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Overdosing on Regulation

How Government Caused the Opioid Epidemic

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EXECUTIVE SUMMARY

Opioid overdose deaths have risen dramatically in the United States over the past two decades. The standard explanation blames expanded prescribing and advertising of opioids beginning in the 1990s.

This “more prescribing, more deaths” explanation has spurred increased legal restrictions on opioid prescribing. Federal and state governments have enacted a variety of policies to curtail prescribing and doctor shopping, and the federal government has raided pain management facilities deemed to be overprescribing. Supporters believe these policies reduce the supply of prescription opioids

and thereby decrease overdose deaths.

We find little support for this view. We instead suggest that the opioid epidemic has resulted from too many restrictions on prescribing, not too few. Rather than decreasing opioid overdose deaths, restrictions push users from prescription opioids toward diverted or illicit opioids, which increases the risk of overdose because consumers cannot easily assess drug potency or quality in underground markets. The implication of this “more restrictions, more deaths” explanation is that the United States should scale back restrictions on opioid prescribing, perhaps to the point of legalization.

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INTRODUCTION

Opioid overdose deaths have risen dramatically in the United States over the past two decades (Figure 1). The standard explanation blames expanded prescribing and advertising of opioids beginning in the 1990s.

This “more prescribing, more deaths” explanation has spurred increased legal restrictions on opioid prescribing in the United States. Most states have enacted Prescription Drug Monitoring Programs (PDMPs), which aim to curtail doctor shopping and overprescribing, and many states have capped legal opioid prescription doses. The federal government now limits opioid production and raids pain management facilities deemed to be overprescribing. In October 2018, the federal government enacted legislation that increases monitoring of prescribers and grants funding for organizations and hospitals that attempt to reduce prescribing.¹ Congress is also considering additional regulation, such as limiting initial opioid prescriptions to small doses and restricting prescription packaging sizes.² Supporters believe these restrictions will reduce the supply of prescription opioids and thus decrease overdose deaths.

We suggest that the opioid overdose epidemic has resulted from too many restrictions on prescription opioids, not too few.³ The risk of overdose from the proper medical use of prescription opioids is low. Worse, restrictions on prescribing push users from prescription opioids toward diverted or illicit opioids, which increases the risk of overdose because consumers cannot easily assess drug potency or quality in underground markets. Since 2011, rapidly increasing deaths from heroin and synthetic opioids such as fentanyl have driven up the opioid overdose death rate despite reduced prescribing. Restrictions on prescribing also risk pain undertreatment, harming patient quality of life and driving some to suicide.⁴ The implication of this “more restrictions, more deaths” explanation is that the United States should scale back restrictions on opioid prescribing, perhaps to the point of legalization.

We acknowledge that the case for the

“more restrictions, more deaths” explanation is not conclusive; for example, we cannot quantify how many opioid users transact in underground markets or assess the causal effect of specific policy restrictions. We suggest, however, that available evidence is far more consistent with the “more restrictions, more deaths” explanation than the standard view.

The paper proceeds as follows. We first outline the contrasting “more prescribing, more deaths” and “more restrictions, more deaths” explanations. We then review evidence that addresses these competing views of the opioid epidemic. In the final section, we discuss the policy implications of our findings, including the case for legalizing opioids.

