



The Opioid Crisis and Recent Federal Policy Responses

**Comprehensive Addiction
and Recovery Act**

**Limiting the Supply of
Opioids for Misuse**

**21st Century
Cures Act**

**Preventing and Treating
Opioid Use Disorder**

**SUPPORT for Patients
and Communities Act**

**Reducing
Harm**

At a Glance

The United States has been experiencing an opioid crisis since the mid-1990s, and opioids have had a significant effect on public health and on the nation's economic and social outcomes. In this report, the Congressional Budget Office examines the consequences and timeline of the crisis, the contributing factors and federal responses to it, and the effects of the coronavirus pandemic on the crisis.

- **Deaths.** More than 500,000 opioid-involved deaths have occurred since 2000, and the United States has the world's highest number of opioid-involved deaths per capita. Although federal funding to address the opioid crisis has increased in recent years, opioid overdose mortality has increased as well. Deaths from opioid-involved overdoses were among the leading causes of death in 2020.
- **Health and Other Effects.** The use and misuse of opioids can result in serious health effects: People with certain harmful behaviors that result from opioid misuse—such as an increase in the amount and frequency of opioid use or failure to fulfill major responsibilities at work, home, or school—have opioid use disorder (OUD), which can affect people's participation in the labor force and their ability to care for their children. Treatment for OUD is used far less than behavioral health professionals recommend.
- **Changes Over Time.** The opioid crisis has occurred in waves distinguished by the different types of opioids involved in overdose deaths and the use of opioids in combination with other drugs.
- **Contributing Factors.** A rise in opioid prescribing, changes in illegal opioid markets, and greater demand for opioids due to worsening economic and social conditions for certain populations are key contributors to the crisis.
- **Federal Laws.** Between 2016 and 2018, three laws enacted in response to the crisis aimed to lower the demand for and supply of opioids and to reduce their harm. The funding in those laws complemented annual appropriations to agencies tasked with responding to substance use disorder, including opioid use disorder.
- **The Crisis After the Enactment of the Laws and During the Pandemic.** Opioid-involved deaths continued to increase after the laws were enacted—initially more slowly than in preceding years but then more rapidly during the pandemic. Opioid misuse increased during the pandemic as people experienced worsened mental health, more social isolation, greater job losses, and reduced access to treatment. In addition, the use of more potent synthetic opioids led to a sharp increase in overdose deaths. The pandemic and other factors have made it difficult to isolate the effect of the laws on the opioid crisis.

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Notes

In this report, all years referring to the effects of the laws on mandatory spending and authorizations of appropriations are federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end. All other years are calendar years.

Numbers in the text, tables, and figures may not add up to totals because of rounding.

Summary

The opioid crisis emerged in the United States in the mid-1990s and has continued in a series of overlapping waves. In this report, the Congressional Budget Office describes the effects and evolution of the crisis, the factors that have contributed to it, the laws enacted to address it, and the effects of the coronavirus pandemic on the crisis.

What Are Opioids, and What Is Opioid Use Disorder?

Opioids are a class of drugs that includes prescription pain relievers. Although those prescription drugs are available legally and have valid clinical applications, they can be used nonmedically and distributed illegally. Other opioids, such as heroin, are produced illegally. Fentanyl can be produced legally and illegally. The misuse of opioids can lead to serious side effects and death.

People with certain harmful behaviors that result from opioid misuse—such as an increase in the amount and frequency of opioid use or failure to fulfill major responsibilities at work, home, or school—have opioid use disorder (OUD). Several treatments are available for people with OUD, including medications and psychosocial therapy, but research indicates that those treatments are underused.¹ The drug naloxone can reverse opioid overdoses.

What Are the Effects of the Opioid Crisis?

The opioid crisis has had profound effects. In the United States, more than 500,000 people have died from opioid-involved overdoses since 2000. Deaths from

opioid-involved overdoses were particularly numerous during the pandemic, placing them among the leading causes of death in 2020. Those deaths have contributed to the decline in life expectancy that the United States has experienced since 2014. The opioid crisis has also increased the incidence of related diseases. The injection of opioids has contributed to the wider spread of hepatitis C and HIV, and the number of newborns experiencing withdrawal as a result of their mothers' opioid misuse has also increased.

The opioid crisis has affected spending and revenues in the federal budget. Federal spending on health care, the child welfare system, means-tested social programs, and efforts to reduce drug trafficking has increased. However, opioid-involved deaths have reduced federal spending on benefits, such as Medicare and Social Security, that people who died would have received in the future. Tax revenues have also decreased because of lost earnings from reduced longevity and from the decreased productivity of people who misuse opioids.²

How Has the Crisis Evolved?

The opioid crisis has occurred in overlapping waves (see Figure S-1). The first wave began in 1996 with the expanded use of prescription opioids to address chronic pain, nonmedical use of prescription opioids, and distribution of those drugs through illegal means, such as sharing or selling pills to people who do not have a prescription for them. Use of illegally manufactured opioids increased during the second and third waves of the crisis. The second wave began in 2010 with the increased use of heroin, and the third wave started in 2013 as fentanyl use increased. A fourth wave of the crisis seems to be emerging, one characterized by the use of illegally manufactured opioids in combination with psychostimulants such as cocaine and methamphetamine.

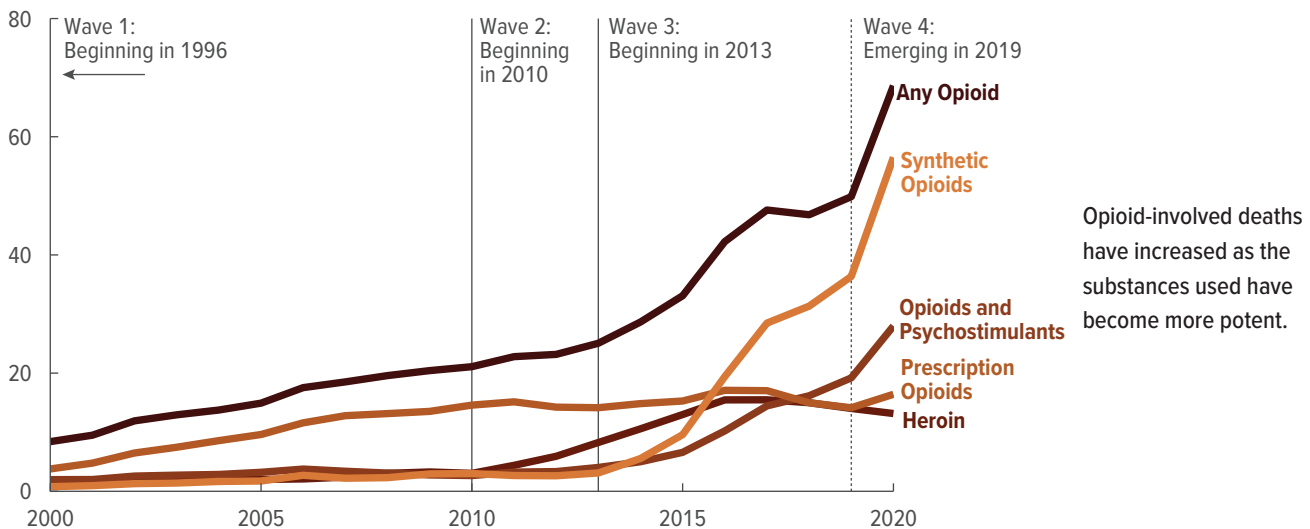
1. Psychosocial therapy involves working with behavioral health providers to develop the skills to adjust to and interact in social situations that might pose challenges. For more information on the underutilization of treatment, see Ryan Mutter, Donna Spencer, and Jeffrey McPheeters, "Factors Associated With Initial Treatment Choice, Engagement, and Discontinuation for Patients With Opioid Use Disorder," *Psychiatric Services*, vol. 73, no. 6 (June 2022), pp. 604–612, <https://doi.org/10.1176/appi.ps.202100239>; and Li-Tzy Wu, He Zhu, and Marvin S. Swartz, "Treatment Utilization Among Persons With Opioid Use Disorder in the United States," *Drug and Alcohol Dependence*, vol. 169 (December 2016), pp. 117–127, <https://doi.org/10.1016/j.drugalcdep.2016.10.015>.

2. CBO's cost estimates generally reflect the assumption that the overall output of the economy would not change as a result of the legislation. Therefore, when estimating the effects of policies related to opioids, the agency does not typically include such effects.

Figure S-1.

Overdose Deaths Involving Opioids, by Type of Opioid

Thousands of Deaths



Data source: Congressional Budget Office, using information from the CDC WONDER database, Centers for Disease Control and Prevention, National Center for Health Statistics, "About Multiple Cause of Death 1999–2020" (accessed January 5, 2022), <https://wonder.cdc.gov/mcd-icd10.html>. See www.cbo.gov/publication/58221#data.

Psychostimulants include cocaine and psychostimulants with abuse potential, such as methamphetamine, 3,4-methylenedioxy-methamphetamine (MDMA), dextroamphetamine, levoamphetamine, methylphenidate (Ritalin), and caffeine. Because the subcategories of prescription opioids, heroin, and synthetic opioids (other than methadone) are not mutually exclusive, total deaths from any opioid can be fewer than the sum of the subcategories. Synthetic opioids include fentanyl and related substances. In addition, the category "any opioid" includes other subcategories of opioids—opium and other unspecified narcotics—not shown separately in the figure.

The first wave of the opioid crisis began in 1996, but the number of overdose deaths involving opioids is not available for the early years of the crisis. In addition, the former Assistant Secretary for Health at the Department of Health and Human Services noted the emergence of a fourth wave beginning in 2019. See Steven Ross Johnson, "Q&A: 'We're Entering the Fourth Wave, Which Is Methamphetamine,'" *Modern Healthcare* (August 3, 2019), <https://tinyurl.com/muyjdfuu>.

Although people from all income levels, regions of the country, and backgrounds use and misuse opioids, the opioid crisis has affected demographic groups in different ways. For example, non-Hispanic White people had the highest opioid-involved death rate during the first wave of the crisis. During the third wave, however, deaths per 100,000 people among non-Hispanic Black and Native American or Alaska Native people caught up to and then surpassed the death rate among non-Hispanic White people in 2020.

What Factors Have Contributed to the Crisis?

Several factors have contributed to the opioid crisis: an increase in the prescribing of opioids, changes in illegal opioid markets, and greater demand for opioids among people in some demographic groups that have experienced declines in real wages and social cohesion. Those factors have reinforced each other.

Opioid prescribing increased as a result of aggressive promotion efforts by pharmaceutical companies. Clinical norms also began to emphasize assessing patients' pain and treating it with prescription opioids. In addition, oversight and reimbursement incentives in the health care system encouraged opioid prescribing.

Changes in illegal opioid markets have affected the crisis. At first, the excess supply of prescription opioids facilitated their nonmedical use and illegal distribution. More recently, demand for heroin and fentanyl has increased as their prices have fallen and as the availability of prescription opioids has declined. The price of fentanyl is relatively low because it is produced in a lab, and its high potency allows it to be transported in small quantities that are difficult to detect. Most illicitly produced fentanyl is made in Mexico from precursor chemicals manufactured in China.

Lastly, although the connection between socioeconomic factors and opioid use is not fully understood, evidence

suggests that opioid demand increased among people who experienced declining real wages and social circumstances, including non-Hispanic White people without a college education.

What Federal Laws Have Been Enacted in Response to the Crisis?

Between 2016 and 2018, three laws were enacted in response to the opioid crisis:

- The Comprehensive Addiction and Recovery Act (CARA) of 2016 (Public Law 114-198, July 2016),
- The 21st Century Cures Act (P.L. 114-255, December 2016), and
- The Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act (P.L. 115-271, October 2018).

Provisions in the laws address the multifaceted aspect of the crisis with strategies aimed to reduce demand, supply, and harm.

