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How Academic Medicine Can Help Confront the Opioid Crisis

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Abstract

The United States is in the midst of a devastating overdose and addiction crisis involving opioids as well as other drugs. Yet, despite the existence of effective treatments for opioid use disorder, only a minority of people who need treatment for this or other substance use disorders receive it. Besides the terrible human and economic costs of overdose deaths and the other health consequences of addiction, untreated substance use has wide ranging impacts across health care. Academic medicine can help address this crisis by increasing the preparedness of the current and future clinical workforce to detect and treat substance misuse and addiction through increased attention to these topics in medical and nursing schools and in residency programs. In this commentary, the authors explore the barriers to treatment for substance misuse and addiction and the role of academic medicine in improving treatment outcomes through training, clinical care, health service delivery, and research.

While the United States has been focusing its attention and effort on combating the COVID-19 pandemic, another deadly, costly public health crisis has continued to grow silently: opioid addiction and overdose. During the past decade, opioids have resulted in more than 360,000 overdose deaths¹ and more than 24 million hospitalizations.² The loss and suffering related to this epidemic of addiction and overdose cannot be quantified, but the financial costs have been estimated at over \$1 trillion in 2017 alone.³ Beyond opioids, the misuse of highly addictive stimulants like methamphetamine and cocaine, often in conjunction with opioids, has added to the breadth and severity of this threat.

Yet, there is cause for hope for a solution to this crisis, and academic medicine can and will have to be an important part of the solution. Thanks to 4 decades of research, most of it done in academic medical centers, the United States is finally seeing “the drug problem” as a public health issue to be addressed through prevention, treatment, and public education rather than the result of illegal or immoral behaviors to be dealt with by the criminal justice system. In turn, that research has led to the development of effective and scalable interventions. But most are not widely implemented or even well understood by clinicians or trainees.

This is where academic medicine can be most influential in addressing this public health problem: by enhancing the preparedness of the current and future clinical workforce to treat substance use disorders (SUDs), including opioid use disorder (OUD), through increased attention to addiction medicine in medical and nursing schools and in residency training programs. Fortunately, positive steps are already being taken in this direction.

Barriers to Treatment for Substance Misuse and Addiction

Thanks to the combined efforts of discovery research, clinical medicine, and collaboration between government and industry in the last year and a half, it was possible to rapidly create and implement on a massive scale an effective public health solution (vaccines) to address a problem (COVID-19) that had previously been virtually unknown to most of medicine. While there has never been a similar initiative to address opioid, stimulant, or other drug use, substance misuse is not new to the health care field, and many of the needed pieces for a national prevention and treatment effort already exist. For example, we already possess deep scientific understanding of how addiction (a term equivalent to moderate or severe SUD) develops, the brain circuits involved, and the neuropharmacology that underlies it. In the case of OUD, there are 3 medications approved by the Food and Drug Administration that have proven effective in reducing illicit opioid use and relapse risk and in preventing overdoses, among other benefits. They are the full opioid agonist methadone, the partial agonist buprenorphine, and the antagonist naltrexone.⁴ However, most people who could benefit from care rarely get it; and for those who get treatment, compliance and retention are challenging.

Only 18% of people who need treatment for a drug use disorder receive any treatment from a specialty facility.⁵ Almost no health care organizations offer outpatient treatment for low to moderate severity OUD, even though such treatment is no more complex to deliver than the treatments for diabetes, chronic pain, or chronic heart failure, which are provided by well-trained teams practicing variants of the collaborative chronic care model covered by Medicare. A 2019 report by the National Academies of Science, Engineering, and Medicine concluded that failing to offer medications to patients with OUD or withholding medications on ideological grounds is denying these patients appropriate treatment.⁴ Yet, only 18% of the 1.6 million Americans with

OAD received medication in 2019,⁵ just 42% of addiction treatment facilities offer these first-line treatments, and just 3% offer all 3 medications mentioned above.⁶