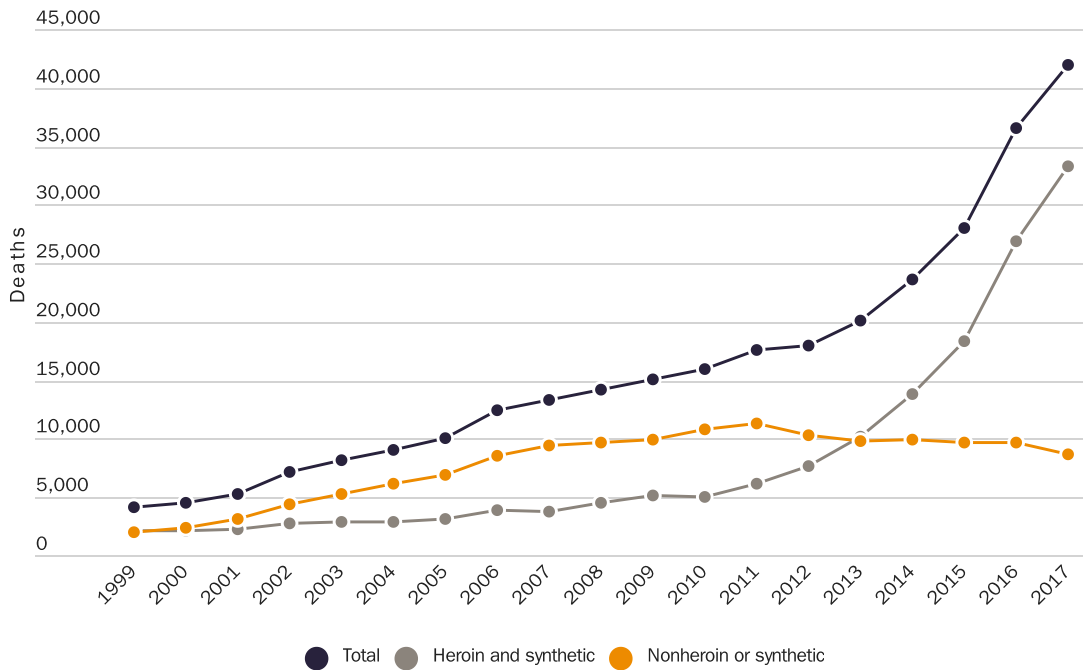
MORE PRESCRIBING, MORE DEATHS

In 1999, the unintentional opioid overdose death rate in the United States was roughly two per 100,000 people; by 2017, it had increased to roughly 13 per 100,000.⁵ Through 2012, natural or semisynthetic opioids such as OxyContin and Vicodin accounted for more than half of these deaths. Since 2010, heroin and synthetic opioids such as fentanyl have accounted for a growing share, with nearly 80 percent attributed to these two drug categories in 2017.⁶ Figure 1 presents these data for 1999–2017.

The standard explanation argues that this dramatic rise in opioid overdose deaths resulted from an expansion of opioid prescribing that began in the 1990s. Doctors had previously prescribed opioids for short-term pain and for palliative care in terminally ill cancer patients, but generally not for chronic conditions (such as back pain, osteoarthritis, fibromyalgia, or headaches) due to fear of patient addiction or abuse.⁷

New research in the 1980s, however, suggested that long-term medical use of opioids posed little risk of addiction.⁸ This evidence, along with the concerns of some healthcare providers that physicians were undertreating pain, prompted medical boards, pain societies, and patient support groups to advocate opioid

Figure 1
Unintentional opioid overdose deaths, 1999–2017



Source: Centers for Disease Control, National Center for Health Statistics, “Multiple Cause of Death 1999–2017,” CDC WONDER online database.

analgesic treatment of chronic noncancer pain. Pharmaceutical companies supported this change and argued that new slow-release opioids like OxyContin had particularly low risks of addiction.⁹

According to proponents of the “more prescriptions, more deaths” explanation, however, this early optimism about long-term opioid prescribing relied on limited and unpersuasive evidence. Proponents of this view argue that the expansion in opioid prescribing in the 1990s caused increased addiction, overdoses, and deaths. The implication of this view is that restrictions on prescribing can reduce these harms.

MORE RESTRICTIONS, MORE DEATHS

The “more restrictions, more deaths” explanation for the opioid epidemic holds that users face greater risk of overdose when policy restricts legal access. The 1970 Controlled Substances Act (CSA) places all drugs into one of five schedules based on the Drug

Enforcement Administration’s (DEA) assessment of each drug’s medical value relative to its potential for abuse.¹⁰ Schedule I drugs (e.g., heroin, marijuana, LSD) are not legally available under federal law.¹¹ Schedule II–V drugs are available by prescription, subject to DEA restrictions and oversight. Unscheduled drugs, such as acetaminophen or ibuprofen, are available over the counter.

Opioids are exclusively available by prescription. Thus, while most opioids are legal to produce, distribute, and use within the CSA rules, they are not as freely available as standard legal goods. Doctors generally limit prescriptions due to medical norms and legal restrictions. Individuals whose demand for opioids exceeds these limits then seek opioids from diverted or illicit sources.

Diverted or illicit opioids are more dangerous than legally provided versions. Quality control is poor in underground markets because reliable suppliers cannot legally advertise their goods and because consumers cannot sue for damages due to faulty or mislabeled products.¹² The underground drug trade incentivizes

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“Underground opioid markets are more likely than legal markets to supply hyperpotent products and synthetic ‘designer drugs’ of uncertain potency and quality.”

trafficking in high-purity products to facilitate evasion.¹³ Consumers cannot easily assess the purity of the products they consume, so they accidentally take high-dose drugs or versions laced with more potent opioids like fentanyl (30 times stronger than heroin).

Underground opioid markets are therefore more likely than legal markets to supply hyperpotent products, such as heroin or fentanyl, and synthetic “designer drugs” of uncertain potency and quality, such as the heroin substitute Krokodil.¹⁴ While potent opioids would likely exist in a legal market (e.g., high-proof spirits exist in the alcohol market), consumers are unlikely to mistake these for less potent versions. Thus, restrictions that push opioid consumption underground likely increase the risk of overdose.

Consumers of illicit or diverted products also face a higher risk of adverse drug interactions. Drugs obtained in underground markets do not come with warning labels, and users cannot discuss safe use with their physicians, making them more likely to combine opioids with alcohol or other medications that suppress respiration. Consumers in underground markets may also have a higher risk of overdose because they are less likely to consume drugs in familiar environments. Using drugs in familiar environments can reduce tolerance by inducing an anticipatory response.¹⁵

The “more restrictions, more deaths” explanation thus suggests that, beginning in the 1990s, doctors began prescribing opioids to an increasing number of patients. This increased the number of individuals who demanded opioids for longer than the duration of their prescriptions, whether for recreational use or because of ongoing pain or physical dependence. When their prescriptions ended, many of these patients turned to diverted or illicit opioids, which generated more overdoses due to the greater risks of underground use. According to this view, loosening restrictions on opioid prescribing would lower the opioid overdose rate.

