

PULLING THE WRONG LEVER OPENS A TRAP DOOR: USING TAXES TO FIGHT THE OPIOID EPIDEMIC

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ABSTRACT

By the late 1990s, a cultural shift that helped to normalize prescription opioid use was underway in the United States. Pharmaceutical companies, regulators, and prescribers were among the intentional or unwitting change agents in this cultural revolution. Between 1999 and 2010, the number of opioid prescriptions written in the United States increased by 300%.¹ Between 1999 and 2015, the number of opioid-related deaths quadrupled.² Like a prescribed wildland burn that grows out of control, America's dependence on prescription opioids has become overpowering and uncontrollable. The opioid epidemic has taken an obvious human toll. It has also exacted a charge to the economy—from the burdening of our health care, law enforcement, and criminal justice systems to the loss in productivity and tax revenues.

Once the alarm was sounded, lawmakers began to fight the opioid war by pushing and pulling on various policy levers, including educational campaigns and regulation. Since 2018, five states have enacted taxes or fees on prescription opioids. Much has been written about the effectiveness of various educational campaigns and regulatory reforms to quell the opioid epidemic, but missing from the discussion is the use of price instruments such as taxes. This Article fills that gap by considering whether a tax on prescription opioids could be an effective strategy to combat America's opioid crisis.

This Article posits that opioid excise taxes are misguided if their purpose is to reduce consumption unless the taxes are reflected in consumers' out-of-pocket expenses. Such taxes may also be an ineffective mechanism in the effort to cause drug makers to internalize the social costs of their products. Nonetheless, opioid excise taxes might generate much needed funding for states to battle the opioid epidemic. This Article considers certain issues in designing such a tax and potential drawbacks.

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2. COUNCIL OF ECON. ADVISERS, EXEC. OFFICE OF THE PRESIDENT, THE UNDERESTIMATED COST OF THE OPIOID CRISIS 1–2 (2017) [hereinafter COUNCIL OF ECON. ADVISERS, UNDERESTIMATED COST].

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INTRODUCTION

The United States is hands down the world's best opioid customer; those within its borders consume more than 80% of the world's opioid supply.³ The most visible and profound consequence of this sobering fact might well be the lives lost from opioid overdose. The death toll from a prescription opioid overdose in the United States is

3. See Brian Mann, *Doctors and Dentists Still Flooding the U.S. with Opioid Prescriptions*, NPR (July 17, 2020, 8:27 AM), <http://www.npr.org/2020/07/17/887590699/doctors-and-dentists-still-flooding-u-s-with-opioid-prescriptions> [https://perma.cc/KM37-8J5J]. But see Mark Edmund Rose, *Are Prescription Opioids Driving the Opioid Crisis? Assumptions vs Facts*, 19 PAIN MED. 793, 798 (2018) (stating that it is a common misconception that "opioid overprescribing [in the United States] is rampant" because "[t]he United States consumes 80% of the world opioid supply and 99% of the hydrocodone supply" because these figures omit data regarding the accessibility of opioids and differing prescription preferences globally).

equivalent to a regional jet that carries forty-one people crashing every single day with zero souls surviving.⁴

The rise in opioid-related deaths has been staggering: the rate more than doubled between 2005 and 2015 and has quadrupled since 1999.⁵ Drug overdose is now the leading cause of accidental deaths in the United States, exceeding the number of deaths from more ubiquitous means such as motor vehicles.⁶ Overdoses have been estimated to result in 830,652 years of potential life lost before age sixty-five.⁷

America's addiction to opioids has serious and devastating consequences beyond premature death from overdose. Those lucky enough to avoid death might have to live with compromised physical and mental health.⁸ They also might have to contend with legal problems, including incarceration and criminal records that impede their ability to obtain gainful employment.⁹ Financial consequences from the inability to maintain stable employment and the deterioration of personal and family relationships are also real possibilities.¹⁰

These micro-level consequences spill over to society, from the economic burden on health care, law enforcement, and criminal justice systems to the drag on the economy resulting from lost productivity and tax revenues.¹¹ Demands on health care—including emergency room and addiction treatment—law enforcement, foster care, and judicial systems are squeezing government budgets.¹²

Policymakers have responded by pushing and pulling on various policy levers. The most effective approach to abate the opioid crisis likely will require a multifaceted solution that employs numerous complimentary levers. Some of these levers are information or knowledge based, such as educational campaigns.¹³ Other levers depend on government regulations that attempt to influence producer, prescriber, or user behavior.¹⁴ Much has been written about the effectiveness of policy instruments such as

4. See *Opioid Data Analysis and Resources*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/drugoverdose/data/analysis.html#:~:text=Using%20this%20approach%2C%20there%20were,about%2041%20deaths%20per%20day> [https://perma.cc/Q5W4-AW5B] (last updated Mar. 19, 2020).

5. COUNCIL OF ECON. ADVISERS, UNDERESTIMATED COST, *supra* note 2, at 2–3.

6. Scott G. Weiner, Sayeed K. Malek & Christin N. Price, *The Opioid Crisis and Its Consequences*, 101 TRANSPLANTATION 678, 678 (2017).

7. Roxanne Meyer, Anisha M. Patel, Stacy K. Rattana, Tiffany P. Quock & Samir H. Mody, *Prescription Opioid Abuse: A Literature Review of the Clinical and Economic Burden in the United States*, 17 POPULATION HEALTH MGMT. 372, 374 (2014).

8. See, e.g., *Opioids*, CLEV. CLINIC, <http://my.clevelandclinic.org/health/articles/21127-opioids> [https://perma.cc/UPR9-LNQ6] (last updated May 2, 2019).

9. See STODDARD DAVENPORT, ALEXANDRA WEAVER & MATT CAVERLY, SOC'Y OF ACTUARIES, ECONOMIC IMPACT OF NON-MEDICAL OPIOID USE IN THE UNITED STATES 5, 25–27, 48–49 (2019).

10. U.S. DEP'T OF HEALTH & HUMAN SERVS., OFFICE OF THE SURGEON GEN., FACING ADDICTION IN AMERICA: THE SURGEON GENERAL'S SPOTLIGHT ON OPIOIDS 14 (2018) [hereinafter U.S DEP'T OF HEALTH & HUMAN SERVS., SPOTLIGHT ON OPIOIDS].

11. See *infra* Part I.C.1.

12. See *infra* Part I.C.1 for a description of the traditional policy instruments that have been deployed to fight the opioid epidemic.

13. See *infra* notes 105–07 and accompanying text.

14. See SEAN LOWRY, CONG. RESEARCH SERV., R43189, FEDERAL EXCISE TAXES: AN INTRODUCTION AND GENERAL ANALYSIS 15 n.51 (2013) (“With regard to correcting for negative externalities, regulation can also serve as an alternative (or complementary) policy to taxation.”).

regulation and education campaigns.¹⁵ Largely missing from the discussion, however, is the use of price instruments such as taxes.

This Article fills that gap by considering whether a tax on prescription opioids could be an effective strategy to combat America's opioid crisis. Section I provides necessary context by situating the opioid crisis. Section II describes the traditional policy instruments that have been deployed to fight the opioid epidemic. Section III summarizes state and federal efforts to enact prescription opioid taxes. Section IV posits that opioid excise taxes are misguided if their purpose is to reduce consumption unless the taxes are reflected in consumers' out-of-pocket prices. Such taxes may also be an ineffective mechanism to cause drug makers to internalize the social costs of their products. Nonetheless, taxes on prescription opioids might generate much needed funding for states to battle the opioid epidemic. This Article also considers certain issues in designing such a tax and potential drawbacks.

I. SITUATING THE OPIOID CRISIS

This Section situates the opioid crisis by first describing the depth and breadth of the crisis in Part I.A. Part I.B furthers this discussion by describing how the use of prescription opioids became a national epidemic and who might be to blame. Part I.C sketches the economic impact of the crisis.

A. *The Nature of the Crisis*

From 1999 to 2015, the number of opioid prescriptions in the United States had risen by more than 250%.¹⁶ While the amount of opioids prescribed has been decreasing, the amounts are still higher as compared to 1999.¹⁷ Despite the decline, overdose rates continue to climb due to increased use of illicit opioids.¹⁸ Beginning in 2015, deaths involving synthetic opioids, such as illicit fentanyl, began to escalate.¹⁹ In 2016, the majority of overdose deaths attributable to synthetic opioids eclipsed the number of

15. See *infra* Section II.

16. See Guy Jr. et al., *Vital Signs*, *supra* note 1, at 699–700.

17. Gery P. Guy Jr., Kun Zhang, Lyna Z. Schieber, Randall Young & Deborah Dowell, *County-Level Opioid Prescribing in the United States, 2015 and 2017*, 179 JAMA 574, 575 (2019) [hereinafter Guy Jr. et al., *County-Level Opioid Prescribing*]. A decline in the number of prescriptions may be attributable to more cautious prescribing behavior as well as some state laws that limit the dosage and duration of opioid prescriptions. See Deborah Dowell, Tamara M. Haegerich, & Roger Chou, *CDC Guideline for Prescribing Opioids for Chronic Pain—United States, 2016*, 315 JAMA 1624, 1633–41 (2016) [hereinafter Dowell et al., *CDC Guideline*] (providing recommendations for doctors to follow when prescribing opioids such as which drugs to prescribe and their dosage and duration); Marilyn Bulloch, *Opioid Prescribing Limits Across the States*, PHARMACY TIMES (Feb. 5, 2019, 3:00 PM), <http://www.pharmacytimes.com/contributor/marilyn-bulloch-pharmd-bcps/2019/02/opioid-prescribing-limits-across-the-states> [https://perma.cc/V4T8-GNL3].

18. Guy Jr. et al., *County-Level Opioid Prescribing*, *supra* note 17, at 575–76.

19. See Christopher M. Jones, Emily B. Einstein & Wilson M. Compton, *Changes in Synthetic Opioid Involvement in Drug Overdose Deaths in the United States, 2010–2016*, 319 JAMA 1819, 1819–20 (2018).

deaths from prescription opioids.²⁰ This troubling trajectory prompted the Trump administration to declare a national public health emergency in 2017.²¹

Like the grim chronicle of those who die from prescription opioid overdoses, the story of those addicted to prescription opioids is similarly somber. Opioids, once ingested, cause surges of the chemical dopamine, which tells your brain that whatever you just experienced is pleasurable and worth repeating, similar to the way your brain registers that a delicious meal or exercise makes you feel good.²² Continued opioid use changes the structure and function of the brain, resulting in increased cravings for more of the drug to obtain the same feel-good response.²³ Even without the dopamine spikes, the drug is still needed to stem “dope sickness,” the physical symptoms associated with opioid withdrawal.²⁴

It is estimated that at least two million Americans—and as many as four to six million—suffer from prescription opioid use disorder.²⁵ The population of Americans with opioid use disorder is disproportionately poor.²⁶ One estimate, based on 2016 data, is that more than half of those afflicted by opioid use disorder have incomes below 200% of the federal poverty line,²⁷ which was \$23,760 for a family of one.²⁸ Moreover, approximately three out of ten people with opioid addiction receive treatment.²⁹ There are several reasons for this treatment gap—most notably, the lack of access to treatment,

20. See Guy Jr. et al., *County-Level Opioid Prescribing*, *supra* note 17, at 574–76 (finding that 40% of opioid-related overdose deaths in 2016 were attributable to prescription opioids and the increase in overdose rates is driven largely by illicitly manufactured fentanyl).

21. Memorandum on Combatting the National Drug Demand and Opioid Crisis, 2017 DAILY COMP. PRES. DOC. 2 (Oct. 26, 2017); Press Release, U.S. Dep’t of Health & Human Servs., HHS Acting Secretary Declares Public Health Emergency To Address National Opioid Crisis (Oct. 26, 2017), <http://www.hhs.gov/about/news/2017/10/26/hhs-acting-secretary-declares-public-health-emergency-address-national-opioid-crisis.html> [https://perma.cc/6NDN-JVSL].

22. See Shreeya Sinha, *A Visual Journey Through Addiction*, N.Y. TIMES (Dec. 18, 2018), <http://www.nytimes.com/interactive/2018/us/addiction-heroin-opioids.html> [https://perma.cc/J2F8-LYFL].

23. See *id.*

24. See *id.*

25. Sarun Charumilind, Tom Latkovic, Razili Lewis & Elena Mendez-Escobar, *Why We Need Bolder Action To Combat the Opioid Epidemic*, MCKINSEY & COMPANY (Sept. 6, 2018), <http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/why-we-need-bolder-action-to-combat-the-opioid-epidemic> [https://perma.cc/M6B2-BGUW]. *The Diagnostic and Statistical Manual of Mental Disorders* defines “opioid use disorder” based on eleven symptoms, two of which must be manifested within a twelve-month period for a diagnosis to be made. AM. PSYCHIATRIC ASS’N., *DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS* 541 (5th ed. 2013). Opioid use disorder is characterized by “signs and symptoms that reflect compulsive, prolonged self-administration of opioid substances that are used for no legitimate medical purpose or, if another medical condition is present that requires opioid treatment, that are used in doses greatly in excess of the amount needed for that medical condition.” *Id.* at 542. This diagnosis applies to both licit opioid drugs, such as prescription painkillers, as well as illicit opioid drugs like heroin. *Id.*

26. See *Economic Aspects of the Opioid Crisis: Hearing Before the J. Econ. Comm.*, 115th Cong. 5 (2017) (statement of Richard G. Frank, Margaret T. Morris Professor of Health Economics, Harvard Medical School).

27. *Id.*

28. For information on the Federal Poverty Line, see *Computations for the 2016 Poverty Guidelines*, OFF. ASSISTANT SECRETARY FOR PLANNING & EVALUATION (Apr. 25, 2016), <http://aspe.hhs.gov/computations-2016-poverty-guidelines> [https://perma.cc/C644-29UV].

29. See KENDAL ORGERA & JENNIFER TOLBERT, KAISER FAM. FOUND., *THE OPIOID EPIDEMIC AND MEDICAID’S ROLE IN FACILITATING ACCESS TO TREATMENT* 4 fig.4 (2019).

an inability to afford treatment, and the social stigma of being labeled an addict.³⁰ A significant percentage of opioid users avoid seeking treatment because they simply are not ready to stop using, while others fail to recognize that they have a problem.³¹

Even for those who get treatment, the chances of recovery are bleak. Research conducted by Harvard Medical School showed that “it takes the typical opioid-addicted user eight years—and four to five treatment attempts—to achieve remission for just a single year.”³² Ten years or more may be needed to achieve prolonged remission.³³ The difficulty of treating opioid addiction makes it an intractable challenge often with life-long consequences.

B. *Who Is To Blame?*

There is no shortage of actors who have had a hand in the opioid crisis: manufacturers, distributors, physicians, retail pharmacies, law enforcement, government agencies, and consumers among them.³⁴ At the end of the twentieth century, manufacturers began to aggressively market their prescription opioids to physicians as well as potential consumers. As an example, to promote sales of OxyContin, the manufacturer Purdue Pharma doubled its sales force and sales representatives’ monetary incentives.³⁵ The company also furnished physicians with coupons that gave patients a free initial supply of pills.³⁶ It is no coincidence that, by 2001, OxyContin became the best-selling narcotic pain reliever.³⁷

The manufacturers’ marketing blitz underplayed the addictive effects of opioids, in some cases relying on a 100-word letter that was published in the *New England Journal of Medicine* in 1980.³⁸ The letter claimed, without citing to any scientific evidence, that the development of addiction to narcotics was rare.³⁹ For a time, that claim largely went unchallenged, and in fact, the letter was invoked as though it were a rigorous scientific

30. U.S. DEP’T HEALTH & HUMAN SERVS., SPOTLIGHT ON OPIOIDS, *supra* note 10, at 8.

31. *Id.* (“39.7 percent of individuals who know they have an alcohol or drug problem are not ready to stop using.”).

32. BETH MACY, DOPESICK: DEALERS, DOCTORS, AND THE DRUG COMPANY THAT ADDICTED AMERICA 243 (2018).

33. *Id.* at 45.

34. Michael R. Abrams, *Renovations Needed: The FDA’s Floor/Ceiling Framework, Preemption, and the Opioid Epidemic*, 117 MICH. L. REV. 143, 162–63 (2018).

35. U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-04-110, PRESCRIPTION DRUGS: OXYCONTIN ABUSE AND DIVERSION AND EFFORTS TO ADDRESS THE PROBLEM 19–20 (2003).

36. *Id.* at 23.

37. *Id.* at 30.

38. See Pamela T.M. Leung, Erin M. Macdonald, Irfan A. Dhalla & David N. Juurlink, *Letter to the Editor: A 1980 Letter on the Risk of Opioid Addiction*, 376 NEW ENG. J. MED. 2194, 2194 (2017); Art Van Zee, *The Promotion and Marketing of OxyContin: Commercial Triumph, Public Health Tragedy*, 99 AM. J. PUB. HEALTH 221, 223 (2009); Jane Porter & Hershel Jick, *Addiction Rare in Patients Treated with Narcotics*, 302 NEW ENG. J. MED. 123, 123 (1980).

39. Porter & Jick, *supra* note 38, at 123; see also Leung et al., *supra* note 38, at 2194; Van Zee, *supra* note 38, at 223.

study.⁴⁰ The popular press helped to stoke the fire, erroneously referring to the letter as an “extensive study” and “landmark” research.⁴¹

The manufacturers’ marketing efforts were largely unchecked by federal regulators, including the Food and Drug Administration (FDA). The FDA has premarket approval authority and postmarket monitoring authority.⁴² A new drug is approved only if found to be “safe for use under the conditions prescribed, recommended, or suggested in the proposed labeling.”⁴³ Once the FDA approves a drug, it has the authority to monitor it to ensure that its benefits outweigh its risks and may, under certain conditions, withdraw approval for a drug.⁴⁴ The label for OxyContin that the FDA initially approved stated that “addiction was ‘very rare,’” despite the lack of scientific evidence.⁴⁵ Only in 2001 did the FDA amend the label to reflect the lack of evidence “to establish the true incidence of addiction in chronic patients.”⁴⁶

On the consumer-demand side, there was a perception, driven in part by the American Pain Society, that patients’ pain was being inadequately assessed and undertreated.⁴⁷ In the mid-1990s, the American Pain Society advocated for pain to be the fifth vital sign.⁴⁸ Its message was that patients’ pain—like body temperature, pulse rate, blood pressure, and respiratory rate—should be routinely monitored to detect medical problems.⁴⁹ Despite the fact that pain is not objectively measurable in the way that the other vital signs are, the idea of pain as the fifth vital sign gained traction.

40. The letter was cited 608 times from the time of its publication until March 30, 2017. Leung et al., *supra* note 38, at 2194. To provide appropriate context, eleven other letters that were published around the same time were cited, on average, just eleven times during the same period. *Id.* In 2003, the Food and Drug Administration (FDA) began to rein in Purdue Pharma. According to the agency, the company ran misleading advertisements in medical journals that “omit[ted] and minimize[d] the serious safety risks associated with OxyContin, and promote[d] it for uses beyond which have been proven safe and effective.” Letter from Thomas W. Abrams, Director, Food & Drug Admin. Div. of Drug Mktg., Advert., & Comm’n, to Michael Friedman, Exec. Vice President/COO, Purdue Pharma L.P. (Jan. 17, 2003), [http://wayback.archive-it.org/7993/20170112065652/\[https://perma.cc/69FW-7TYC\]](http://wayback.archive-it.org/7993/20170112065652/[https://perma.cc/69FW-7TYC]).

41. Abrams, *supra* note 34, at 145.

42. *See id.* at 150.

43. 21 U.S.C. § 355(d) (2018).

44. *See Postmarketing Surveillance Programs*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/drugs/surveillance/postmarketing-surveillance-programs> [https://perma.cc/UD32-TARS] (last visited Feb. 1, 2021).

45. Van Zee, *supra* note 38, at 224.

46. U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 35, at 34 (internal quotation mark omitted).

47. The American Pain Society was “a multidisciplinary community that brings together a diverse group of scientists, clinicians and other professionals to increase the knowledge of pain and transform public policy and clinical practice to reduce pain-related suffering.” Stacey Hilton, *Dr. Maixner Named President of American Pain Society*, DUKE ANESTHESIOLOGY (Mar. 20, 2017), <http://anesthesiology.duke.edu/?p=838766> [https://perma.cc/J9VU-7EYM]. The American Pain Society filed for Chapter 7 bankruptcy in 2019 “due to opioid-related legal costs.” Alia Paavola, *American Pain Society Files for Bankruptcy as Legal Costs Mount*, BECKER’S HOSP. REV. (July 1, 2019), <http://www.beckershospitalreview.com/pharmacy/american-pain-society-files-for-bankruptcy-as-legal-costs-mount.html> [https://perma.cc/F4V9-WAVK].

48. THE PRESIDENT’S COMM’N ON COMBATING DRUG ADDICTION & THE OPIOID CRISIS, FINAL REPORT 21 (2017) [hereinafter PRESIDENT’S COMM’N REPORT].

49. *See id.* For a discussion of vital signs, see *Vital Signs (Body Temperature, Pulse Rate, Respiration Rate, Blood Pressure)*, JOHNS HOPKINS MED., <http://www.hopkinsmedicine.org/health/conditions>

By 2001, the Joint Commission on Accreditation of Healthcare Organizations—an independent, nonprofit organization that provides voluntary certifications of health care organizations—required that pain be assessed in all patients.⁵⁰ Additionally, the Centers for Medicare and Medicaid Services began tying government reimbursement of physicians to patient survey results regarding pain management.⁵¹ Random samples of patients were asked questions about their hospital experiences, including whether “they believed their pain was effectively controlled.”⁵² Because the survey results affected reimbursement rates, concerns eventually surfaced that physicians may overtreat pain to raise survey scores.⁵³

Overzealous marketing and an overemphasis on pain led to a cultural shift in opioid use. Unshackled from concerns about addiction, the view that opioids could be used to treat not just acute pain—but to manage chronic pain—became normalized and rates of prescribing increased.⁵⁴ Between 1999 and 2010, the number of opioid prescriptions written in the United States quadrupled.⁵⁵ Prescribers and users, including patients as well as their friends and relatives to whom the drugs were often diverted,⁵⁶ failed to appreciate the risks of opioids due to a lack of training and education regarding pain management and addiction treatment.⁵⁷

Consumer demand during this period, in both the primary market and the secondary market, may also have been affected by falling prices. According to President Trump’s Council of Economic Advisors (CEA), between 2001 and 2010, out-of-pocket costs to consumers decreased by an estimated 81%, which might have spurred more consumer

-and-diseases/vital-signs-body-temperature-pulse-rate-respiration-rate-blood-pressure [https://perma.cc/Q8Z5-XXFS] (last visited Feb. 1, 2021).

50. JOINT COMM’N ON ACCREDITATION OF HEALTHCARE ORGS., JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANIZATIONS PAIN STANDARDS FOR 2001, at 1 (2001) (stating that these standards went into effect on January 1, 2001).