To reduce the demand for opioids, the laws lower barriers to treatment, for example, by requiring state Medicaid programs to temporarily cover all medications approved by the Food and Drug Administration (FDA) for the treatment of OUD. Similarly, a temporary state plan option allows federal matching funds to be used for services provided to beneficiaries with substance use disorder (SUD) in institutions for mental diseases, which are facilities with more than 16 beds that primarily diagnose, treat, and care for people with mental diseases, including SUD. Two provisions add new Medicare coverage for opioid treatment programs and telehealth services for the treatment of SUD. In addition, certain provisions in the laws aim to limit the supply of opioids by increasing Medicare's oversight of prescription drug utilization and authorizing partial refills to reduce the availability of unused prescription opioids. Finally, the laws authorized appropriations for grants to reduce harm by expanding the use of naloxone.

Provisions in the laws resulted in changes in mandatory outlays and authorizations of appropriations.³ Whereas provisions aimed at reducing the demand for opioids were estimated to increase mandatory outlays, provisions aimed

3. When identifying changes in mandatory spending and authorized amounts related to opioids, CBO included provisions related to SUD more generally because the laws primarily focused on the opioid crisis. As a result, the amount of funds ultimately used for addressing the opioid crisis may be overestimated.

at reducing the supply of opioids were estimated to increase spending in some cases and reduce spending in other cases. On net, CBO estimated that provisions in CARA would *reduce* mandatory outlays by \$187 million over the 2017–2026 period and that provisions in the SUPPORT for Patients and Communities Act would *increase* mandatory outlays by \$2.7 billion over the 2019–2028 period, mostly for Medicaid.⁴ Although most provisions affecting mandatory spending are permanent, a few are temporary and are set to expire in the next few years.⁵

Also, collectively, the three laws authorized additional appropriations of about \$700 million to \$1.6 billion per year between fiscal years 2017 and 2023; those funds would be available only if provided in subsequent discretionary appropriation acts.⁶ Quantifying the amount of authorized funding that was actually appropriated is challenging because appropriation acts do not always

4. Mandatory, or direct, spending includes outlays for some federal benefit programs and for certain other payments to people, businesses, nonprofit institutions, and state and local governments. Such outlays are generally governed by statutory criteria and are not normally constrained by the annual appropriation process. See Congressional Budget Office, cost estimate for Draft Conference Agreement for S. 524, the Comprehensive Addiction and Recovery Act of 2016 (July 5, 2016), www.cbo.gov/publication/51765, and cost estimate for H.R. 6, the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act (September 27, 2018), www.cbo.gov/publication/54515. Those cost estimates include the budgetary effects of provisions unrelated to opioid use disorder, in addition to provisions related to opioid use disorder (and substance use disorder more generally). In this report, CBO focuses on provisions that were estimated to increase or decrease mandatory spending by more than \$500,000.
5. A provision allowing federal matching funds for services in institutions for mental diseases expires at the end of fiscal year 2023, and a provision requiring state Medicaid programs to cover all FDA-approved medications for OUD expires at the end of fiscal year 2025.
6. Amounts authorized to be appropriated for the 21st Century Cures Act are based on CBO's cost estimate available at www.cbo.gov/publication/52301. Because CBO's cost estimates for CARA and the SUPPORT for Patients and Communities Act did not include changes in spending subject to appropriation, in this report the agency examined the text of the laws as enacted. For all three laws, CBO summed authorizations subject to appropriation related to opioids or substance use disorder with two exceptions. First, to focus on new activities related to opioids, CBO excluded authorizations of appropriations for programs in existence before the three laws were enacted. Second, the agency excluded authorizations of appropriations for programs that aim to address trauma in children in contact with adults with SUD because those programs address secondary effects, rather than direct effects, of the opioid crisis.

clearly identify the legislation authorizing the funding, and they may fund multiple programs at once, or not at all. According to one estimate, total federal appropriations to address the opioid crisis almost tripled—rising from \$2.1 billion to \$6.1 billion—between fiscal years 2017 and 2020.⁷

7. Michele Gilbert and others, *Combating the Opioid Crisis: Smarter Spending to Enhance the Federal Response* (Bipartisan Policy Center, April 2022), Figure 10, <https://tinyurl.com/93dcwb7w>. By comparison, lawmakers appropriated about \$1.8 billion in 2015 and again in 2016—just before the three laws were enacted—for the Substance Abuse Prevention and Treatment Block Grant program, the largest grant program of the Substance Abuse and Mental Health Services Administration (SAMHSA) aimed at preventing and treating substance abuse. See Erin Bagalman, *SAMHSA FY2017 Budget Request and Funding History: A Fact Sheet*, Report for Congress R44375, version 2 (Congressional Research Service, February 11, 2016), p. 3, <https://tinyurl.com/yc7s4u76>.

How Has the Crisis Evolved After Enactment of the Laws and During the Pandemic?

Prescription opioid use continued to fall after the three laws were enacted. Opioid-involved deaths increased in most subsequent years before the start of the pandemic, but the annual rate of increase in deaths slowed.

Deaths involving opioids increased dramatically during the pandemic, driven by a sharp increase in fatalities involving fentanyl. The rise in opioid-involved deaths may be due to greater demand, as well as to the availability of more potent opioids and an increase in the solitary use of opioids. Policy responses to the pandemic affected the opioid crisis in several ways. In March 2020, certain barriers to OUD treatment were reduced, and the American Rescue Plan Act of 2021 appropriated funds to address the opioid crisis.

Chapter 1: The Opioid Crisis

The ongoing opioid crisis in the United States has evolved over more than two decades.¹ The use and misuse of opioids can result in serious side effects, including death, and can have negative effects throughout society. Consequently, the crisis has affected the federal budget in various ways.

The opioid crisis has occurred in overlapping waves, which correspond to the different drugs prevalent at different times.² Prescription opioid use rose during the first wave of the crisis and fell during subsequent waves, as people increasingly used illegally produced opioids. The number of overdose deaths has increased over most years of the crisis, but it has affected racial and ethnic groups in different ways. Opioid-involved mortality was initially highest among non-Hispanic White people, but it has surged among other racial and ethnic groups as the use of more potent, illegally manufactured opioids has increased. The crisis has also affected people with other sociodemographic and economic characteristics in different ways.

Opioids and Opioid Use Disorder

Opioids are a class of drugs used to treat pain. They include legally and illegally produced and distributed substances. Legally produced opioids include prescription pain relievers that can also be used nonmedically and distributed illegally. Fentanyl, which is many times more powerful than morphine, can be produced legally and is available in prescription form as a patch to treat severe pain. Fentanyl and its analogues are also produced and distributed illegally. Heroin is an illegal opioid with no accepted medical use in the United States.

Serious side effects can result from the use and misuse of opioids. A person who overdoses on opioids can stop breathing and die. Use of opioids can lead to dependence

(when a person who stops taking a drug experiences withdrawal symptoms) and tolerance (when a person needs to take more of a drug to experience the same amount of pain relief or “high”).³ People who use opioids may experience euphoria, constipation, and increased sensitivity to pain. When people who use opioids experience clinically significant impairment or distress—such as increasing the amount and frequency of opioid use or failing to fulfill major responsibilities at work, home, or school as a result of opioid misuse—they can be diagnosed with opioid use disorder.⁴

Most people who take prescription opioids for pain do not develop OUD, but about 8 percent to 12 percent of patients who take prescription opioids for chronic pain (a longer course of treatment than that for acute pain) develop OUD.⁵ Risk factors for OUD include past or current misuse of substances, untreated psychiatric conditions, social or family connections that encourage misuse of substances, and post-9/11 combat deployment.⁶

Treatments for OUD have been shown to be effective at reducing the risks of overdosing, illegally using opioids, contracting hepatitis C and HIV, and engaging in

1. National Institute on Drug Abuse, “Overdose Death Rates” (January 20, 2022), <https://tinyurl.com/cmr53zpk>.
2. Nora D. Volkow and Carlos Blanco, “The Changing Opioid Crisis: Development, Challenges, and Opportunities,” *Molecular Psychiatry*, vol. 26 (January 2021), pp. 218–233, <https://doi.org/10.1038/s41380-020-0661-4>.

3. Centers for Disease Control and Prevention, “Prescription Opioids” (August 29, 2017), www.cdc.gov/drugoverdose/opioids/prescribed.html.
4. For more information on the diagnostic criteria for OUD, see Sarah A. Palumbo and others, “Assessment of Probable Opioid Use Disorder Using Electronic Health Record Documentation,” *JAMA Network Open*, vol. 3, no. 9 (September 2020), <https://doi.org/10.1001/jamanetworkopen.2020.15909>.
5. Kevin E. Vowles and others, “Rates of Opioid Misuse, Abuse, and Addiction in Chronic Pain: A Systematic Review and Data Synthesis,” *Pain*, vol. 156, no. 4 (April 2015), pp. 569–576, <https://doi.org/10.1097/01.j.pain.0000460357.01998.f1>.
6. Resul Cesur, Joseph J. Sabia, and W. David Bradford, *Did the War on Terror Ignite an Opioid Epidemic?* Working Paper 26264 (National Bureau of Economic Research, September 2019), www.nber.org/papers/w26264; and Lynn R. Webster, “Risk Factors for Opioid-Use Disorder and Overdose,” *Anesthesia and Analgesia*, vol. 125, no. 5 (November 2017), pp. 1741–1748, <https://doi.org/10.1213/ANE.0000000000002496>.

criminal activity, as well as other outcomes.⁷ Several treatments are available. Medications for OUD that have been approved by the Food and Drug Administration include methadone, buprenorphine, and naltrexone. OUD can also be treated with psychosocial therapy in conjunction with medications. The Centers for Disease Control and Prevention (CDC) recommends that patients with OUD be offered treatment with medications in conjunction with psychosocial therapy.⁸

Treatment for OUD is underused, however: In 2019, less than one-third of the 1.7 million people with OUD reported receiving any treatment for substance use in the previous year.⁹ Barriers to receiving treatment include affordability, lack of access, and stigma associated with OUD.¹⁰

Another drug, naloxone, can reverse opioid overdoses. It can be administered by health care providers as well as people without medical training.¹¹ Although naloxone

prevents immediate adverse outcomes, it does not treat the underlying OUD.

Effects of the Opioid Crisis

The opioid crisis has had a significant effect on public health and on economic and social outcomes in the United States: More than 500,000 opioid-involved deaths have occurred since 2000.¹² The United States has the world's highest number of opioid-involved deaths per capita—more than five times the median for member countries of the Organisation for Economic Co-operation and Development.¹³ More U.S. residents have died from opioid overdoses than were killed during World War II.