A complementary hypothesis is that

overdoses have occurred not only from patients cut off from a prescription supply but also from individuals who consumed diverted opioids for recreation or self-medication. Increasing restrictions on the legal supply of opioids during the 1990s and 2000s pushed these individuals further into the black market and spurred more uncertainty about the quality and potency of the diverted or illicit opioids they consumed.¹⁶

EVIDENCE AGAINST THE STANDARD EXPLANATION

The standard explanation for the opioid epidemic rests on three claims: that long-term opioid use generates addiction; that long-term opioid use or addiction generates overdoses; and that overdoses have risen in sync with opioid prescribing over the past 20 years. We address each of these claims.

Long-Term Use and Addiction

The claim that long-term medical use generates addiction is the opposite of the consensus that began to emerge in the 1980s, which held that long-term medical use rarely generates addiction. Proponents of the standard explanation argue that, in coming to this more benign view of opioids, physicians and pharmaceutical companies relied excessively on a 1980 letter to the editor of *The New England Journal of Medicine*, which stated:

Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. . . . We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.¹⁷

Advocates of the standard view argue that this letter provided insufficient grounds for the conclusion that long-term opioid use

poses little risk of addiction, noting the letter's brevity and limited peer review.¹⁸

Studies since the 1980s, however, have consistently found only a modest risk of addiction or dependence from the medical use of opioids, in the range of 0 to 5 percent.¹⁹ A 2018 study of more than 568,000 patients receiving opioids between 2008 and 2016 found a "misuse" rate of 0.6 percent.²⁰ Reports of opioid abuse did not increase in the 1990s despite increased medical use.²¹ A substantial fraction of patients who exhibit addiction after medical use have a preexisting psychological disease or history of addiction.²² According to the medical handbook *Clinical Drug Data*, "addiction does not occur when these drugs are used for legitimate painful conditions."²³

Long-Term Use and Overdose

The claim that long-term opioid use or addiction generates more overdoses is not supported by the evidence: long-term opioid use has minimal life-threatening consequences under appropriate medical guidance.²⁴ As long as "escalations in opioids are carefully titrated on the basis of appropriate control of symptoms . . . concerns that death will be hastened by opioids are unwarranted."²⁵ Patients receiving long-term stable doses of an opioid rarely suffer from respiratory depression because they quickly develop tolerance to the drug.²⁶ Respiratory depression is more likely to occur as a result of consumption from the underground market, when doses are more likely to be taken without regard to the drug's half-life or combined with other drugs.²⁷

As a crude measure of opioid risk, consider that in 2017 American physicians wrote nearly 200 million prescriptions for opioid pain relievers.²⁸ The Substance Abuse and Mental Health Services Administration (SAMHSA) estimates that in 2017, nearly 87 million non-institutionalized adults in the United States had used prescription pain relievers in the past year.²⁹ The number of unintentional nonheroin or synthetic opioid overdoses was about 9,000, or 0.01 percent of the population taking prescription opioids.³⁰ For comparison,

a study analyzing the nonopioid antipsychotic drug Clozapine found a sudden death rate of 0.71 percent for those treated with the drug in the sample.³¹ The overall mortality rate for prescription opioids is comparable to the fatality risk of one year of daily aspirin use.³²

Trends in Prescribing and Overdoses

The claim that opioid prescribing and unintentional opioid overdose deaths have risen concurrently over the past two decades is also subject to important caveats. First, the increasing trend in prescription opioid overdose deaths over the past several decades, during which prescribing generally increased, is likely overstated. Second, trends in opioid prescribing and the overdose death rate have recently diverged as prescribing has decreased, while deaths caused by heroin and synthetic opioids have accelerated. This suggests that prescribing is not the main driver of opioid overdoses and supports the "more restrictions, more deaths" explanation.

Death statistics may overstate the actual prevalence of prescription opioid overdoses due to errors in cause-of-death determination. Medical examiners and coroners generally classify drug-related deaths based on the results of forensic toxicology screens. Higher levels of opioid prescribing from the 1990s to 2010 may have increased the number of opioid-positive toxicology screens because the share of people using prescription opioids increased. This made it more likely that the screens would detect high prescription opioid concentrations in a person's bloodstream at the time of death, regardless of the actual cause. A high concentration of opioids at the time of death does not by itself imply that overdose was the cause of death, since the lethal concentration level depends on a person's tolerance, rate of drug metabolism, severity of chronic pain, and other factors.³³ Thus, a higher rate of opioid-positive toxicology screenings is not indicative of an increase in prescription opioid overdose deaths.

If determining the cause of death were an exact science, the higher frequency of opioid-positive screens due to increased

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“The decline in nonmedical use of pain relievers at the same time that opioid prescribing was increasing suggests that the increase in opioid prescribing did not cause a significant increase in opioid addiction.”