51. See Press Release, Ctrs. for Medicare & Medicaid Servs., CMS Finalizes Hospital Outpatient Prospective Payment System Changes To Better Support Hospitals and Physicians and Improve Patient Care (Nov. 1, 2016), <http://www.cms.gov/newsroom/press-releases/cms-finalizes-hospital-outpatient-prospective-payment-system-changes-better-support-hospitals-and> [https://perma.cc/VB9A-US8] (announcing the removal of the pain management dimension from a patient survey to “eliminate any financial pressure clinicians may feel to overprescribe medications”).

52. Paige Minemyer, *CMS Proposes Nixing Pain-Management Questions from HCAHPS in Response to Opioid Epidemic*, FIERCE HEALTHCARE (July 31, 2018, 8:01 AM), <http://www.fiercehealthcare.com/regulatory/cms-hcahps-pain-management-opioid-epidemic-opps-rule> [https://perma.cc/K76B-BQYG]. For more information about the *Hospital Consumer Assessment of Healthcare Providers and Systems* survey, see *HCAHPS: Patients’ Perspectives of Care Survey*, CTRS. FOR MEDICARE & MEDICAID SERVS., <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html> [https://perma.cc/4ZQ4-FMN4] (last modified Feb. 11, 2020).

53. PRESIDENT’S COMM’N REPORT, *supra* note 48, at 56.

54. Leung et al., *supra* note 38, at 22.

55. Guy Jr. et al., *Vital Signs*, *supra* note 1, at 697.

56. JONAKI BOSE, SARRA L. HEDDEN, RACHEL N. LIPARI & EUNICE PARK-LEE, SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN., KEY SUBSTANCE USE AND MENTAL HEALTH INDICATORS IN THE UNITED STATES: RESULTS FROM THE 2017 NATIONAL SURVEY ON DRUG USE AND HEALTH 21 (2018) (explaining that more than half of the survey respondents who reported non-medical use of prescription opioids obtained them from a friend or relative).

57. See PRESIDENT’S COMM’N REPORT, *supra* note 48, at 22.

demand and in turn, increased opioid sales.⁵⁸ The CEA attributed the decline in prices to the rise in the market share of generic drugs as well as changes in government programs, such as prescription drug coverage under Medicare Part D, which became effective in 2006.⁵⁹ The CEA concluded that “the decline in observed out-of-pocket prices is capable of explaining between 31 and 83 percent of the growth from 2001 to 2010 in the death rate involving prescription opioids.”⁶⁰ In fact, absent “the price decline, per capita opioid sales would have increased, by half as much, or less, than the actual increase between 2001 and 2010.”⁶¹

C. *Economic Impact of the Opioid Epidemic*

The opioid epidemic carries a high price tag. Part I.C.1 describes various estimates of the societal costs to give readers a sense of the magnitude of the problem. Part I.C.2 describes the relative burden of these costs between the public and private sectors. Part I.C.3 examines the current levels of spending to fight the opioid epidemic. Part I.C.3 shows that funding has been inadequate to address this public health emergency.

1. Cost Estimates

Assessments of the societal costs of the opioid crisis vary widely.⁶² The Centers for Disease Control and Prevention (CDC) estimated that, in 2013, the opioid epidemic resulted in the following cost burdens: health care (\$26.1 billion); substance abuse treatment (\$2.8 billion); and criminal justice (\$7.7 billion), including police services, costs associated with courts, such as prosecution and public defense of cases, and correctional facilities.⁶³ A 2016 study also quantified the costs of increased need for providing public services as a result of the opioid epidemic, including child and family assistance (\$6.1 billion) and education expenditures (\$4.4 billion).⁶⁴ More recent estimates by the Society of Actuaries show that mortality costs, which include medical costs and lost lifetime earnings, accounted for over 40% of the total cost estimates for 2015–2018.⁶⁵ Health care costs for individuals with opioid use disorder and their families

58. COUNCIL OF ECON. ADVISERS, EXEC. OFFICE OF THE PRESIDENT, THE ROLE OF OPIOID PRICES IN THE EVOLVING OPIOID CRISIS 16–18 (2019) [hereinafter COUNCIL OF ECON. ADVISERS, THE ROLE OF OPIOID PRICES].

59. *Id.* at 16–17. The market share for generics increased from 53% to 81% between 2001 and 2010. *Id.* at 17.

60. *Id.* at 1–2. The estimated range attempts to account for the possibility of varying price elasticities of demand for medical users versus nonmedical users. *See id.* at 22.

61. *Id.* at 7.

62. *See generally* Meyer et al., *supra* note 7 (summarizing the literature on the clinical and economic burdens of the opioid crisis in the United States).

63. Curtis S. Florence, Chao Zhou, Feijun Luo & Likang Xu, *The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013*, 54 MED. CARE 901, 904 tbl.3 (2016).

64. CORWIN N. RHYAN, ALTARUM, THE POTENTIAL SOCIETAL BENEFIT OF ELIMINATING OPIOID OVERDOSES, DEATHS, AND SUBSTANCE USE DISORDERS EXCEEDS \$95 BILLION PER YEAR 1 fig.1 (2017), http://altarum.org/sites/default/files/uploaded-publication-files/Research-Brief_Opioid-Epidemic-Economic-Burden.pdf [https://perma.cc/RM7L-22TU]. Altarum’s analysis estimated health care costs to be \$21.4 billion and criminal justice costs to be \$7.8 billion. *Id.*

65. *See* DAVENPORT ET AL., *supra* note 9, at 9 fig.4. This report was prepared for the Society of Actuaries by Milliman, Inc. *Id.* at 6.

accounted for 32% of the total costs for non-medical opioid use during that same period.⁶⁶

Based on the 2015–2018 costs, the Society of Actuaries projected that the economic impact of nonmedical opioid use in 2019 would be between \$172 and \$214 billion.⁶⁷ The CEA estimated the economic cost of the opioid crisis in 2015 to be \$504 billion.⁶⁸ The economic impact of nonmedical opioid use in 2019 was estimated to be between \$172 and \$214 billion.⁶⁹ More conservative estimates peg the annual costs between \$11.5 and \$79.9 billion in 2015⁷⁰ and around \$95 billion in 2016.⁷¹

The variation among these estimates is attributable largely to methodological differences in computing productivity losses. In particular, the CEA's \$504 billion estimate includes almost \$432 billion in fatality costs⁷² using a metric called the value of statistical life, which estimates "the amount that society is willing to pay for a single individual to continue living."⁷³ Other widely cited studies report much smaller estimates of lost productivity costs.⁷⁴ For example, CDC researchers estimated \$41.8 billion of lost productivity costs based on 2013 data.⁷⁵ One study based on 2016 data quantified annual economic costs of \$95 billion, including \$55.6 billion for lost productivity.⁷⁶ The bulk of this is attributable to lost wages and lost productivity of private-sector employees from overdose fatalities, which was estimated to be almost \$800,000 per death.⁷⁷ Even at the low end, the magnitude of these costs is astonishing.

The opioid epidemic has resulted in, among other things, crammed jails, bulging foster care systems, and a sizeable number of infants born with drug dependency.⁷⁸ It is

66. *See id.*

67. *Id.*

68. COUNCIL OF ECON. ADVISERS, UNDERESTIMATED COST, *supra* note 2, at 8 tbl.2.

69. DAVENPORT ET AL., *supra* note 9, at 9 fig.4.

70. *Id.* at 8 tbl.3 (adjusting estimates from older studies to 2015 dollars to demonstrate that the CEA's estimates far exceed other studies' estimates).

71. RHYAN, *supra* note 64, at 1. One nonprofit research group estimated that the cumulative cost of the opioid epidemic from 2001 through 2016 was \$1 trillion and projected costs of \$500 billion for 2017 through 2020. Press Release, Altarum, Economic Toll of Opioid Crisis in U.S. Exceeded \$1 Trillion Since 2001 (Feb. 13, 2018), <http://altarum.org/news/economic-toll-opioid-crisis-us-exceeded-1-trillion-2001> [https://perma.cc/Z4VQ-LXNS].

72. COUNCIL OF ECON. ADVISERS, UNDERESTIMATED COST, *supra* note 2, at 7–8 & 8 tbl.3.

73. Ben Gitis & Isabel Soto, *The Labor Force and Output Consequences of the Opioid Crisis*, AM. ACTION F. (Mar. 27, 2018), http://www.americanactionforum.org/research/labor-force-output-consequences-opioid-crisis/#_ftn2 [https://perma.cc/P5FU-G7R2]. This approach "estimates the loss of economic *value* associated with early mortality, rather than the loss of economic *activity*." DAVENPORT ET AL., *supra* note 9, at 7.

74. *See* COUNCIL OF ECON. ADVISERS, UNDERESTIMATED COST, *supra* note 2, at 9 & n.7.

75. *See* Florence et al., *supra* note 63, at 904 tbl.3. *See id.* at 903 for the methodology used to calculate lost productivity costs.

76. RHYAN, *supra* note 64, at 1 fig.1.

77. *Id.* at 1 fig.1, 2 & tbl.1.

78. *See* Memorandum on Combatting the National Drug Demand and Opioid Crisis, *supra* note 21 ("The number of infants born drug-dependent increased by nearly 500 percent from 2000 to 2012. The number of children being placed into foster care due, at least in part, to parental drug abuse is increasing, and accounted for almost a third of all child removals in Fiscal Year 2015. Serious drug users are also more likely to be arrested

also causing a drag to the economy. A group of economists recently concluded that “a 10 percent increase in per-capita opioid prescriptions leads to a 0.53 percentage point drop in the labor force participation rate.”⁷⁹ However, they found that prescription opioids have little negative effect on the rate of unemployment, which indicates that people are not seeking work; instead, they are leaving the workforce entirely.⁸⁰ Those who are neither working nor actively looking for work are not counted in the labor force participation rate, which results in a loss of real economic output.⁸¹ Researchers have estimated that between 1999 and 2015, the real economic output lost due to the opioid epidemic was \$702.1 billion.⁸²

While these estimates attempt to approximate what society currently spends to fight the existing opioid crisis, they do not consider what it would cost to abate the crisis. For example, costs for researching pain management alternatives and complying with legal requirements, such as drug monitoring programs to address physician overprescribing, might not be factored in. Positive economic externalities—such as increased organ donations due to drug overdose deaths, savings of Social Security payouts for those who die prematurely, and the infusion of cash into the health care and criminal justice systems—are also left out of the equation.⁸³ Unquantifiable costs are also not accounted for, including the diminished quality of life and emotional toll of opioid use disorder and opioid-related deaths on users and their loved ones.⁸⁴

for crimes such as burglary, robbery, and handling stolen goods. Moreover, the drug trafficking that supplies illegal drugs . . . is associated with other illegal activities . . .”).

79. Matthew C. Harris, Lawrence M. Kessler, Matthew N. Murray & Beth Glenn, *Prescription Opioids and Labor Market Pains: The Effect of Schedule II Opioids on Labor Force Participation and Unemployment*, 55 J. HUM. RESOURCES 1319, 1323 (2020).

80. *Id.*

81. *See id.*; *see also* DAVENPORT ET AL., *supra* note 9, at 32.

82. Gitis & Soto, *supra* note 73. Of course, opioid use might be beneficial, allowing people to maintain their employment and daily living while managing their pain. *See* Frankie M. Griffin, *Prescription Opioids in Arkansas: Finding Legislative Balance*, 68 ARK. L. REV. 913, 920–21 (2016) (discussing the costs of undertreating pain).

83. *See* Weiner et al., *supra* note 6, at 679–80 (explaining that while organ donations are increasing due to opioid overdoses, these organs are underused due to fear of disease transmission); *see also* WILLARD G. MANNING, EMMETT B. KEELER, JOSEPH P. NEWHOUSE, ELIZABETH M. SLOSS & JEFFREY WASSERMAN, THE COSTS OF POOR HEALTH HABITS 62 (1991) (summarizing an economic analysis that demonstrates that smokers’ early mortality more than offsets the costs of their increased morbidity); W. Kip Viscusi, *Cigarette Taxation and the Social Consequences of Smoking*, 9 TAX POL’Y & ECON. 51, 75 (1995) (showing that smokers’ early mortality leads to a cost savings for Social Security and pension benefits); Gitis & Soto, *supra* note 73 (“[A]n economic analysis would likely find that the spending on health care and criminal justice has a positive impact on economic growth.”).

84. *See* Margaret L. Griffin, Heather E. Bennett, Garrett M. Fitzmaurice, Kevin P. Hill, Scott E. Provost & Roger D. Weiss, *Health-Related Quality of Life Among Prescription Opioid-Dependent Patients: Results from a Multi-Site Study*, 24 AM. J. ON ADDICTIONS 308, 311–12 (2015) (discussing results of a study showing prescription opioid-dependent patients had worse physical and mental quality of life as compared to a healthy population). *See generally* Naresh Nebhinani, B. N. Anil, Surendra Kumar Mattoo & Debasish Basu, *Family Burden in Injecting Versus Noninjecting Opioid Users*, 22 INDUS. PSYCHIATRY J. 138 (2013) (summarizing the results of a study of family caregivers of opioid-dependent patients and finding a greater burden for families of opioid-dependent injecting drug users as compared to noninjecting users).

2. Public Burden of Economic Costs

Some estimates put the public burden for the economic costs of the opioid crisis at about 25%.⁸⁵ The bulk of that burden (14%) is attributable to health care costs funded by Medicare, Medicaid, and TRICARE, the health care program for military veterans and their families.⁸⁶ Government funding of substance use disorder treatment plays an outsized role: by one estimate, 68% of substance use disorder treatment in 2014 was financed using public dollars as compared to just 22% being covered by private insurers.⁸⁷ Moreover, all the costs related to the criminal justice system other than property lost due to crime are borne by federal, state, and local governments.⁸⁸ The public sector continues to be impacted by forgone tax revenues due to lost productivity. One study estimated forgone tax revenues to be over \$15.6 billion annually.⁸⁹ Notably, the economic burden is not uniformly distributed at the state and county levels.⁹⁰ Instead, states with large rural populations tend to be disproportionately impacted.⁹¹

3. Current Estimated Expenditures

Surprisingly, the federal government does not report its opioid expenditures in any consolidated fashion so it is difficult to know how much is spent on the opioid crisis.⁹² Nonetheless, whatever the cost to fight the opioid epidemic, the United States is not spending enough.⁹³ McKinsey & Company estimated that the United States allocates significantly fewer resources—in absolute federal and industry spending as well as

85. Florence et al., *supra* note 63, at 904. This percentage is in line with a more recent estimate that federal, state, and local governments bear 29% of the economic burden associated with the opioid crisis, with the remainder borne by the private sector and individuals. DAVENPORT ET AL., *supra* note 9, at 4.

86. Florence et al., *supra* note 63, at 904. TRICARE was formerly known as CHAMPUS. Judith D. Weissman, David Russell, Fatemeh Haghighi, Lisa Dixon & Marianne Goodman, *Health Coverage Types and Their Relationship to Mental and Physical Health in U.S. Veterans*, 13 PREVENTATIVE MED. REP. 85, 85 (2019).

87. See ORGERA & TOLBERT, *supra* note 29, at 6 fig.6.

88. Florence et al., *supra* note 63, at 904 & tbl.3.

89. See RHYAN, *supra* note 64, at 2 tbl.1. The costs in this report are in 2016 dollars, while the costs in the Florence study are in 2013 dollars. Compare *id.* at 4, with Florence et al., *supra* note 63, at 902.

90. Researchers from the American Enterprise Institute allocated CEA estimated per capita state- and county-level cost burdens. See, e.g., Alex Brill, *New State-Level Estimates of the Economic Burden of the Opioid Epidemic*, AEI (Jan. 16, 2018), <http://www.aei.org/health-policy/new-state-level-estimates-of-the-economic-burden-of-the-opioid-epidemic/> [https://perma.cc/J6UB-H5NZ]; see also Elizabeth Weeks & Paula Sanford, *Financial Impact of the Opioid Crisis on Local Government: Quantifying Costs for Litigation and Policymaking*, 67 U. KAN. L. REV. 1061 *passim* (2019) (outlining the challenges of tracking the costs of opioid use at the local government level).

91. Katherine M. Keyes, Magdalena Cerdá, Joanne E. Brady, Jennifer R. Havens & Sandro Galea, *Understanding the Rural-Urban Differences in Nonmedical Prescription Opioid Use and Abuse in the United States*, 104 AM. J. PUB. HEALTH e52, e52 (2014).

92. See BIPARTISAN POLICY CTR., TRACKING FEDERAL FUNDING TO COMBAT THE OPIOID CRISIS 11 (2019).

93. See Michael J. Malinowski, *The U.S. Science and Technology “Triple Threat”: A Regulatory Treatment Plan for the Nation’s Addiction to Prescription Opioids*, 48 U. MEM. L. REV. 1027, 1056–58 (2018) (“Acknowledging the pervasiveness and dire consequences of the opioid crisis . . . without funding an intervention on scale with the problem is arguably the cruelest form of government hypocrisy.”).

research support—to combat the opioid crisis as compared to things like electric vehicles, HIV/AIDS, and cancer.⁹⁴

To put the problem into perspective, the CDC estimated that in 2013 the opioid epidemic cost the economy \$78.5 billion.⁹⁵ This number is greater than the entire annual budgets for the Department of Justice and the Environmental Protection Agency.⁹⁶ Despite this, Congress earmarked only \$3.3 billion in fiscal year 2017 and \$7.4 billion in fiscal year 2018 to deal with the opioid crisis.⁹⁷ These are meager amounts as compared to the estimated cost burdens.⁹⁸

Additionally, a significant portion of these funds was allocated to the states in the form of grants for opioid treatment and recovery services.⁹⁹ Because these services are funded with federal grants, states worry about sustaining services to tackle opioid addiction, which is a chronic, ongoing disease.¹⁰⁰ If federal funding were to cease, “it is unlikely that a state will be able to replace this funding without a new dedicated state funding source.”¹⁰¹

States have also been financing the opioid epidemic from their coffers, but gaps remain.¹⁰² As one North Carolina government official aptly stated, “We’re digging ourselves out of a meteor-sized hole with a teaspoon.”¹⁰³ To fill the void, states are counting on lawsuit settlements or opioid taxes or fees.¹⁰⁴

II. POLICY INSTRUMENTS

Lawmakers have been responding to the opioid crisis by pulling various policy levers. Information campaigns are one example. In 2017, the CDC launched a public

94. See Charumilind et al., *supra* note 25, at Exhibit 5.

95. See Florence et al., *supra* note 63, at 904 tbl.3.

96. U.S. DEP’T OF JUSTICE, FISCAL YEAR 2018 BUDGET SUMMARY (2018) (“The DOJ FY 2018 Budget totals \$27.7 billion in discretionary budget authority.”); U.S. ENVTL. PROT. AGENCY, FY 2018 EPA BUDGET IN BRIEF 1 (2017) (noting that the EPA’s 2018 budget was \$5.655 billion). These figures are the agencies’ discretionary budget totals.

97. BIPARTISAN POLICY CTR., *supra* note 92, at 12. This amount does not include funds spent by Medicare and Medicaid for addiction treatment because the government does not track these amounts. *U.S. Government Will Spend \$4.6 Billion Fighting Opioid Crisis. Advocates Say That’s Not Nearly Enough*, L.A. TIMES (Mar. 25, 2018, 4:55 PM), <http://www.latimes.com/nation/nationnow/la-na-opiod-crisis-20180325-story.html> [https://perma.cc/39JC-4EYE].

98. See *supra* Part I.C.1 for a discussion of cost burdens.

99. See BIPARTISAN POLICY CTR., *supra* note 92, at 12, 15 figs.3 & 4.

100. See *id.* at 61.

101. *Id.*

102. See, e.g., *U.S. Government Will Spend \$4.6 Billion Fighting Opioid Crisis. Advocates Say That’s Not Nearly Enough*, *supra* note 97 (explaining that states and foundations have been allocating money towards fighting the opioid crisis in addition to the federal funding, but the overall funds are not nearly enough “to reverse the crisis”).

103. Abby Goodnough, *States Are Making Progress on Opioids. Now the Money That’s Helping Them May Dry Up*, N.Y. TIMES (July 16, 2019), <http://www.nytimes.com/2019/07/16/health/opioids-grants-treatment-addiction.html> [https://perma.cc/D6SQ-ZH9Z] (quoting Kody Kinsley, Deputy Secretary, North Carolina Department of Health & Human Services).

104. See, e.g., Sara Randazzo, *New York State Can Enact \$200 Million Tax on Opioid Industry, Court Rules*, WALL STREET J. (Sept. 14, 2020, 6:30 PM), <http://www.wsj.com/articles/new-york-state-can-enact-200-million-tax-on-opioid-industry-court-rules-11600122604> [https://perma.cc/72BY-BVAH].

education campaign called Rx Awareness.¹⁰⁵ The campaign uses digital ads, billboards, radio, and other media “featuring real-life accounts of people recovering from opioid use disorder and people who have lost loved ones to prescription opioid overdose.”¹⁰⁶ The CDC campaign is one of many programs aimed at preventing opioid misuse and addiction.¹⁰⁷

Beyond mere information campaigns intended to dissuade drug use, direct interventions aimed at persons with active addiction are being deployed. Some of these policy instruments accept that people will continue to use drugs; their objective is to attempt to mitigate the consequences of continued drug use, including disease and death.¹⁰⁸ Well-known harm-reduction strategies include the distribution of naloxone, an opioid antagonist that can be used to reverse an opioid overdose,¹⁰⁹ needle exchange programs to reduce diseases such as hepatitis C and HIV,¹¹⁰ and drug-checking technologies to test the purity of drugs before use.¹¹¹

Other direct interventions are aimed at effectively treating opioid addiction, including medication-assisted treatment (MAT). As the name implies, MAT uses medications, along with behavioral counseling, to reduce cravings for opioids and withdrawal symptoms associated with opioid use.¹¹² MAT tackles drug addiction by addressing the physical addiction as well as the related emotional or behavioral issues.¹¹³ MAT is the “gold standard” among treatment options, having been proven effective to help keep people in treatment and off opioids.¹¹⁴

105. Press Release, Ctrs. for Disease Control & Prevention, CDC Launches Campaign To Help States Fight Prescription Opioid Epidemic (Sept. 25, 2017), <http://www.cdc.gov/media/releases/2017/p0925-rx-awareness-campaigns.html> [<https://perma.cc/S4YH-D9JU>].

106. *Id.*

107. See U.S. DEP’T OF HEALTH & HUMAN SERVS., OFFICE OF THE SURGEON GEN., *FACING ADDICTION IN AMERICA: THE SURGEON GENERAL’S REPORT ON ALCOHOL, DRUGS, & HEALTH* 17 app. B (2016) (cataloging forty-two prevention programs).

108. See Kathryn F. Hawk, Federico E. Vaca & Gail D’Onofrio, *Reducing Fatal Opioid Overdose: Prevention, Treatment and Harm Reduction Strategies*, 88 YALE J. BIOLOGY & MED. 235, 239 (2015).

109. *Id.* at 237, 239.

110. See generally Kris Clarke, Debra Harris, John A. Zweifler, Marc Lasher, Roger B. Mortimer & Susan Hughes, *The Significance of Harm Reduction as a Social and Health Care Intervention for Injecting Drug Users: An Exploratory Study of a Needle Exchange Program in Fresno, California*, 31 SOC. WORK PUB. HEALTH 398 (2016).

