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Hospital-based addiction medicine healthcare providers: high demand, short supply

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COMMENTARY

Substance use disorders account for a significant burden of disease and place an enormous strain on the health care system in the United States (US) and beyond. In 2014, almost 22 million Americans aged 12 years or older (8.4 % of the US population) reported having a drug or alcohol use disorder (Substance Abuse and Mental Health Services Administration, 2017). A further 66.9 million Americans (25% of the US population) report the use of tobacco (Substance Abuse and Mental Health Services Administration, 2017). Accordingly, the annual cost of harms associated with substance use is high, amounting to over \$740 billion US dollars (National Institute on Drug Abuse, 2017). Beyond this, significant morbidity and mortality is associated with substance use and misuse. For the first time in half a century, the US life expectancy is decreasing among certain populations, largely as a result of the country's overdose crisis (Dowell et al., 2017).

Despite death tolls climbing, a myriad of evidence-based medications exist to effectively treat many substance use disorders including nicotine, alcohol and opioid use disorders. While these therapies are widely available, only a minority of individuals eligible are in receipt of them. A 2016 report commissioned by the United Nations Office on Drugs and Crime identified only 1 in 6 individuals with a drug use disorder to be in receipt of evidence-based treatment (United Nations Office on Drugs and Crime, 2016). This occurs despite unprecedented and worsening mortality rates in the context of North America's current overdose emergency (United Nations Office on Drugs and Crime, 2016). Closing this treatment gap will require substantial investment in evidence-based addiction treatment services. Fortunately, such an investment is cost-effective with every \$1 invested in addiction treatment generating an estimated \$7 in crime-related savings and \$12 in health care related savings (National Institute on Drug Abuse, 2016).

To date, hospitals have largely been overlooked as a setting ripe for the delivery of specialized addiction care. This occurs despite high prevalence of a substance use disorders

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occurring among hospitalized individuals, with one 2016 study estimating 15% of patients to have an active substance use disorder at the time of hospitalization (Center for Health Information and Analysis, 2016). Recent studies have demonstrated efficacy in the initiation of evidence-based treatment for a substance use disorder in hospital settings. More specifically, a 2015 randomized controlled trial found emergency-department initiated buprenorphine/naloxone for the treatment of opioid use disorder to be associated with improved engagement in addiction treatment and reduced illicit opioid use at 30 days compared to either screening or referral to treatment and screening, brief intervention and referral to treatment (D'Onofrio et al., 2015). An earlier Boston-based study demonstrated that among hospitalized, non-treatment seeking opioid dependent patients, those that were initiated on buprenorphine treatment and had subsequent linkage to community care following hospital discharge were more likely to enter buprenorphine opioid agonist treatment (72% versus 12%), remain on buprenorphine treatment (17% vs 3%) and reduce their illicit opioid use (incidence rate ratio, 0.60) at six-months follow up when compared to those offered buprenorphine for detoxification only in an intent to treat analysis (Liebschutz et al., 2014). A study by Wakeman et al. also demonstrated inpatient addiction medicine consultation to reduce addiction severity for drug and alcohol use and increase the number of days abstinent in the first month after hospital discharge (Wakeman et al., 2017). Given the frequent intersection between individuals with addiction and hospital care environments, a crucial need exists to routinely integrate the provision of evidence-based addiction treatment for hospitalized individuals with a substance use disorder. Failing this, individuals with addiction will continue to be discharged from hospital without access to evidence-based medications. The consequence of which can be fatal in some instances (e.g., opioid addiction) where the risk for mortality may increase as a consequence of diminished tolerance.

A potential barrier to this however is the lack of addiction medicine training that currently exists in undergraduate and graduate medical education. Consequently, a paucity of existing physicians report feeling competent to adequately screen for, diagnose or treat substance use disorders. While no literature currently exists focused on addiction competency among acute care providers, negative bias can often serve as a marker of inadequate education and exposure. Accordingly, recent studies have demonstrated emergency department and internal medicine residents to possess significant biases against individuals with unhealthy substance use (Meltzer et al., 2013; Mendiola et al., 2018). Furthermore, results of a US-based national survey of primary care physicians reinforces these findings and describes 94% (n= 648) of participants being unable to identify a substance use disorder among their adult patients (National Center on Addiction and Substance Abuse, 2000). In the same study, less than 4% of surveyed physicians believed pharmacotherapeutic options for the treatment of a substance use disorder to be effective, despite strong and consistent evidence demonstrating the contrary (National Center on Addiction and Substance Abuse, 2000). Despite the availability of efficacious medical treatment, a survey of treatment-seeking individuals with a substance use disorder found that almost two-thirds (74%) did not include their primary care provider in their treatment plan (National Center on Addiction and Substance Abuse, 2000). Such data suggests a critical need exists to routinely integrate addiction

medicine training in medical education to ensure sustainability in the workforce for the accurate screening, diagnosis and treatment of individuals with a substance use disorder.

While several successful initiatives have been made to address this educational gap, more action is required. In 2017, addiction medicine became a recognized subspecialty by the American Board of Preventative Medicine (American Society of Addiction Medicine, 2018). Furthermore, 63 addiction medicine fellowships are now fully accredited in North America, 33 by the Accreditation Council for Graduate Medical Education and 30 by The Addiction Medicine Foundation (The Addiction Medicine Foundation, 2018). While success is being made at the post-graduate training level, further work remains to ensure addiction medicine training, similar to other chronic diseases, is universally integrated into undergraduate and graduate training programs.

Given the prevalence, cost and potentially lethal consequences of substance use disorders, a critical need exists to improve its identification and evidence-based management in acute care settings. To effectively accomplish this, similar to all other chronic disease conditions, addiction medicine education should routinely be integrated in medical undergraduate and graduate curricula. Furthermore, given the potential for improving both addiction and health outcomes, clinicians with addiction medicine specialist training should be regularly incorporated as valuable members of the acute care interdisciplinary team.

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