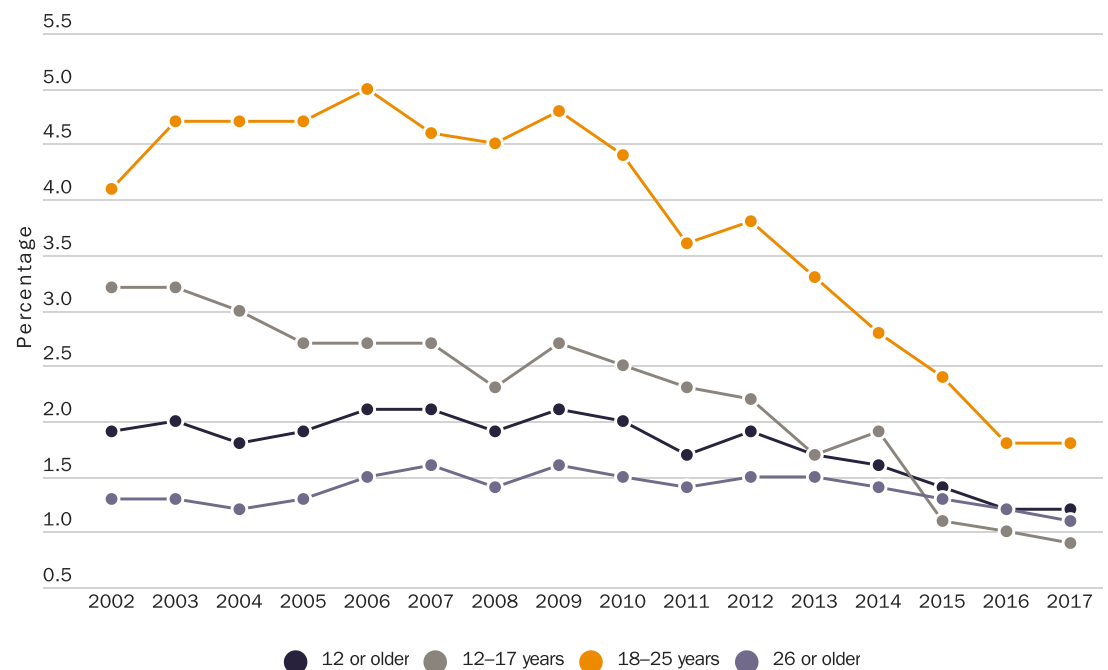
opioid prescribing over the past several decades would not affect reported cause-of-death statistics. In practice, cause-of-death determinations are subject to significant error, and the increased rate of prescription opioid detection by forensic toxicology screens could mechanically increase the number of reported overdose deaths.³⁴ Toxicology screens of drug-poisoning decedents frequently reveal multiple drugs or alcohol, making it difficult to ascertain the true cause of death.³⁵ Medical examiners and coroners tend to classify deaths caused by a combination of several different drugs as opioid overdose deaths as long as opioids are present in concentrations considered to be above the lethal level.³⁶ As a result, death certificates may overstate the actual number of prescription opioid overdoses.

In addition, it is sometimes difficult for medical examiners or coroners to distinguish between deaths caused by prescription and illicit opioids. Death certificates often misclassify heroin-overdose deaths as morphine related because medical examiners rarely identify deaths as heroin related without

the presence of a metabolite that is unique to heroin but rapidly metabolizes into morphine.³⁷ In 2016, the CDC reported that the growing practice of mixing illicit fentanyl with counterfeit opioid pills has likely increased the misclassification of fentanyl deaths as prescription overdose deaths.³⁸ As a result, overdose statistics may overstate the risks of prescription opioids and obscure the increasing mortality of illicit opioid use, inflating the increasing trend in overdose deaths from prescription opioids.

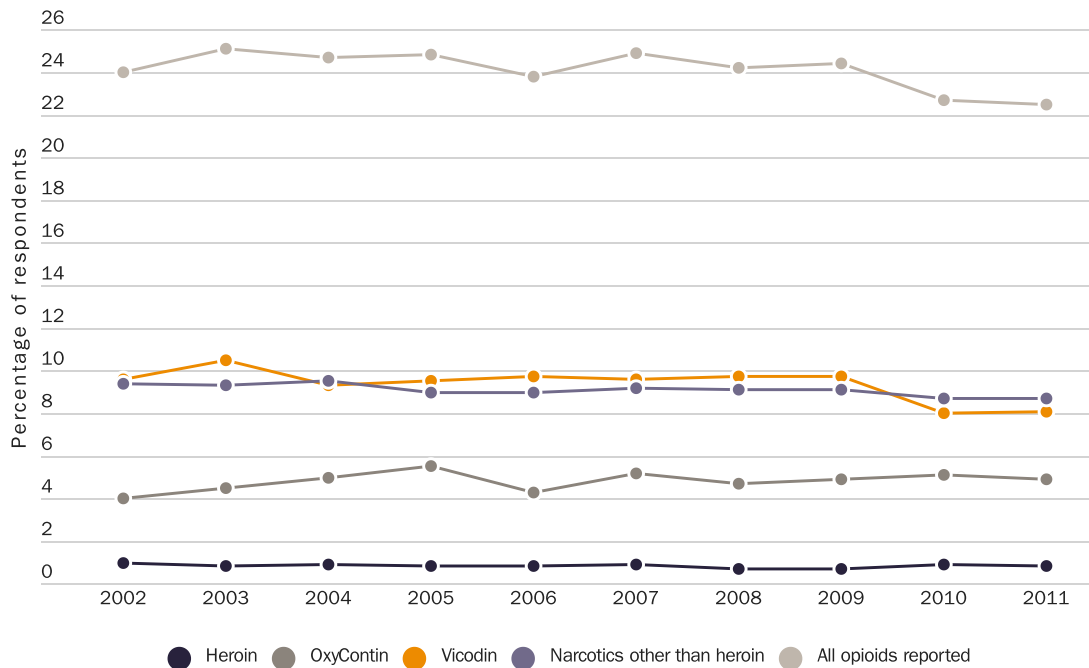
The claim that the sharp increase in opioid overdose deaths between 1999 and 2010 was caused by increased prescribing during this period is also inconsistent with evidence that prescription opioid addiction rates did not increase. Survey data find that the nonmedical use of pain relievers remained stable or declined over the 2002–2010 period (Figure 2a).³⁹ Similarly, recreational use of OxyContin, Vicodin, and narcotics other than heroin among high school seniors decreased slightly (Figure 2b).⁴⁰ The decline in nonmedical use of pain relievers at the same

