaths in the United States from opioid-related overdoses [3]. This crisis has many roots, including limited clinician time and resources, good intentions on the part of physicians to manage patients' pain, marketing campaigns aimed at reassuring clinicians and patients that opioids are safe for both acute and chronic pain, and the availability of powerful and inexpensive illegal opioids, such as heroin and fentanyl. Nevertheless, an equally important causal factor has been the widespread paucity of clinician education about the full range of pain management modalities and the risks associated with opioid analgesics [4]. Although every major review of the crisis cites inadequate education as a root cause, the recent federal efforts to address and reverse the crisis have barely addressed this substantial education gap.

In 2011, the Institute of Medicine (now the National Academy of Medicine) released its seminal report *Relieving Pain in America*, which affirmed that pain receives insufficient attention in virtually all phases of health education [5]. Following on this, the Department