In 2020, there were 68,630 deaths involving opioids.¹⁴ That number is smaller than those for the first three leading causes of death—heart disease (696,962), cancer (602,350), and COVID-19 (350,831)—but it is larger than those for some of the other top-10 causes of death, including influenza and pneumonia (53,544 deaths) and nephritis, nephrotic syndrome, and nephrosis (52,547 deaths).¹⁵

The number of opioid-involved overdose deaths in the United States has been particularly high among people ages 24 to 35, and many years of life have been lost as a result of those premature deaths.¹⁶ Research has shown that opioid overdose deaths have contributed to the

7. Substance Abuse and Mental Health Services Administration, "TIP 63: Medications for Opioid Use Disorder" (July 2021), <https://tinyurl.com/yc67nyzp>.
8. Centers for Disease Control and Prevention, "Module 5: Assessing and Addressing Opioid Use Disorder (OUD)" (accessed June 9, 2022), www.cdc.gov/drugoverdose/training/oud/accessible/index.html.
9. Substance Abuse and Mental Health Services Administration, Public Online Data Analysis System, National Survey on Drug Use and Health, 2019 (accessed February 23, 2022), <https://pdas.samhsa.gov>. Statistics from 2020 are also available; however, the Congressional Budget Office decided to report 2019 statistics because they do not include the effects of the pandemic on the prevalence of OUD and its treatment.
10. Priscilla Novak and others, "Behavioral Health Treatment Utilization Among Individuals With Co-occurring Opioid Use Disorder and Mental Illness: Evidence From a National Survey," *Journal of Substance Abuse Treatment*, vol. 98 (March 2019), pp. 47–52, <https://doi.org/10.1016/j.jsat.2018.12.006>.
11. National Institute on Drug Abuse, "Naloxone DrugFacts" (January 2022), <https://tinyurl.com/4hxfuj6s>. Some policymakers have expressed concern that misuse of opioids could increase if users felt that access to naloxone reduced the risk of death from overdose; however, research has found that states that increased access to naloxone by enacting naloxone access laws or overdose Good Samaritan laws had lower incidence of opioid-involved deaths without an increase in nonmedical use of opioids. For more information, see Chandler McClellan and others, "Opioid-Overdose Laws Association With Opioid Use and Overdose Mortality," *Addictive Behaviors*, vol. 86 (2018), pp. 90–95, <https://doi.org/10.1016/j.addbeh.2018.03.014>; and Alexander R. Bazazi and others, "Preventing Opiate Overdose Deaths: Examining Objections to Take-Home Naloxone," *Journal of Health Care for the Poor and Underserved*, vol. 21, no. 4 (November 2010), pp. 1108–1113, <https://muse.jhu.edu/article/400754>.

12. CBO's analysis of the CDC WONDER database. See Centers for Disease Control and Prevention, National Center for Health Statistics, "About Multiple Cause of Death, 1999–2020" (accessed January 5, 2022), <http://wonder.cdc.gov/mcd-icd10.html>.
13. Organisation for Economic Co-operation and Development, "Opioids Use" (accessed July 5, 2022), <https://tinyurl.com/5ybpdafb>.
14. CBO's analysis of the CDC WONDER database. See Centers for Disease Control and Prevention, National Center for Health Statistics, "About Multiple Cause of Death, 1999–2020" (accessed January 5, 2022), <http://wonder.cdc.gov/mcd-icd10.html>.
15. Centers for Disease Control and Prevention, National Center for Health Statistics, "Leading Causes of Death" (accessed June 2, 2022), <https://tinyurl.com/bdh2uxba>. Opioid-involved deaths are included in the accidents (unintentional injuries) category and are not listed as a separate cause of death.
16. Tara Gomes and others, "The Burden of Opioid-Related Mortality in the United States," *JAMA Network Open*, vol. 1, no. 2 (June 2018), <https://doi.org/10.1001/jamanetworkopen.2018.0217>.

decline in U.S. life expectancy that began after 2014.¹⁷ The opioid crisis has also had a profound negative effect on families. For example, parents with OUD may be unable to care for their children.¹⁸

Along with the deaths caused by opioid-involved overdoses, the use of opioids has led to a corresponding increase in certain medical conditions. The injection of opioids has increased the spread of hepatitis C and HIV through contaminated needles.¹⁹ Moreover, the use and misuse of opioids by people who are pregnant has resulted in a rise in neonatal abstinence syndrome.²⁰ (Neonatal abstinence syndrome refers to a group of conditions that occur when a baby withdraws from certain drugs, including opioids, after being exposed to them before birth.)

Opioids have affected participation in the labor force. Although prescription opioids have made it possible for some people with pain to work, the side effects of prescription opioids and the misuse of opioids have also kept people from working. Research indicates that the net effect of opioids has been to lower labor force participation.²¹

The opioid crisis has affected the federal budget by affecting spending and revenues, although the exact size of the effect is unknown.²² Federal spending has increased

because federally subsidized health insurance—including Medicare, Medicaid, and private health insurance obtained from employers or purchased through the marketplaces—has funded prescription opioids, treatment of patients with OUD, and overdose reversal drugs, for example.²³ The opioid crisis also has increased federal spending on the child welfare system and means-tested social programs, including cash assistance and disability programs.²⁴ In addition, the federal government has funded programs to combat the illegal trafficking of opioids and has prosecuted and incarcerated people engaged in opioid-related crimes.²⁵

Moreover, federal tax revenues may have decreased because of the reduced productivity and lower wages of people with OUD, as well as the lost wages of people who die from opioid-involved overdoses.²⁶ (Those effects are typically not incorporated in the Congressional

Criminal justice system costs have also increased as a result of the opioid crisis. In addition, decreases in workers' productivity because of OUD can reduce tax revenues. See Liz Farmer, "How Much Is the Opioid Crisis Costing Governments?" *Governing* (February 6, 2018), <https://tinyurl.com/5n95m8vv>.

17. Steven H. Woolf and Heidi Schoomaker, "Life Expectancy and Mortality Rates in the United States, 1959–2017" *JAMA*, vol. 322, no. 20 (November 2019), pp. 1996–2016, <https://doi.org/10.1001/jama.2019.16932>.

18. According to data from the Adoption and Foster Care Analysis and Reporting System, parental drug use was involved for an estimated 34 percent of children entering foster care in fiscal year 2019. See Administration for Children and Families, *AFCARS Report #27* (August 24, 2020), www.acf.hhs.gov/cb/report/afcars-report-27.

19. National Institute on Drug Abuse, "Drug Use and Viral Infections (HIV, Hepatitis) DrugFacts" (accessed February 9, 2022), <https://tinyurl.com/48957a86>.

20. Ashley H. Hirai and others, "Neonatal Abstinence Syndrome and Maternal Opioid-Related Diagnoses in the U.S., 2010–2017," *JAMA*, vol. 325, no. 2 (January 2021), pp. 146–155, <https://doi.org/10.1001/jama.2020.24991>.

21. Johanna Catherine Maclean and others, "Economic Studies on the Opioid Crisis: Costs, Causes, and Policy Responses," *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>.

22. The opioid crisis has also affected state and local government budgets. Health care costs have increased from reversing overdoses and providing treatment to people with OUD. Overdose deaths have resulted in more spending on autopsies.

23. G. William Hoagland and others, *Tracking FY2019 Federal Funding to Combat the Opioid Crisis* (Bipartisan Policy Center, September 2020), <https://tinyurl.com/yztn63ex>; and Bipartisan Policy Center, *Tracking Federal Funding to Combat the Opioid Crisis* (March 2019), <https://tinyurl.com/488at6p5>.

24. Claire Hou, "Chapter 1: The Opioid Crisis and Foster Care Dynamics" in Hou, "Essays in Labor and Health Economics" (Ph.D. dissertation, Department of Economics, University of Maryland, College Park, 2022), <https://doi.org/10.13016/mu1f-b3d6>; Daniel Max Crowley and others, "Considering the Child Welfare System Burden From Opioid Misuse: Research Priorities for Estimating Public Costs," *American Journal of Managed Care*, vol. 25, no. 13 (July 2019), pp. S256–S263, <https://tinyurl.com/yfh7pr3t>; and Joel E. Segel and others, "Opioid Misuse, Labor Market Outcomes, and Means-Tested Public Expenditures: A Conceptual Framework," *American Journal of Managed Care*, vol. 25, no. 13 (July 2019), pp. S270–S276, <https://tinyurl.com/35er2m7w>.

25. For more information on the relationship between the opioid crisis and crime, see Johanna Catherine Maclean and others, *The Opioid Crisis, Health, Healthcare, and Crime: A Review of Quasi-Experimental Economic Studies*, Working Paper 29983 (National Bureau of Economic Research, April 2022), www.nber.org/papers/w29983.

26. Abby E. Alpert, Steve Schwab, and Benjamin D. Ukert, *Opioid Use and Employment Outcomes: Evidence From the U.S. Military*, Working Paper 30110 (National Bureau of Economic Research, June 2022), www.nber.org/papers/w30110; and Curtis Florence, Feijun Luo, and Ketra Rice, "The Economic Burden of Opioid Use Disorder and Fatal Opioid Overdose in the United States, 2017," *Drug and Alcohol Dependence*, vol. 218 (January 2021), <https://doi.org/10.1016/j.drugalcdep.2020.108350>.

Budget Office's cost estimates for legislation related to the opioid crisis, which reflect the standard assumption that the overall output of the economy does not change.)

Some of the consequences of the opioid crisis reduce budget deficits: Deaths from opioids among older people have reduced federal spending on programs such as Medicare and Social Security, and such spending will be reduced in the future because of deaths among young people.

Waves of the Opioid Crisis

The opioid crisis began in the mid-1990s and has proceeded in several overlapping waves characterized by increases in overdose deaths associated with changes in the drugs used (see Figure S-1 on page 2). In the years leading up to the first wave of the opioid crisis, prescription opioids were usually prescribed sparingly, and their use was generally restricted to relieving acute pain from injury, surgery, cancer, or terminal illness.²⁷ At that time, physicians were cautious about prescribing opioids because of the associated risks, which had been observed in previous periods when opium, morphine, and heroin use had increased.²⁸

The first wave of the opioid crisis began in 1996 with the expanded use of prescription opioids, particularly OxyContin.²⁹ Opioids were increasingly prescribed for chronic conditions such as low back pain, despite an absence of evidence about the long-term effectiveness of opioids for chronic pain.³⁰ During the first wave,

prescription opioids were also increasingly used non-medically and were distributed through illegal means. Nonmedical uses of prescription opioids include taking more of the product than is directed by a medical provider or crushing and injecting tablets that are meant to be swallowed. Illegal distribution of prescription opioids can occur through diversion of prescribed medications to others without a prescription. It also includes sales by drug dealers and "pill mills," through which clinicians, clinics, or pharmacies distribute prescription drugs inappropriately.³¹

The second and third waves of the opioid crisis involved the use of several illicitly manufactured substances. The second wave of the opioid crisis began in 2010 with increased use of heroin, an illicitly produced semisynthetic opioid derived from opium poppies. The third wave, which began in 2013, was characterized by increased use of fentanyl and related substances. Fentanyl is a completely synthetic drug made from ingredients in a lab.

Some experts have identified an emerging fourth wave of the crisis, one characterized by the use of illegally manufactured opioids in combination with psychostimulants such as cocaine and methamphetamine.³² People may intentionally use illicitly manufactured opioids and psychostimulants at the same time to enhance the high from opioids or compensate for the undesirable effects of opioids.³³ Users may also unknowingly take illicitly manufactured opioids and psychostimulants because they

27. Teresa A. Rummans, M. Caroline Burton, and Nancy L. Dawson, "How Good Intentions Contributed to Bad Outcomes: The Opioid Crisis," *Mayo Clinic Proceedings*, vol. 93, no. 3 (March 2018), pp. 344–350, <https://doi.org/10.1016/j.mayocp.2017.12.020>.

28. David M. Cutler and Edward L. Glaeser, "When Innovation Goes Wrong: Technological Regress and the Opioid Epidemic," *Journal of Economic Perspectives*, vol. 35, no. 4 (Fall 2021), pp. 171–196, <https://doi.org/10.1257/jep.35.4.171>; and Teresa A. Rummans, M. Caroline Burton, and Nancy L. Dawson, "How Good Intentions Contributed to Bad Outcomes: The Opioid Crisis," *Mayo Clinic Proceedings*, vol. 93, no. 3 (March 2018), pp. 344–350, <https://doi.org/10.1016/j.mayocp.2017.12.020>.

29. Abby Alpert and others, "Origins of the Opioid Crisis and Its Enduring Impacts," *Quarterly Journal of Economics*, vol. 137, no. 2 (May 2022), pp. 1139–1179, <https://doi.org/10.1093/qje/qjab043>.

30. Richard A. Deyo, Michael Von Korff, and David Duhkoop, "Opioids for Low Back Pain," *BMJ*, vol. 350 (January 2015), <https://doi.org/10.1136/bmj.g6380>. Evidence on the long-term effectiveness of opioids for chronic back pain continues to be lacking. For more information, see Deborah Dowell, Tamara M. Haegerich, and Roger Chou, "CDC Guideline for Prescribing

Opioids for Chronic Pain—United States, 2016," *Morbidity and Mortality Weekly Report*, vol. 65, no. 1 (March 2016), pp. 1–49, <http://dx.doi.org/10.15585/mmwr.rr6501e1>.