111. See Geoff Bardwell & Thomas Kerr, *Drug Checking: A Potential Solution to the Opioid Overdose Epidemic?*, SUBSTANCE ABUSE TREATMENT, PREVENTION, & POL’Y, May 25, 2018, at 1, 1.

112. *MAT Medications, Counseling, and Related Conditions*, SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN., <http://www.samhsa.gov/medication-assisted-treatment/treatment> [<https://perma.cc/Z43Z-BT2Y>] (last updated Aug. 19, 2020). The three FDA-approved medications to treat opioid use disorder are methadone, buprenorphine, and naltrexone. *Information About Medication-Assisted Treatment (MAT)*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/drugs/information-drug-class/information-about-medication-assisted-treatment-mat> [<https://perma.cc/8DRC-D2CH>] (last updated Feb. 14, 2019).

113. *Suboxone Treatment: How Does It Work?*, MATCLINICS, <http://www.matclinics.com/suboxone-treatment> [<https://perma.cc/BV66-K4SG>] (last visited Feb. 1, 2021).

114. Mehmet Sofuoglu, Elise E. DeVito & Kathleen M. Carroll, *Pharmacological and Behavioral Treatment of Opioid Use Disorder*, 1 PSYCHIATRIC RES. & CLINICAL PRAC. 4, 5–6 (2019) (summarizing the efficacy of MAT treatments).

Despite the effectiveness of this treatment option, there are access and utilization limitations. Persons needing help might be unable to receive MAT due to lack of insurance or an inability to pay.¹¹⁵ Congress ameliorated this problem by requiring state Medicaid programs to cover MAT, including FDA-approved medications, temporarily beginning in 2020.¹¹⁶ Beyond an inability to pay, MAT programs are unevenly dispersed geographically, which might make access challenging.¹¹⁷

Even for those not hampered by the cost or location of MAT programs, there is stigma associated with seeking treatment, and some with opioid use disorder simply are not ready to stop using. Data from the 2017 National Survey on Drug Use and Health indicates that two out of every five people with a substance use disorder who “perceived a need for treatment but did not receive treatment at a specialty facility were not ready to stop,” and one in five worried about the negative impact to their employment if they sought treatment.¹¹⁸

While information campaigns and MAT seek to decrease consumer demand for prescription opioids, certain policy instruments aimed at prescribers and manufacturers are intended to reduce supply. In 2016, the CDC issued the *Guideline for Prescribing Opioids for Chronic Pain*.¹¹⁹ To reduce the risk of opioid addiction, overdose, and death, the guideline provides recommendations to health care professionals regarding when to initiate or continue opioids to treat chronic pain.¹²⁰ The guideline also provides advice as to opioid selection, dosage, and duration.¹²¹ It recommends immediate-release opioids over extended-release or long-acting opioids.¹²²

As to dosage and duration, the guideline recommends that health care providers “[s]tart low and go slow.”¹²³ It recommends starting with the lowest effective dosage, generally no more than fifty morphine milligram equivalents (MMEs) per day.¹²⁴ For acute pain, the guideline provides that “[t]hree days or less will often be sufficient; more than seven days will rarely be needed.”¹²⁵ The CDC recommendations are, in some cases, reinforced by state laws that limit opioid dosage and duration.¹²⁶ For example, health

115. See, e.g., BOSE ET AL., *supra* note 56, at 48 (reporting that 30.3% of respondents indicated they could not afford treatment).

116. See SUPPORT for Patients and Communities Act, Pub. L. No. 115-271, § 1006(b), 132 Stat. 3894, 3914–15 (codified as amended at 42 U.S.C. §§ 1396a(a)(10)(A), 1396d(a) (2018)). The mandate is set to expire in 2025. 42 U.S.C. § 1396d(a)(29).

117. JOHNATHAN H. DUFF & JAMESON A. CARTER, CONG. RESEARCH SERV., R45782, LOCATION OF MEDICATION-ASSISTED TREATMENT FOR OPIOID ADDICTION: IN BRIEF 6 (2019).

118. BOSE ET AL., *supra* note 56, at 48.

119. See Dowell et al., *CDC Guideline*, *supra* note 17.

120. *Id.* at 1625.

121. See *id.* at 1637.

122. *Id.*

123. *Guideline for Prescribing Opioids for Chronic Pain*, CTRS. FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/drugoverdose/pdf/guidelines_factsheet-providers-a.pdf [https://perma.cc/MBD3-KESK] (last visited Feb. 1, 2021).

124. *Id.*

125. *Id.*

126. See Bulloch, *supra* note 17 (summarizing various state laws limiting opioid prescription practices).

care practitioners in Tennessee cannot prescribe more than a three-day supply of an opioid, and the total dosage cannot exceed 180 MMEs.¹²⁷

Prescription drug monitoring programs (PDMPs) are another widespread prescriber-directed policy lever. Every state except Missouri has implemented a PDMP.¹²⁸ PDMPs typically capture data regarding drugs identified as controlled substances under state and federal law.¹²⁹ Policymakers, law enforcement, state licensing boards, and others with permitted access may use the data to analyze prescribing trends, educate patients and prescribers, and detect and deter the diversion of opioids for nonmedical use.¹³⁰ Although virtually every state has a PDMP, only about half the states *require* prescribers to query the database when initially prescribing opioids.¹³¹ There is some evidence indicating that mandatory PDMPs reduce prescription drug abuse, whereas voluntary PDMPs are shown to have little effect.¹³²

Like prescriber-focused interventions, quantity restrictions imposed on drug manufacturers focus on suppressing the supply of opioids available to patients. The Drug Enforcement Administration (DEA) sets “production quotas for each basic class of controlled substance in schedules I and II” of the Controlled Substances Act.¹³³ When setting these quotas, the DEA may consider various factors, including legitimate medical needs and the extent of any diversion of the controlled substance.¹³⁴ Since 2018, the

127. TENN. CODE ANN. § 63-1-164(b) (West 2020).

128. Jessica Davis, *Opioid Epidemic: Why Aren't Prescription Drug Monitoring Programs More Effective?*, HEALTHCARE IT NEWS (Apr. 30, 2018, 3:59 PM), <http://www.healthcareitnews.com/news/opioid-epidemic-why-arent-prescription-drug-monitoring-programs-more-effective> [https://perma.cc/4M5E-EQQQ]. Although Missouri lacks a statewide PDMP, many jurisdictions in the state are using St. Louis County's PDMP. Lauren Weber, *Why Missouri's the Last Holdout on a Statewide Rx Monitoring Program*, KAISER HEALTH NEWS (May 20, 2019), <http://khn.org/news/why-missouris-the-last-holdout-on-a-statewide-rx-monitoring-program/> [https://perma.cc/YUE4-MC2H]. There is a bill pending in the Missouri legislature that, if enacted, would establish a statewide PDMP. See H.R. 1693, 100th Gen. Assemb., 2d Reg. Sess. (Mo. 2020).

129. Rebecca L. Haffajee, Anupam B. Jena & Scott G. Weiner, *Mandatory Use of Prescription Drug Monitoring Programs*, 313 JAMA 891, 891 (2015); see also Weber, *supra* note 128.

130. See Haffajee et al., *supra* note 129, at 891–92. For example, the data collected on a patient might identify doctor shopping, which refers to the practice of obtaining prescriptions from multiple prescribers for the patient's own use or to sell to others. Timothy W. Lineberry & J. Michael Bostwick, *Taking the Physician Out of “Physician Shopping”: A Case Series of Clinical Problems Associated with Internet Purchases of Medication*, 79 MAYO CLINIC PROC. 1031, 1031 (2004).

131. See *When Are Prescribers Required To Use Prescription Drug Monitoring Programs?*, PEW (Jan. 24, 2018), <http://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2018/when-are-prescribers-required-to-use-prescription-drug-monitoring-programs> [https://perma.cc/9WAE-9GGP].

132. See Anca M. Grecu, Dhaval M. Dave & Henry Saffer, *Mandatory Access Prescription Drug Monitoring Programs and Prescription Drug Abuse*, 38 J. POL'Y ANALYSIS & MGMT. 181, 182–83 (2019); see also Deborah Dowell, Kun Zhang, Rita K. Noonan & Jason M. Hockenberry, *Mandatory Provider Review and Pain Clinic Laws Reduce the Amounts of Opioids Prescribed and Overdose Death Rates*, 35 HEALTH AFF. 1876, 1876 (2016).

133. 21 U.S.C. § 826(a)(1) (2018) (granting authority to establish production quotas for Schedule I and II substances to the Attorney General); see 28 C.F.R. § 0.100(b) (2020) (delegating authority to the DEA).

134. 21 C.F.R. §§ 1303.11, .23 (2020). The production quotas work hand in hand with prescriber behavior to the extent the DEA relies on prescriptions written to assess medical need. See Erin Albert, *Debunking the Myths of Controlled Substance Quotas*, PHARMACY TIMES (June 1, 2018, 10:00 PM), <http://www.pharmacytimes.com/publications/career/2018/careerspring2018/debunking-the-myths-of-controlled-substance-quotas> [https://perma.cc/4JKJ-XA23].

federal government has sought to decrease manufacturing quotas “for the most six frequently misused opioids.”¹³⁵ In 2017, the DEA reduced “almost every Schedule II opiate and opioid medication that may be manufactured in the United States . . . by 25 percent or more.”¹³⁶

Both the supply of, and the demand for, opioids must be addressed. Focusing solely on reducing the supply of opioids raises two primary concerns. One is the risk of undertreatment of pain.¹³⁷ Second, as doctors’ prescribing methods change in ways that reduce the availability of prescription opioids, users—those seeking hedonistic pleasure or to avoid becoming dope sick as well as those seeking to curb pain—might turn to illicit opioids.¹³⁸ The supply of heroin and illicit fentanyl has risen to meet demand.¹³⁹

Dr. Keith Humphreys of Stanford compared West Virginia and Vancouver, British Columbia, to keenly make the point that jurisdictions must control both supply and demand.¹⁴⁰ West Virginia focuses on law enforcement measures in an attempt to decrease the supply of opioids while Vancouver emphasizes measures that attempt to influence the demand for opioids such as addiction treatment and various harm-reduction strategies.¹⁴¹ Yet, in 2017, “both places ha[d] nearly identical rates of drug overdose deaths.”¹⁴² Law enforcement cannot reasonably overcome the opioid crisis by arresting it away and ratcheting down supply. Likewise, society cannot expect social workers and physicians to eradicate demand for opioids solely through compassionate, nonjudgmental care for those addicted. Neither approach in isolation is sufficient. Finding this balance is especially challenging with respect to drugs used for the treatment of addiction because these drugs have a market and can be diverted.

Abating the opioid crisis likely will require a multifaceted solution that pulls and pushes on numerous complementary levers.¹⁴³ As this discussion demonstrates, a variety of policy instruments are currently being used.¹⁴⁴ Many of these levers focus on the use

135. Press Release, Dep’t of Justice, Office of Public Affairs, Justice Department, DEA Propose Significant Opioid Manufacturing Reduction in 2019 (Aug. 16, 2018), <http://www.justice.gov/opa/pr/justice-department-dea-propose-significant-opioid-manufacturing-reduction-2019> [https://perma.cc/PHE2-SQKJ].

136. Press Release, Drug Enf’t Admin., DEA Reduces Amount of Opioid Controlled Substances To Be Manufactured in 2017 (Oct. 4, 2016), <http://www.dea.gov/press-releases/2016/10/04/dea-reduces-amount-opioid-controlled-substances-be-manufactured-2017> [https://perma.cc/7TS3-GH2M].

137. Nicolas P. Terry, *The Opioid Litigation Unicorn*, 70 S.C. L. REV. 637, 654–55 (2019).

138. See Brian Rinker, *What ‘Dope Sick’ Really Feels Like*, KAISER HEALTH NEWS (Feb. 8, 2019), <http://khn.org/news/what-dope-sick-really-feels-like/> [https://perma.cc/8MX5-HW2V] (describing opioid use not to get high but to avoid the physical and emotional symptoms of withdrawal).

139. See *Rising Numbers of Deaths Involving Fentanyl and Fentanyl Analogs, Including Carfentanyl, and Increased Usage and Mixing with Non-Opioids*, CTRS. FOR DISEASE CONTROL & PREVENTION (July 11, 2018, 1:00 PM), <http://emergency.cdc.gov/han/han00413.asp> [https://perma.cc/B77R-GPJ6] [hereinafter *Rising Numbers of Deaths*].

140. See Keith Humphreys, *We Can’t Fight Opioids by Controlling Demand Alone*, WASH. POST (July 5, 2019, 1:44 PM), <http://www.washingtonpost.com/outlook/we-cant-fight-opioids-by-controlling-demand-alone> [https://perma.cc/7ZG5-DHH8].

141. *Id.*

142. *Id.*

143. See LOWRY, *supra* note 14, at 15 n.51 (“With regard to correcting for negative externalities, regulation can also serve as an alternative (or complementary) policy to taxation.”).

144. Professor Michael Howlett coauthors a leading text on public policy. See MICHAEL HOWLETT, M. RAMESH & ANTHONY PERL, *STUDYING PUBLIC POLICY: POLICY CYCLES AND POLICY SUBSYSTEMS* (3d ed.

of information or knowledge, such as educational campaigns, or the federal and state governments' authority to issue regulations in an attempt to change producer, prescriber, or user behavior. Largely missing from the discussion, however, is the use of price instruments such as taxes or fees.¹⁴⁵

III. STATE AND FEDERAL TAX LEGISLATION

Opioid tax proposals have been prevalent at the state¹⁴⁶ and federal level in recent years.¹⁴⁷ The sense of urgency is unsurprising given steep opioid-related expenses that governments have incurred as well as the lethality of the opioid epidemic.¹⁴⁸ Across the country, much of the action has been happening in states with high rates of drug overdose deaths.¹⁴⁹ The efforts thus far have been unsuccessful at the federal level as well as in the majority of states.

A. State Efforts

Since 2015, legislators in several states have sought to impose taxes on opioids.¹⁵⁰ Some of the proposals sought to tax a percentage—commonly between 5 and 10%—of the drug manufacturers' annual gross receipts from the sale of opioids within the state.¹⁵¹ Other proposals were based on volume. For example, in 2018, Kentucky sought to impose a tax on opium and opium derivatives equal to \$1 per dose.¹⁵² During that same year, Tennessee considered a \$.10 per dose tax, and West Virginia sought to impose a \$.05 per dose tax.¹⁵³ Another popular approach is to impose a tax based on the potency

2009). Howlett's typology divides policy instruments into four categories based on the government resource used to tackle the public problem: (1) information or knowledge (educational campaign); (2) authority (regulations); (3) treasure (subsidies, taxes, user charges); and (4) organization (government delivery of goods or services). *Id.* at 117–35.

145. For an overview of the literature on price instruments, see THOMAS STERNER, POLICY INSTRUMENTS FOR ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT 167–79 (2002).

146. See *infra* Part III.A.

147. See *infra* Part III.B.

148. See *supra* notes 4–7 for a discussion regarding lethality. See *supra* Part I.C for a discussion regarding expenses.

149. See *Drug Overdose Deaths*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/drugoverdose/data/statedeaths.html> [<https://perma.cc/6JUV-JTFC>] (last reviewed Mar. 19, 2020) (identifying these states, among others, as those with the highest rates of death due to drug overdose in 2018).

150. See, e.g., S. 1130, 2015 Gen. Assemb., Reg. Sess. § 1(b) (Conn. 2015); see also Nikki Bossert, Harley Duncan, Deborah Gordon & Nick Saye, *State Opioid Taxes*, 93 TAX NOTES ST. 1151, 1151–52, 1152 n.5 (2019).

151. See, e.g., H.R. 208, 88th Gen. Assemb., Reg. Sess. § 10 (Iowa 2019) (imposing a 5% gross receipts tax on wholesalers for sales of Schedule II drugs); H.R. 250, 149th Gen. Assemb., Reg. Sess. § 5602(a) (Del. 2017) (imposing a 10% gross receipts tax on manufacturers, producers, importers, and distributors of addictive opioids); Conn. S. 1130, § 1(b) (imposing a 6.35% tax on manufacturers' and wholesalers' gross receipts derived from sales of controlled substances).

152. H.R. 337, 2018 Gen. Assemb., Reg. Sess. § 2(1) (Ky. 2018).

153. H.R. 2618, 110th Gen. Assemb., Reg. Sess. § 1(1) (Tenn. 2018); H.D. 4543, 2018 Leg., Reg. Sess. § 11-18-1(b) (W. Va. 2018).

of the drug, such as \$.01 per milligram of active opioid ingredient.¹⁵⁴ Exemptions from taxation were commonly provided for opioid-based medications used to treat addiction¹⁵⁵ and opioids for cancer and hospice patients.¹⁵⁶ Manufacturers as well as wholesalers and distributors would often bear the legal incidence for the tax.¹⁵⁷ In some states, the parties obligated to pay the tax would also bear its economic incidence due to restrictions that expressly prohibited passing the tax to retail consumers.¹⁵⁸

The proposed legislation also differed based on how the taxes could be spent. Many states would have earmarked the revenue raised for opioid prevention and treatment programs.¹⁵⁹ By contrast, the opioid tax revenue raised in Kentucky would have gone to fund public pensions, while revenue raised in at least one proposal in Delaware would simply have been deposited into the state's general fund.¹⁶⁰ In West Virginia, half of the money raised would help state employees pay their health insurance premiums.¹⁶¹

Between 2018 and 2020, five states have successfully enacted opioid tax legislation: Delaware, Maine, Minnesota, New York, and Rhode Island.¹⁶² Effective as of June 2019, Delaware requires manufacturers to pay an opioid impact fee of \$.01 per MME for prescription opioids dispensed and reported in the state's Prescription Monitoring Program and \$.0025 per MME for generic prescription opioids.¹⁶³ The fee applies only to manufacturers with a sufficient market presence in the state—those with more than one hundred thousand MMEs of opioids dispensed in Delaware in a quarter.¹⁶⁴ The fees collected are deposited into a special fund that is used for opioid addiction

154. *See, e.g.*, Assemb. 1512, 2017–18 Leg., Reg. Sess. § 33003(a) (Cal. 2017); H.R. 1103, 128th Leg., 1st Reg. Sess. § 4921(2) (Me. 2017).

155. *See, e.g.*, Assemb. 01107, 2019–20 Leg., Reg. Sess. § 495(1) (N.Y. 2019); H.R. 625, 64th Leg., 2d Reg. Sess. § 2 (Idaho 2018); S. 2445, 110th Gen. Assemb., Reg. Sess. § 1(a) (Tenn. 2018); H.R. 15, 2017–18 Gen. Assemb., Spec. Sess. § 9002(c)(1) (Vt. 2018); Del. H.R. 250, § 5601(3); H.R. 2633, 190th Gen. Court § 1 (Mass. 2017).

156. *See, e.g.*, N.Y. Assemb. 01107, § 2.

157. *See, e.g.*, Cal. Assemb. 1512; S. 1130, 2015 Gen. Assemb., Reg. Sess. (Conn. 2015).

158. *See, e.g.*, H.R. 358, 149th Gen. Assemb., Reg. Sess. § 5602(a) (Del. 2018); H.R. 337, 2018 Gen. Assemb., Reg. Sess. § 2(1) (Ky. 2018); Tenn. S. 2445, § 1(c); Vt. H.R. 15, § 9002(b)(3).

159. *See, e.g.*, S. 1349, 218th Leg., Reg. Sess. (N.J. 2018); Cal. Assemb. 1512, § 11740; S. 2148, 90th Leg., Reg. Sess. § 5 (Minn. 2017); Conn. S. 1130, § 3.

160. *Compare* Ky. H.R. 337, § 2(2) (“The tax revenues shall be deposited in the permanent pension fund established in . . . this Act.”), *with* Del. H.R. 250, § 5602(d) (“All taxes, interest, and penalties collected or received . . . shall be deposited to the General Fund.”).

161. H.D. 4543, 82nd Leg., Reg. Sess. § 11-18-1(b)(2) (W. Va. 2018). While using opioid taxes to fund non-opioid related expenses might seem objectionable, such an approach appears more palatable to the extent those taxes are merely replenishing general revenue funds that were diverted from other government expenditures, such as employee pensions, to pay opioid-related expenses. *See, e.g.*, Ky. H.R. 337, § 2(2), Del. H.R. 250, § 5602(d).

162. States have been experimenting with a myriad of approaches, including taxes and fees. For ease of reference, this Article uses the term “opioid tax” to generically refer to these assessments. *See infra* notes 163–98 for a discussion of each state’s opioid tax legislation.

163. DEL. CODE ANN. tit. 16, § 4804B(b)(1)–(2) (West 2020).

164. *Id.* § 4804B(a).

prevention and various opioid addiction services, including treatment programs.¹⁶⁵ This legislation is temporary; it is set to expire in 2025.¹⁶⁶

In January 2020, Maine passed laws imposing licensing and registration fees on opioid manufacturers.¹⁶⁷ These laws require a \$55,000 registration fee and a \$250,000 annual product registration fee for opioid manufacturers who sell, deliver, or distribute two million or more units of an opioid medication within the state, but opioids used for MAT are exempted.¹⁶⁸ It was widely reported that the laws are intended “to hold the companies accountable for opioid use disorder.”¹⁶⁹ Interestingly, the law directs the Maine Board of Pharmacy to evaluate whether the licensing and registration fees “have affected the prescribing practices of opioid medications by reducing the number of opioid medication prescriptions issued during calendar years 2020, 2021 and 2022.”¹⁷⁰ The board is to report its findings to a joint standing committee of the Maine legislature that is responsible for health-related matters.¹⁷¹

In Minnesota, after a bill that sought a 2% gross receipts tax on controlled substances failed in 2018,¹⁷² the legislature took a different approach by enacting legislation in 2019 that imposes annual licensing and registration fees on opioid manufacturers and distributors.¹⁷³ Opioid manufacturers are now required to pay an annual registration and licensing fee of \$55,000.¹⁷⁴ Additionally, manufacturers that sell, deliver, or distribute two million or more units of opiates in the state must also pay a \$250,000 annual opiate product registration fee.¹⁷⁵ The new fees are expected to generate

165. *Id.* § 4803B.

166. *Id.* § 4801B.

167. ME. REV. STAT. ANN. tit. 32, §§ 13724, 13800-C (2020).

168. *Id.* These licensing fees became effective in June 2020 after Maine’s legislative session ended in April 2020. See ME. CONST. art. IV, pt. third, § 16.

169. *Proposal To Make Opioid Makers Pay for Treatment Becomes Law*, U.S. NEWS (Jan. 14, 2020, 3:48 PM), <http://www.usnews.com/news/best-states/maine/articles/2020-01-14/proposal-to-make-opioid-makers-pay-for-treatment-becomes-law> [https://perma.cc/VB5H-KN7G].

170. ME. REV. STAT. ANN. tit. 32, § 13800-C(4).

171. *Id.*

172. See S. 2148, 90th Leg., Reg. Sess. § 3, subdiv. 3(2) (Minn. 2017).

173. See Act of May 22, 2019, ch. 63, art. 1, § 2, 2019 Minn. Laws 1, 2.

174. MINN. STAT. ANN. § 151.065 subdivs. 1(16), 3(14) (West 2020) (imposing an application fee and an annual licensure and registration fee on drug manufacturers of opioid-containing controlled substances).