A unique challenge for retention in treatment for individuals with OAD who are prescribed methadone is the need to visit a methadone clinic daily. Alternately, buprenorphine can be prescribed in a physician's office, making it easier for patients, though it still requires them to take their daily dose. Although access to extended-release medications such as a monthly injection of naltrexone or buprenorphine should facilitate adherence, their rate of prescription by clinicians is extremely low. Additionally, the treatment of comorbid medical and psychiatric conditions, which is needed to improve retention in SUD treatment, is frequently not provided. A SUD can serve as a risk factor for the onset and poor outcomes of other diseases. For example, people with some SUDs, especially recent OAD, are at greatly increased risk for COVID-19 infection and its worst outcomes, including hospitalization and death.⁷ This vulnerability reflects in part a high likelihood of untreated comorbid medical conditions in these individuals; this is especially pronounced in people who are Black. Injection drug use is also a major risk factor for the transmission of infectious diseases like HIV and hepatitis C, and it exacerbates these conditions. Research has established that providing addiction treatment improves HIV and hepatitis C outcomes in people who inject drugs.

Several factors contribute to the undertreatment of SUDs. Reluctance or inability to seek care is one factor. SUDs are among the mental health problems that affected individuals are not comfortable discussing with their primary care physicians⁸; and too many primary care physicians feel unprepared to treat these problems, as they have little prior training or experience or believe it is outside their scope of practice.⁹ Addiction is just one among many behavioral disorders that have historically been undertaught in medical and nursing schools. Even though

opioid overdoses have reached epidemic proportions since 2014, in the 2018-2019 academic year, only 66% of medical schools included lectures about opioids and addiction medicine in their curriculum.¹⁰ Relatedly, an inadequate understanding of SUDs by physicians and nurses interferes with their ability to identify those who are at higher risk for OUD or recognize an emerging OUD in pain patients treated with opioid analgesics.

Physicians are also likely to have issues with insurance reimbursement. Historically, private insurers have not covered addiction care at parity with other areas of care. Coverage for medications for SUD is often more limited than for other medications, in part due to the false belief that medications for SUD “substitute one addiction for another.”¹¹ Some insurers impose hurdles such as prior authorization requirements and fail to cover the more recently developed extended-release formulations of naltrexone and buprenorphine.

Finally, privacy issues impede the inclusion of substance use other than alcohol and tobacco use in electronic health records (EHRs), exacerbating medicine’s failure to address substance use adequately. This prevents clinicians from following up with their patients about their substance use and makes it harder to refer patients to specialists. It also impedes the progress derived from the use of artificial intelligence and machine learning models applied to large EHR databases toward the creation of predictive models to guide interventions and uncover new treatments, as has been done for a variety of other diseases.¹² Thus, important potential contributors to or confounders of numerous chronic illnesses—and potentially important levers for facilitating improved outcomes—remain effectively “dark matter” for clinical researchers seeking to improve medical practice and patient outcomes.

What Can Academic Medicine Do?

Academic medicine spans several interlocking domains and therefore can help improve SUD treatment outcomes, alleviating the current drug crisis by intervening at several levels, including through training, clinical care, health service delivery, and research.

Training

Increasing the amount of time devoted to SUDs in medical and nursing schools and in residency training programs is a key measure to reduce the burden of addiction and overdose. Some progress is already being made. The percentage of medical schools that include in their curriculum some material on addiction medicine and the amount of time devoted to the topic increased over the past decade, accompanying a growing attention to pain.¹³ As of July 2019, the Accreditation Council for Graduate Medical Education now requires that graduate programs provide training in recognizing the signs of addiction along with instruction and experience in pain management.¹³

Addiction medicine was recognized as a subspecialty in 2015, and there is a growing number of accredited addiction medicine fellowships in the United States, thanks in large part to the efforts of the American College of Academic Addiction Medicine. With support from the Association of American Medical Colleges, which has led many efforts to improve medical education in addiction, legislation was introduced in Congress that would add 1,000 graduate medical education positions over the next 5 years in hospitals with residency programs in addiction medicine, addiction psychiatry, or pain medicine.¹⁴

The upcoming change in how the United States Medical Licensing Examination (USMLE) Step 1 will be scored—it will become pass/fail as early as the beginning of 2022—also could contribute to an increased focus on addiction in medical education.¹⁵ Medical schools have

sometimes claimed there is not enough time to do more than cover addiction superficially because their priority is to prepare students for the USMLE, which does not include SUD and addiction content. The change to pass/fail scoring could reduce the pressure on medical schools to teach to the Step 1 exam, allowing them to cover in more depth additional topics like addiction in the curriculum.