31. Rachel N. Lipari and Arthur Hughes, *How People Obtain the Prescription Pain Relievers They Misuse*, The CBHSQ Report (Substance Abuse and Mental Health Services Administration, January 2017), <https://tinyurl.com/bdeynas>.

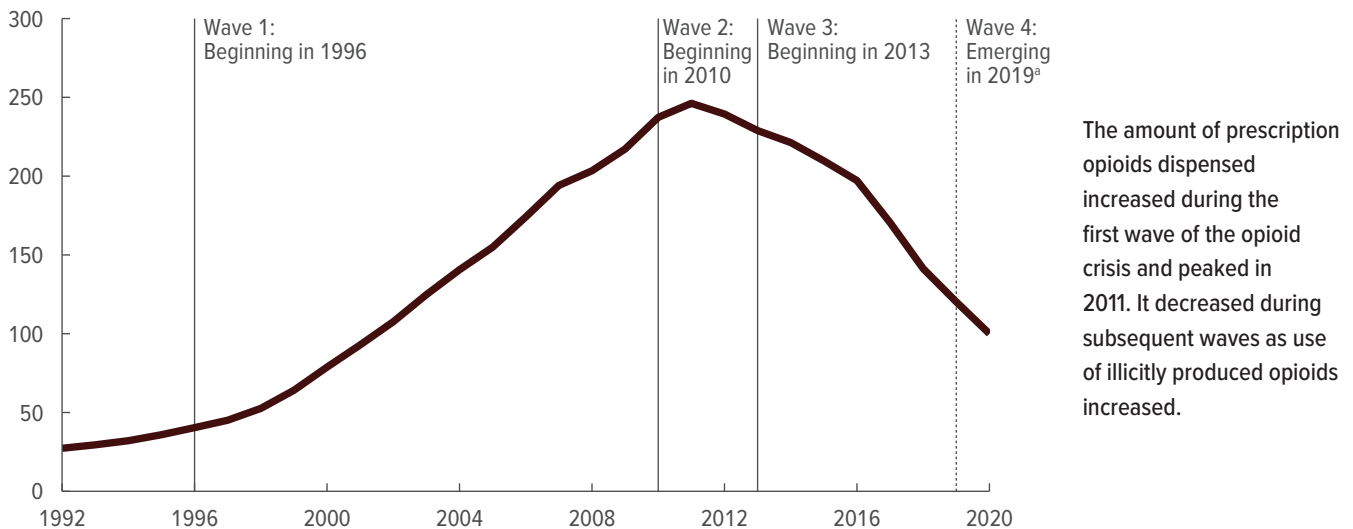
32. Nora D. Volkow and Carlos Blanco, "The Changing Opioid Crisis: Development, Challenges, and Opportunities," *Molecular Psychiatry*, vol. 26 (February 2020), pp. 218–233, <https://doi.org/10.1038/s41380-020-0661-4>. The former Assistant Secretary for Health at the Department of Health and Human Services noted the emergence of a fourth wave beginning in 2019. See Steven Ross Johnson, "Q&A: 'We're Entering the Fourth Wave, Which Is Methamphetamine,'" *Modern Healthcare* (August 3, 2019), <https://tinyurl.com/muyjdfuu>.

33. Heroin users have reported taking psychostimulants as a way of reducing the dose of heroin they use. Some people use psychostimulants to compensate for the depressing effects of opioids. See Wilson M. Compton, Rita J. Valentino, and Robert L. DuPont, "Polysubstance Use in the U.S. Opioid Crisis," *Molecular Psychiatry*, vol. 26, no. 1 (January 2021), pp. 41–50, <https://doi.org/10.1038/s41380-020-00949-3>.

Figure 1-1.

Prescription Opioids Dispensed

Billions of Morphine Milligram Equivalents Dispensed



Data source: IQVIA Institute for Human Data Science, *Prescription Opioid Trends in the United States: Measuring and Understanding Progress in the Opioid Crisis* (December 2020), <https://tinyurl.com/5a9dk8en>. See www.cbo.gov/publication/58221#data.

a. The value for 2020 is a projection.

were combined by drug dealers and others supplying the substances.³⁴ In September 2021, the Drug Enforcement Administration (DEA) issued a public safety alert about the increase in counterfeit prescription pills that contain fentanyl and methamphetamine.³⁵

Trends in the Use of Prescription Opioids

The use of prescription opioids, commonly measured by morphine milligram equivalents (MMEs) dispensed, increased from 27 billion MMEs in 1992 to 246 billion MMEs in 2011 and has decreased since then. An estimated 100 billion MMEs were dispensed in 2020 (see Figure 1-1). The declines in opioid prescribing, measured in MMEs per capita, were largest in states that had previously had the highest rates of opioid prescribing. From 2018 to 2019, every state experienced a decline in MMEs per capita.³⁶ (At the same time,

however, the use of illicitly produced opioids increased substantially.)³⁷

Even with the decline in the volume of opioid prescriptions dispensed, the United States remains the world's largest consumer of prescription opioids. The amount of prescription opioids dispensed per million people per day in the United States is approximately four times the median for member countries of the Organisation for Economic Co-operation and Development.³⁸

34. Ibid.

35. Drug Enforcement Administration, "DEA Issues Public Safety Alert on Sharp Increase in Fake Prescription Pills Containing Fentanyl and Meth" (press release, September 27, 2021), <https://tinyurl.com/mtjpfcxh>.

36. IQVIA Institute for Human Data Science, *Prescription Opioid Trends in the United States: Measuring and Understanding Progress in the Opioid Crisis* (December 2020), <https://tinyurl.com/5a9dk8en>.

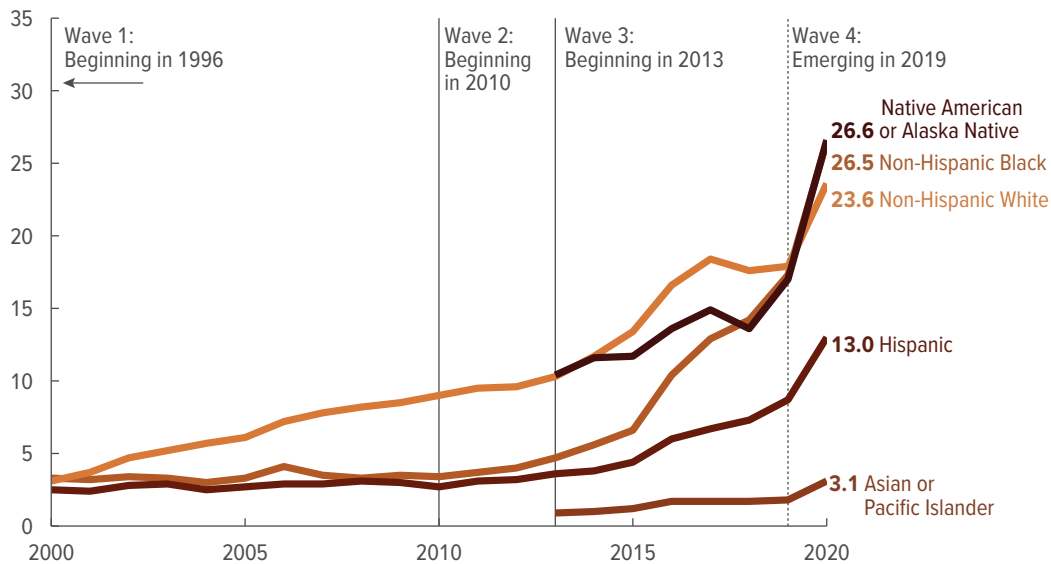
37. Joseph J. Palamar and others, "Trends in Characteristics of Fentanyl-Related Poisonings in the United States, 2015–2021," *American Journal of Drug and Alcohol Abuse*, vol. 48, no. 4 (2022), pp. 471–480, <https://doi.org/10.1080/00952990.2022.2081923>.

38. Availability of prescription opioids is measured on the basis of a defined daily dose for statistical purposes, a unit that can be used to compare prescription opioid availability by country. See Organisation for Economic Co-operation and Development, "Opioids Use" (accessed July 6, 2022), <https://tinyurl.com/5ybpdafb>; and Stefano Berterame and others, "Use of and Barriers to Access to Opioid Analgesics: A Worldwide, Regional, and National Study," *The Lancet*, vol. 387, no. 10028 (April 2016), pp. 1644–1656, [https://doi.org/10.1016/S0140-6736\(16\)00161-6](https://doi.org/10.1016/S0140-6736(16)00161-6).

Figure 1-2.

Overdose Deaths Involving Opioids, by Race and Ethnicity

Deaths per 100,000 People



The number of opioid-involved deaths per capita for non-Hispanic White people grew during the first two waves of the crisis. As the use of more potent synthetic opioids increased, the number of deaths also rose among people from other racial and ethnic groups.

Data source: Congressional Budget Office, using information from the CDC WONDER database, Centers for Disease Control and Prevention, National Center for Health Statistics, "About Multiple Cause of Death 1999–2020" (accessed January 5, 2022), <https://wonder.cdc.gov/mcd-icd10.html>. See www.cbo.gov/publication/58221#data.

Opioid-involved deaths per 100,000 people among Native Americans or Alaska Natives and Asians or Pacific Islanders are unavailable for many years before 2013 because of the small amount of data available.

The first wave of the opioid crisis began in 1996, but the number of overdose deaths involving opioids is not available for the early years of the crisis. In addition, the former Assistant Secretary for Health at the Department of Health and Human Services noted the emergence of a fourth wave beginning in 2019. See Steven Ross Johnson, "Q&A: 'We're Entering the Fourth Wave, Which Is Methamphetamine,'" *Modern Healthcare* (August 3, 2019), <https://tinyurl.com/muyjdfuu>.

Opioid-Involved Overdose Deaths During the Waves of the Crisis

The number of opioid-involved overdose deaths per year increased substantially between 2000 and 2020, but the types of opioids involved in those deaths have changed during the waves of the crisis. (Some deaths involved more than one type of opioid.) Increases in deaths involving prescription opioids drove the rise in opioid overdose mortality in the early 2000s. Since 2010, the annual number of deaths involving prescription opioids has remained relatively steady. The number of deaths involving heroin increased after 2010 and leveled off in 2016. Opioid overdose deaths involving synthetic opioids (other than methadone) increased dramatically after 2013. Synthetic opioids include a variety of substances, but many of the deaths involve illegally produced fentanyl and related substances.³⁹ Deaths involving the combined

use of opioids and psychostimulants have surged in recent years: More than five times as many people died from the combined use of those drugs in 2020 as in 2014.

Effects of the Crisis on Subpopulations

Although people of all backgrounds use and misuse opioids, opioid-involved deaths have affected demographic groups in different ways. More deaths per 100,000 people occurred among non-Hispanic White people during the first wave of the crisis than among people in other racial and ethnic groups (see Figure 1-2). Opioid-involved mortality was more connected to use of prescription opioids during the first wave of the crisis, and non-Hispanic White people may have had greater access to those drugs because they were more likely to be prescribed opioids.⁴⁰

39. Nana Wilson and others, "Drug and Opioid-Involved Overdose Deaths—United States, 2017–2018," *Morbidity and Mortality Weekly Report*, vol. 69, no. 11 (March 2020), pp. 290–297, <http://dx.doi.org/10.15585/mmwr.mm6911a4>.

40. Mark J. Pletcher and others, "Trends in Opioid Prescribing by Race/Ethnicity for Patients Seeking Care in U.S. Emergency Departments," *JAMA*, vol. 299, no. 1 (January 2008), pp. 70–78, <https://doi.org/10.1001/jama.2007.64>.