Figure 2a
Past month nonmedical use of pain relievers by age group, 2002–2017



Source: Substance Abuse and Mental Health Services Administration (SAMHSA), “National Survey on Drug Use and Health,” 2014, 2015, and 2017.

Figure 2b
Annual prevalence of drug use for 12th graders



Source: Lloyd D. Johnston et al., *Monitoring the Future National Survey Results on Drug Use: 1975–2017, Volume 1: Secondary School Students* (Ann Arbor: Institute for Social Research, University of Michigan, 2017).

time that opioid prescribing was increasing suggests that the increase in opioid prescribing did not cause a significant increase in opioid addiction and that the reported number of overdose deaths from prescription opioids may be overstated.

Finally, the claim that the recent increase in opioid overdose deaths reflects the dangers of prescribing is contradicted by the recent surge in overdoses caused by heroin and synthetic opioids such as fentanyl. Figure 3 displays these data for the 1999–2015 sample. The correlation between opioid prescribing and unintentional opioid overdose deaths is positive through 2010 but weakens significantly and becomes negative afterward. Whereas opioid prescribing began declining in 2011, unintentional opioid overdoses continued to climb at a faster rate. Although deaths from prescription opioids declined, deaths from heroin and synthetic opioids such as fentanyl increased. In 2017, heroin and synthetic opioids accounted for more than three-fourths of all opioid overdose deaths.⁴¹

EVIDENCE FOR THE ALTERNATIVE EXPLANATION

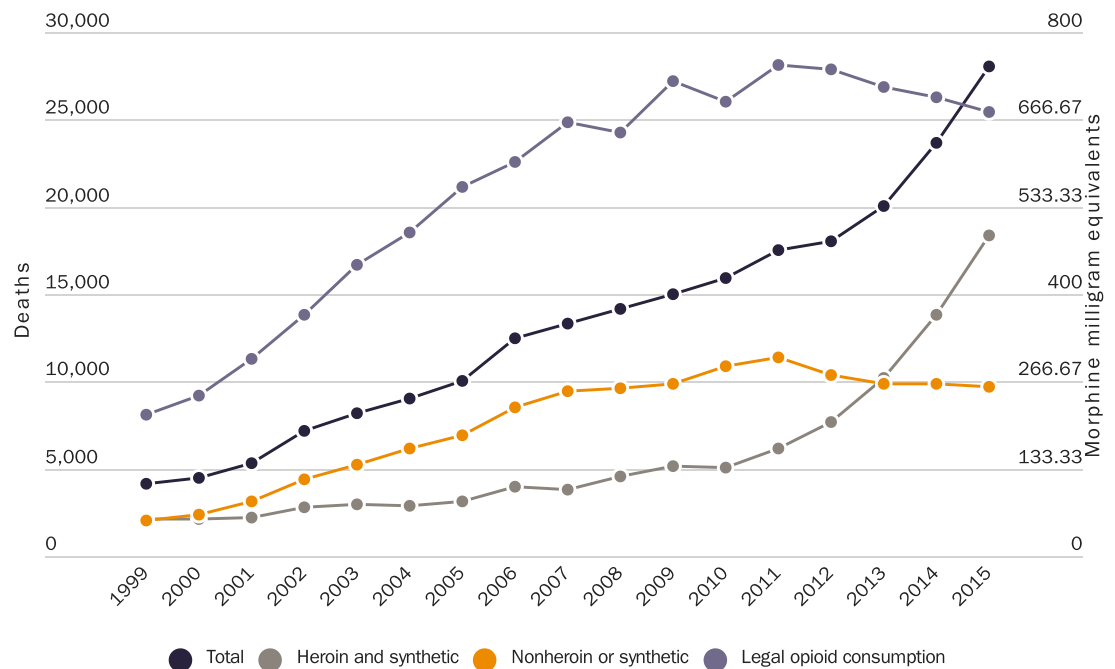
The “more restrictions, more deaths” view posits that opioid overdoses result mainly from restrictions on opioid access, which push consumers to higher-potency products and hamper their ability to determine the potency or quality of the drugs they consume. This view is supported by evidence that restrictions on opioid prescribing over the past decade may have pushed opioid users to the underground market, increasing the harms associated with illicit drug use. At a minimum, increasing regulation of opioid prescribing has failed to decrease opioid overdose mortality over the past several years, weakening the case for additional regulations. We suggest that deregulation of opioid prescribing may decrease the harms of illicit drug use and promote other benefits to public health and safety.

