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The Opioid Epidemic During the COVID-19 Pandemic

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Drug overdose deaths in the US increased in 2019, despite a slight decrease from 2017 to 2018; this increase was largely driven by illicitly manufactured fentanyl.¹ The opioid epidemic has also been complicated by increasing use of methamphetamine in combination with opioids.¹ It is likely that the emergence of coronavirus disease 2019 (COVID-19) and subsequent disruptions in health care and social safety nets combined with social and economic stressors will fuel the opioid epidemic. Reports from national, state, and local media suggest that opioid-related overdoses are increasing,² but the absence of real-time national reporting of overdose-related mortality limits the ability to confirm these reports.

In this issue of *JAMA*, 2 studies report on indicators that reflect the opioid epidemic before and after the widespread emergence of COVID-19 in the US in March 2020: urine drug test results³ and emergency department visits for nonfatal opioid overdose.⁴

Wainwright et al³ reported an increase in the detection of 4 tested substances in random samples (150 000 total) of urine drug tests ordered by health professionals nationwide 4 months before (November 14, 2019, to March 12, 2020) and after (March 13, 2020, to July 10, 2020) the national emergency declaration. The most noteworthy increases in prevalence were for fentanyl (3.80% to 7.32%; adjusted odds ratio, 1.67 [95% CI, 1.55-1.81]) and methamphetamine (5.89% to 8.16%; adjusted odds ratio, 1.23 [95% CI, 1.14-1.32]); increases in cocaine and heroin were also noted. Although the large sample size is a strength, there likely was bias in clinician selection of patients for urine drug testing⁵ and the sample was not nationally representative. For example, only 2% of

all COVID-19 era samples were from New England, a region with high rates of opioid-related death. COVID-19 era samples, compared with pre-COVID-19 samples, were more likely to be from men, individuals aged 24 to 44 years, and drug treatment programs and were less likely to be from behavioral health and pain treatment clinics. These characteristics were adjusted for in the models but unmeasured confounding is possible and may suggest that the increase in substance detection reflected a shift in who received in-person health care and urine testing in the COVID-19 era (ie, patients at highest risk for substance use) rather than changes in substance use in the general population.

The study by Ochalek et al⁴ found that the number of cases of nonfatal opioid-related overdose in 1 emergency department in Virginia increased from 102 cases in March-June 2019 to 227 cases in March-June 2020, whereas the total number of emergency department visits and diagnoses of myocardial infarction decreased during this same period. Patients diagnosed with opioid-related overdose in 2020, compared with 2019, were more likely to be Black (63% vs 80%). While the use of records from March to June across 2 years serves as a control for underlying seasonal variation in overdose, the generalizability of these findings is limited by the small sample size and reporting of a single emergency department. Patients with overdose may have gone to different emergency departments due to closures or ambulance diversion during the pandemic. The number of fatal overdoses was not yet available; therefore, it is possible that the proportion of overdoses that were nonfatal increased while the total (fatal and nonfatal) remained the same. This scenario is perhaps unlikely but could manifest in several ways: (1) increased availability and administration of naloxone;

(2) more use with another person present (eg, in quarantine); or (3) use of less potent opioids due to drug supply changes.

A more definitive answer to the question of whether opioid use has increased during the COVID-19 pandemic will require linked patient data (before and after COVID-19) to examine changes in an individual's substance use or overdose over time. However, the studies by Wainwright et al³ and Ochalek et al⁴ are consistent with the hypothesis that the US COVID-19 epidemic has been accompanied by an increase in substance use with important consequences (nonfatal overdose), with a signal of greater effect among people who are Black. Social determinants of health are important drivers of both the COVID-19 epidemic and opioid epidemic in the US.^{6,7} There are notable disparities in the distribution of COVID-19 cases and deaths by race/ethnicity, socioeconomic status, and neighborhood sociodemographic characteristics, with areas with more poverty and residents belonging to a racial or ethnic minority experiencing a disproportionate burden of COVID-19 cases and mortality.⁷ Given that these same factors are also associated with greater COVID-19 economic effect (eg, job loss) and are known to shape disparities in substance use, access to health care, and health more broadly, it is likely that left unaddressed, the synergistic effects of COVID-19 and the opioid epidemic will further widen racial/ethnic and socioeconomic disparities in the health of the US population.⁷⁻⁹