Opioid-involved deaths among racial and ethnic groups other than non-Hispanic White people and Asian or Pacific Islanders increased dramatically with the greater use of illegally produced opioids starting in the third wave of the opioid crisis. The number of deaths per 100,000 people among Native American or Alaska Native and non-Hispanic Black people caught up to the number of deaths among non-Hispanic White people in 2019 (the beginning of the emerging fourth wave of the crisis) and exceeded it in 2020. Opioid-involved overdose deaths have also increased over time among Hispanic people and Asian or Pacific Islanders, though much less than for other groups. Deaths among those two groups rose sharply in 2020, as they did for other racial and ethnic groups. The increase in deaths involving opioids and stimulants among racial and ethnic groups may be due to disparities in access to treatment and differences in the provision of treatment.⁴¹

41. Use of OUD treatment is higher among non-Hispanic White people. Furthermore, the type of OUD treatment used can vary by race and ethnicity: Non-Hispanic White people are more likely to use buprenorphine, whereas methadone treatment is more prevalent in communities where the majority of people are Black or Hispanic. See Centers for Disease Control and Prevention, “Cocaine and

The effects of the opioid crisis also differed by various other sociodemographic and economic characteristics. In an analysis of data from 2008 to 2015, researchers found that opioid-involved mortality was higher among individuals who were male, were ages 18 to 59, were disabled, had less education, had criminal justice involvement, or lived in the South Atlantic or Mountain states. More deaths involving opioids also occurred among people who were unemployed, who had low income, and who did not have health insurance.⁴²

Psychostimulant-Involved Overdose Deaths Disproportionately Affect Racial and Ethnic Minority Groups” (October 19, 2021), <https://tinyurl.com/2aa66hph>; Max Jordan Nguemini Tiako, “Addressing Racial and Socioeconomic Disparities in Access to Medications for Opioid Use Disorder Amid COVID-19,” *Journal of Substance Abuse Treatment*, vol. 122 (March 2021), <https://doi.org/10.1016/j.jsat.2020.108214>; and William C. Goedel and others, “Association of Racial/Ethnic Segregation With Treatment Capacity for Opioid Use Disorder in Counties in the United States,” *JAMA Network Open*, vol. 3, no. 4 (April 2020), <https://doi.org/10.1001/jamanetworkopen.2020.3711>.

42. Sean F. Altekruze and others, “Socioeconomic Risk Factors for Fatal Opioid Overdoses in the United States: Findings From the Mortality Disparities in American Communities Study (MDAC),” *PLOS One*, vol. 15, no. 1 (January 2020), <https://doi.org/10.1371/journal.pone.0227966>.

Chapter 2: Factors Contributing to the Opioid Crisis

Researchers have identified a variety of factors that led to the opioid crisis, including increased prescribing of opioids, changes in illegal opioid markets, and societal changes that may have resulted in increased demand for opioids by people experiencing declines in real wages and social cohesion (see Figure 2-1). Those factors also reinforced each other. For example, increasing the supply of opioids had a greater effect on society because the demand for opioids also increased.¹ But the relative importance of individual contributors to the crisis has not been established.²

Increased Prescribing of Opioids

The increased prescribing of opioids that contributed to the crisis resulted from three factors that reinforced each other: aggressive promotion efforts by pharmaceutical companies, greater emphasis on assessing patients' pain and treating it medically, and changes in incentives in the health care system.

Aggressive Promotion of Prescription Opioids by Pharmaceutical Companies

Pharmaceutical companies encouraged the prescribing of opioids in several ways:

- They promoted the use of prescription opioids to prescribers and pharmacists and encouraged them to endorse the prescribing of opioids to their colleagues,
- They compiled profiles of individual physicians' prescribing practices to target advertising toward physicians who were already heavy prescribers of opioids, and

- They distributed starter coupons that provided patients with free prescription opioids.³

Research has shown that some of the marketing materials used by pharmaceutical companies were misleading. For example, some advertisements promoted the use of certain prescription opioids for the treatment of chronic, non-cancer-related pain even though the clinical evidence was lacking. Some promotional materials also understated the addictive potential of prescription opioids.⁴ Research has demonstrated that areas that were subject to more intense opioid marketing experienced greater growth in opioid prescribing.⁵

Increased Emphasis on Assessment and Medical Treatment of Patients' Pain

Clinical norms about managing patients' pain and prescribing opioids for it began to change in the 1980s, in part because of two widely cited papers.⁶ Those studies, which were narrow in scope, were interpreted as evidence

1. Anne Case and Angus Deaton, "Mortality and Morbidity in the 21st Century," *Brookings Papers on Economic Activity* (Spring 2017), pp. 397–476, <https://tinyurl.com/5cz8wurr>.

2. Johanna Catherine Maclean and others, "Economic Studies on the Opioid Crisis: Costs, Causes, and Policy Responses," *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>.

3. General Accounting Office (now the Government Accountability Office), *Prescription Drugs: OxyContin Abuse and Diversion and Efforts to Address the Problem*, GAO-04-110 (December 19, 2003), www.gao.gov/products/gao-04-110.

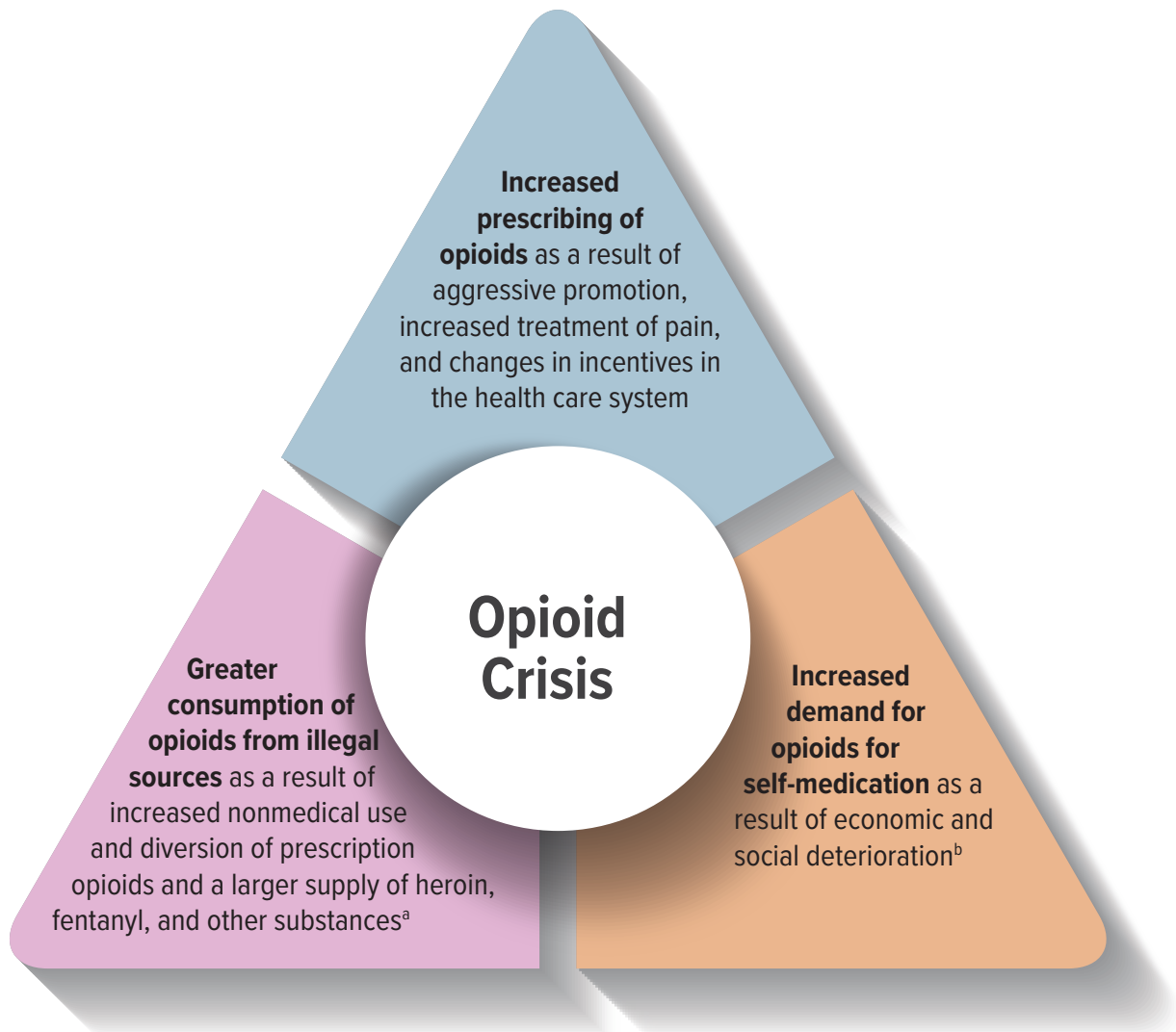
4. Art Van Zee, "The Promotion and Marketing of OxyContin: Commercial Triumph, Public Health Tragedy," *American Journal of Public Health*, vol. 99, no. 2 (February 2009), pp. 221–227, <https://doi.org/10.2105/AJPH.2007.131714>.

5. Carolina Arteaga and Victoria Barone, *A Manufactured Tragedy: The Origins and Deep Ripples of the Opioid Epidemic*, Working Paper (University of Toronto, updated August 2022), https://conference.nber.org/conf_papers/f165460.pdf (6.6 MB).

6. The two articles are Jane Porter and Hershel Jick, "Addiction Rare in Patients Treated With Narcotics," *New England Journal of Medicine*, vol. 302, no. 2 (January 10, 1980), p. 123, <https://doi.org/10.1056/NEJM198001103020221>; and Russell K. Portenoy and Kathleen M. Foley, "Chronic Use of Opioid Analgesics in Non-malignant Pain: Report of 38 Cases," *Pain*, vol. 25, no. 2 (May 1986), pp. 171–286, [https://doi.org/10.1016/0304-3959\(86\)90091-6](https://doi.org/10.1016/0304-3959(86)90091-6).

Figure 2-1.

Factors Contributing to the Opioid Crisis



Data source: Congressional Budget Office.

- a. Diversion of prescription opioids refers to the distribution or use of the drugs in ways not intended by the prescriber.
- b. Economic deterioration includes declining real wages and worsening labor market opportunities. Social deterioration refers to declining marriage rates and deterioration in other aspects of social cohesion, including child-rearing and unionization.

that patients who were prescribed opioids to treat pain had minimal risk of developing opioid use disorder.⁷

In addition, nonprofit organizations such as the American Academy of Pain Management and the American Pain Society—both funded by pharmaceutical companies—sought to raise awareness about pain

management.⁸ In 1995, the American Pain Society began a campaign that characterized pain as the “fifth vital

7. Sarah Deweerdt, “The Natural History of an Epidemic,” *Nature*, vol. 573 (September 12, 2019), pp. S10–S12, <https://tinyurl.com/4xeupuyy> (PDF, 2.52 MB).

8. Johanna Catherine Maclean and others, “Economic Studies on the Opioid Crisis: Costs, Causes, and Policy Responses,” *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>; and General Accounting Office (now the Government Accountability Office), *Prescription Drugs: OxyContin Abuse and Diversion and Efforts to Address the Problem*, GAO-04-110 (December 19, 2003), www.gao.gov/products/gao-04-110.

sign.”⁹ The following year, the two organizations released a consensus statement that advocated for the use of opioids to treat chronic, non-cancer-related pain.¹⁰ In 2000, the Joint Commission, an organization that accredits hospitals, introduced new standards for the regular and systematic monitoring and management of pain in hospitalized patients. The new standards regarded pain assessment and control as a “patients’ rights issue.”¹¹ In addition, one of the pharmaceutical companies, Purdue Pharma, coined the term “opiophobia.”¹² It was used to refer to providers’ “unreasonable fear of opioid use.”¹³ Many providers responded to the updated guidance from organizations by prescribing more opioids.¹⁴ Research has found that counties with higher prevalence of pain were shipped more prescription opioids and experienced more deaths from overdoses of prescription opioids.¹⁵

Changes in Incentives in the Health Care System

Changes in incentives in the health care system also encouraged the prescription of opioids. Some of those incentives affected the way providers were assessed and

reimbursed. Other incentives affected the way opioids were prescribed.