Federal law has limited opioid access for over a century. The Harrison Narcotics Tax Act of 1914 first regulated and taxed the production, importation, and distribution of opiates, laying the groundwork for a regulatory regime that

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“Restrictions on the legal supply of opioids have limited access to opioid-dependence treatment and may have pushed users to underground markets.”

Figure 3
Unintentional opioid overdose deaths vs. legal opioid consumption, 1999–2015



Sources: Centers for Disease Control, National Center for Health Statistics, “Multiple Cause of Death 1999–2017,” CDC WONDER online database; “United States: Opioid Consumption in Morphine Equivalence mg per person,” Pain and Policy Studies Group, 2015, pdf.

gradually morphed into prohibition.⁴² In 1951, the Durham-Humphrey Amendment to the Food, Drug, and Cosmetic Act created a mandatory distinction between drugs that could be purchased over the counter and those that required a prescription.⁴³ The 1970 Controlled Substances Act placed all federally regulated drugs in one of five schedules, and in 1986, the Anti-Drug Abuse Act established criminal penalties for possession of controlled substances and mandatory minimum sentences for offenses involving heroin, fentanyl, and other drugs.⁴⁴

More recently, restrictions on the legal supply of opioids have limited access to opioid-dependence treatment and may have pushed users to underground markets. For example, the federal government restricts prescribing of maintenance treatment of opioid dependence with drugs such as methadone and buprenorphine, a Schedule III opioid partial agonist often used to treat dependence. While the 2000 Drug Addiction Treatment Act partially liberalized controls on maintenance treatment by allowing qualifying physicians to prescribe and

dispense buprenorphine, access to this treatment remains highly restricted. The Act limited the number of patients a physician can treat at one time and imposed substantial regulation on participating physicians, such as training requirements, DEA oversight and onsite inspections, and sometimes an additional fee.⁴⁵ Only 5 percent of physicians are licensed to prescribe buprenorphine, and few licensed prescribers treat the maximum permitted number of patients.⁴⁶ Surveys of physicians indicate that the main impediments to buprenorphine prescribing include a lack of knowledge about how to acquire a DEA license and fear of buprenorphine diversion.⁴⁷ The scarcity of buprenorphine treatment may have pushed opioid users to underground markets.

In 2001, methadone oversight shifted from the Food and Drug Administration (FDA) to SAMHSA, which required that methadone treatment programs for opioid dependence undergo a lengthy peer review accreditation process.⁴⁸ The number of facilities dispensing methadone in opioid treatment programs

dropped by about 20 percent after 2001 and did not rebound for four years.⁴⁹ Furthermore, the Federal Opioid Treatment Standards published in 2015 mandated in-clinic opioid maintenance treatment for most patients and reserved maintenance treatment exclusively for patients who have been addicted to opioids for at least one year, further reducing access to treatment.⁵⁰

Fearing drug diversion, some states have enacted moratoria on establishing methadone clinics.⁵¹ West Virginia, for example, placed a moratorium on methadone clinics in 2007, and Georgia placed a one-year moratorium on granting new licenses to opioid treatment clinics in 2016.⁵² The annual opioid overdose death rate in West Virginia has generally continued to increase since 2007, and the death rate has continued to increase in Georgia since 2016.

Restrictions on opioid maintenance treatment contradict decades of literature showing that maintenance treatment mitigates heroin and opioid dependence, reduces drug overdose deaths, and generally decreases the mortality rate of opioid use.⁵³ Medically assisted treatments using substances such as buprenorphine and methadone are associated with reductions in opioid-related mortality and illicit drug use.⁵⁴ Access to methadone treatment is associated with fewer deaths. The U.S. Code of Federal Regulations has also acknowledged that the use of methadone “has been shown to be an effective part of a total treatment effort in the management and rehabilitation of selected narcotic addicts.”⁵⁵

Federal and state policies have also increasingly regulated prescription opioids, contributing to a decline in opioid prescribing starting in 2011 (Figure 3). This may have exacerbated heroin mortality and the undertreatment of pain. For example, in 2007, Congress granted the FDA authority to require drug manufacturers to conduct postmarketing safety studies and develop Risk Evaluation and Mitigation Strategies (REMS) for a prescription drug’s approval, increasing the regulatory costs of drug distribution and potentially limiting patient access to important therapies.⁵⁶ In

2012, the FDA approved a REMS program for extended-release and long-action opioids that included new product labeling and required manufacturers to offer opioid training programs for prescribers on a voluntary basis.⁵⁷ Since 2013, the FDA has gradually introduced additional postmarketing requirements for opioid products.⁵⁸ States have also increasingly regulated legal opioid access; by the end of 2017, 26 states had imposed mandatory limits on prescribing for acute pain.⁵⁹