The growing awareness of health disparities, social justice issues, and the needs of vulnerable populations can build support for increased attention to SUDs in medical and nursing schools. The COVID-19 pandemic has exacerbated and made more visible racial health disparities across diseases and conditions.¹⁶ This has led to a heightened resolve across many sectors of health, education, and public policy to confront these disparities and their social determinants. The undertreatment of SUDs—which contribute to COVID-19 risk—is particularly pronounced for individuals from vulnerable populations. For example, White people with OUD are much more likely than Black people to be given appropriate medication treatment and adequate overall care. Some medical schools are already enabling students to work with vulnerable and medically underserved populations in their communities, including those in opioid treatment clinics, as part of an effort to increase the primary care workforce.^{17,18}

Enhanced attention to and training in addiction medicine are also part of a larger shift toward recognizing that behavioral health in general is key to the prevention, management, and treatment of many, if not most, of the physical health conditions that dominate the attention of medicine. By offering more training in behavioral health, medical and nursing schools will not only better equip current students to meet the needs of the communities they will serve but also attract premedical and pre-nursing students who are more interested in and motivated to address these concerns.

Clinical care

Physicians' increased ability to diagnose and treat the misuse of alcohol, opioids, nicotine, and other addictive substances within mainstream health care could help improve the outcomes of patients with a broad range of general medical conditions and avoid an array of serious adverse consequences, such as disease misdiagnosis, poor adherence to prescribed medications, relapse, overuse of emergency department services, as well as hospital admissions and re-admissions. As physicians and nurses are trained to recognize and manage addiction, in turn, they can educate their colleagues and trainees and serve as advocates for the importance of treating SUDs, for the need to provide adequate insurance coverage for addiction-related treatments, and for the inclusion of drug use information in EHRs, as well as for overcoming other systems-related impediments to effective SUD care.

Health service delivery

In their negotiations with commercial insurers, academic medical centers can help ensure that the screening and treatment of SUD are properly reimbursed, for instance, by encouraging expanded coverage of methadone and the extended release formulations of buprenorphine and naltrexone for the treatment of OUD and the removal of prior authorization requirements for medications. In addition to enabling clinicians to provide better care through negotiations with insurers, academic medical centers can enhance understanding among physicians and nurses of the prevalence of SUDs among patients, the influence of untreated substance use on patient outcomes, and the impact of the excess costs associated with untreated SUD.

Research

Academic medical centers also can do much to improve care and inform policy and practice through research. Health services and implementation research is needed to address the many societal, attitudinal, and infrastructure barriers to addiction treatment mentioned earlier. Potential areas of investigation include office-based collaborative care models and patient-centered care approaches to treatment as well as the integration of treatment for multiple co-occurring conditions. Modeling of the cost effectiveness of addiction treatment is also needed and can be used to make the economic case for addressing drug misuse and addiction in a comprehensive manner.

Conclusion

Like COVID-19, untreated SUD has potentially tragic results; it also places a costly burden on the health care system and impedes the successful treatment of many other health conditions. Addressing substance misuse and SUDs has yet to be broadly recognized as necessary for providing effective, equitable, and high value care. Academic medicine has a central role to play in creating a new generation of physicians and nurses who are motivated and equipped to confront substance misuse and addiction as well as in conducting needed research. Serving these roles would not only reduce overdoses and addiction but also provide broad benefits to the rest of medicine, improving the quality of care and reducing its costs.

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