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Physician Education in Addiction Medicine

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Substance use disorders contribute substantially to the global burden of disease,¹ with hospitals and medical clinics often clogged with the primary and secondary sequelae of these conditions in the United States.² Yet many in the medical community fail to diagnose and treat substance use disorders, in part because of the failure to educate physicians about addiction medicine.

The last several decades have advanced our understanding of the biology of addiction, which has led to the recognition that drug and alcohol addiction are chronic and relapsing diseases of the brain resulting from various drug effects on the brain's reward and control circuitries. These effects involve neuroadaptations that follow chronic drug exposure and ultimately serve to impair the function of brain regions involved with motivation and self-control.³ Research has also delineated the dynamic interplay between drugs and their molecular targets, thereby helping to identify specific neuroadaptations that are unique to the individual drug types (eg, alcohol, nicotine, cocaine, heroin), and how the expression of the resultant maladaptive behaviors is altered by environmental factors. Advances in genetic research have also enabled the identification of gene variants that affect vulnerability to addictive disorders, and how some genes can influence the response to treatment, which introduces the possibility of applying personalized medicine principles to the treatment of addiction.⁴

A recent report highlighted that most individuals with addiction in the United States do not receive any treatment from a physician.

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Improved understanding of the neurobiology underlying addictive behaviors and the effects of psychoactive substances at the neuropeptide, neurotransmitter, and receptor levels has contributed to the development of medications that can significantly improve outcomes among individuals with substance use disorder. Particularly effective among medications are those for treatment of opioid addiction (opioid agonist and antagonist medications). Effective medications also exist for treatment of nicotine and alcohol addiction. Although there are currently no approved medications for treatment of addiction to stimulant drugs (eg, cocaine and methamphetamines), marijuana, or sedative/hypnotic drugs (eg, benzodiazepine, barbiturates), behavioral interventions exist that have proven to be effective at reducing their use. These include interventions by health care professionals and psychosocial interventions that leverage specialized treatment programs.⁵

These advances make the traditional view of addiction primarily a moral issue—an outdated model. New therapies have the potential to create a momentous shift in society, whereby addiction is seen primarily as a health issue amenable to prevention and treatment, through the application of evidence-based tools. However, this shift has yet to be fully realized, with advances in this area often not implemented in the medical setting.

A substantial literature describes the implementation gaps in addiction medicine. For instance, a recent audit of health care among US adults found that quality of care varied substantially according to medical condition and that, in the case of alcohol addiction, the percentage of recommended care received was approximately 10%. Interventions for smoking cessation were similarly low.⁶ Collectively, the underutilization of proven interventions contributes to major human and social costs that manifest in the form of disease, lost productivity, and crime, as well as substantial healthcare expenditures resulting directly from the health effects of substance use (eg, lung cancer) or indirectly from behaviors associated with substance use (eg, syringe sharing with subsequent human immunodeficiency virus [HIV] or hepatitis infections). For instance, many clinical trials have proven the benefits of opioid agonist treatment in reducing heroin use and HIV-risk behavior, resulting in methadone being placed on the World Health Organization's list of essential medicines. Despite this evidence, methadone is underused by some treatment programs in the United States and, in some countries, this drug is unavailable or illegal, thus contributing to major missed opportunities to reduce heroin use and HIV epidemics.⁷

Moreover, failure of the health care system to effectively address substance abuse interferes with the medical outcomes of many other frequent comorbid diseases (eg, chronic obstructive pulmonary disease, HIV, hepatitis, chronic pain). An example of how an inadequate understanding of addiction negatively affects medical practice is illustrated by the improper use of opioid medications, both underprescribing and overprescribing. This deficiency in medical training contributes to improper management of pain and to the epidemic of opioid analgesic addiction in the United States.

The failure to effectively respond to a health issue—with enormous health and social costs—brings about the question of “Why.” One key explanation, which remains poorly understood even among individuals in the medical community, is failure of medical education systems to train physicians in addiction medicine. Despite the enormous burden of disease

attributable to addiction in North America, there have traditionally been exceptionally few opportunities for physicians to obtain advanced skills in this area outside of addiction psychiatry.

The result has been predictable. A recent report⁸ highlighted that most individuals with addiction in the United States do not receive any treatment from a physician. Rather, much as in Canada, US addiction care is often provided by unskilled laypersons—that is, individuals without the mental health or medical training required to effectively deliver evidence-based interventions. The report’s toughest criticism is saved for the medical community, stating that “most medical professionals who should be providing addiction treatment are not sufficiently trained to diagnose or treat it.”⁸ Research by this same group has also reported that 94% of US physicians “failed to include substance abuse among the five diagnoses they offered” when presented with symptoms of alcohol abuse. Calling the lack of physician training a “monumental lost opportunity,” the report describes a “failure of the medical profession at every level—in medical school, residency training, continuing education and in practice—to confront the nation’s number one disease.”⁹

With the burden of disease contributed by substance use disorders, and with major taxpayer investments in criminal justice approaches (eg, incarceration for nonviolent drug offenses) that fail to acknowledge that addiction is a disease of the brain, the onus is on the medical community to take steps to better treat patients and protect public health. In this context, the American Board of Addiction Medicine (ABAM) and the ABAM Foundation have been established. ABAM has created guidelines and standards for the development of addiction medicine fellowship programs to enable US and international institutions to develop addiction medicine training programs that are eligible for accreditation by the ABAM Foundation. To date, 19 programs at academic centers in North America have been accredited by ABAM. The goal is for ABAM-accredited programs to grow in number and quality and, in time, this discipline will gain recognition from the American Board of Medical Specialties. The process will enable physicians completing their specialty training in a spectrum of disciplines (eg, internal medicine, family medicine, pediatrics) to pursue further standardized training to gain expertise to treat and prevent the spectrum of medical problems associated with substance use disorders.

The development of a new medical specialty is not without challenges and potential consequences. Because most patients with addiction will continue to receive care from primary care physicians, efforts must be made to avoid a degree of subspecialization that makes the use of existing and new addiction treatments less accessible to individuals working in primary care. Since they likely will provide care in primary care settings, newly trained addiction medicine specialists are perfectly positioned to join together with addiction psychiatrists to press for important curricular space for addiction medicine training in medical schools and residency training, and to create continuing medical education opportunities for generalist physicians.

Ultimately, through the greater incorporation of addiction medicine into the spectrum of medical training, patients will be better served by narrowing the health care quality chasm in addressing substance use disorders. The development of addiction medicine as a formal

medical subspecialty also has the potential to begin the slow process of public education required to treat those who are alcohol- or drug-addicted with compassion and care, and to move away from over reliance on punitive approaches that have not served the interests of patients, public health, or taxpayers.⁷

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