Assessment of physicians and hospitals changed in ways that resulted in greater opioid prescribing. Standards for assessing physicians were affected by model guidelines issued by the Federation of State Medical Boards in 1998. The guidelines, which were used to regulate and discipline physicians, encouraged the use of opioids for chronic, non-cancer-related pain and discouraged the use of disciplinary action for physicians prescribing opioids.¹⁶ Hospitals’ assessment and payments were affected by the Hospital Consumer Assessment of Healthcare Providers and Systems survey, which included questions about patient satisfaction with pain management. In 2010, survey scores were incorporated into the value-based incentive payments in the Hospital Value-Based Purchasing Program, which rewarded hospitals for providing high-quality care. According to studies, some providers felt pressure to overprescribe opioids to avoid receiving lower patient satisfaction scores.¹⁷

Changes in other incentives in the health care system resulted in the unintended consequence of increasing the use of opioids and their diversion to people who were not prescribed them. In response to demands to reduce the “hassle factors” of refilling prescriptions—one of the barriers to patient pain control—some insurance companies and retail pharmacists sought to lower the number of opioid refill requests by charging less for prescriptions with larger numbers of pills.¹⁸ As a result, the availability of opioids for legal and illegal consumption increased. In addition, some insurance companies placed restrictions, including utilization management and prior authorization rules, on the potentially more costly nonopioid alternatives to pain management such as physical therapy, which could have resulted in missed opportunities

9. Sarah Deweerdt, “The Natural History of an Epidemic,” *Nature*, vol. 573 (September 12, 2019), pp. S10–S12. <https://tinyurl.com/4xeupuyy> (PDF, 2.52 MB).

10. Teresa A. Rummans, M. Caroline Burton, and Nancy L. Dawson, “How Good Intentions Contributed to Bad Outcomes: The Opioid Crisis,” *Mayo Clinic Proceedings*, vol. 93, no. 3 (March 2018), pp. 344–350, <https://doi.org/10.1016/j.mayocp.2017.12.020>.

11. The Joint Commission’s pain standards have subsequently been revised. See David W. Baker, “History of the Joint Commission’s Pain Standards: Lessons for Today’s Prescription Opioid Epidemic,” *JAMA*, vol. 317, no. 11 (March 2017), pp. 1117–1118, <https://doi.org/10.1001/jama.2017.0935>.

12. Jonathan H. Marks, “Lessons From Corporate Influence in the Opioid Epidemic: Toward a Norm of Separation,” *Journal of Bioethical Inquiry*, vol. 17, no. 2 (June 2020), pp. 173–189, <https://doi.org/10.1007/s11673-020-09982-x>.

13. World Health Organization, *WHO Guidelines on the Pharmacological Treatment of Persisting Pain in Children With Medical Illnesses* (2012), www.ncbi.nlm.nih.gov/books/NBK138354.

14. A small number of providers are responsible for many of the opioids prescribed. One study found that, from 2003 to 2017, nearly half of the prescription opioid doses prescribed came from just 1 percent of prescribers. Mathew V. Kiang and others, “Opioid Prescribing Patterns Among Medical Providers in the United States, 2003–2017: Retrospective, Observational Study,” *BMJ*, vol. 368 (2020), <https://doi.org/10.1136/bmj.l6968>.

15. David M. Cutler and Edward L. Glaeser, “When Innovation Goes Wrong: Technological Regress and the Opioid Epidemic,” *Journal of Economic Perspectives*, vol. 35, no. 4 (Fall 2021), pp. 171–196, <https://doi.org/10.1257/jep.35.4.171>.

16. The guidelines issued by the Federation of State Medical Boards have subsequently been revised. The current *Guidelines for the Chronic Use of Opioid Analgesics* are available at <https://tinyurl.com/3ath6tdn> (PDF, 175 KB).

17. Teresa A. Rummans, M. Caroline Burton, and Nancy L. Dawson, “How Good Intentions Contributed to Bad Outcomes: The Opioid Crisis,” *Mayo Clinic Proceedings*, vol. 93, no. 3 (March 2018), pp. 344–350, <https://doi.org/10.1016/j.mayocp.2017.12.020>.

18. *Ibid.*; and Donald M. Phillips, “JCAHO Pain Management Standards Are Unveiled,” *JAMA*, vol. 284, no. 4 (July 2000), pp. 428–429, <https://doi.org/10.1001/jama.284.4.423b>.

to direct patients toward potentially safer and more effective treatments for pain than prescription opioids.¹⁹

Greater Consumption of Opioids From Illegal Sources

Changes in illegal opioid markets also contributed to the opioid crisis. The increased supply of prescription opioids made them more available for nonmedical use and diversion in the earlier years of the crisis. More recently, demand for heroin and fentanyl and related substances increased because of lower prices for those drugs and reduced availability of prescription opioids.

Increased Nonmedical Use and Diversion of Prescription Opioids

Nonmedical use and diversion of prescription opioids changed along with the supply of the drugs.²⁰ In data available from 2008 to 2019, nonmedical use of prescription opioids increased until 2011 and then decreased until 2019 (see Figure 2-2, top panel). Trends in the nonmedical use of prescription opioids coincide with trends in the amount of prescription opioids dispensed (see Figure 1-1 on page 9). Common sources of prescription opioids for nonmedical use include diversion from friends or relatives, physicians, and drug dealers or strangers.²¹ Trends in diversion of prescription opioids followed a similar pattern: In data available from 2006 to

2019, diversion increased until 2011 and then decreased for most years until 2019 (see Figure 2-2, bottom panel).

Changes in the Market for Heroin and for Fentanyl and Similar Substances

The supply of heroin and fentanyl increased as a result of changes in the markets for those drugs and the decreased availability of diverted prescription opioids. Changes in international markets resulted in an influx of lower-priced heroin to the United States.²² The retail price of a gram of pure heroin fell from \$1,237 in 1992 to \$552 in 2002 and to \$465 in 2012 (all in 2012 dollars).²³ Heroin use also increased as federal and state policies limited the availability of prescription opioids for misuse in response to concerns about the rising number of overdose deaths involving prescription opioids.²⁴ That shift is consistent with studies that found that about 80 percent of heroin users used prescription opioids nonmedically before initiating heroin use.

19. Janet Currie and Hannes Schwandt, “The Opioid Epidemic Was Not Caused by Economic Distress but by Factors That Could Be More Rapidly Addressed,” *ANNALS of the American Academy of Political and Social Science*, vol. 695, no. 1 (May 2021), pp. 276–291, <https://doi.org/10.1177/00027162211033833>; and Dora H. Lin and others, “Prescription Drug Coverage for Treatment of Low Back Pain Among U.S. Medicaid, Medicare Advantage, and Commercial Insurers,” *JAMA Network Open*, vol. 1, no. 2 (June 2018), <https://doi.org/10.1001/jamanetworkopen.2018.0235>.

20. One study found that the enactment of Medicare Part D increased mortality from opioid overdoses among people who were not eligible for Medicare because of the diversion of prescription opioids. See David Powell, Rosalie Liccardo Pacula, and Erin Taylor, “How Increasing Medical Access to Opioids Contributes to the Opioid Epidemic: Evidence From Medicare Part D,” *Journal of Health Economics*, vol. 71 (May 2020), <https://doi.org/10.1016/j.jhealeco.2019.102286>. For trends in the nonmedical use of prescription opioids from multiple perspectives, see Richard C. Dart and others, “Trends in Opioid Analgesic Abuse and Mortality in the United States,” *New England Journal of Medicine*, vol. 372, no. 3 (January 2015), pp. 241–248, <https://doi.org/10.1056/NEJMsa1406143>.

21. Christopher M. Jones, Leonard J. Paulozzi, and Karin A. Mack, “Sources of Prescription Opioid Pain Relievers by Frequency of Past-Year Nonmedical Use,” *JAMA Internal Medicine*, vol. 175, no. 5 (May 2014), pp. 802–803, <https://doi.org/10.1001/jamainternmed.2013.12809>.

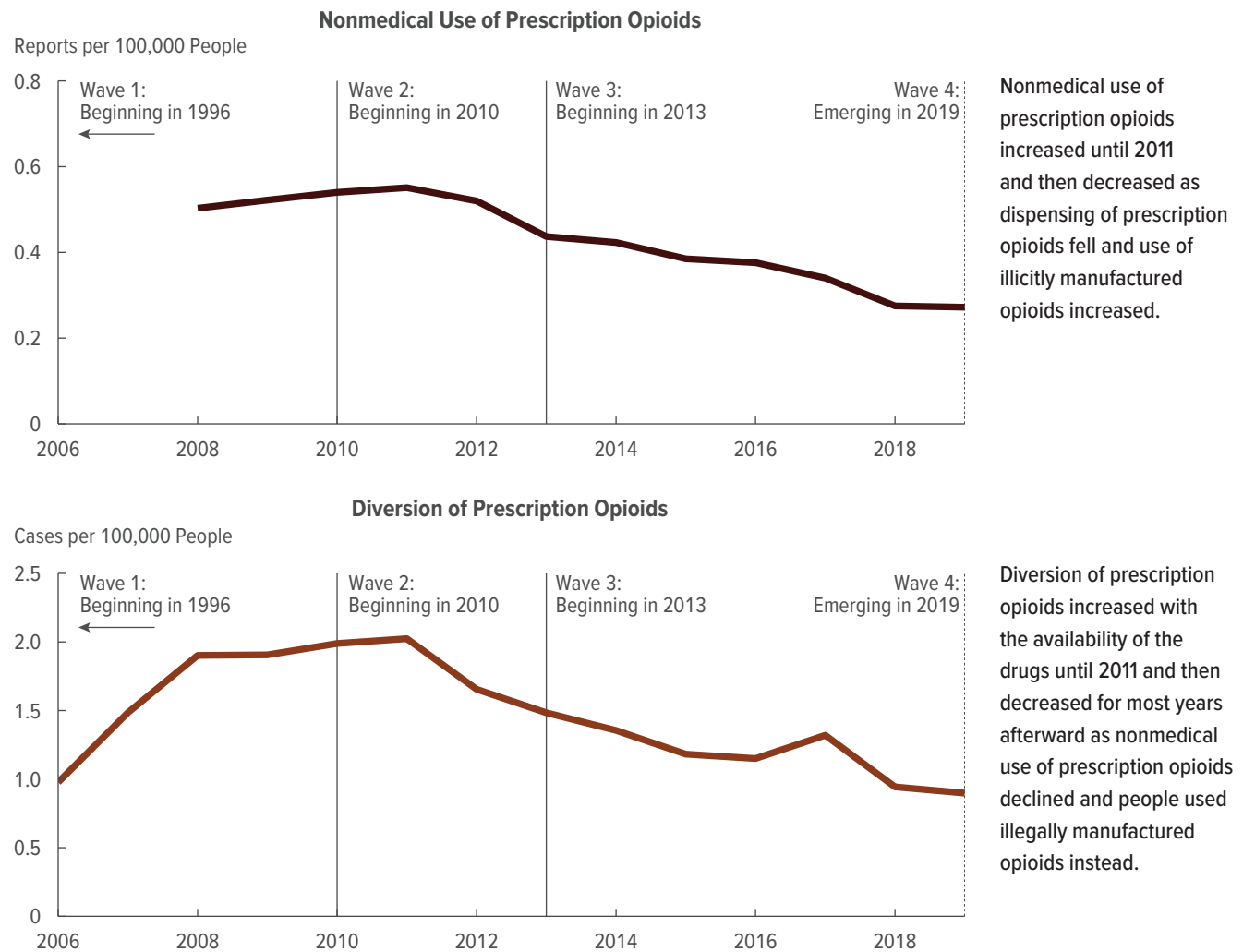
22. In the 1980s, most of the heroin in the United States came from South Asia. Then, in the early 1990s, criminal networks from Colombia and Mexico increased production of heroin and displaced South Asian suppliers. Drug producers from Colombia increased heroin production in response to efforts to reduce the supply of cocaine to the United States in the early 1990s. See Daniel Ciccarone, “Heroin in Brown, Black, and White: Structural Factors and Medical Consequences in the U.S. Heroin Market,” *International Journal of Drug Policy*, vol. 20, no. 3 (May 2009), pp. 277–282, <https://doi.org/10.1016/j.drugpo.2008.08.003>. Mexican suppliers produced lower-cost “black tar” heroin, which is made in fewer steps than powdered heroin from other regions. For changes in the market for heroin, see Kristin Finklea, *Heroin Trafficking in the United States*, Report for Congress R44599, version 7 (Congressional Research Service, February 14, 2019), pp. 1–16, <https://tinyurl.com/2p8sbnpb>.