175. *Id.* § 151.066 subdiv. 3(b).

\$20 million of revenue annually.¹⁷⁶ The revenue generated is deposited into a special fund earmarked for efforts to address the opioid epidemic in Minnesota.¹⁷⁷

New York enacted two opioid-related tax bills in two years. The first, called the Opioid Stewardship Act (OSA),¹⁷⁸ was enacted in July 2018.¹⁷⁹ The OSA was expected to raise \$100 million for years 2019–2024 through payments made by opioid manufacturers and distributors that sell or distribute opioids in New York.¹⁸⁰ Each manufacturer and distributor covered by the OSA was responsible for paying a ratable share of the \$100 million annual payment based on its proportionate share of MMEs sold or distributed in New York.¹⁸¹ The OSA attempted to prohibit licensees from passing “the cost of their ratable share amount to a purchaser, including the ultimate user of the opioid” by imposing a penalty of up to \$1 million per incident.¹⁸²

The pharmaceutical industry, led by the Healthcare Distribution Alliance, a trade association representing pharmaceutical wholesale distributors, pushed back by challenging the constitutionality of the OSA.¹⁸³ The U.S. District Court for the Southern District of New York found that the pass-through prohibition facially discriminated against interstate commerce in violation of the federal Dormant Commerce Clause.¹⁸⁴ In particular, the penalty provision’s language seemingly would have permitted the State of New York to impose a penalty on a manufacturer who marked up the price of prescription

176. Valerie Bauman, *Minnesota Expects \$20 Million Windfall from Fee on Opioid Makers*, BLOOMBERG L. (July 1, 2019, 5:37 AM), <http://news.bloomberglaw.com/health-law-and-business/minnesota-expects-20-million-windfall-from-fee-on-opioid-makers> [https://perma.cc/JE6B-URZ5]. If, on or after July 1, 2024, the state collects \$250 million from the newly enacted fees or from a settlement with opioid manufacturers, the annual licensing fee will be reduced to \$5,260, and the opiate product registration fee will be repealed. MINN. STAT. ANN. § 256.043 subdiv. 4. The Minnesota legislature’s motivation seems to have been revenue generation rather than changing patient or prescriber behavior. See *Discussion on Minnesota Opioid Bill*, MINN. COMMITTEE ON HEALTH & HUM. SERVS. POL’Y (Jan. 30, 2019), <http://ww2.house.leg.state.mn.us/audio/mp3ls91/hhspl013019.mp3> [https://perma.cc/7U2A-WV2Z] (statement of Rep. Liz Olson, one of the bill’s co-sponsors at 15:20) (“[The bill] is going to be looking to generate revenue from a registration fee[s] from manufacturers and distributors.”). However, lawmakers were concerned about whether these fees would impact “prescribing practices . . . by reducing the number of opiate prescriptions issued” or otherwise will affect the “availability of opiates for the treatment of chronic or intractable pain.” MINN. STAT. § 151.066 subdiv. 4 (directing the Minnesota Board of Pharmacy to report to the legislature to the extent possible the consequences of the fees on “prescribing practices”).

177. MINN. STAT. ANN. § 256.043 subdiv. 1.

178. N.Y. PUB. HEALTH LAW § 3323 (McKinney 2020).

179. See *id.*

180. S. 07507-C, 2017–18 Leg., Reg. Sess. (N.Y. 2018) (establishing the Opioid Stewardship Fund into which the opioid stewardship payments were to be deposited); N.Y. STATE FIN. LAW § 97-aaaaa (McKinney 2020) (authorizing the fund); N.Y. PUB. HEALTH LAW § 3323 (providing for the opioid stewardship payment). The Opioid Stewardship Fund is set to expire on June 30, 2024. N.Y. STATE FIN. § 97-aaaaa.

181. N.Y. PUB. HEALTH § 3323(3), (5)(a).

182. *Id.* § 3323(2), (10)(c). It is not clear whether there is any mechanism in place to allow the government to ensure the tax is not passed downstream.

183. See *Healthcare Distribution All. v. Zucker*, 353 F. Supp. 3d 235, 243–44 (S.D.N.Y. 2018), *rev’d in part by Ass’n for Accessible Meds. v. James*, 974 F.3d 216 (2d Cir. 2020). The Association for Accessible Medicines and SpecGx LLC, an opioid drug manufacturer, also challenged the OSA. *Id.* at 243; see also Erin Durkin, *State Policymakers Consider Opioid Taxes for 2019*, NAT’L J. DAILY, Jan. 4, 2019, 2019 WLNR 327128 (characterizing pushback from the pharmaceutical industry as “fierce”).

184. *Healthcare Distribution All.*, 353 F. Supp. 3d at 243.

opioids sold outside of New York to recoup the tax paid for sales in New York.¹⁸⁵ But of course, New York does not have the power to regulate commerce that takes place wholly outside the state.¹⁸⁶ Even if the pass-through prohibition could be read to apply to only in-state purchasers, it would still be problematic because in-state purchasers would be protected from a price markup, but out-of-state purchasers would not be.

While the appeal of the district court's grant of the plaintiffs' motion for summary judgment was pending,¹⁸⁷ New York enacted another excise tax on opioids as part of its 2019–2020 budget bill.¹⁸⁸ The new law, which became effective on July 1, 2019, imposes a tax on the first sale of every opioid unit equal to \$.0025 per MME where the wholesale acquisition cost is less than \$.50 and \$.015 per MME if the wholesale acquisition cost is more than \$.50.¹⁸⁹ The tax is imposed on manufacturers and wholesalers that ship, mail, or deliver prescription medications into the state.¹⁹⁰ The law exempts opioids used in alcohol and drug treatment programs and hospice.¹⁹¹ Unlike the 2018 OSA, the 2019 excise tax does not prohibit manufacturers and distributors from shifting the economic incidence of the tax to purchasers downstream.¹⁹²

Rhode Island began imposing an opioid registration fee on manufacturers, distributors, and wholesalers in 2019.¹⁹³ Under the Rhode Island Opioid Stewardship Act,¹⁹⁴ the annual fee of \$5 million in the aggregate is allocated among the taxpayers based on their dollar value market share of opioid sales in Rhode Island.¹⁹⁵ Each taxpayer's market share is determined using the taxpayer's "gross, in-state opioid sales in dollars from the previous calendar year."¹⁹⁶ However, five specified types of sales, including the sale of opioids used in treatment and hospice programs, are exempt from market share calculations.¹⁹⁷ Revenue raised through the registration fee is deposited into

185. See *id.* at 263 (quoting *Nat'l Elec. Mfrs. Ass'n v. Sorrell*, 272 F.3d 104, 110 (2d Cir. 2001)).

186. See *id.* at 260–61.

187. See *Healthcare Distribution All.*, 353 F. Supp. 3d 235, *appeal docketed*, No. 19-00199 (2d Cir. Jan. 17, 2019). On September 14, 2020, the Second Circuit reversed the district court's decision to invalidate the OSA. See *Ass'n for Accessible Meds. v. James*, 974 F.3d 216 (2d Cir. 2020).

188. See Act of Apr. 12, 2019, ch. 59, 2019 N.Y. Sess. Laws 541, 545 (McKinney) (codified in part at N.Y. TAX LAW § 498 (McKinney 2020)) ("Enacts into law major components of legislation which are necessary to implement the state fiscal plan for the 2019–2020 state fiscal year.").

189. N.Y. TAX LAW § 498(a).

190. *Id.* §§ 497(f), 498(a).

191. See *id.* § 497(a) (excluding from the definition of "opioid" buprenorphine, methadone, or morphine); *id.* § 498(a) (excluding first sales to hospice programs and alcohol and chemical dependency programs).

192. In fact, when the bill was introduced, it expressly *permitted* the tax to be passed through to the purchaser. ANDREW C. CUOMO, OFFICE OF THE GOVERNOR, N.Y. STATE, BUDGET BILL (2019), <http://www.budget.ny.gov/pubs/archive/fy20/exec/30day/rev-artvii-newpart-xx.pdf> [<https://perma.cc/XS6B-D68C>] ("The economic incidence of the tax imposed by this article may be passed to a purchaser."). This language was removed from the bill before it was passed by the Assembly and Senate and signed by the governor.

193. See 21 R.I. GEN. LAWS § 21-28.10-2 (West 2020). The first payment was due in December 2019. *Id.* § 21-28.10-5.

194. 21 R.I. GEN. LAWS § 21-28.10-1 to -13 (West 2020).

195. See *id.* § 21-28.10-3(1).

196. *Id.* § 21-28.10-1.

197. *Id.* § 21-28.10-3(3).

a special fund, “the opioid stewardship fund,” to finance drug treatment, recovery, and prevention efforts.¹⁹⁸

B. Federal Efforts

In 1914, Congress passed the Harrison Narcotics Tax Act (Harrison Act)¹⁹⁹ to respond to the spread of opioid importation and use.²⁰⁰ The Harrison Act required manufacturers, pharmacists, and doctors who made, dispensed, sold, or distributed opium or its derivatives to register with the Internal Revenue Service (IRS) and pay annual taxes.²⁰¹ The law also required sales to be documented on forms the IRS issued.²⁰² Despite this historical experience with the taxation of opioids, the Harrison Act is not particularly instructive for purposes of this Article because it was not intended to be a true tax. The tax feature of the legislation was a mere ruse to justify the federal government’s intervention in the early war on drugs.²⁰³

At the time the Harrison Act was passed, the prevailing view was that the regulation of prescribing medications was reserved to the states pursuant to the Tenth Amendment of the U.S. Constitution.²⁰⁴ “The bill’s goal was not to set prohibitively high sin taxes on the narcotics (because only those involved in the supply chain, not the consumer, were taxed \$1 per annum), but to better regulate and track the channels through which these drugs were sold and administered.”²⁰⁵ Whatever the government’s stated motive to justify the Harrison Act, the legislation did not seem to be correlated with a decline in number of addicts, though there apparently was no definitive data.²⁰⁶

More recently, members of Congress have attempted to tax opioids. A bill cosponsored by Senators Joseph Manchin (D-WV) and Amy Klobuchar (D-MN) would have imposed a fee of \$.01 per milligram of active opioid sold by manufacturers,

198. *Id.* § 21-28.10-10(c)–(d).

199. Pub. L. No. 63-223, 38 Stat. 785 (1914).

200. See Audrey Redford & Benjamin Powell, *Dynamics of Intervention in the War on Drugs: The Buildup of the Harrison Act of 1914*, 20 INDEP. REV. 509, 511–12 (2016).

201. Harrison Narcotics Act, ch. 1, 38 Stat. at 785. The tax initially was set at \$1 per year. *Id.* This rate was increased in 1919 to \$3 for physicians, \$6 for retail dealers, \$12 for wholesalers, and \$24 for manufacturers. *Linder v. United States*, 268 U.S. 5, 14–15 (1925).

202. Harrison Narcotics Act § 2(d).

203. See DAVID F. MUSTO, *THE AMERICAN DISEASE: ORIGINS OF NARCOTIC CONTROL* 9–10 (Oxford Univ. Press, 3d ed. 1999).

204. Eventually, the federal government regulated drug use through the Interstate Commerce Clause. *Id.* at 10. See Richard C. Boldt, *Drug Policy in Context: Rhetoric and Practice in the United States and the United Kingdom*, 62 S.C. L. REV. 261, 278–85 (2010), for a discussion of litigation in the U.S. Supreme Court challenging the constitutionality of the Harrison Act.

205. Redford & Powell, *supra* note 200, at 525. Congress used a similar tactic when it enacted the National Firearms Act of 1934 (NFA), Pub. L. No. 73-474, 48 Stat. 1236 (1934) (codified as amended at I.R.C. §§ 5801–72 (2018)). The NFA imposed a \$500 tax on the manufacturing of firearms and a \$200 tax on the transfer of firearms. *Id.* §§ 2(a), 3(a). “While the NFA was enacted by Congress as an exercise of its authority to tax, the NFA had an underlying purpose unrelated to revenue collection. As the legislative history of the law discloses, its underlying purpose was to curtail, if not prohibit, transactions in NFA firearms.” U.S. DEP’T OF JUSTICE, BUREAU OF ALCOHOL, TOBACCO, FIREARMS & EXPLOSIVES, NATIONAL FIREARMS ACT HANDBOOK 1 (2009).

206. WILLIAM O. WALKER III, *DRUG CONTROL IN THE AMERICAS* 76 (rev. ed. 1989).

producers, and importers.²⁰⁷ Similar bills have been introduced every year since 2016.²⁰⁸ In 2018, Senator Bernie Sanders (D-VT) cosponsored a bill that would have imposed a \$7.8 billion civil penalty on any company found to have engaged in illegal marketing or distribution of opioids as well as a civil penalty on the company's chief executive officer without regard to that person's participation or knowledge of the violation.²⁰⁹ The Sanders bill also sought to retroactively deny certain tax credits to companies who engaged in illegal marketing or distribution practices.²¹⁰ Thus far, Congress has been unsuccessful in passing opioid tax legislation.

IV. PRESCRIPTION OPIOID TAX

It cannot be disputed that there are heavy costs associated with the overuse of opioid drugs. Demands on America's health care, law enforcement, foster care, and judicial systems are squeezing government budgets, not to mention the toll that opioid addiction has taken on users and their families.²¹¹ The practical question for legislators is whether the use of pricing instruments—specifically taxes—are an effective way to wrestle with the opioid crisis. Parts IV.A and IV.B consider the effects of an opioid tax on consumption and production, respectively. Part IV.C contemplates revenue generation as a goal of an opioid tax independent of behavior modification. Finally, Part IV.D outlines two other potential solutions to close the funding gap: a broad-based tax increase and litigation or settlement recoveries.

A. Opioid Tax as a Behavior Modification Instrument

It is well established that higher prices reduce the consumption of products like alcohol and tobacco.²¹² Part IV.A.1 explains that the extent to which consumption responds to price changes depends on the price elasticity of demand. Part IV.A.2 then addresses whether similar consumption declines would be observed as a result of higher prices on prescription opioids. The available data for prescription drugs is limited and inconsistent. By one estimate, the price elasticity of demand for prescription drugs is between .018 and 0.60, which at the low end of the range is quite inelastic (i.e., a 10% increase in price is estimated to result in only a 0.18% reduction in consumption).²¹³ The addictive nature of opioids, the lack of reasonable substitutes, and the fact that they are

207. Budgeting for Opioid Addiction Treatment, S. 425, 116th Cong. § 4192(a) (1st Sess. 2019).

208. See, e.g., Budgeting for Opioid Addiction Treatment, H.R. 4793, 116th Cong. § 4192 (1st Sess. 2019); Excise Narcotics Distribution in the Epidemic Act of 2019, H.R. 4631, 116th Cong. § 4192 (1st Sess. 2019); Addiction Prevention and Responsible Opioid Practices Act, S. 2729, 115th Cong. § 4192 (2d Sess. 2018); Heroin and Opioid Abuse Prevention and Treatment Act of 2017, H.R. 3254, 115th Cong. § 4192 (1st Sess. 2017); Heroin and Opioid Abuse Prevention and Treatment Act of 2016, H.R. 6443, 114th Cong. § 4192 (2d Sess. 2016).

209. Opioid Crisis Accountability Act of 2018, S. 2691, 115th Cong. § 2(a) (2d Sess. 2019).

210. *Id.* § 5.

211. See *supra* Part I.C.1.

212. See, e.g., Mystica M. Alexander & William P. Wiggins, *The Lure of Tax Revenue from Recreational Marijuana: At What Price?*, 15 U.C. DAVIS BUS. L.J. 131, 140 (2015); Frank J. Chaloupka, Ayda Yurekli & Geoffrey T. Fong, *Tobacco Taxes as a Tobacco Control Strategy*, 21 TOBACCO CONTROL 172, 175 (2012) [hereinafter Chaloupka et al., *Tobacco Taxes*].

213. See *infra* note 240 and accompanying text.

necessity goods would indicate that consumption demand is not particularly responsive to price.

One researcher who examined the effects a decrease in price could have on prescription opioid consumption found that a 10% *decrease* in price might correspond to an almost 9% *increase* in prescription opioid consumption.²¹⁴ However, this relationship was observed only with respect to first-time users of prescription opioids.²¹⁵ In any event, Part IV.A.3 explains that unlike alcohol or tobacco, consumers of prescription opioids likely will be indifferent to price increases unless the tax is incorporated into their out-of-pocket costs. But to the extent that the reality of health insurance policies makes it impractical if not impossible to pass the tax along to patients, an opioid tax intended to reduce consumption is unlikely to be effective except for the uninsured who pay health care costs out of pocket.

1. Price Elasticity of Demand Generally

Excise taxes typically are imposed on particular goods, such as alcohol, cigarettes, and gasoline.²¹⁶ Unlike sales taxes, which typically are imposed on the consumption of tangible personal property and certain services, excise taxes target particular types of consumption.²¹⁷ Excise taxes that are intended to discourage consumption are known as sumptuary taxes or, by their more colloquial term, sin taxes.²¹⁸

A sin tax is intended to discourage the consumption of harmful products by imposing an excise tax that is reflected in higher retail prices.²¹⁹ An excise tax can take the form of a Pigouvian tax, named after the economist Arthur Pigou.²²⁰ Pigouvian taxes are intended to correct for the damage harmful products or activities cause to others by imposing a tax that approximates the social costs.²²¹ Cigarette taxes are an example of both a sin tax and a Pigouvian tax—they are intended to discourage smoking by increasing the retail price of cigarettes, and to the extent the money collected is used to offset society's cost to treat health issues related to smoking, cigarette taxes are Pigouvian.

214. See *infra* notes 243–56 and accompanying text.

215. See *infra* notes 243–56 and accompanying text.

216. *What Are the Major Federal Excise Taxes and How Much Money Do They Raise?*, TAX POL'Y CTR., <http://www.taxpolicycenter.org/briefing-book/what-are-major-federal-excise-taxes-and-how-much-money-do-they-raise> [https://perma.cc/YJ5K-8UDZ] (last updated May 2020).

217. LOWRY, *supra* note 14, at 1.

218. E.g., J. Fred Giertz, *Excise Taxes*, in *ENCYCLOPEDIA OF TAXATION & TAX POLICY* 133 (Joseph J. Cordes et al. eds., 2d ed. 2005) (“Excises are also levied on goods or services that are considered harmful or undesirable, in an attempt to discourage consumption.”); James R. Hines Jr., *Taxing Consumption and Other Sins*, 21 J. ECON. PERSP. 49, 49–50 (2007) (“Moreover, the ‘sin’ taxes . . . are not primarily imposed . . . for collecting substantial tax revenue Instead, excise taxes are intended to discourage consumption”).

219. See Hines Jr., *supra* note 218, at 50.

220. See Jonathan S. Masur & Eric A. Posner, *Toward a Pigouvian State*, 164 U. PA. L. REV. 93, 94–95 (2015).

221. *Id.* at 100–01.

The extent to which consumption responds to price changes depends on the price elasticity of demand.²²² Price elasticity of demand can be expressed mathematically as A/B , where A is the percentage change in quantity demanded and B is the percentage change in price.²²³ Price elasticities have been estimated for several goods that might be of interest for purposes of this Article, including cigarettes, alcohol, and sugar-sweetened beverages (SSBs). The price elasticity of demand for cigarettes is estimated to be between 0.30 to 0.50, meaning that a 1% increase in price is expected to reduce cigarette use between 0.30 and 0.50%.²²⁴ Thus, a 10% price increase should result in a consumption decrease of between 3 and 5%. The price elasticity of alcohol generally is estimated to be 0.50.²²⁵ More granular price elasticities have been estimated based on the type of alcohol: 0.16 for beer; 0.39 for spirits; and 0.58 for wine.²²⁶ The estimated price elasticity for SSBs is between 0.80 and 1.20.²²⁷

Demand is said to be inelastic—or insensitive to price changes—when a change in price has only a minimal impact on the quantity of the good demanded.²²⁸ Under those conditions, the price elasticity will be less than one because the denominator—the change in price—will be larger than the change in quantity in the numerator.²²⁹ By contrast, the higher the price elasticity of demand, the more responsive consumption is relative to price. In other words, changes in price result in relatively larger changes in quantity demanded. Consequently, based on the price elasticities cited above for the different kinds of alcohol, beer consumption, with a price elasticity of 0.16, is least responsive to price changes, while wine, with a price elasticity of 0.58, is the most responsive.

Similarly, alcohol and cigarettes, with price elasticities of 0.50 and 0.30–0.50, respectively, are less price sensitive as compared to SSBs, with a price elasticity of

222. Emily Cox, *Why Financial Incentives Aren't Enough To Move the Needle on Compliance*, 2 AM. HEALTH & DRUG BENEFITS 12, 12 (2009). For ease of reading, this Article ignores the negative sign in calculations of the price elasticity of demand.

223. *See id.*

224. *See* JANE G. GRAVELLE, CONG. RESEARCH SERV., RS22681, THE CIGARETTE TAX INCREASE TO FINANCE SCHIP 2 (2009); *see also* Chaplounka et al., *Tobacco Taxes*, *supra* note 212, at 175 (“[E]stimates of price elasticity [for tobacco are] in the range of -0.25 to -0.5, with most clustered around -0.4.”). Price elasticities are more complicated than presented here because, in general, younger and poorer populations respond more to higher prices, whereas higher-income people “respond more to changes in future harmful effects.” Gary S. Becker, Michael Grossman & Kevin M. Murphy, *Rational Addiction and the Effect of Price on Consumption*, 81 AM. ECON. REV. 237, 240 (1991).

225. *See* DAVID ROODMAN, OPEN PHILANTHROPY PROJECT, THE IMPACTS OF ALCOHOL TAXES: A REPLICATION REVIEW 2 (2015), <http://davidroodman.com/david/The%20impacts%20of%20alcohol%20taxes%206.pdf> [<https://perma.cc/WAH5-VK5U>].

226. JANE G. GRAVELLE, CONG. RESEARCH SERV., R40648, TAX OPTIONS FOR FINANCING HEALTH CARE REFORM 11–12 (2009).

227. Lisa M. Powell & Matthew L. Maciejewski, *Taxes and Sugar-Sweetened Beverages*, 319 JAMA 229, 229 (2018); *see also* Tatiana Andreyeva, Michael W. Long & Kelly D. Brownell, *The Impact of Food Prices on Consumption: A Systematic Review of Research on the Price Elasticity of Demand for Food*, 100 AM. J. PUB. HEALTH 216, 218 (2010) (estimating price elasticity of demand on soft drinks, based on prior studies, to be -0.79).

228. *See* Cox, *supra* note 222, at 12.