Federal and state crackdowns on “pill mills,” networks of doctors and pain clinics that prescribe high quantities of opioids, have further reduced the availability of prescription opioids.⁶⁰ In 2011, for example, Florida banned pain management clinics from dispensing drugs and required extensive medical examinations before and after prescribing opioids for chronic pain.⁶¹ In 2017, the Department of Justice created the Opioid Fraud and Abuse Detection Unit to increase monitoring of physicians and pharmacies deemed to be dispensing “disproportionately large amounts of opioids.”⁶² National media coverage of these crackdowns has increased physician fears of disciplinary action or prosecution, reducing opioid prescribing.⁶³ Surveys indicate that these regulations have decreased physicians’ willingness to prescribe opioids, potentially causing them to undertreat pain.⁶⁴

In the face of public pressure, in 2010 Purdue Pharmaceuticals introduced a reformulated, abuse-deterrent version of OxyContin. This reformulation made the drug less appealing to opioid abusers and caused many to substitute to heroin, an easily available and cheaper substitute. The reformulation of OxyContin led to an increase in heroin-overdose rates.⁶⁵

In 2015, Endo Pharmaceuticals introduced an abuse-deterrent reformulation of the extended-release hydromorphone, Opana ER. The reformulation caused users to inject the drug and was linked to at least one HIV outbreak of roughly 190 people, the largest outbreak in Indiana history.⁶⁶

State Prescription Drug Monitoring Programs (PDMPs) have also been

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“Evidence suggests that the decline in opioid prescribing caused by regulation of the prescription opioid supply has fueled the acceleration in heroin and fentanyl deaths since 2011.”

implemented to reduce opioid access by preventing doctor shopping and reducing “excess” prescribing.⁶⁷ These programs require doctors who prescribe opioids (and other controlled substances) to enter this information in a database that allows or requires other prescribers to check a patient’s history before writing prescriptions.⁶⁸

Studies of PDMP effectiveness generally find that the programs modestly reduce prescribing and prescription opioid deaths and find an ambiguous or positive association between PDMPs and increased deaths from nonprescription opioids such as heroin.⁶⁹ However, recent work suggests that the reported effect of PDMPs on opioid-related harms is highly sensitive to the dates chosen to represent the start of PDMP implementation, which are not consistent across studies.⁷⁰ The existing literature also largely relies on data sources for PDMP implementation dates that do not report detailed information regarding how the dates were determined.⁷¹ We leave this as an area for future work.

In October 2018, Congress passed the SUPPORT Act (Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities), which increases federal assistance for state PDMPs, expands access to opioid use disorder treatment, expands efforts to identify overprescribing, and grants funding to hospitals that limit the use of prescription opioids.⁷² The SUPPORT Act’s expansion of access to opioid use disorder treatment is a positive step toward decreasing opioid overdoses. However, the Act’s incentives for hospitals to limit prescribing may push users to consuming illicit opioids, increasing mortality and other risks to public health, such as higher HIV infection rates. Increased federal monitoring of prescribers could also contribute to the undertreatment of pain by exacerbating fear of regulatory sanctions.

While government and public pressure to reduce opioid prescribing may have reduced prescription overdoses (Figure 3), available evidence suggests that the decline in opioid prescribing caused by regulation of the prescription

opioid supply has fueled the acceleration in heroin and fentanyl deaths since 2011. While abuse of prescription opioids declined beginning in 2010, the rate of heroin abuse sharply increased between 2008 and 2014.⁷³ In 2013, the share of heroin users who had abused or were dependent on opioid analgesics was more than double the share in 2002.⁷⁴

In 2015, the DEA reported that the declining availability of prescription opioids compared to heroin and the reformulation of OxyContin had contributed to the accelerating rate of prescription opioid abusers switching to heroin since 2010.⁷⁵ Many young heroin users state that they transitioned from using (usually diverted) prescription opioids to heroin when prescription opioids became difficult to acquire due to decreased physician willingness to prescribe and increased police monitoring of pill markets.⁷⁶

Proponents of opioid-prescribing regulations argue that while decreased prescribing may harm people who switch to more dangerous drugs like heroin, it will also reduce the creation of new addicts by limiting exposure to opioids in the first place. However, so long as heroin is illegal, the overdose risk of increased heroin use far outweighs that of prescription opioids. In 2017, roughly 10 times more people had used nonheroin opioids than heroin in the past year, yet the numbers of overdoses from heroin and nonheroin opioids were approximately equal.⁷⁷

Furthermore, it is likely that a substantially smaller share of prescription opioid users would eventually transition to using heroin if prescription opioids were legal. Prescription users who switch to heroin are primarily driven to do so by heroin’s greater availability or lower price.⁷⁸ Greater access to prescription opioids would decrease the incentive to switch to heroin.

Furthermore, concerns about creating new addicts should not dissuade doctors from prescribing opioids as medically indicated. As previously discussed, proper medical use of opioids carries little risk of addiction or overdose. Most people who abuse opioids after being exposed to them through a physician’s

prescription already have a history of psychoactive drug use, and nearly three-quarters of people who misuse prescription pain relievers obtain them from sources other than their doctors, such as friends or relatives.⁷⁹ Interviews of heroin users indicate that of those who first initiated regular opioid use with prescription opioids, most used diverted opioids from friends or family.⁸⁰ Proper medical treatment of pain is unlikely to cause opioid dependence or heroin use, and undertreating pain harms patients' quality of life and has led to a number of suicides.⁸¹