23. Office of National Drug Control Policy, *National Drug Control Strategy, Data Supplement 2016* (2016), <https://tinyurl.com/2p8f39wj> (PDF, 1.6 MB).

24. Supporting the development of abuse-deterrent formulation opioids is an example of a policy intended to reduce the nonmedical use of prescription opioids. Abuse-deterrent formulations are intended to reduce misuse by making the drugs more tamper-resistant. The 2010 reformulation of OxyContin, for example, made the drug more difficult to cut, crush, or dissolve. Some evidence indicates that the reformulation of OxyContin decreased its misuse but also resulted in an increase in overdose deaths involving heroin. See Abby Alpert, David Powell, and Rosalie Liccardo Pacula, “Supply-Side Drug Policy in the Presence of Substitutes: Evidence From the Introduction of Abuse-Deterrent Opioids,” *American Economic Journal: Economic Policy*, vol. 10, no. 4 (November 2018), pp. 1–35, <https://doi.org/10.1257/pol.20170082>.

Figure 2-2.

Nonmedical Use and Diversion of Prescription Opioids



Data source: The Researched Abuse, Diversion, and Addiction-Related Surveillance (RADARS) System, *RADARS System Drug Diversion Program and Poison Center Program: Abuse and Diversion of Prescription Opioids for the Congressional Budget Office* (May 28, 2021), pp. 1–10. See www.cbo.gov/publication/58221#data.

Data on nonmedical use of prescription opioids are annualized quarterly rates from poison control center reports of people attempting to get high by improperly or incorrectly using the substances. Diversion of prescription opioids refers to the distribution or use of the drugs in ways not intended by the prescriber.

Diversion data are annualized quarterly rates from documented cases of illegal acquisition or distribution of prescription opioids submitted by drug officials.

The figure includes data on the following prescription opioids: buprenorphine, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, tapentadol, and tramadol.

Other reasons people transition from nonmedical use of prescription opioids to heroin include the higher potency of heroin, the ease with which it can be manipulated for nonoral consumption, and its lower cost.²⁵ The risks of

overdose and the development of certain medical conditions (for example, HIV and hepatitis C) are higher with heroin use than with nonmedical use of prescription opioids.²⁶

25. Wilson M. Compton, Christopher M. Jones, and Grant T. Baldwin, "Relationship Between Nonmedical Prescription-Opioid Use and Heroin Use," *New England Journal of Medicine*, vol. 374, no. 2 (January 2016), pp. 154–163, <https://doi.org/10.1056/NEJMr1508490>.

26. Laura B. Monico and Shannon Gwin Mitchell, "Patient Perspectives of Transitioning From Prescription Opioids to Heroin and the Role of Route of Administration," *Substance Abuse Treatment, Prevention, and Policy*, vol. 3, no. 4 (2018), pp. 1–8, <https://doi.org/10.1186/s13011-017-0137-y>.

In addition, the supply of fentanyl and related substances increased because of changes in the market for those drugs. The ability to purchase such substances online (and the associated use of shipping services for distribution) has facilitated the purchase of fentanyl, related substances, and the precursor chemicals for making fentanyl, because they are relatively cheap to transport over long distances by mail and parcel delivery. Mexico is the primary source of illicitly manufactured fentanyl, which is made from precursor chemicals that are largely purchased from China.

Fentanyl can be produced more cheaply than heroin because it is made from ingredients in a lab. In addition, the chemicals required to make fentanyl are not always regulated and can be acquired relatively easily from countries that produce chemicals and pharmaceuticals—allowing fentanyl manufacturers to adjust if the supply from a particular source is reduced.²⁷ Fentanyl is also 50 to 100 times more potent than heroin, which allows it to be transported in smaller quantities and to be smuggled and distributed more easily. At the same time, that potency makes it more dangerous than heroin, particularly for unsuspecting users, and more and larger doses of naloxone can be required to reverse an overdose from fentanyl than from other opioids.²⁸

Increased Demand for Opioids for Self-Medication

Researchers have suggested that people experiencing despair as a result of economic and social deterioration have increased the demand for opioids and other substances used for self-medication.²⁹ Although the relation-

ship between socioeconomic variables and opioid use is subject to debate, changes in age-specific mortality rates indicate that non-Hispanic White people without a college education were particularly affected by economic and social deterioration and the opioid crisis in its earlier waves.³⁰

Economic and social deterioration can help explain who has been most affected by the opioid crisis, but the timing of the crisis appears to involve a broader set of factors.³¹ Economic and social deterioration began in the 1970s, before the opioid crisis, when the labor market prospects for non-Hispanic White workers without a college education started to decline. That group's real wages have fallen as a result of several factors, including globalization and automation. Worsening labor market opportunities contributed to the group's declining marriage rates and deterioration in other aspects of social cohesion, including child-rearing and unionization. Mortality rates among middle-aged, non-Hispanic White people started rising in the late 1990s, primarily driven by an increase in deaths from drug overdose, suicide, and alcohol-related liver disease. Deaths that result from those causes are often referred to as “deaths of despair.”³²

27. Commission on Combating Synthetic Opioid Trafficking, *Final Report* (February 2022), <https://tinyurl.com/2p9ev6sc>.

28. Johanna Catherine Maclean and others, “Economic Studies on the Opioid Crisis: Costs, Causes, and Policy Responses,” *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>; and Patil Armenian and others, “Fentanyl, Fentanyl Analogs, and Novel Synthetic Opioids: A Comprehensive Review,” *Neuropharmacology*, vol. 134 (May 2018), pp. 121–132, <https://doi.org/10.1016/j.neuropharm.2017.10.016>.

29. Economic deterioration refers to declining real wages, worsening labor market opportunities, and related factors due to globalization, automation, and other forces that have affected workers with low education. Social deterioration includes declining marriage rates, changing patterns of child-rearing, and other measures of reduced social cohesion, such as the weakening of unions. See Johanna Catherine Maclean and others, “Economic Studies on the Opioid Crisis: Costs,

Causes, and Policy Responses,” *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>; and Anne Case and Angus Deaton, “Mortality and Morbidity in the 21st Century,” *Brookings Papers on Economic Activity* (Spring 2017), pp. 397–476, <https://tinyurl.com/5cz8wurr>.

30. Research has found that although increases in wages lower opioid overdose deaths among low-skilled workers who are Black, the effects are stronger for workers who are White in certain areas and industries. See Michael R. Betz and Lauren E. Jones, “Wage and Employment Growth in America’s Drug Epidemic: Is All Growth Created Equal?” *American Journal of Agricultural Economics*, vol. 100, no. 5 (October 2018), pp. 1357–1374, <https://doi.org/10.1093/ajae/aay069>.

31. Janet Currie and Hannes Schwandt, “The Opioid Epidemic Was Not Caused by Economic Distress but by Factors That Could Be More Rapidly Addressed,” *ANNALS of the American Academy of Political and Social Science*, vol. 695, no. 1 (May 2021), pp. 276–291, <https://doi.org/10.1177/00027162211033833>.

32. For more information about the factors associated with deaths of despair, see Nabarun Dasgupta, Leo Beletsky, and Daniel Ciccarone, “Opioid Crisis: No Easy Fix to Its Social and Economic Determinants,” *American Journal of Public Health* (February 2018), pp. 182–186, <https://doi.org/10.2105/AJPH.2017.304187>; and Anne Case and Angus Deaton, “Mortality and Morbidity in the 21st Century,” *Brookings Papers on Economic Activity* (Spring 2017), pp. 397–476, <https://tinyurl.com/5cz8wurr>.

More than three-fourths of deaths of despair are due to drug overdoses.³³

Although economic and social deterioration preceded the increase in opioid prescribing, research has shown that subsequent plant closures and increases in manufacturing unemployment (which can contribute to economic and personal despair) have resulted in increases in deaths from opioid overdoses. Research has also found an increase in overdose deaths among people affected by

policies that liberalized international trade, particularly among White people.³⁴ The effects of social and cultural factors, such as family stability, on opioid-involved deaths are challenging to identify with research studies.³⁵

33. Johanna Catherine Maclean and others, “Economic Studies on the Opioid Crisis: Costs, Causes, and Policy Responses,” *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>.

34. Justin R. Pierce and Peter K. Schott, “Trade Liberalization and Mortality: Evidence From U.S. Counties,” *American Economic Review: Insights*, vol. 2, no. 1 (March 2020), pp. 47–64, <https://doi.org/10.1257/aeri.20180396>.

35. Johanna Catherine Maclean and others, “Economic Studies on the Opioid Crisis: Costs, Causes, and Policy Responses,” *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>.

Chapter 3: Recent Federal Legislation in Response to the Opioid Crisis

In 2016 and 2018, three major laws were enacted in response to the opioid crisis: the Comprehensive Addiction and Recovery Act of 2016, the 21st Century Cures Act, and the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act. Because the opioid crisis is multifaceted, the laws seek to address it through provisions that aim to lower the demand for and supply of opioids and lessen the effects of opioid misuse. The laws direct funding to many federal programs, as well as to state and local governments, Native American and tribal organizations, and certain providers of health care services.

Those laws complement resources that the federal government regularly devotes to addressing substance use disorder, including resources for opioids. According to one estimate, total federal funding to address the opioid crisis nearly tripled from fiscal year 2017 to fiscal year 2020. The Department of Health and Human Services (HHS) received the bulk of those appropriations.¹ The Substance Abuse and Mental Health Services Administration received most of the funds appropriated to HHS. Other agencies receiving funding included the Office of National Drug Control Policy and the Department of Justice.

Types of Responses

The laws aim to respond to the opioid crisis in three ways:

- Reducing the demand for opioids by preventing and treating opioid use disorder,
- Reducing the supply of opioids by limiting the inappropriate and nonmedical use of prescription opioids and the supply of illegally produced opioids, and
- Reducing the harm from OUD by supporting the health of people with OUD until they are ready to seek treatment.

Each type of response addresses the opioid crisis through a different mechanism.² Responses aimed at reducing demand include expanding prevention efforts and eligibility for federally subsidized insurance, as well as the treatments those insurance plans cover.³ Responses to reduce the supply of opioids include increasing oversight of prescriptions among people at risk of misusing opioids and identifying medical professionals who prescribe opioids in significantly larger quantities or doses than their peers (“outlier” prescribers), as well as curbing the supply of illegally produced opioids. Lastly, strategies to reduce harm include enhancing access to overdose reversal drugs and improving the availability and quality of training for their administration.