229. *See id.* Additionally, the price elasticity of demand will always be negative because price and quantity are moving in opposite directions. J. Michael Woolley & H.E. Frech, III, *How Hospitals Compete: A Review of the Literature*, 2 U. FLA. J. LAW & PUB. POL’Y 57, 64 n.34 (1988). As price increases, for example, the quantity demanded decreases. *Id.*

0.80–1.20. It makes intuitive sense that demand for cigarettes and alcohol would be less responsive to price as compared to SSBs because consumers presumably buy tobacco products and alcohol for reasons other than price, such as for their addictive qualities or social factors. In addition, consumers could substitute other kinds of beverages if the price of SSBs increases, but there presumably are fewer substitutes for alcohol or tobacco.²³⁰

There is substantial evidence that excise taxes on tobacco products reduce tobacco use, particularly among the young and poor.²³¹ Higher prices will dissuade some from starting to smoke in the first place, convince some current users to quit, and cause others to reduce their consumption.²³² Higher prices are also associated with reductions in alcohol use.²³³ There is extensive literature studying the relationship between alcohol taxes and consumption.²³⁴ After reviewing the existing literature, economist David Roodman concluded that “taxing alcohol reduces drinking in general and problem drinking in particular.”²³⁵

230. Differential prices for different types of alcohol might make product substitution possible and thus reduce consumption from a higher-priced kind of alcohol to a lower-priced product. For example, higher prices for spirits and wine might encourage consumers to substitute beer for their spirit and wine consumption. Similarly, lower prices for electronic cigarettes (e-cigarettes) might make them good substitutes for traditional cigarettes. See Henry Saffer, Daniel L. Dench, Michael Grossman & Dhaval M. Dave, *E-Cigarettes and Adult Smoking: Evidence from Minnesota* 11–12 (Nat’l Bureau of Econ. Research, Working Paper No. 26589, 2019). On the other hand, if prices for e-cigarettes and traditional cigarettes are comparable, then e-cigarettes will be less effective as a substitute for smoking. See *id.* at 21.

231. Chaloupka et al., *Tobacco Taxes*, *supra* note 212, at 175; see also Prabhat Jha, Frank J. Chaloupka, Marlo Corrao & Binu Jacob, *Reducing the Burden of Smoking World-Wide: Effectiveness of Interventions and Their Coverage*, 25 *DRUG & ALCOHOL REV.* 597, 599 (2006) (“Well over 100 studies from high-income countries demonstrate clearly that increases in cigarette and other tobacco product taxes lead to significant reductions in cigarette smoking and other tobacco use.”).

232. Chaloupka et al., *Tobacco Taxes*, *supra* note 212, at 175.

233. See, e.g., Alexander & Wiggins, *supra* note 212, at 140 (“[H]igher alcohol prices and alcohol taxes are associated with reductions in both excessive alcohol consumption and related, subsequent harms. Results were robust across different countries, time periods, study designs and analytical approaches, and outcomes.” (quoting Randy D. Elder, Briana Lawrence, Aneeqah Ferguson, Timothy S. Naimi, Robert D. Brewer, Sajal K. Chattopadhyay, Traci L. Toomey & Jonathan E. Fielding, *The Effectiveness of Tax Policy Interventions for Reducing Excessive Alcohol Consumption and Related Harms*, 38 *AM. J. PREVENTATIVE MED.* 217, 226 (2010))); Alexander C. Wagenaar, Matthew J. Salois & Kelli A. Komro, *Effects of Beverage Alcohol Price and Tax Levels on Drinking: A Meta-Analysis of 1003 Estimates From 112 Studies*, 104 *ADDICTION* 179, 187 (2009).

234. ROODMAN, *supra* note 225, at 1 (discussing the breadth of literature on the impact of alcohol taxes or changes in price and noting that another economist identified 578 different studies (citing Jon P. Nelson, *Meta-Analysis of Alcohol Price and Income Elasticities – With Corrections for Publication Bias*, *HEALTH ECON. REV.*, July 24, 2013, at 1, 3)).

235. *Id.* at 1–2, 48. There is some debate as to the effects of increased prices on heavy drinkers. Compare Wagenaar et al., *supra* note 233, at 179 (finding that “price/tax affects heavy drinking significantly”), with Jon P. Nelson, *Does Heavy Drinking by Adults Respond to Higher Alcohol Prices and Taxes? A Survey and Assessment*, 43 *ECON. ANALYSIS & POL’Y* 265, 280 (2013) (finding prices have little to no effect on heavy drinkers’ consumption). On the one hand, one might expect heavy drinkers to be more responsive to price because a larger proportion of their income is spent on alcohol. On the other hand, heavy drinkers are more likely to be dependent on alcohol as compared to moderate drinkers, in which case, they might be less responsive to price increases, assuming prices increase on all alcohol.

Likewise, although it may be too early to make robust predictions, there might be an inverse relationship between SSB consumption and price.²³⁶ Researcher Matthew Lee and his collaborators studied the consumption effects of SSBs after the City of Berkeley imposed an excise tax on caloric-sweetened beverages.²³⁷ Using survey data, they concluded that the Berkeley tax resulted in decreased SSB consumption for the three-year period after the tax went into effect relative to comparable neighborhoods in Oakland and San Francisco, which at the time did not have SSB taxes.²³⁸

2. Elasticity of Demand of Prescription Opioids

The question is whether higher prices on prescription opioids would result in decreased consumption similar to what the data shows for tobacco, alcohol, and perhaps SSBs. These goods—especially cigarettes and alcohol—have addictive qualities and harmful effects.²³⁹ Because those characteristics can be found in opioids, it is tempting to draw an analogy. Price elasticities of demand have been estimated for drugs, including prescription drugs, and prescription painkillers, including those containing opioids. By one estimate, the price elasticity of demand for prescription drugs is between .018 and 0.60, which, at the low end of the range, is quite inelastic (i.e., a 10% increase in price is estimated to result in only a 0.18% reduction in consumption).²⁴⁰ Logically though, it would seem that the price elasticity of demand for prescription drugs might vary depending on what the drug is intended to treat.

Consider prescription drugs used to treat chronic high blood pressure. Because high blood pressure does not present with obvious symptoms or pain, diagnosed patients might be less inclined to refill their prescription medication to control their hypertension if their out-of-pocket costs rise.²⁴¹ This intuition is borne out by research undertaken by

236. See Matthew M. Lee, Jennifer Falbe, Dean Schillinger, Sanjay Basu, Charles E. McCulloch & Kristine A. Madsen, *Sugar-Sweetened Beverage Consumption 3 Years After the Berkeley, California Sugar-Sweetened Beverage Tax*, 109 AM. J. PUB. HEALTH 637, 637 (2019); see also Jennifer L. Pomeranz, *Taxing Food and Beverage Products: A Public Health Perspective and a New Strategy for Prevention*, 46 U. MICH. J.L. REFORM 999, 1009 (2013) (“Economists differ on the expected impact of sugary beverage taxes, but there seems to be a consensus that it could generate billions of dollars in revenue and reduce sugary beverage consumption to positively influence health.”).

237. Lee et al., *supra* note 236, at 637.

238. *Id.* Of course, it could be the case that consumers traveled to these nearby locales to purchase their SSBs. For a summary of the jurisdictions that tax SSBs, see Hunt Allcott, Benjamin B. Lockwood & Dmitry Taubinsky, *Should We Tax Sugar-Sweetened Beverages? An Overview of Theory and Evidence*, 33 J. ECON. PERSP. 202, 203 (2019).

239. See *Alcohol and Tobacco*, ALCOHOL ALERT (Nat’l Insts. of Health & Nat’l Inst. on Alcohol Abuse & Alcoholism, Rockville, Md.), Jan. 2007, at 1, 2, <http://pubs.niaaa.nih.gov/publications/aa71/AA71.pdf> [<https://perma.cc/J79U-4VLM>].

240. Cox, *supra* note 222, at 12. This estimate is in line with other researchers’ price elasticity estimates, which fall between -0.2 and -0.5. Aparna Soni, *Health Insurance, Price Changes, and the Demand for Pain Relief Drugs: Evidence from Medicare Part D*, 24 (July 1, 2019) (unpublished Ph.D. dissertation, Indiana University), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=3268968 [<https://perma.cc/RLX7-AYAW>] (citing, *inter alia*, Mark Duggan & Fiona S. Morton, *The Effect of Medicare Part D on Pharmaceutical Prices and Utilization*, 100 AM. ECON. REV. 590 (2010)).

241. See Ana Correia de Oliveira & Paulo Santos, *Hypertension: Drug Adherence and Social Factors*, J. HYPERTENSION & MGMT., Aug. 4, 2018, at 1, 1–2.

economist Liran Einav and his collaborators, who have estimated a greater price elasticity for drugs that treat chronic, as opposed to acute, conditions.²⁴²

Health economist Aparna Soni studied the effects of price changes on patients' consumption of prescription opioids by exploiting a change in Medicare known as Part D.²⁴³ Part D is the optional prescription drug coverage program that has been made available to Medicare insureds since 2006.²⁴⁴ Prior to Part D, Medicare did not cover outpatient prescription drugs.²⁴⁵ The goal of Medicare Part D was to reduce out-of-pocket outpatient prescription drug prices for insureds.²⁴⁶

Professor Soni estimated a price elasticity of demand for prescription opioids to be 0.89, meaning that a 10% *decrease* in price might correspond to an almost 9% increase in prescription opioids consumed.²⁴⁷ This estimate would suggest that the demand for prescription opioids is highly responsive to price. The elasticity of demand for prescription opioids conceivably could be even higher than the estimate that Professor Soni put forth due to the principle of loss aversion, which refers to the tendency of people to prefer to avoid losses rather than to acquire equivalent gains.²⁴⁸

As an example, the loss aversion principle would predict that a person would feel worse psychologically having to pay an additional \$5 copay as compared to saving \$5 from a decreased copay. Thus, if a state imposed a tax on prescription opioids and that tax was reflected in out-of-pocket prices, consumption might be expected to decrease at a faster rate than increased consumption following a decrease in out-of-pocket prices resulting from Medicare Part D.²⁴⁹ In other words, the principle of loss aversion would predict that consumers' aversion to paying \$5 more might cause bigger declines in consumption as compared to their increases in consumption due to saving \$5.

Professor Soni's results are surprising: her price elasticity estimate of 0.89 is *more* elastic than price elasticity estimates for other prescription drugs, which generally range from 0.2 to 0.5.²⁵⁰ One might expect that demand for opioids, given their addictive qualities, would be *less* price elastic as compared to prescription medications more generally.²⁵¹ This divergence is explained, at least in part, by distinguishing between new users, who are defined as those who had no opioid prescriptions in 2005, the year before the enactment of Medicare Part D, and existing users.²⁵²

242. Liran Einav, Amy Finkelstein & Maria Polyakova, *Private Provision of Social Insurance: Drug-Specific Price Elasticities and Cost Sharing of Medicare Part D*, 10 AM. ECON. J. 122, 138–39 (2018).

243. Soni, *supra* note 240, at 1.

244. *See id.* at 12.

245. *See id.* at 1.

246. *See* SUZANNE M. KIRCHHOFF, CONG. RESEARCH SERV., R40611, MEDICARE PART D PRESCRIPTION DRUG BENEFIT 1–2 (2018).

247. *See* Soni, *supra* note 240, at 17.

248. *See* Steffen Ahrens, Inske Pirschel & Dennis J. Snower, *A Theory of Price Adjustment Under Loss Aversion*, 134 J. ECON. BEHAV. & ORG. 78, 78 (2017) (discussing the impact on prices when consumers' utility loss is taken into account); *see also* Soni, *supra* note 240, at 24–25.

249. *See* Cox, *supra* note 222, at 12. Cox estimated a price elasticity for prescription drugs of 0.04 when copayments were reduced (i.e., a 10% *decrease* in price results in a 0.4% increase in consumption). *Id.*

250. *See* Soni, *supra* note 240, at 17, 24.

251. *Id.* at 3.

252. *Id.* at 22.

Her analysis showed that while both new and existing users experienced a decline in out-of-pocket prices, existing users experienced “no detectable change in their opioid or non-opioid painkiller utilization.”²⁵³ In other words, while new users might be incentivized to begin taking prescription opioids in the face of falling out-of-pocket costs, existing users’ consumption would be unlikely to increase in response to decreasing out-of-pocket costs.

Framed in this way, Professor Soni’s analysis is consistent with other research finding lower price elasticities for existing users of addictive goods.²⁵⁴ Existing users would be less responsive to price as compared to new users who have not developed any physical or emotional dependence on the drug.²⁵⁵ Based on her research, Professor Soni surmises that “policies to increase the [out-of-pocket] price of opioids would likely reduce the flow of *new* opioid use.”²⁵⁶

3. Price Elasticity of Prescription Opioids as Compared to Cigarettes and Alcohol

It has been shown that both alcohol and tobacco consumption are sensitive to price.²⁵⁷ If the price elasticity for prescription opioids is even higher, as Professor Soni’s research indicates, then one might expect at least new users’ demand for prescription opioids to be highly responsive to price as well. There are, however, challenges that prevent drawing clear parallels from the vast cigarette and alcohol research.

One significant difference between alcohol and cigarettes and prescription opioids is the incidence of any tax. When an excise tax is imposed on a consumer product such as cigarettes, manufacturers will prefer to pass along the tax to consumers, if possible, by increasing the price of the good rather than bearing the incidence of the tax themselves.²⁵⁸ Whether a tax is passed along to consumers depends on the extent to which consumers can substitute a nontaxed good for the taxed one.²⁵⁹

Assuming a reasonable substitute, consumers will shift consumption to the nontaxed good rather than pay more for the taxed good.²⁶⁰ The lack of reasonable substitutes helps to explain why excise taxes on cigarettes can be passed along to consumers. The lack of reasonable substitutes coupled with the relative inelasticity of

253. *Id.* at 23.

254. *See id.* at 7–8 (describing the “inverse relationship between intensity of use and price elasticity”).

255. It is also possible that price elasticities for prescription drugs, and opioids more specifically, may vary depending on whether the consumer uses them as prescribed; however, this author has uncovered no such studies. *See* COUNCIL OF ECON. ADVISERS, *THE ROLE OF OPIOID PRICES*, *supra* note 58, at 22 (“[W]e are not aware of studies estimating price elasticities for the misuse of prescription opioids distinctly from price elasticities for the overall number of prescription opioids (regardless of their use).”).

256. Soni, *supra* note 240, at 26 (emphasis added).

257. *See supra* notes 224–38 and accompanying text.

258. *See What Are the Major Federal Excise Taxes and How Much Money Do They Raise?*, *supra* note 216 (“Generally, excise taxes are collected from producers or wholesalers, and are embedded in the price paid by final consumers.”).

259. *See* Frank J. Chaloupka, Lisa M. Powell & Kenneth E. Warner, *The Use of Excise Taxes To Reduce Tobacco, Alcohol, and Sugary Beverage Consumption*, 40 ANN. REV. PUB. HEALTH 187, 191–92 (2019).

260. Bruno S. Frey, *Excise Taxes: Economics, Politics, and Psychology*, in *THEORY AND PRACTICE OF EXCISE TAXATION: SMOKING, DRINKING, GAMBLING, POLLUTING, AND DRIVING* 231, 232 (Sijbren Cnossen ed., 2005).

cigarette prices means manufacturers have the flexibility to bake the tax into the retail price without offsetting reductions in demand.²⁶¹

A lack of reasonable substitutes for prescription opioids would be expected to prevent consumers from shifting their demand to avoid increased costs.²⁶² However, unlike cigarettes, private and public health insurers are sandwiched between prescription opioid sellers and buyers. Comparable intermediaries do not exist in alcohol and tobacco markets. To reduce the consumption of prescription opioids, taxes need to be incorporated into consumers' out-of-pocket costs.²⁶³ Otherwise, consumers are likely to be indifferent to price increases.²⁶⁴

Weak price signals are a complicating factor here because consumers with insurance pay just a fraction of the cost of their medical care, including their medications. One study estimated that most of the cost associated with opioid prescriptions is borne by insurance; consumers pay just 18%.²⁶⁵ To the extent that the costs of an excise tax on prescription opioids would be absorbed by public and private health insurers, it is unlikely to result in decreased consumption effects. Under those conditions, an opioid tax is unlikely to impact consumption except for those who are uninsured and pay health care costs out of pocket.²⁶⁶

Another significant difference between cigarettes and prescription opioids is the health effects of the two products. Smoking is undoubtedly unhealthy. Consequently, price increases that result in even some smokers quitting or cutting back is good. Unlike cigarettes, which have no utility, opioids have legitimate medical uses, particularly for patients with acute pain from surgery, for example, or chronic pain due to cancer.²⁶⁷ In addition, only a small percentage of patients who are prescribed opioids for chronic pain develop an addiction.²⁶⁸ To the extent that increasing the price of prescription opioids could negatively impact legitimate opioid use, an excise tax on prescription opioids is too blunt an instrument to distinguish between one person taking the medication for the

261. *See id.* at 233.

262. Though concededly, some users would see illegal opioids as a viable substitute.

263. *See Powell & Maciejewski, supra* note 227, at 229 (“Demand for [sugar-sweetened beverages] will not decline as expected unless the tax is reflected in higher retail prices.”).

264. *See, e.g.,* Steven Bragg, *Price Elasticity of Demand Formula*, ACCOUNTING TOOLS (Dec. 25, 2020), <http://www.accountingtools.com/articles/what-is-the-price-elasticity-of-demand-formula.html> [https://perma.cc/58KE-YM4L] (“People who can have their purchases reimbursed by someone else (such as the company they work for) are more likely to exhibit price inelastic behavior. For example, an employee is more likely to stay at an expensive hotel if his or her company is paying for it.”).

265. Chao Zhou, Curtis S. Florence & Deborah Dowell, *Payments for Opioids Shifted Substantially to Public and Private Insurers While Consumer Spending Declined, 1999–2012*, 35 HEALTH AFF. 824, 826 (2016).

266. In addition to the imposition of an opioid tax whose economic incidence is borne by consumers, consumers' out-of-pocket costs could be increased through changes in insurance copays or insurers' reduced coverage of opioids.

267. *See* Andrew Rosenblum, Lisa A. Marsch, Herman Joseph & Russell K. Portenoy, *Opioids and the Treatment of Chronic Pain: Controversies, Current Status, and Future Directions*, 16 EXPERIMENTAL & CLINICAL PSYCHOPHARMACOLOGY 405, 405 (2008).

268. Kevin E. Vowles, Mindy L. McEntee, Peter Siyahhan Julnes, Tessa Frohe, John P. Ney & David N. van der Goes, *Rates of Opioid Misuse, Abuse, and Addiction in Chronic Pain: A Systematic Review and Data Synthesis*, 156 PAIN 569, 574 (2015) (estimating that only about 8–12% of these patients develop an opioid addiction).

feeling it causes and a second person who legitimately takes the medication to manage pain.

Given this distinction, perhaps alcohol is a closer analogy due to the evidence correlating moderate wine consumption to health benefits such as a lower incidence of obesity, heart disease, and strokes.²⁶⁹ A tax increase on wine could create net harm to the extent price increases would discourage even moderate drinking, which is healthier than no drinking.²⁷⁰ A similar fuzziness exists with respect to the difference between healthy and unhealthy foods and the possibility that moderate use of even unhealthy foods may not be objectionable. Opioids are more like wine and less like cigarettes in the sense that opioids serve beneficial purposes for people battling pain where alternative treatments are unavailable.

B. *Taxing Negative Externalities*

According to the profit maximization rule, a firm maximizes its profits by setting its marginal cost (the cost of producing the next unit) equal to the marginal revenue paid by a consumer for that unit.²⁷¹ In other words, a firm seeking to maximize profits should be willing to produce another unit so long as the amount of money earned from that unit exceeds the costs of making it. Accordingly, producers that fail to factor into their costs the harm that their goods cause to third parties (i.e., parties other than the consumer and the producer) might be encouraged to overproduce.

Consider pollution caused by the manufacture of goods, which is a classic example of a negative externality.²⁷² If the social costs of pollution such as health impacts, reduced crop yields due to climate change, or the extinction of species²⁷³ are not reflected in the cost of the goods produced, costs will in effect be understated, and a producer seeking to maximize profits may be encouraged to produce a larger quantity of goods because its marginal cost will be less than its marginal revenue.

A tax imposed on the producer could force it to internalize the social costs of its harmful products. Imposing a tax equal to the social costs is intended to ensure that the manufacturer produces only enough so that the “value of the pollution-generating activities exceeds the harm, such that the social value of those activities is positive.”²⁷⁴

269. CONG. BUDGET OFFICE REPORT, PUB. NO. 52142, OPTIONS FOR REDUCING THE DEFICIT: 2017 TO 2026, at 203 (2016) [hereinafter CONG. BUDGET OFFICE, REDUCING THE DEFICIT]. *But see* ROODMAN, *supra* note 225, at 46–47 (discounting the claimed benefits of moderate drinking as compared to no drinking).

270. *See, e.g., Alcohol: Balancing Risks and Benefits*, HARVARD T.H. CHAN SCH. PUB. HEALTH: THE NUTRITION SOURCE, <http://www.hsph.harvard.edu/nutritionsource/healthy-drinks/drinks-to-consume-in-moderation/alcohol-full-story/> [<https://perma.cc/N2VW-GTFM>] (last visited Feb. 1, 2021) (noting that moderate drinking can have health benefits). *But see* ROODMAN, *supra* note 225, at 49 (“It . . . seems unlikely alcohol tax increases do net harm in the long run by discouraging moderate drinking.”).

271. Masur & Posner, *supra* note 220, at 100–01.

272. *See generally* A.C. PIGOU, *THE ECONOMICS OF WELFARE* (4th ed. 1950).

273. *See* Matthew L. Wald, *New Effort To Quantify ‘Social Cost’ of Pollution*, N.Y. TIMES (June 18, 2013), <http://www.nytimes.com/2013/06/19/us/politics/new-effort-to-quantify-social-cost-of-pollution.html> [<https://perma.cc/U86J-UALL>]. The term “[s]ocial cost” is the amount of the cost or harm resulting from an activity that is borne by people other than the person conducting the activity.” Victor Fleischer, *Curb Your Enthusiasm for Pigovian Taxes*, 68 VAND. L. REV. 1673, 1676 n.13 (2015).

274. Masur & Posner, *supra* note 220, at 95.

As previously mentioned, a tax whose amount approximates the social costs of the product or activity at issue is known as a Pigouvian tax.²⁷⁵

Although a tax on prescription opioids might be ineffective to reduce consumption, a Pigouvian tax may nonetheless serve an important purpose by correcting for the costs imposed on society.²⁷⁶ For example, suppose the social costs of a unit of a prescription opioid are calculated to be \$10. A prescription opioid manufacturer forced to bear an additional cost of \$10 per unit produced will stop producing units when its revenue per pill is less than its costs, including the \$10 tax.

A Pigouvian-style tax might be preferred over an excise tax that is intended to reduce consumption by raising the out-of-pocket price for the drug. As discussed earlier, consumers likely will be indifferent to price increases unless the tax is incorporated into their out-of-pocket costs.²⁷⁷ But to the extent that the insertion of health insurance companies makes it impractical if not impossible to pass the tax along to patients, an opioid tax intended to reduce consumption is unlikely to be effective except for the uninsured who pay health care costs out of pocket.²⁷⁸

A Pigouvian-style tax, by contrast, could be effective despite the presence of health insurers in the system because a tax imposed on, and economically borne by, prescription opioid drug makers might be expected to decrease the production of prescription opioids once producers' marginal cost exceeds the marginal benefit. A reduced supply could indirectly modify the behavior of prescription opioid consumers even if the economic incidence of such a tax is not passed through to them.