Evidence from other countries also suggests that increased legal access to opioids reduces deaths and improves health outcomes, such as improved treatment for opioid dependence and lower HIV infection rates. In 1995, France allowed physicians to prescribe buprenorphine for maintenance treatment without patient caps or special licensing requirements, leading to a fivefold reduction in heroin deaths and an estimated 3,900 lives saved.⁸² In the 1970s, Hong Kong expanded access to medically assisted treatments for opioid dependence, leading to a rapid decrease in HIV infection rates.⁸³

Expansion of legal access to drugs in other countries has also been associated with declines in overdoses and deaths. In 2001, when Portugal decriminalized all drugs, it had the highest overdose rate in Western Europe. Drug-related deaths and HIV diagnoses attributed to injecting declined substantially, and Portugal now has the lowest overdose rate in Europe.⁸⁴ In 2009, the Czech government decriminalized a variety of drugs, including heroin. By 2015, the number of drug-induced deaths in the Czech Republic had declined by about 20 percent from its peak in 2010.⁸⁵ In the United Kingdom, Germany, Switzerland, and Canada, physicians can prescribe heroin for the treatment of severe dependence on heroin and other opioids.⁸⁶ Heroin-assisted treatment has been associated with consistently positive therapeutic outcomes and reduced illicit heroin use in these countries.⁸⁷

Safe injection rooms, which allow users of

opioids and other drugs to access clean needles in a supervised and controlled setting, have become prevalent in cities across Europe and Canada.⁸⁸ The sites reduce the use of contaminated needles and the pressure to consume drugs in a solitary or unfamiliar setting. Opponents fear such sites will increase drug use, but little evidence supports this fear.⁸⁹ In fact, safe injection sites are associated with "lower overdose mortality . . . 67% fewer ambulance calls for treating overdoses, and a decrease in HIV infections."⁹⁰

SUMMARY AND POLICY IMPLICATIONS

The standard view of the opioid epidemic argues that increased prescribing caused the recent increase in opioid overdose deaths. Medical use of opioids, however, is not a major cause of opioid addiction or overdose. Instead, available evidence suggests that the array of recent state and federal restrictions on legal access to opioids likely contributed to increasing overdoses by pushing users to diverted or illicit sources. Over the past few years, the opioid epidemic has accelerated due to overdoses caused by heroin and synthetic drugs such as fentanyl, despite reduced prescribing. Further restrictions on prescribing are unlikely to decrease overdose deaths.

A simple first step in decreasing the risks associated with the consumption of opioids from diverted or illicit sources is to increase legal access. For example, the federal government could end or decrease the regulation of methadone, buprenorphine, and even morphine- or heroin-maintenance treatment for opioid dependence and remove rules that limit prescribing or increase the costs of opioid production. Federal and state governments could also end raids on pill mills. These reforms could increase access to opioid dependence treatment, prevent the undertreatment of pain, and reduce the harms associated with underground consumption.

The United States could consider making all opioids "more legal" by shifting opioids

“A simple first step in decreasing the risks associated with the consumption of opioids from diverted or illicit sources is to increase legal access.”

to less regulated schedules or even over-the-counter status. In the extreme case, opioids would be legally available for purchase without a prescription. While modest reforms to regulation can decrease the prevalence of underground opioid consumption, outright legalization would eliminate the underground market entirely. Individuals who choose to purchase and consume opioids would be able to do so in a safer setting, reducing the dangers of use. We suggest this would counteract the recent increase in opioid overdose deaths.

Beyond any implications for overdose deaths, restrictions on legal access to opioids

should be assessed in light of all their costs and benefits. Even if increased opioid prescribing heightens the frequency of opioid dependence, prescribing also improves the quality of life of patients who suffer from severe or chronic pain. Decreased prescribing in recent years, for example, has apparently driven at least 23 patients to suicide.^{9†} We have focused here on overdose deaths in particular, but we emphasize that a complete analysis of restrictions on prescribing almost certainly suggests that the harms of regulation outweigh the risk of increasing opioid dependence through greater legal access.

NOTES

1. SUPPORT for Patients and Communities Act, H.R. 6, 115th Cong. (2017–2018).

2. Margot Sanger-Katz and Thomas Kaplan, “Congress Is Writing Lots of Opioid Bills. But Which Ones Will Actually Help?,” *New York Times*, June 20, 2018.

3. Previous authors have raised many of the points we raise in this paper. We attempt to synthesize these analyses and provide additional evidence. See also Jeffrey A. Singer, “The Drug Prohibition Is to Blame for the Opioid Crisis,” Cato Institute, Commentary, December 4, 2018; Jacob Sullum, “Opioid-Related Deaths Keep Rising as Pain Pill Prescriptions Fall,” *Reason*, November 29, 2018; J. J. Rich, “The Opioid Fix That Wasn’t,” *Reason*, October 26, 2018; and Mark Edmund Rose, “Are Prescription Opioids Driving the Opioid Crisis? Assumptions vs. Facts,” *Pain Medicine* 19, no. 4 (April 2018): 793–807.

4. Stefan G. Kertesz, Adam J. Gordon, and Sally L. Satel, “Opioid Prescription Control: When the Corrective Goes Too Far,” *Health Affairs* (blog), January 19, 2018.

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6. CDC.gov, National Center for Health Statistics, “Multiple Cause of Death 1999–2017.”

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