In addition to widening health disparities, the study by Ochalek et al⁴ suggests an additional problem: the failure to deliver effective treatment for opioid use disorder, even among patients with a symptomatic life-threatening episode requiring emergency treatment, and even in tertiary care institutions that offer substantial addiction specialty treatment services.¹⁰ Initiation of medication in the emergency department increases engagement in addiction treatment and reduces illicit opioid use, and is important for preventing recurrent overdose.¹¹ The authors did not report whether any patients were offered medications for opioid use disorder in the emergency department. However, only 10% of patients (n = 23) attended outpatient opioid use disorder treatment. Sixty-eight percent of patients (n = 154) received information or referral, which is known to be ineffective, particularly when no treatment is provided for the withdrawal and craving that commonly ensue immediately after discharge.¹¹ Those symptoms often lead to return to illicit use precluding any connection to treatment. Fifty-six percent of patients (n = 127) received a prescription for naloxone. The lack of naloxone prescribing represents a critical gap in care that could be addressed in part by mandating naloxone prescriptions for appropriate patients.¹²

The US COVID-19 epidemic has likely adversely affected the incidence of opioid overdose but has also led to opportunities to reduce overdoses by improving treatment. Although

COVID-19 has introduced a number of key challenges to receiving treatment, all differentially affecting low-income or other vulnerable populations (eg, clinic closures, public transportation disruptions, financial stressors), it has also been accompanied by changes favoring access to care. These changes include (1) reducing financial barriers to treatment and naloxone through the emergency expansion of Medicaid, (2) easing of restrictions on the dispensing of methadone (eg, take-home doses for 14-28 days instead of daily directly observed dosing), and (3) expanding the role of telemedicine in the care of patients with opioid use disorder (eg, buprenorphine initiation and follow-up by video or telephone visit). Medicaid expansion under the Affordable Care Act was associated with increased buprenorphine use and naloxone prescribing.^{13,14} Take-home dosing of methadone has been associated with increased treatment engagement and hospitalization reductions.¹⁵

Ultimately, the population effect of these policies will depend in part on state, clinic, and clinician implementation and the availability of sufficient infrastructure to meet need. Medication to treat opioid use disorder is consistently underused,¹⁰ and many counties in the US have a shortage of opioid use disorder treatment.⁹ Successfully linking and retaining individuals in care and treatment will require comprehensive approaches to expanding access, such as eliminating caps on the number of patients who can be treated by a prescriber; expanding community outreach, social services, and telemedicine; by more emergency department physicians obtaining waivers to initiate medication treatment for patients with opioid use disorder who are discharged from the emergency department; and eliminating the barrier of requiring a waiver to prescribe buprenorphine in the first place.

The studies by Wainwright et al³ and Ochalek et al⁴ suggest that substance use and opioid overdoses in the COVID-19 era may be increasing, consistent with media reports.² Conversely, COVID-19 has ushered in the introduction of policies that, if made permanent, have the potential to not only mitigate the effect of the COVID-19 pandemic on overdoses, but also address long-standing structural barriers to accessing proven treatments. There has been a historic failure to deliver effective treatments for opioid use disorder, despite long-standing evidence of efficacy, in the absence of the additional burden COVID-19 has placed on US health care infrastructure. Given this, combined with the racial/ethnic and socioeconomic disparities in opioid overdose and COVID-19-related morbidity and mortality, the introduction of policies alone will be insufficient to mitigate the effect of the COVID-19 pandemic on overdoses. It is critical to identify how best to translate these policies into clinical practice, expand infrastructure, and address the broader social and structural determinants of health that create disparities in access to health care.

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Sophisticated Purchasing of Pharmaceuticals Learning From Other Countries

James C. Robinson, PhD, MPH

In 2019 and early 2020, drug pricing in the United States was a top concern of the public and therefore of politicians. President Trump, the moderate Democrats, the progressive Democrats, and some Republicans competed to denounce louder and regulate more substantially the manner by which pharmaceutical firms set their prices.¹

With the advent of the coronavirus disease 2019 (COVID-19) pandemic, all the momentum was lost, and no major legislation was passed. The attention has shifted to finding therapies and vaccines to treat and prevent severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, and the US public wants more innovation, more manufactur-

ing capacity, and more access for all. Only the usual industry critics are publicly concerned about price.

An important question is whether the drug price reform debate was merely a tale told by novices, full of sound and fury, but signifying nothing, or whether there will be reform after COVID-19?

In an article in *JAMA Internal Medicine*, Emanuel and coauthors² remind physicians, the public, and politicians that drug prices have not decreased and that soon enough, when the pandemic begins to decline, it is likely that there will be further debate about the cost of drugs. The authors provide an answer to this concern and suggest that the United States should learn from its peers, from other developed nations that have created publicly accountable institutions for health tech-

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