Despite the potential appeal of a Pigouvian-style tax on opioids, such a tax is not a silver bullet. One obstacle is estimating the social costs caused by prescription opioids. Because the purpose of a Pigouvian tax is to correct for negative externalities caused by a product or activity, such a tax ideally would be equal to the social harm caused.²⁷⁹ But as discussed earlier, it is hard to value the social costs of prescription opioids because they have both positive and negative social consequences that would need to be taken into account.²⁸⁰ Unlike cigarettes whose mere use will result in negative externalities, not the least of which include health care expenditures attributed to smoking, the case to be made for prescription opioids is much more nuanced.²⁸¹

For example, prescription opioids enable some number of patients to continue to be productive in the labor market and pay taxes.²⁸² These activities provide a tangible benefit to society. Additionally, the majority of opioid users do not develop opioid use

275. *Id.*

276. *See, e.g.,* Fleischer, *supra* note 273, at 1683–84.

277. *See supra* notes 263–66 and accompanying text.

278. *See supra* notes 263–66 and accompanying text.

279. Sijbren Cnossen, *Economics and Politics of Excise Taxation*, in *THEORY AND PRACTICE OF EXCISE TAXATION: SMOKING, DRINKING, GAMBLING, POLLUTING, AND DRIVING*, *supra* note 260, at 4.

280. *See supra* Part I.C.1.

281. *See* Victor U. Ekpū & Abraham K. Brown, *The Economic Impact of Smoking and of Reducing Smoking Prevalence: Review of Evidence*, 8 *TOBACCO USE INSIGHTS* 1, 1 (2015) (discussing the negative externalities associated with smoking).

282. Harris et al., *supra* note 79, at 1321.

disorder or otherwise generate social costs.²⁸³ Furthermore, even persons who use opioids as prescribed for legitimate medical reasons might become addicted.²⁸⁴ Therefore, one might reasonably assert that it is inappropriate for drug makers to bear the social costs for what arguably is a harm-neutral good.

Another significant question associated with Pigouvian-style taxes is whether lawmakers would have the resolve to impose taxes on drug manufacturers given Big Pharma's political power.²⁸⁵ By at least one account, drug companies "spend far more than any other industry to influence politicians."²⁸⁶ In addition, pressure for a Pigouvian tax on drug companies is unlikely to come from other industries.²⁸⁷ Industries that would benefit from command-and-control regulation of another industry or business have an incentive to lobby strongly for new regulation.

For example, the home improvement industry might lobby for regulations on homebuilders to the extent those regulations generate additional revenues for the home improvement industry in the form of additional supplies or new equipment.²⁸⁸ The home improvement industry, however, is less likely to lobby for the imposition of a Pigouvian tax on homebuilders because the tax itself does not directly generate additional revenue for them. Likewise, other industries lack a direct economic incentive to push for Pigouvian taxes on drug manufacturers.²⁸⁹ A tax imposed on a drug maker signals little to other industries as to how they might be advantaged.

C. Revenue Generation Independent of Behavior Modification

While taxes on prescription opioids are unlikely to have a substantial effect on consumption,²⁹⁰ they could still raise a respectable amount of revenue. If the goal is revenue generation and not behavior modification, then some of the challenges discussed earlier become opportunities instead. Given the addictive nature of opioids and the presence of insurance intermediaries, taxing such goods might be a cash cow. The fact that some people will continue to over-consume opioids, despite the imposition of a tax, might be viewed as a feature of the scheme rather than a bug and make a tax an effective source of revenue for state or federal governments. Thus, this Part contemplates certain issues to consider in designing such a tax.

283. See Vowles et al., *supra* note 268, at 574 (finding that only about 8–12% of opioid users develop an addiction).

284. *Talk to Your Doctor About Managing Your Pain*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/injury/features/manage-your-pain/index.html> [<https://perma.cc/M5A4-9P2N>] (last reviewed Dec. 16, 2020).

285. E.g., Masur & Posner, *supra* note 220, at 98 ("Pigouvian taxes may lack political support because they do not serve the interests of those with political power.").

286. Chris McGreal, *How Big Pharma's Money – and Its Politicians – Feed the US Opioid Crisis*, GUARDIAN (Oct. 19, 2017, 6:00 PM), <http://www.theguardian.com/us-news/2017/oct/19/big-pharma-money-lobbying-us-opioid-crisis> [<https://perma.cc/B5EC-J3HJ>]; see also Hannah Kuchler & Kiran Stacey, *Drugmakers Shell Out Record Amount Lobbying Congress*, FIN. TIMES (July 23, 2019, 8:37 PM), <http://www.ft.com/content/4e2932e6-ad77-11e9-8030-530adfa879c2> [<https://perma.cc/425R-8GRB>].

287. See, e.g., Masur & Posner, *supra* note 220, at 139–40.

288. See *id.* at 139.

289. See *id.* at 139–40.

290. See *supra* notes 263–66 and accompanying text.

Part IV.C.1 considers issues of administrability, including whether to tax all or only some prescription opioids. Part IV.C.2 examines whether an opioid tax should be imposed at a certain amount per dose of active opioid or should instead be based on price or value, and Part IV.C.3 analyzes whether a higher or lower rate of tax is appropriate. Part IV.C.4 considers who should bear the legal incidence of tax. Finally, Part IV.C.5 explores certain drawbacks of an opioid tax even if its only goal is revenue generation.

1. Ease of Administrability

A blanket tax that covers all prescription opioids might be preferable to a tax with exclusions. Otherwise, prescribers and patients might substitute an untaxed, cheaper prescription opioid for a medication made more expensive because of the tax. A broad, sweeping tax that does not require the government or taxpayers to determine whether certain opioids are subject to tax also simplifies administration, which keeps the costs of collection and compliance low.²⁹¹

Sales taxes provide a valuable lesson with regard to administrability. Traditionally, states imposed sales tax on tangible personal property.²⁹² However, the simplicity of that broad tax base has been narrowed by various exemptions.²⁹³ For example, in many jurisdictions, food for immediate consumption is taxed but food for use at home is exempt.²⁹⁴ Thus, a rotisserie chicken kept warm under a heating device might be taxed, but one that is packaged and refrigerated might be exempt.²⁹⁵ In Texas, popsicles are taxed unless they contain more than 50% fruit juice.²⁹⁶ Simply put, exemptions complicate tax. Of course, simplicity and practicability might come at the cost of fairness. A tax on all prescription opioids without exception is arguably overly broad, particularly for opioid-based medications used to treat addiction as well as those prescribed to manage pain at the end of life.²⁹⁷

Additionally, a tax would be easier to administer if it is imposed early in the chain of distribution. A handful of pharmaceutical companies and wholesale distributors account for the bulk of drug manufacturing and distribution in the United States.²⁹⁸

291. See ASS'N INT'L CERTIFIED PROF. ACCT., GUIDING PRINCIPLES OF GOOD TAX POLICY: A FRAMEWORK FOR EVALUATING TAX PROPOSALS 3 (2017). A good tax policy should foster effective tax administration, meaning “[c]osts to collect a tax should be kept to a minimum for both the government and taxpayers.” *Id.*

292. See Nicole Kaeding, *Sales Tax Base Broadening: Right-Sizing a State Sales Tax* 3 (Tax Found., Fiscal Fact No. 563, 2017), <http://files.taxfoundation.org/20171026101536/Tax-Foundation-FF563.pdf> [<https://perma.cc/9PTM-ZD9B>].

293. See *id.* at 3–4.

294. See Katherine Loughead, *Sales Taxes on Soda, Candy, and Other Groceries*, 2018, at 2 (Tax Found., Fiscal Fact No. 598, 2018), <http://files.taxfoundation.org/20180706104150/Tax-Foundation-FF598-Groceries-Soda-Candy.pdf> [<https://perma.cc/6JT6-UYUK>].

295. See *id.*

296. 34 TEX. ADMIN. CODE § 3.293(a)(14)(H) (West 2020).

297. See Hunter Groninger & Jaya Vijayan, *Pharmacologic Management of Pain at the End of Life*, 90 AM. FAM. PHYSICIAN 26, 28 (2014) (“For most patients with terminal illness, opioid therapies provide the greatest analgesic relief.”). The handful of states that impose a tax on prescription opioids typically exempt treatment drugs from taxation. See *supra* notes 162–98 and accompanying text.

298. HEALTH STRATEGIES CONSULTANCY LLC, KAISER FAMILY FOUND., FOLLOW THE PILL: UNDERSTANDING THE U.S. COMMERCIAL PHARMACEUTICAL SUPPLY CHAIN 5–6, 8 (2005).

Therefore, imposing a tax on manufacturers and distributors rather than prescribers, pharmacies, or patients means fewer taxpayers. Imposing a tax earlier in the process, as first sales are made, could also allow for taxes to be collected earlier than if a tax is imposed later in the supply chain.

2. Determining a Tax Base

One important design issue to consider is whether the tax should be imposed at a certain amount per dose of active opioid or should instead be based on price or value. An example of the former is cigarette excise taxes that are imposed on a per-pack basis without regard to the retail price of any particular brand.²⁹⁹ Likewise, excise taxes on alcohol are generally based on volume of alcohol content, not price.³⁰⁰ Alternatively, an excise tax can be based on value—known as an ad valorem tax—such as a percentage of the retail price of the good being taxed.³⁰¹ Common examples of ad valorem taxes include property taxes and sales taxes.³⁰² A uniform rate is preferable to an ad valorem tax when the damage caused by a product is independent of price.³⁰³

For example, a uniform tax on cigarettes is sensible because tobacco has harmful health effects regardless of whether a person smokes a more expensive, premium brand of cigarettes or a discounted brand. Likewise, a per-gallon rate on beer makes sense regardless of the quality of the beer. But to the extent a good produces different levels of harm, it would make sense to impose differential rates. For example, some states impose differential rates on beer and distilled spirits based on alcohol content.³⁰⁴ Such an approach is justifiable to the extent that higher alcohol content is positively correlated with social costs.³⁰⁵

The opioid taxes in both New York and Delaware are based on MMEs.³⁰⁶ MMEs are calculated by multiplying the daily dose of an opioid by a conversion factor that

299. See Janelle Cammenga, *How High Are Cigarette Taxes in Your State?*, TAX FOUND. (Apr. 10, 2019), <http://taxfoundation.org/2019-state-cigarette-tax-rankings/> [https://perma.cc/44UK-4E98].

300. See Janelle Cammenga, *How High Are Spirits Taxes in Your State?*, TAX FOUND. (June 19, 2019), <http://taxfoundation.org/state-distilled-spirits-taxes-2019/> [https://perma.cc/JS5H-SKZS]. For example, the federal government imposes a tax on distilled spirits of “\$13.50 per proof gallon (a proof gallon is one liquid gallon that is 50 percent alcohol).” *What Are the Major Federal Excise Taxes and How Much Money Do They Raise?*, *supra* note 216.

301. 71 AM. JUR. 2D *State and Local Taxation* § 18 (2020).

302. See *id.*; see also *What Is Ad Valorem Tax?*, CFI, <http://corporatefinanceinstitute.com/resources/knowledge/other/ad-valorem-tax/> [https://perma.cc/F8MB-P95C] (last visited Feb. 1, 2021).

303. Cnossen, *supra* note 279, at 6.

304. See Janelle Cammenga, *How High Are Beer Taxes in Your State?*, TAX FOUND. (June 5, 2019), <http://taxfoundation.org/state-beer-taxes-2019/> [https://perma.cc/MUY4-F7S6].

305. There is some evidence that discount-brand cigarettes might actually result in greater harm to users as compared to premium-brand cigarettes. See, e.g., Emily J. Wasserman, Samantha M. Reilly, Reema Goel, Jonathan Foulds, John P. Richie Jr. & Joshua E. Muscat, *Comparison of Biomarkers of Tobacco Exposure Between Premium and Discount Brand Cigarette Smokers in the NHANES 2011-2012 Special Sample*, 27 *CANCER EPIDEMIOLOGY, BIOMARKERS & PREVENTION* 601, 601 (2018). If additional studies substantiate this conclusion, differential tax rates for premium cigarettes versus discount brands might be justified.

306. See *supra* notes 163–66, 179–92 and accompanying text.

expresses the strength or potency of the opioid in terms of the strength of morphine.³⁰⁷ Thus, a prescription for sixty milligrams of morphine per day is sixty MMEs because the conversion factor for morphine is one.³⁰⁸ By comparison, the conversion factor for oxycodone is 1.5 (1.5 times as potent as morphine), and thus, sixty milligrams of oxycodone is the equivalent of ninety MMEs.³⁰⁹ Similarly, the conversion factor for codeine is .15 (.15 times as potent as morphine), and thus, sixty milligrams of codeine has nine MMEs.³¹⁰

As demonstrated by these examples, MME allows for the strength or potency of opioids to be expressed using a uniform measure. The CDC recommends prescribing opioids at dosages of no more than fifty MMEs per day and to avoid increasing dosages to ninety or more MMEs per day due to the “higher risk of overdose death” associated with higher opioid dosages.³¹¹ Because higher opioid dosages are associated with greater harm, relating the rate of tax to MMEs seems to be a reasonable approach. To the extent the tax is economically borne by manufacturers or distributors, such an approach might also encourage them to produce less potent opioids or to more aggressively market opioids with lower opioid dosages.³¹²

Unlike in New York and Delaware, opioid taxes in other jurisdictions are generally based on market share.³¹³ In comparison to a tax based on drug potency, taxes based on market share do not encourage manufacturers to innovate by, for example, developing less addictive drugs.³¹⁴ Instead, these kinds of taxes might encourage manufacturers to reduce their supply of prescription opioids.³¹⁵

3. Ideal Tax Rate

If raising revenue is the sole criterion, a government might be tempted to set a high tax rate knowing that some number of people will continue to use the product whatever its cost.³¹⁶ Such an approach would be consistent with Ramsey’s rule. To minimize the distortive effects of taxation, Ramsey’s rule states that “taxes should be placed on goods

307. CTRS. FOR DISEASE CONTROL & PREVENTION, CALCULATING TOTAL DAILY DOSE OF OPIOIDS FOR SAFER DOSAGE, http://www.cdc.gov/drugoverdose/pdf/calculating_total_daily_dose-a.pdf [https://perma.cc/53P3-5JFS] (last visited Feb. 1, 2021).

308. *See id.*

309. *See id.*

310. *See id.*

311. *Id.*; see Dowell et al., *CDC Guideline*, *supra* note 17, at 1638.

312. *See, e.g.,* Evan Blecher, *Taxes on Tobacco, Alcohol and Sugar Sweetened Beverages: Linkages and Lessons Learned*, 136–37 SOC. SCI. & MED. 175, 178 (2015) (advocating a tax based on the quantity of sugar in SSBs “to incentivize producers to produce and market lower or zero calorie beverages”).

313. *See supra* notes 172–77, 193–98 and accompanying text.

314. *See, e.g.,* Jon D. Hanson, Kyle D. Logue & Michael S. Zamore, *Smokers’ Compensation: Toward a Blueprint for Federal Regulation of Cigarette Manufacturers*, 22 S. ILL. U. L.J. 519, 527 (1998) (noting that *ex ante* fixed excise taxes on cigarette makers “do[] not create incentives for cigarette manufacturers to compete over safety”).

315. *See, e.g., id.* (explaining that safer products would cost the manufacturer more money for research and development).

316. *See* Fleischer, *supra* note 273, at 1707–08 (“The very unwillingness to modify behavior that dooms many attempts at Pigouvian taxation becomes a useful feature for optimal commodity taxation, which posits that tax rates should be set in inverse proportion to elasticity.”).

in inverse proportion to their elasticities of demand.”³¹⁷ Thus, if elasticity of demand is high, meaning demand for a good is highly responsive to price changes, then the tax imposed should be low.³¹⁸ Otherwise, taxes that increase the price of goods may cause consumers to alter their behavior by purchasing less of those goods in favor of substitutes that are not taxed.

This kind of behavior is considered economically inefficient because the socially optimal quantity of goods is not produced under these circumstances.³¹⁹ This inefficiency is commonly referred to as the deadweight loss of taxation or excess burden.³²⁰ If, on the other hand, elasticity of demand is low, meaning demand is less responsive to price changes,³²¹ then even really high taxes will not result in deadweight loss. Therefore, greater elasticity of demand calls for lower taxes, and higher taxes are better suited for goods with inelastic demand.³²²

For example, demand for SSBs is considered to be highly sensitive to price, with an estimated price elasticity of between 0.80 and 1.20.³²³ Therefore, a tax reflected in the retail price of sugary drinks might cause consumers to shift their consumption from sugary drinks to other beverages that are not subject to the tax, such as water or juice. To avoid altering consumer behavior and thus minimize the excess burden, the tax burden should be low. By contrast, because prescription opioids are thought to be price inelastic, due at least in part to the lack of reasonable substitutes and the fact that they are necessities, Ramsey’s rule would justify extortionate taxes.³²⁴ Such an approach would be consistent with the goal of raising as much revenue as possible while also minimizing deadweight loss because consumption would continue despite higher prices.³²⁵

Imposing a tax on prescription opioids will generate revenue even if consumption decreases for certain bands of consumers. For purposes of illustration, suppose that a jurisdiction approves an excise tax on prescription opioids that leads to a 50% increase in out-of-pocket price. Assuming the price elasticity of demand is 0.5, consumption of

317. David J. DePippo, Comment, *I’ll Take My Sin Taxes Unwrapped and Maximized, with a Side of Inelasticity, Please*, 36 U. RICH. L. REV. 543, 559 (2002).

318. See *supra* Part IV.A.1.

319. See Terrance O’Reilly, *Principles of Efficient Tax Law: Apocrypha*, 27 VA. TAX REV. 583, 585 (2008) (“Deadweight loss (also known as excess burden) measures, in monetary terms, the costs imposed by taxation beyond the amount of revenue raised. . . . One tax policy can be considered more efficient than another if the first policy causes less deadweight loss than the second.”).

320. *Id.*

321. See *supra* Part IV.A.1.

322. See Giertz, *supra* note 218, at 134.

323. Powell & Maciejewski, *supra* note 227, at 229; see also Andreyeva et al., *supra* note 227, at 218–19. (estimating price elasticity of demand on soft drinks, based on prior studies, to be 0.79).

324. See Edward J. McCaffery, *Tax Policy Under a Hybrid Income-Consumption Tax*, 70 TEX. L. REV. 1145, 1183 (1992) (“Ramsey pricing would mean exorbitant excise taxes on necessities, including life-sustaining drugs.”). This conclusion assumes that the tax is reflected in out-of-pocket prices, which is not necessarily true because consumers with insurance pay just a fraction of the price of prescription drugs. These weak price signals in the prescription drug market complicate matters. See *supra* notes 263–66 and accompanying text for a discussion of why taxes should be reflected in out-of-pocket prices.

325. Padmaja Ayyagari, Partha Deb, Jason Fletcher, William T. Gallo & Jody L. Sindelar, *Sin Taxes: Do Heterogeneous Responses Undercut Their Value?* 3–4 (Nat’l Bureau of Econ. Research, Working Paper No. 15124, 2009).

prescription opioids subject to the tax would be expected to fall by 25%.³²⁶ Yet, tax revenues would nonetheless be generated from the resultant 75% of consumption.³²⁷

While in theory the tax could be set at an exorbitantly high rate, a more principled approach might be to set the tax rate at a level necessary to offset the negative costs of consumption to society.³²⁸ However, as discussed earlier, quantifying the social costs of prescription opioid use is a challenging task.³²⁹ Moreover, a uniform rate, even if it roughly approximates the average social harm of prescription opioid use, is violative of one of the principles of good tax policy—horizontal equity. Horizontal equity provides that similarly situated taxpayers should be taxed similarly.³³⁰ A uniform rate incorrectly assumes that each actor is causing the same amount of harm. Federal excise taxes on alcohol provide a good example of this phenomenon.

The federal government imposes a tax on wine with a 16% alcohol content of approximately \$1.07 per gallon.³³¹ A uniform tax rate assumes that each drinker is causing the same amount of social harm, but that assumption is unrealistic. A heavy drinker is most likely to cause negative externalities such as increased health care costs due to organ damage.³³² Yet heavy drinkers' demand for alcohol is not very sensitive to price increases.³³³ Scholars have estimated that the price elasticity for heavy drinkers is 0.035 versus 1.60 for more moderate drinkers.³³⁴ A 10% increase in the cost of alcohol would result in a 16% decrease in alcohol consumption by moderate drinkers, but only a 0.35% in consumption for heavy drinkers.

Under these conditions, moderate drinkers are overdeterred by the tax while heavy drinkers are underdeterred. In fact, moderate drinkers, who impose little to no social costs, might be overdeterred despite evidence that moderate wine consumption “has been linked to lower incidence of heart disease, obesity, and stroke.”³³⁵ Thus, despite ease of

326. Price elasticity of demand (PED) is calculated by dividing the percentage change in quantity demanded (Q) by the percentage change in price (P). Thus, solving for Q, where PED equals -0.5 and P equals 0.5 , results in a 25% decrease in quantity demanded. See Cox, *supra* note 222, at 12.

327. Chaloupka and his colleagues use an example where the cigarette tax doubles, and the tax comprises 50% of the price. Chaloupka et al., *Tobacco Taxes*, *supra* note 212, at 175. Assuming “the price elasticity of cigarette demand is -0.8 . . . a doubling (100% increase) of the cigarette tax will lead to a 50% increase in cigarette prices and a 40% reduction in cigarette consumption. The resulting 60% of consumption will be taxed at twice the original rate, leading to a 20% increase in revenues.” *Id.*

328. LOWRY, *supra* note 14, at 5.

329. See *supra* Part I.C.1.

330. See generally David Elkins, *Horizontal Equity as a Principle of Tax Theory*, 24 YALE L. & POL'Y REV. 43, 43 (2006) (“The principle of horizontal equity demands that similarly situated individuals face similar tax burdens.”).

331. *What Are the Major Federal Excise Taxes and How Much Money Do They Raise?*, *supra* note 216. The tax rate differences can be explained by the fact that each tax is based on different liquid measures. For distilled spirits, the measure is proof gallons while the measure for beer is barrels and wine is gallons. *Id.*

332. CONG. BUDGET OFFICE, REDUCING THE DEFICIT, *supra* note 269, at 202.

333. See Ayyagari et al., *supra* note 325, at 7 (summarizing two studies that show lower elasticity factors for heavier drinkers).

334. See *id.* at 18.

335. CONG. BUDGET OFFICE, REDUCING THE DEFICIT, *supra* note 269, at 203.

administration, a uniform tax is problematic due to the inverse relationship between elasticity of demand and social cost.³³⁶

Victor Fleischer illustrates this point well with a hypothetical \$10,000 excise tax on guns.³³⁷ The average social cost in his example was estimated to be \$10,000, based on one consumer—a law-abiding law professor with no social cost—and a cocaine dealer with \$200,000 of social cost.³³⁸ Individuals with low social costs like the law professor are more likely to change their behavior in response to the tax while those with higher social costs are not. Thus, the additional cost might dissuade the law professor from buying the gun, but not the cocaine dealer. As Fleischer points out, the increased price might even persuade the drug dealer to buy on the black market, which can undercut prices in the legal market by not charging or paying taxes.³³⁹

A uniform corrective tax imposed on opioids presumably would have similar distortive effects because not all opioid users create externalities. Compare a person who takes two tablets of oxycodone a day for two weeks as prescribed to treat acute pain to a person who takes twenty-eight tablets of someone else's oxycodone in a single day for nonmedical reasons. All other conditions being equal, the first person might create little to no negative externalities because she is using an opioid as directed for a short duration to treat an acute condition, while the second person's conduct might create negative externalities.

Yet, assuming a tax based on the potency of the opioid or even on a per-pill basis, the same amount of tax would be paid on the twenty-eight pills consumed.³⁴⁰ This example is overly simplistic in that it fails to consider the possibility that even the second person might use opioids heavily without risk to themselves or others. Similarly, the first person might become addicted even though she takes the medication legitimately and as directed.³⁴¹

To be fair, a corrective tax should be imposed only when there are negative externalities, but at the point of sale there is not sufficient information to know who will create social costs.³⁴² The point is that the marginal social cost is not necessarily

336. See Fleischer, *supra* note 273, at 1703 (“[W]hen elasticity of demand and marginal social cost are negatively correlated, tax is a poor instrument.”).

337. *Id.* at 1677–78. This example is loosely modeled on a 2015 proposed law in Seattle that would have imposed a flat excise tax on sales of guns and ammunition. See *id.* at 1677.

338. *Id.* at 1677–78.

339. See *id.* at 1678.

340. More than half of people who misuse prescription opioids get them from a friend or relative. See BOSE ET AL., *supra* note 56, at 21. But even if the twenty-eight pills were from other people's prescriptions, tax would nonetheless be paid to the extent it would be imposed as drugs are put into the distribution channel by drug companies or wholesale distributors.

341. See Andrew Kolodny, David T. Courtwright, Catherine S. Hwang, Peter Kreiner, John L. Eadie, Thomas W. Clark & G. Caleb Alexander, *The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction*, 36 ANN. REV. PUB. HEALTH 559, 563–64 (2015).

342. See Andrew J. Boslett, Alina Denham, Elaine L. Hill & Meredith C.B. Adams, *Unclassified Drug Overdose Deaths in the Opioid Crisis: Emerging Patterns of Inequity*, 26 J. AM. MED. INFORMATICS ASS'N 767, 767–68 (2019) (“One of the greatest challenges of the opioid crisis is the lack of effective opioid risk modeling to predict misuse, abuse, and overdose.”). As an illustration, while up to 29% of those who are prescribed opioids misuse them, only 8–12% develop an opioid use disorder, and 4–6% of those who misuse them transition to

proportional to the level of consumption and therefore, a uniform rate of tax, even if based on drug potency, might be inequitable.³⁴³

4. Incidence of the Tax

The incidence of tax refers to who bears the legal and economic burden of a tax.³⁴⁴ If the goal of the tax is to raise revenue, it would not seem to matter whether consumers, insurance companies, pharmacies, distributors, or manufacturers bear the *economic* burden of the tax. Which entity actually bears the tax will depend on price elasticity.³⁴⁵ Larger increases in out-of-pocket prices for necessary goods that are price inelastic and lack reasonable substitutes will result in a smaller effect on consumer demand.³⁴⁶ These kinds of conditions give manufacturers the flexibility to raise prices without offsetting reductions in demand.

Although the amount of revenue raised is unlikely to be affected by who bears the economic incidence of the tax, this factor might be important if the goal is to reduce consumption of prescription opioids. As discussed earlier, a tax is unlikely to reduce consumption, at least not directly, unless consumers bear the economic burden for the tax.³⁴⁷ Imposing a tax elsewhere in the distribution chain, such as on manufacturers or prescribers, might reduce the supply of prescription opioids if, to avoid taxes, manufacturers were to produce fewer drugs or prescribers were to write fewer prescriptions. A reduced supply of prescription opioids necessarily will result in lower consumption rates.

One argument to justify placing the *legal* incidence of an opioid tax on manufacturers and distributors, rather than consumers, is that a tax that is legally imposed at the earlier stages of the production and distribution chain generally is easier to administer.³⁴⁸ However, there are arguments for imposing a tax directly on the activity that gives rise to the negative externality.³⁴⁹ For opioids, it arguably is the misuse of opioids, including their diversion, that is problematic and not necessarily the mere production of opioids itself. This argument would justify imposing a tax on opioid consumers. But not all opioid use is harmful.

heroin. *Opioid Overdose Crisis*, NAT'L INST. ON DRUG ABUSE (May 27, 2020), <http://www.drugabuse.gov/drug-topics/opioids/opioid-overdose-crisis#two> [<https://perma.cc/4ARL-SEKQ>].

343. See Cnossen, *supra* note 279, at 6. The term “marginal social cost” is “the incremental cost of an additional unit of the activity.” Fleischer, *supra* note 273, at 1676 n.13.

344. John Cobb, Note, *Mitigating the Unintended Consequences of Biofuel Tax Credits*, 49 HARV. J. LEGIS. 451, 453 (2012).

345. See *id.* at 457 (“When demand is relatively inelastic and supply is relatively elastic, the economic incidence of a tax falls largely on consumers. When demand is relatively elastic and supply is relatively inelastic, the economic incidence of a tax falls largely on producers.”).

346. To avoid the risk of substitution, tax needs to be imposed on similarly situated products. See Chaloupka et al., *Tobacco Taxes*, *supra* note 212, at 177; see also Kensington A. Wolgamott, Note, *No Longer Left to Their Own Devices: Evaluating the Non-Traditional Medical Device Excise Tax*, 29 NOTRE DAME J.L. ETHICS & PUB. POL’Y 497, 510 (2015) (noting that even with respect to inelastic goods, users may consume less if the good is not a necessity).

347. See *supra* notes 263–66 and accompanying text.

348. LOWRY, *supra* note 14, at 6.

349. *E.g., id.* at 17.

Many people use opioids for legitimate purposes and do not divert them for nonmedical use.³⁵⁰ Even if it were possible to somehow distinguish between medical and nonmedical use, drawing these lines would be administratively burdensome. One approach states have been taking is to tax the manufacturer but exempt certain uses such as opioids used in hospice care and for cancer patients.³⁵¹

Another justification for imposing a tax on opioid manufacturers and distributors instead of consumers is to protect politicians from political fallout from voters. Presumably, this was the purpose of the pass-through prohibition in New York's first opioid tax.³⁵² Similarly, the widely reported rationale for the Maine opioid tax is "to hold the companies accountable for opioid use disorder."³⁵³ It might be more palatable to impose the tax on manufacturers and distributors, particularly if they are viewed, or can be painted, as bad actors rather than taxing voters who rely on prescription opioids to make tolerable otherwise debilitating pain. In pending opioid multidistrict litigation, many of the allegations revolve around false marketing claims that understated the drugs' addictive effects.³⁵⁴

Telling a story about opioid users writ large to establish their blameworthiness is much more difficult because they are not a monolithic group. While some may be improperly using prescription opioids, others presumably take them as properly prescribed by their doctors to treat real medical needs. Consequently, imposing the legal incidence of an opioid tax on manufacturers and distributors might provide public support for the tax, which would result in the path of least resistance for politicians.

Imposing a tax to assign blame might help explain why cigarette, alcohol, and other forms of sin taxes are imposed on consumers. Those who smoke or drink are making a choice to consume unhealthy products, and thus, some would argue that they deserve to pay more for their unhealthy consumption. Taxpayers in general are in favor of these taxes because they affect only a select class of people—often those with lower incomes and less political clout.³⁵⁵ Moreover, sin taxes "are often popular politically because many citizens do not engage in the taxed activities, whereas purchasers of the taxed items do so voluntarily."³⁵⁶ It might make sense to impose a tax on the voluntary consumption of dangerous products such as cigarettes or alcohol. However, a similar blanket statement cannot be made about prescription opioids whose consumption in many cases cannot be said to be voluntary nor universally labeled as dangerous.³⁵⁷

350. STATE LEGISLATION: OPIOID TAX BILLS, ASS'N FOR ACCESSIBLE MEDS., <http://accessiblemeds.org/sites/default/files/2019-04/AAM-Opioid-Tax-State-Brief.pdf> [<https://perma.cc/6WYD-Q7EZ>] (last visited Feb. 1, 2021) ("Most patients taking opioids do no [sic] not abuse their medicines.").

351. See *supra* Part III.A for a comprehensive overview of recent opioid tax efforts at the state level.

352. See *supra* notes 179–92 and accompanying text.

353. *Proposal To Make Opioid Makers Pay for Treatment Becomes Law*, *supra* note 169.

354. See *infra* notes 416–28 and accompanying text for a discussion of pending multidistrict litigation.

355. See Giertz, *supra* note 218, at 133.

356. *Id.*

357. See *supra* note 267 and accompanying text for a description of legitimate medical use of prescription opioids.

5. The Drawbacks

Despite the appeal of a prescription opioid tax as a valuable revenue raiser, there are drawbacks. One concern is that imposing too high of a tax on manufacturers might cause them to exit the market entirely. New York is a case in point. New York's OSA imposed a tax on manufacturers and distributors based on their proportionate share of MMEs sold or distributed in New York.³⁵⁸ The OSA disproportionately impacted manufacturers of generic prescription opioids.³⁵⁹ The expiration of drug patents and exclusivity periods creates more competition in the generic drug market.³⁶⁰ Higher competition keeps drug prices low.³⁶¹ Consequently, generic drug manufacturers make money off of volume, not price.

However, selling more volume would cause generic drug manufacturers to bear a larger share of the New York tax, which would eat into their already razor-thin profit margins.³⁶² Similarly, since the enactment of the 2019 opioid excise tax, at least three manufacturers have ceased shipments of prescription opioids into the state.³⁶³ If drug manufacturers cannot make money in a market, they will abandon it.³⁶⁴ Not only can lower sales volumes result in legitimate demand going unmet, but it can also result in less tax revenue.

Additionally, the imposition of a tax on behavior that the government would otherwise prefer to curtail sends mixed messages. On the one hand, a tax could be seen as a penalty to discourage socially undesirable behavior, such as using prescription opioids for nonmedical use.³⁶⁵ But on the other hand, the imposition of a tax could be seen as encouraging the behavior for revenue purposes.³⁶⁶ For example, some liken tradable permits to the selling of "indulgences."³⁶⁷ Tax-price instruments can also lead

358. See *supra* notes 179–86 and accompanying text for a discussion of the OSA.

359. See generally Plaintiff SpecGx LLC's Combined Opposition to Defendants' Motion to Dismiss and Reply in Support of its Motion for Preliminary Injunction at 18, *SpecGx LLC v. Underwood*, No. 1:18-cv-09830-KPF, 2018 WL 9489678 (S.D.N.Y. Nov. 15, 2018) [hereinafter SpecGx LLC's Opposition to Motion to Dismiss] ("[T]he OSA . . . mak[es] it infeasible to sell generic opioids in New York.").

360. See *What Happens When a Drug Patent Expires? Drug Patent Life*, DRUGPATENTWATCH, <http://www.drugpatentwatch.com/blog/what-happens-when-a-drug-patent-expires/> [<https://perma.cc/8QKJ-D2BL>] (last visited Feb. 1, 2021).

361. *Id.* As an example, "the price of a prescription for Percocet is \$1,849.97, while the average generic equivalent is only \$41.80." STATE LEGISLATION: OPIOID TAX BILLS, *supra* note 350.

362. See STATE LEGISLATION: OPIOID TAX BILLS, *supra* note 350.

363. Ryan Prete, *States Ditching Opioid Taxes in Pursuit of One-Time Payouts*, BLOOMBERG TAX (Nov. 14, 2019, 4:46 AM), <http://news.bloombergtax.com/daily-tax-report-state/states-ditching-opioid-taxes-in-pursuit-of-one-time-payouts> [<https://perma.cc/4APV-PEC4>].

364. See generally SpecGx LLC's Opposition to Motion to Dismiss, *supra* note 359, at 19 ("Basic economic reality dictates that if generic manufacturers are guaranteed to lose money on the sale of their generic opioid products, they will abandon the New York opioid market completely.").

365. See Phineas Baxandall, *Taxing Habits*, 13 FED. RES. BANK BOS. REGIONAL REV. 19, 26 (2003), <http://www.bostonfed.org/publications/regional-review/2003/quarter-1/taxing-habits.aspx> [<https://perma.cc/D2GE-MC89>] (explaining that a tax "convey[s] a kind of tacit acceptance" of socially undesirable behavior).

366. Robert A. Sirico, *The Sin Tax: Economic and Moral Considerations*, ACTON INST. (2001), <http://web.uncg.edu/dcl/courses/viceCrime/m2/The%20Sin%20Tax.html> [<https://perma.cc/W6FB-GE9C>] (discussing the economic and moral justifications for sin taxes).

367. See Cnossen, *supra* note 279, at 16.

to encouraging socially undesirable behavior, “by signaling that once the price has been paid for an activity, . . . there is no reason, moral or otherwise, not to engage in it.”³⁶⁸

A third drawback with a prescription opioid tax is that it may not raise as much revenue as governments want or need because prescription opioid use has been on the decline.³⁶⁹ The waning use of prescription opioids has been accompanied by a rise in the use of illicitly manufactured opioids like fentanyl.³⁷⁰ The CDC reported that more than half of overdose deaths in 2017 involved synthetic opioids, a category that includes fentanyl and fentanyl analogs.³⁷¹ Deaths involving synthetic opioids increased tenfold between 2013 and 2016.³⁷² In 2016, the majority of overdose deaths attributable to synthetic opioids eclipsed the number of deaths from prescription opioids.³⁷³ Therefore, imposing a tax on prescription opioids at this stage of the game seems misguided.

Furthermore, to the extent a tax would be borne economically by consumers, too high a tax could cause consumers to substitute illicit opioids if they can be procured for less.³⁷⁴ While increased fentanyl and heroin use is attributable to supply-side interventions such as production quotas and prescriber guidelines,³⁷⁵ increased out-of-pocket prices for prescription opioids could reasonably cause a similar effect—namely to shift consumer demand to illicit opioids with a resultant reduction in tax revenue from the decrease in demand for prescription opioids.³⁷⁶

A final concern for a tax that would be borne by consumers is regressivity. Excise taxes are regressive, meaning they disproportionately burden lower-income individuals as a percentage of their income.³⁷⁷ For example, consider two people, Mario and Sylvia. Mario earns \$400 of income a week and Sylvia’s weekly income is \$1,000. Each spends \$110 weekly on groceries, including \$10 of sales tax. The \$10 sales tax constitutes 2.5% of Mario’s weekly income but just 1% of Sylvia’s income.³⁷⁸ Sylvia’s tax as a share of

368. Frey, *supra* note 260, at 230.

369. See, e.g., BLUECROSS BLUESHIELD, THE OPIOID EPIDEMIC IN AMERICA: AN UPDATE 9 (2018) (noting that opioid use disorder diagnoses decreased among Blue Cross Blue Shield members in 2017); Rose, *supra* note 3, at 795 (“[O]verall opioid prescribing [has] been in multiyear decline beginning in 2012 through early 2017.”). This decline in opioid use is unsurprising given various supply-side interventions, such as production quotas and prescriber guidelines. See *supra* notes 119–36 for a discussion of supply-side interventions.

370. See Jones et al., *supra* note 19, at 1819.

371. *Rising Numbers of Deaths*, *supra* note 139.

372. Holly Ramer, *Federal Prosecutors To Focus on Synthetic Opioids in PA, Seven Other States*, WESA (July 13, 2018), <http://www.wesa.fm/post/federal-prosecutors-focus-synthetic-opioids-pa-seven-other-states#stream/0> [https://perma.cc/BF7R-MVVH]. The Trump administration announced a program dubbed “Operation Synthetic Opioid Surge” to step up synthetic opioid prosecutions of drug dealers in eight states. *Id.*

373. Jones et al., *supra* note 19, at 1819.

374. See COUNCIL OF ECON. ADVISERS, THE ROLE OF OPIOID PRICES, *supra* note 58, at 30.

375. See *supra* 137–42 for an explanation of how supply-side interventions can cause opioid users to turn to illicit avenues for supply.

376. See, e.g., Powell & Maciejewski, *supra* note 227, at 229 (discussing a similar effect caused by taxes on SSBs). See *supra* notes 263–66 and accompanying text for a discussion of the impact that an increase in out-of-pocket opioid costs would have on consumption.

377. LOWRY, *supra* note 14, at 12–13 (“The lowest income quintile of taxpayers paid, on average, 1.5% of their income on excise taxes in 2009 whereas the highest quintile of taxpayers paid 0.4% of their income in excise taxes.”).

378. To avoid regressivity, many states exempt groceries from sales tax. See generally ERIC FIGUEROA & JULIETTE LEGENDRE, CTR. ON BUDGET & POLICY PRIORITIES, STATES THAT STILL IMPOSE SALES TAXES ON

her income is less than half as burdensome as compared to Mario. Mario is disproportionately burdened by the sales tax because the tax is imposed at a uniform rate of 10% and he spends a greater portion of his income on groceries relative to Sylvia.³⁷⁹

Excise taxes are also regressive if low-income individuals disproportionately engage in activities subject to excise taxes.³⁸⁰ If Mario and Sylvia respectively spend \$70 and \$40 weekly on cigarettes, which includes a 10% excise tax, Mario's tax burden would be more than four times Sylvia's.³⁸¹ Even if consumers spend the same proportion of their income on a good, an excise tax may nonetheless be regressive. For example, suppose that Mario and Sylvia each spend 3% of their weekly income on a bottle of wine. The bottle that Mario buys cost \$12; Sylvia's costs \$30.

The federal excise tax on wine is based on the amount of alcohol, not the sales price.³⁸² Thus, assuming Mario and Sylvia buy the same size bottle of wine with the same alcohol content, the tax on the \$12 bottle will be the same as the \$30 bottle. For purposes of illustration, assume the tax is \$0.26, which amounts to one-sixteenth (.063%) of Mario's weekly income but only one-fortieth (.025%) of Sylvia's.³⁸³ To the extent the economic burden of an opioid excise tax would be borne by consumers—through higher health insurance premiums, copays, or out-of-pocket payments made by the uninsured—regressivity might be of concern.

D. Other Potential Solutions Within the Existing Framework

This Part sets aside the notion of an opioid tax and addresses two other potential means of addressing the funding issues brought on by the opioid epidemic. Part IV.D.1 examines the appetite for a broad-based tax increase instead of a narrowly targeted tax on opioids. Part IV.D.2 considers potential recoveries from pending litigation as a funding source.

GROCERIES SHOULD CONSIDER REDUCING OR ELIMINATING THEM 1, <http://www.cbpp.org/sites/default/files/atoms/files/3-16-06sfp3.pdf> [<https://perma.cc/2WPQ-PUJ4>] (last updated Apr. 1, 2020) (“State policymakers looking to make their tax codes more equitable should consider eliminating the sales taxes families pay on groceries . . . or at least reducing these taxes or partially offsetting them through a tax credit.”).

379. Contrast the regressivity of excise taxes with progressive taxes such as the federal income tax imposed on individuals. Progressive taxes use increasing tax rates as income increases so that higher-income individuals pay more in total taxes and at a higher rate.

380. See “Sin” Taxes—eg, on Tobacco—Are Less Efficient than They Look, *ECONOMIST: INT’L* (July 28, 2018), <http://www.economist.com/international/2018/07/28/sin-taxes-eg-on-tobacco-are-less-efficient-than-they-look> [<https://perma.cc/LY7U-RVMB>]; see also Rachel E. Morse, *Resisting the Path of Least Resistance: Why the Texas “Pole Tax” and the New Class of Modern Sin Taxes Are Bad Policy*, 29 B.C. THIRD WORLD L.J. 189, 209 (2009) (“There is nothing about dangerous sports like hang gliding or skiing which promotes the Protestant work ethic any more than smoking, drinking, or eating Big Macs, but these risky amusements are never singled out for social stigmatization because such sports have a classier, more sophisticated image than smoking and being overweight.” (quoting Jendi B. Reiter, *Citizens or Sinners? The Economic and Political Inequity of “Sin Taxes” on Tobacco and Alcohol Products*, 29 COLUM. J.L. & SOC. PROBS. 443, 454 (1996))).

381. Mario's tax would be \$6.36, which constitutes 1.59% of his income. Sylvia's tax would be \$3.64, which is .36% of her income.

382. See I.R.C. § 5041(b) (2018).

383. This example assumes that Mario and Sylvia buy a twenty-five-ounce bottle of wine with 13% alcohol, and the excise tax on a bottle of wine is \$0.08 per ounce of alcohol. The excise tax of \$0.26 is computed as $(excise\ tax) = (25\ oz \times 0.13\ alcohol) \times (\$0.08\ tax\ per\ oz.\ of\ alcohol)$.

1. Broad-Based Tax Increase

In general, governments fund spending increases by (1) increasing taxes, (2) increasing borrowing, (3) redirecting savings from reductions in other programs, or (4) some combination of these things.³⁸⁴ The second option—increasing borrowing—is not available for states because they generally cannot operate at a deficit due to balanced budget requirements.³⁸⁵ Consequently, they must fund programs and services through revenue-raising measures, such as taxes, or by spending reductions in other programs. While both options may be politically unpopular, even significant spending cuts might be insufficient to adequately fund the opioid epidemic response given its high price tag. Consequently, the time may have come for states and the federal government to consider adopting tax increases to fund their response to the opioid epidemic.

The next question is whether across-the-board tax increases would be preferable to narrowly targeted consumption taxes. After all, “[t]axation . . . is the art of trying to pluck the most feathers from a goose while producing the least hissing.”³⁸⁶ Despite the powerful Big Pharma lobby, excise taxes imposed only on drug makers and distributors undoubtedly would “arouse far less voter hostility than broader-based taxes” and therefore would be less politically costly.³⁸⁷ However, across-the-board tax increases makes transparent the fact that all taxpayers, not just those using prescription opioids, are in effect paying for the fallout from the opioid epidemic.³⁸⁸

The obvious question is whether legislators have the fortitude to adopt broad tax increases. If the recent past is any indication, the answer may be no. Tax revenues in the United States have stalled in the last forty years, idling at about 25% of GDP.³⁸⁹ By contrast, tax revenue as a percentage of other developed countries’ GDP has generally increased over the years.³⁹⁰

384. It is no surprise that the federal government operates at a deficit, meaning that it spends more than its revenues. The amount of public debt, estimated to be 79% of GDP, has almost tripled from 2008 to 2019. CONG. BUDGET OFFICE, PUB. NO. 56165, *FEDERAL DEBT: A PRIMER 1* (2020). It is also possible to capture cost savings by adopting reforms that would allow existing programs to operate more efficiently.

385. Substantially all of the states have balanced budget requirements. NAT’L CONFERENCE OF STATE LEGISLATURES, NCSL FISCAL BRIEF: STATE BALANCED BUDGET PROVISIONS 2 (2010).

386. Baxandall, *supra* note 365, at 26 (quoting King Louis XIV’s finance minister Jean-Baptiste Colbert).

387. *See id.*

388. *See supra* notes 85–91 and accompanying text for estimates of the current tax burden the opioid epidemic exerts on the public.

389. *See Revenue Statistics—OECD Countries: Comparative Tables*, ORG. FOR ECON. COOPERATION & DEV., <http://stats.oecd.org/Index.aspx?DataSetCode=REV> [<https://perma.cc/4QFP-JSNR>] (select “Tax revenue as % of GDP” from the “Indicator” tab) (last visited Feb. 1, 2021); *see* Jeremy Pilaar, *Starving the Statehouse: The Hidden Tax Policies Behind States’ Long-Run Fiscal Crises*, 37 YALE L. & POL’Y REV. 345, 348 (2018) (“American states have allowed their long-run tax receipts to stagnate.”).

390. For example, Germany’s tax revenues as a percentage of GDP in 1975 were 34.3%. By 2017, that percentage rose to 37.6%. *See Revenue Statistics—OECD Countries: Comparative Tables, supra* note 389. Spain’s tax revenues increased by more than 15 percentage points during that time, from 18% in 1975 to 33.7% in 2017. *Id.* Similarly, Switzerland went from 22.5% in 1975 to 28.4% in 2017. *Id.* Consistent with this trend, the average for all Organisation for Economic Co-operation and Development (OECD) countries increased by more than 5 percentage points from 28.7% in 1975 to 34.2% in 2017. *Id.* Other countries with relatively flat tax revenue growth include Canada and the United Kingdom. Both of those countries have seen a less than 1% growth from 1975 to 2017. *Id.*

Stagnant tax revenues in the United States have led to inadequate funding in important areas such as education, infrastructure, and public health.³⁹¹ Lawmakers have aligned themselves with the anti-tax rhetoric epitomized by Grover Norquist's Americans for Tax Reform, which was founded in 1985 during the Reagan administration.³⁹² Americans for Tax Reform, in a 2006 report, observed a marked shift in tax policy that began in the 1990s.³⁹³ Traditionally, states would raise broad-based taxes without regard to whether the economy was expanding or contracting.³⁹⁴ By the 1990s, however, legislators began to cut taxes when the economy was strong, and although they may have adopted tax increases during recessionary periods to fund increased government spending, the size of those increases was smaller compared to earlier tax hikes.³⁹⁵

Furthermore, while tax increases of the past were broad based, more recently they have been targeted to narrow segments of taxpayers through, for example, excise taxes.³⁹⁶ Plainly put, it has become expedient for politicians to make pledges to not raise taxes.³⁹⁷ Perhaps voters/taxpayers' own "hatred of taxation" has pushed politicians in this direction.³⁹⁸ As Professor Edward Kleinbard noted, in the United States, "taxation is the only significant manifestation of direct government coercion that affects most of us each year."³⁹⁹ Regardless of the cause, this path simply is unsustainable.⁴⁰⁰ Given America's obsession with limiting taxation, it is hardly surprising that an "emaciated government" will be the result.⁴⁰¹

While a narrowly targeted excise tax is more aligned with current tax policy trends, it is conceivable that funding for the opioid epidemic might garner broad-based support due to its wide path of destruction. High levels of public support should decrease the risk

391. Pilaar, *supra* note 389, at 347–48.

392. See *About Americans for Tax Reform*, AMS. FOR TAX REFORM, <http://www.atr.org/about> [<https://perma.cc/4SHS-8VBB>] (last visited Feb. 1, 2021).

393. DANIEL CLIFTON & ELIZABETH KARASMEIGHAN, AMS. FOR TAX REFORM, STATE TAX TRENDS OVER TWENTY-FIVE YEARS: TAX INCREASES DOWN, REVENUE SOURCES SHIFTING 2 (2006), http://www.heartland.org/_template-assets/documents/publications/19711.pdf [<https://perma.cc/278H-DV4Z>].

394. *Id.*

395. *Id.*; see also EDWARD D. KLEINBARD, WE ARE BETTER THAN THIS: HOW GOVERNMENT SHOULD SPEND OUR MONEY 172 (2015).

396. See KLEINBARD, *supra* note 395, at 383–85.

397. See James C. Capretta, *Time To Retire the No Tax Hike Pledge*, REAL CLEAR POL'Y (Feb. 24, 2020), http://www.realclearpolicy.com/articles/2020/02/24/time_to_retire_the_no_tax_hike_pledge_484525.html [<https://perma.cc/Q5VY-M7UA>] ("Since 1990, it has been routine for nearly all Republican candidates to sign the pledge.")

398. See KLEINBARD, *supra* note 395, at 4.

399. *Id.*

400. See generally *id.* In his book, Professor Kleinbard keenly observed that the United States' budget process has been turned on its head. Instead of first setting the budget priorities and then figuring out how to finance them, the United States first determines how much it should spend and then decides where to spend it. Kleinbard's central point is that government should invest more in infrastructure and social insurance programs because the happiness and prosperity of society depends on it. To do that, the government has to increase taxes. He suggests reverting back to the tax rates in place during the Clinton administration. Kleinbard encourages the government to set aside its "fiscal narcissism" and "accept tax burdens that [it] . . . found completely unexceptional 15 years ago." *Id.* at 375.

401. See *id.* at 4.

for politicians who advocate for direct tax increases. Opioids have delivered widespread devastation to broad swaths of the population.⁴⁰² The drug problem is exacerbated in red states,⁴⁰³ so perhaps politicians in those states might have the will to act to take care of their constituents.

Additionally, progressives might get on board to improve health outcomes for their constituents.⁴⁰⁴ Furthermore, a commitment to specifically designate any tax revenue for opioid-related expenditures might also help to reduce public resistance to tax increases.⁴⁰⁵ This phenomenon has been observed in areas like state lotteries, where states hawked gambling to their residents by promising to tax lotteries and earmark the resulting tax revenues for public education.⁴⁰⁶

Assuming for the sake of argument that taxpayers might find broad-based taxes palatable, there is another elephant looming in the room: Is a tax that merely funds the societal costs of the opioid crisis without addressing the underlying causes misplaced? Rather than merely curbing drug use, perhaps the country also should come to terms with, and attack, the underlying causes of the opioid epidemic.

Professor Vincent Felitti and his collaborators published a pathbreaking study in 1998 establishing a link between childhood trauma and negative adult health outcomes.⁴⁰⁷ The researchers found that study participants with greater adverse

402. See, e.g., Eric Bolling, *Opioids Are an Equal-Opportunity Killer*, N.Y. TIMES (Oct. 29, 2019), <http://www.nytimes.com/2019/10/29/opinion/opioids-are-an-equal-opportunity-killer.html> [<https://perma.cc/5928-5FAG>].

403. Sam Baker, *The Congressional Districts with the Most Opioids Per Person*, AXIOS (Aug. 13, 2018), <http://www.axios.com/congressional-districts-republicans-opioid-epidemic-b288f6d7-f7b4-40f2-99b8-9f55b45850a3.html> [<https://perma.cc/8WNZ-A7SU>].

404. See *Achieving Universal, Affordable, Quality Health Care*, DEMOCRATIC NAT'L COMMITTEE: 2020 DEMOCRATIC PLATFORM, <http://democrats.org/where-we-stand/party-platform/achieving-universal-affordable-quality-health-care/> [<https://perma.cc/G926-HCA5>] (last visited Feb. 1, 2021).

405. See Susannah Camic Tahk, *Making Impossible Tax Reform Possible*, 81 FORDHAM L. REV. 2683, 2683 (2013) (“[L]awmakers can overcome tax lawmaking paralysis by distributing tax reform’s costs and benefits differently. In particular, the federal government can do this by following the examples of states that have successfully escaped tax lawmaking paralysis by earmarking taxes for specific purposes.”); Susannah Camic Tahk, *Public Choice Theory and Earmarked Taxes*, 68 TAX L. REV. 755, 756 (2015) (“[E]armarked taxes that benefit concentrated groups and impose costs on diffuse groups should be the most successful at raising revenue over time.”). One potential downside is that the more visible these costs become, the less public support there may be for the goal. See generally Brian Galle, *The Tragedy of the Carrots: Economics and Politics in the Choice of Price Instruments*, 64 STAN. L. REV. 797 (2012) (analyzing whether control by regulating the quantity of a good or by affecting its price is better policy); Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era from an Old Idea?*, 18 ECOLOGY L.Q. 1, 34 (1991) (arguing that transparency may cause taxpayers’ support to wane as they see the price tag in the context of environmental policies); Roberta Mann, *Waiting to Exhale: Global Warming and Tax Policy*, 51 AM. U. L. REV. 1135 (2002) (arguing for a tax credit to support incentives for carbon sequestration and control climate change).

406. See, e.g., Ron Stodghill & Ron Nixon, *For Schools, Lottery Payoffs Fall Short of Promises*, N.Y. TIMES (Oct. 7, 2007), <http://www.nytimes.com/2007/10/07/business/07lotto.html> [<https://perma.cc/V43D-DJRV>]. Likewise, Rachel Morse noted that a Texas tax imposed on customers of strip clubs (the so-called pole tax) passed overwhelmingly when the tax revenues were in part earmarked for sexual assault. Morse, *supra* note 380, at 202.

407. Vincent J. Felitti, Robert F. Anda, Dale Nordenberg, David F. Williamson, Alison M. Spitz, Valerie Edwards, Mary P. Koss & James S. Marks, *Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults*, 14 AM. J. PREVENTATIVE MED. 245, 245 (1998).

childhood experiences—such as physical, emotional, and sexual abuse as well as household dysfunction, including a household member with substance abuse—were at greater risk and more likely to smoke, become drug users, be severely obese, have depression, and attempt suicide.⁴⁰⁸ They surmise that behaviors such as smoking, drug use, overeating, and suicide attempts are used to cope with childhood trauma.⁴⁰⁹

A more recent study in North Carolina found that up to two-thirds of “drug use problems could be traced back to [adverse childhood experiences].”⁴¹⁰ To describe this issue, Elizabeth Cuervo Tilson used the metaphor of rescuers pulling drowning victims from a raging river.⁴¹¹ In addition to treating people with opioid use disorder—the equivalent of plucking victims from the waters—rescuers should also walk upstream “to find out where the bridge is broken and repair it, so people will stop falling into the river in the first place.”⁴¹²

Sir Angus Deaton and Professor Anne Case refer to deaths among middle-aged persons in the United States from heart disease, alcoholic liver disease and cirrhosis, accidental drug overdoses, and suicides as “deaths of despair.”⁴¹³ In testimony submitted for a hearing before the U.S. Senate’s Joint Economic Committee, Deaton said that “[h]eavy drinking, overeating, social isolation, drugs, and suicide are plausible outcomes of . . . processes that have cumulatively undermined the meaning of life for white working class people.”⁴¹⁴

The processes he was referring to include lack of employment opportunities for noncollege educated people, declines in marriage rates, and the rise in children born out of wedlock.⁴¹⁵ These scholars’ research has important implications for opioid addiction treatment and prevention. It indicates that steps should be taken to prevent and address the root causes of drug use and addiction, including childhood trauma, socioeconomic disadvantage, and lack of opportunity in rural areas.

408. *Id.* at 249–50.

409. *Id.* at 253–54.

410. Elizabeth Cuervo Tilson, *Adverse Childhood Experiences (ACEs): An Important Element of a Comprehensive Approach to the Opioid Crisis*, 79 N.C. MED. J. 166, 167 (2018).

411. *See id.* at 169.

412. *Id.*; *see also* Terry, *supra* note 137, at 667 (noting that 60% of the political units who are plaintiffs in the opioid multidistrict litigation have above-average poverty rates); Michael J. Zoorob & Jason L. Salemi, *Bowling Alone, Dying Together: The Role of Social Capital in Mitigating the Drug Overdose Epidemic in the United States*, 173 DRUG & ALCOHOL DEPENDENCE 1, 8 (2017) (finding a correlation between opioid prescription rates and users’ lack of social capital, including a lack of sense of belonging and trust in their communities); Gina Kolata & Sarah Cohen, *Drug Overdoses Propel Rise in Mortality of Young Whites*, N.Y. TIMES (Jan. 16, 2016), <http://www.nytimes.com/2016/01/17/science/drug-overdoses-propel-rise-in-mortality-rates-of-young-whites.html> [<https://perma.cc/BUL9-QKTK>] (speculating that the rising death rates for young white adults is the result of being “isolated and left out of the economy and society and who have gotten ready access to cheap heroin and to prescription narcotic drugs”).

413. *Economic Aspects of the Opioid Crisis: Hearing Before the J. Econ. Comm.*, 115th Cong. 12–13 (2017) (statement of Sir Angus Deaton).

414. *Id.* at 13.

415. *Id.*

2. Litigation or Settlement Recoveries

Thousands of political subdivisions are suing prescription opioid drug manufacturers and distributors in federal court.⁴¹⁶ These separate lawsuits have been consolidated in multidistrict litigation known as the National Prescription Opiates Litigation (NPOL) in the U.S. District Court for the Northern District of Ohio.⁴¹⁷ Another case brought by two Ohio counties that was scheduled for trial in October 2019 settled at the eleventh hour for \$260 million of cash plus in-kind drug donations.⁴¹⁸ That case was seen as a test case for the NPOL, but having settled before trial, attention has turned to the NPOL itself.⁴¹⁹

In September 2019, the federal judge overseeing the NPOL had certified a negotiation class, the purpose of which is to allow a group of class members to negotiate with the defendants on behalf of the entire class.⁴²⁰ However, the Sixth Circuit has decertified the negotiation class, finding that it was not authorized by Federal Rule of Civil Procedure 23.⁴²¹ As a result, the district court will continue to manage the thousands of individual lawsuits.

Various scholars have analyzed the strength of the plaintiffs' claims as well as the defenses that might limit or eliminate the defendants' liability so that evaluation will not be repeated here.⁴²² But suffice it to say that even if the plaintiffs in the pending opioid litigation obtain a monetary recovery, that alone is unlikely to reduce opioid consumption because prescription opioid prices "are not expected to rise."⁴²³ The NPOL has been compared to the tobacco master settlement agreement (MSA) that eventually resolved

416. See Weeks & Sanford, *supra* note 90, at 1067.

417. See Transfer Order, *In re Nat'l Prescription Opiate Litig.*, 290 F. Supp. 3d 1375 (J.P.M.L. 2017).

418. Colin Dwyer, *Your Guide to the Massive (and Massively Complex) Opioid Litigation*, NPR (Oct. 15, 2019, 9:05 AM), <http://www.npr.org/sections/health-shots/2019/10/15/761537367/your-guide-to-the-massive-and-massively-complex-opioid-litigation> [https://perma.cc/EH2V-URC8]; Jan Hoffman, *\$260 Million Opioid Settlement Reached at Last Minute with Big Drug Companies*, N.Y. TIMES (Oct. 21, 2019), <http://www.nytimes.com/2019/10/21/health/opioid-settlement.html> [https://perma.cc/HB7B-ZMNH] [hereinafter Hoffman, *\$260 Million Opioid Settlement*].

419. See Hoffman, *\$260 Million Opioid Settlement*, *supra* note 418.

420. See *Frequently Asked Questions*, IN RE: NAT'L PRESCRIPTION OPIATES LITIG., <http://www.opioidsnegotiationclass.info/Home/FAQ#faq1> [https://perma.cc/UX45-BYZV] (last updated Sept. 28, 2020).

421. *In re Nat'l Prescription Opiate Litig.*, 976 F.3d 664, 675–76 (6th Cir. 2020).

422. See, e.g., Richard C. Ausness, *The Current State of Opioid Litigation*, 70 S.C. L. REV. 565 (2019); Rebecca L. Haffajee & Michelle M. Mello, *Drug Companies' Liability for the Opioid Epidemic*, 377 NEW ENG. J. MED. 2301 (2017); Rebecca L. Haffajee & Michael R. Abrams, *Settling the Score: Maximizing the Public Health Impact of Opioid Litigation*, 80 OHIO ST. L.J. 701 (2019).

423. Jan Hoffman, *Payout from a National Opioids Settlement Won't Be as Big as Hoped*, N.Y. TIMES (Feb. 17, 2020), <http://www.nytimes.com/2020/02/17/health/national-opioid-settlement.html> [https://perma.cc/V2SE-AC4H] [hereinafter Hoffman, *Payout from a National Opioids Settlement*]; see also Derek Carr, Corey S. Davis & Lainie Rutkow, *Reducing Harm Through Litigation Against Opioid Manufacturers? Lessons from the Tobacco Wars*, 133 PUB. HEALTH REP. 207, 207 (2018) (stating that litigation settlement is "unlikely to substantially reduce opioid-related morbidity and mortality absent contemporaneous regulatory reform").

litigation that forty-six states brought against cigarette manufacturers to recover health care costs incurred for caring for those with smoking-related illnesses.⁴²⁴

Cigarette consumption did decline after the MSA was implemented as a result, at least in part, of post-MSA price increases for tobacco products.⁴²⁵ These price increases were the consequence of several things, including the tobacco companies passing through to consumers excise taxes implemented to offset tobacco companies' payments to states under the MSA.⁴²⁶ In short, the reduction on tobacco consumption cannot be attributed to the MSA, but instead to the knock-on price increases that followed.⁴²⁷ The MSA resulted in payments to the settling states of \$206 billion for twenty-five years beginning in 1998 and "up to \$9 billion annually in perpetuity thereafter, based largely on the volume of cigarettes sold each year."⁴²⁸

Furthermore, litigation is not without downside risks. First, there is a theoretical question about whether it is appropriate to pursue litigation to impose what in effect should be a tax. Under those circumstances, what is an essential function of the legislature would fall within the province of the judiciary, where public input is lacking and nonelected decisionmakers reign.⁴²⁹ More practically, as with any litigation, outcomes are uncertain, and the process is expensive and slow.⁴³⁰ Second, litigation might increase the price of prescription opioids as well as threaten supply.⁴³¹

Perhaps most importantly, will any payout resulting from litigation be sufficient to manage the financial challenges of the opioid epidemic? Recent estimates value any national settlement between \$75 billion and \$85 billion.⁴³² This amount is miniscule in comparison to many cost estimates.⁴³³ Relatedly, will the defendants have sufficient resources to actually fund any settlement reached? Purdue Pharma, the makers of the opioid OxyContin, filed for Chapter 11 bankruptcy under the weight of the opioid litigation it is facing.⁴³⁴

424. See PUB. HEALTH LAW CTR., *THE MASTER SETTLEMENT AGREEMENT: AN OVERVIEW* 1–2 (Jan. 2019).

425. See Frank A. Sloan & Justin G. Trogon, *The Impact of the Master Settlement Agreement on Cigarette Consumption*, 23 J. POL'Y ANALYSIS & MGMT. 843, 843–44 (2004).

426. *Id.*

427. See *id.* at 852.

428. Carr et al., *supra* note 423, at 208.

429. See W. Kip Viscusi, *Tobacco: Regulation and Taxation Through Litigation*, in REGULATION THROUGH LITIGATION 22, 52 (W. Kip Viscusi ed., 2002).

430. See generally Terry, *supra* note 137. Professor Terry takes a pessimistic view of opioid litigation. In addition to the time and expense of litigation, see *id.* at 656, he worries about the stigmatizing effects of litigation on prescription opioid users. See *id.* at 651–53. Recognizing that litigation necessarily requires identifying bad actors and assessing blame, the concern is that defendants will point fingers at the users themselves and attribute their use to moral defects. See *id.* Other potential fallout from the opioid litigation includes concern about how much of any recovery would be used to combat the opioid crisis, see *id.* at 661–63, as well as the diversion of attention to other causes of the crisis. See *id.* at 653–55. Focusing on overprescribing highlights supply-side interventions rather than "social determinants of health," such as poverty. *Id.*

431. See Elizabeth A. Breen, Note, *A One Shot Deal: The National Childhood Vaccine Injury Act*, 41 WM. & MARY L. REV. 309, 315 (1999) (discussing that drug makers increased prices of vaccines after lawsuits).

432. See Hoffman, *Payout from a National Opioids Settlement*, *supra* note 423.

433. See *supra* notes 62–77 and accompanying text.

434. Mary Williams Walsh, *Judge Orders Pause in Opioid Litigation Against Purdue Pharma and Sacklers*, N.Y. TIMES (Oct. 11, 2019), <http://www.nytimes.com/2019/10/11/health/purdue-bankruptcy>

CONCLUSION

The potential for pricing instruments such as taxes to effectively combat the opioid crisis has been undertheorized. This Article helps to fill that gap by considering whether a tax on prescription opioids could be an effective lever for policymakers. In conclusion, taxes are largely a blunt and ineffective instrument for this purpose. Despite predictions that prescription opioid consumption might be responsive to price changes, consumers will be indifferent to such a tax unless it is reflected in the price that they pay. Because most Americans are covered by some form of health insurance,⁴³⁵ an opioid tax intended to reduce consumption is unlikely to achieve that goal, except for the uninsured who pay their health care costs out of pocket.

While a carrot-and-stick, market-based approach may be misguided, if nothing else, taxing prescription opioids could be useful to generate much needed revenue for states. However, states seeking to enact opioid taxes as a revenue mechanism should also consider the potential drawbacks of such a tax. One big concern—assuming the economic incidence of any tax is borne by drug manufacturers—is that increasing costs could drive manufacturers with narrow profit margins out of the market, which might result in legitimate consumer demand going unmet. Alternatively, even if such a tax were to be passed along to uninsured consumers, excise taxes are regressive, meaning they disproportionately burden lower-income individuals.

The appeal of pricing instruments such as taxes to respond to big, multifaceted societal problems like the opioid epidemic can be a trap. Even so, an opioid tax might ensnare lawmakers in the face of budget deficits created by the opioid epidemic and a whole host of other issues, including COVID-19. If lawmakers ultimately decide that an opioid tax is in their constituents' best interests notwithstanding the drawbacks, they should carefully consider how best to design such a tax.

This Article considered some of the central design issues, including the tax base, the ideal rate of tax, and the incidence of tax.⁴³⁶ In general, to make the tax easier to administer, it should cover all prescription opioids rather than just certain classes of opioids, and the tax should be imposed early in the chain of distribution. Additionally, because higher opioid dosages are associated with greater harm, tying the tax rate to the potency of the opioid at issue seems to be a reasonable approach. This Article encourages a systematic and intentional approach to tax design even if the sole goal of an opioid tax is revenue generation.

-opioids.html [https://perma.cc/VZ8R-AYS3]. The company's bankruptcy filing came after it entered into a settlement valued at \$10 billion. Press Release, Purdue Pharma L.P., Purdue Pharma Announces Agreement in Principle on Landmark Opioid Litigation Settlement (Sept. 16, 2019), <http://www.purduepharma.com/news/2019/09/16/purdue-pharma-announces-agreement-in-principle-on-landmark-opioid-litigation-settlement/?cn-reloaded=1> [https://perma.cc/P582-E8V6]. The settlement was seemingly done to stop litigation by plaintiffs who are not parties to the settlement and to preserve its assets to pay the settlement. *Id.*

435. See Jennifer Tolbert, Kendal Orgera & Anthony Damico, *Key Facts About the Uninsured Population*, KAISER FAM.FOUND. (Nov. 6, 2020), <http://www.kff.org/uninsured/issue-brief/key-facts-about-the-uninsured-population/> [https://perma.cc/VSW2-BRX4] (stating that in 2019, the uninsured rate was 10.9%).

436. See *supra* Parts IV.C.1–4.