Reducing the Demand for Opioids

The SUPPORT for Patients and Communities Act includes provisions aimed at reducing the demand for opioids by facilitating greater access to and use of treatment among people with OUD who are enrolled in Medicaid and Medicare (see Table 3-1).⁴ Medicaid provisions expand eligibility to certain young adults and increase federal requirements and support for Medicaid coverage of treatment of substance use disorder. For example, Medicaid provisions enable young adults involved in the criminal justice or foster care system to

1. Michele Gilbert and others, *Combating the Opioid Crisis: Smarter Spending to Enhance the Federal Response* (Bipartisan Policy Center, April 2022), Figure 10, <https://tinyurl.com/93dcwb7w>.

2. For a discussion of how a comprehensive approach could address the opioids crisis, see A. Benjamin Srivastava and Mark S. Gold, “Beyond Supply: How We Must Tackle the Opioid Epidemic,” *Mayo Clinic Proceedings*, vol. 93, no. 3 (March 2018), pp. 269–272, <https://doi.org/10.1016/j.mayocp.2018.01.018>; and Lindsay Martin and Mara Laderman, “A Systems Approach Is the Only Way to Address the Opioid Crisis,” *Health Affairs Blog* (June 13, 2016), <https://doi.org/10.1377/forefront.20160613.055320>.

3. Provisions that lower the demand for opioids also include recovery supports, such as housing and employment, that address social determinants of health and can strengthen and complement the treatment of OUD.

4. The 21st Century Cures Act also included provisions to lower the demand for opioids in combination with other strategies (see Table 3-3).

Table 3-1.

Provisions Aimed at Reducing Demand in Laws Enacted in Response to the Opioid Crisis

CARA		SUPPORT for Patients and Communities Act
Medicaid	None	<p>Expands eligibility for at-risk and former foster-care youth</p> <p>Establishes a 54-month demonstration project to increase the capacity of providers offering treatment for substance use disorder</p> <p>Expands access to medications to treat OUD through September 30, 2025, and extends an enhanced federal medical assistance percentage for qualified activities for Medicaid health homes targeted at beneficiaries with SUD from 8 quarters to 10 quarters</p> <p>Creates a state plan option through September 30, 2023, that allows federal matching funds for services provided in IMDs for beneficiaries with SUD, with a limit of 30 days per year</p> <p>Expands access to services provided outside IMDs for pregnant and postpartum women receiving services for SUD in IMDs</p>
Medicare	None	<p>Expands access to services related to prevention and treatment of OUD, including:</p> <ul style="list-style-type: none"> ▪ Access to federally qualified health centers and rural health clinics, ▪ Access to telehealth services for the treatment of OUD and other SUDs, ▪ New coverage for treatment (including methadone) at opioid treatment programs, and ▪ Annual screening for OUD and other SUDs <p>Establishes a four-year demonstration project on ways to increase beneficiaries' access to OUD treatment services, improve beneficiaries' physical and mental health outcomes, and reduce Medicare expenditures</p>
Other	<p>Allows for more flexibility with respect to medications for OUD, for example, by expanding the qualifying practitioners to include licensed nurse practitioners and physician assistants through October 1, 2021, and by expanding the number of patients a practitioner can treat^a</p> <p>Authorized the appropriation of \$155 million for grants for prevention, treatment, and recovery supports</p>	<p>Allows for more flexibility in medication-assisted treatment for OUD, for example, by expanding the qualifying practitioners to include licensed nurse practitioners and physician assistants permanently and through October 1, 2023, for clinical nurse specialists, certified registered nurse anesthetists, and certified nurse midwives^a</p> <p>Established a \$15 million grant program to improve recovery and to reunify families</p> <p>Authorized the appropriation of \$343 million for grants for prevention, treatment, and recovery supports</p>

Data source: Congressional Budget Office.

In this report, CBO focuses on provisions that were estimated to increase or decrease mandatory spending by more than \$500,000 or that authorized the appropriation of funds to address the opioid crisis. Dollar amounts related to authorizations of appropriations do not affect federal spending unless funds are subsequently appropriated. Such amounts reflect provisions related to opioids or substance use disorder with two exceptions. First, to focus on new activities to address the opioid crisis, the agency excluded authorizations of appropriations for programs in existence before the three laws were enacted. Second, CBO did not include authorizations of appropriations for programs aimed at addressing trauma in children in contact with adults with substance use disorder, because those programs address secondary effects, rather than direct effects, of the opioid crisis.

The 21st Century Cures Act also included provisions to lower the demand for opioids in combination with other strategies (see Table 3-3).

CARA = Comprehensive Addiction and Recovery Act; IMD = institutions for mental disease; OUD = opioid use disorder; SUD = substance use disorder; SUPPORT = Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment.

a. This provision affects federally subsidized health insurance, including but not limited to Medicaid, Medicare, and employment-based health insurance.



retain Medicaid coverage and access services (including treatments for OUD) and establish a demonstration project to increase the capacity of SUD providers.⁵ Another provision extends an enhanced federal medical assistance percentage (FMAP) for qualified activities for Medicaid health homes targeted at beneficiaries with SUD.⁶ In addition, the SUPPORT for Patients and Communities Act includes two temporary provisions that expand access to treatment for nonelderly Medicaid beneficiaries with SUD by allowing federal matching funds for services in institutions for mental diseases with a limit of 30 days per year (through September 30, 2023) and establish a requirement for state Medicaid programs to provide coverage for medications to treat OUD (through September 30, 2025).⁷

Medicare provisions expand access to telehealth for OUD and other SUDs for beneficiaries and add coverage for treatment at opioid treatment programs—resulting in coverage of methadone, which can only be provided in those programs (with few exceptions). Other provisions require annual screening for OUD and other SUDs for beneficiaries and provide funding to train clinicians to provide pharmacotherapy—medical treatment of disease with medication—to treat OUD at federally qualified health centers and rural health clinics until funding is expended.⁸

5. Provisions that extend eligibility for certain young adults— included in title I (Medicaid Provisions to Address the Opioids Crisis) of the SUPPORT for Patients and Communities Act— benefit people affected by OUD but also those unaffected by it. The Congressional Budget Office included those provisions in its analysis because that extended eligibility expands access to treatment for those who would benefit from it.
6. Federal payments for state spending on Medicaid are determined by the FMAP. Under an optional state plan benefit for health homes, states received a 90 percent FMAP for the specific health home services for the first eight quarters of the program. Health homes integrate physical health, behavioral health (including substance use), and long-term services and supports for high-need Medicaid beneficiaries, including those with two or more chronic conditions or serious mental illness. For more information, see Centers for Medicare & Medicaid Services, “Health Homes” (accessed July 11, 2022), <https://tinyurl.com/44nb26uy>. The provision allows states to request the enhanced FMAP for two additional quarters.
7. For more information, see Medicaid and CHIP Payment and Access Commission, “Payment for Services in Institutions for Mental Diseases (IMDs)” (accessed February 22, 2022), <https://tinyurl.com/26pku59k>. The SUPPORT for Patients and Communities Act lifted that restriction by creating a state option to access federal funding for such services for up to 30 days per year from October 1, 2019, to September 30, 2023.
8. Opioid treatment programs are certified and accredited to administer and dispense FDA-approved pharmacotherapy for

Other provisions in CARA and the SUPPORT for Patients and Communities Act that aim to lower demand for opioids ease restrictions related to the prescription of buprenorphine and create a program for families with parents or guardians with OUD. In particular, one provision permanently expands privileges for prescribing buprenorphine to licensed nurse practitioners and physician assistants and expands those privileges through October 1, 2023, for clinical nurse specialists, certified registered nurse anesthetists, and certified nurse midwives. In addition, providers can now treat more patients with buprenorphine.⁹ Another provision appropriated funds for a grant program through 2026 to support recovery from OUD and to aid reunification for families affected by OUD. The laws also authorized appropriations for grants to support programs that aim to prevent and treat OUD, such as evidence-based treatments that use pharmacotherapy. Those authorizations target at-risk populations, including children, adolescents, young adults, and pregnant or postpartum women.

Reducing the Supply of Opioids

CARA and the SUPPORT for Patients and Communities Act include provisions intended to lessen the availability of legal and illegal opioids (see Table 3-2).¹⁰ Changes to Medicaid and Medicare aim to reduce the supply of prescription opioids. For example, a provision requires the use of safety edits for opioid refills that prompt prescribers and pharmacists to determine if Medicaid enrollees’ opioid use is appropriate and medically necessary and to identify fraud and abuse related to controlled substances. In Medicare, a provision establishes grants to educate and provide outreach to outlier prescribers about best practices for prescribing opioids and about nonopioid pain management therapies. In addition, opioids covered under Medicare Part D must be prescribed electronically, and prescription drug plans must use drug-management programs for at-risk Medicare beneficiaries by 2022.

the treatment of OUD. For more information, see Substance Abuse and Mental Health Services Administration, “Certification of Opioid Treatment Programs (OTPs)” (May 10, 2022), <https://tinyurl.com/yvmkf6kf>.

9. Providers must have a waiver to administer, dispense, and prescribe buprenorphine, and the number of patients a provider can treat with buprenorphine is limited. See Substance Abuse and Mental Health Services Administration, “Becoming a Buprenorphine Waivered Practitioner” (April 21, 2022), <https://tinyurl.com/wfzvd78x>.
10. The 21st Century Cures Act also included provisions to lower the supply of opioids in combination with other strategies (see Table 3-3).

Table 3-2.

Provisions Aimed at Reducing Supply in Laws Enacted in Response to the Opioid Crisis

	CARA	SUPPORT for Patients and Communities Act
Medicaid	Excludes new abuse-deterrent formulations of prescription drugs from the definition of line extensions when calculating the Medicaid additional rebate (also known as the inflation rebate) that manufacturers pay to federal and state governments ^a	Requires states to use safety edits for opioid refills that prompt prescribers and pharmacists to determine if the enrollee’s opioid use is appropriate and medically necessary and identify fraud and abuse related to controlled substances
Medicare	Allows the establishment of programs to prevent prescription drug misuse in Medicare Parts C and D	Establishes drug-management programs for at-risk beneficiaries Increases oversight of opioid prescribing under Part D Establishes a \$75 million grant program to educate and provide outreach to outlier prescribers about best practices for prescribing opioids and about nonopioid pain management therapies ^b
Other	Allows for partial filling of prescriptions for Schedule II controlled substances to reduce unused opioids ^c Authorized the appropriation of \$50 million for grants for improving PDMPs	Requires electronic information for shipments Authorized the appropriation of \$75 million for grants for a pilot program for public health laboratories to detect opioids

Data source: Congressional Budget Office.

In this report, CBO focuses on provisions that were estimated to increase or decrease mandatory spending by more than \$500,000 or that authorized the appropriation of funds to address the opioid crisis. Dollar amounts related to authorizations of appropriations do not affect federal spending unless funds are subsequently appropriated. Such amounts reflect provisions related to opioids or substance use disorder with two exceptions. First, to focus on new activities to address the opioid crisis, the agency excluded authorizations of appropriations for programs in existence before the three laws were enacted. Second, CBO did not include authorizations of appropriations for programs aimed at addressing trauma in children in contact with adults with substance use disorder, because those programs address secondary effects, rather than direct effects, of the opioid crisis.

The 21st Century Cures Act also included provisions to lower the supply of opioids in combination with other strategies (see Table 3-3).

CARA = Comprehensive Addiction and Recovery Act; PDMP = prescription drug monitoring program; SUPPORT = Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment.

- a. A line extension is a new formulation of an existing drug.
- b. Outlier prescribers prescribe opioids in significantly larger quantities or doses than their peers.
- c. Drugs and other substances that are considered controlled substances are categorized into five schedules. Schedule II controlled substances, which include opioids, have a high potential for abuse.

Other changes to address the opioid crisis involve reducing the supply of opioids by changing the way in which prescriptions for opioids are filled and imposing new requirements on the Postal Service. One provision authorizes the partial filling of Schedule II controlled substances, including opioids.¹¹ Another provision requires the Postal Service to transmit advance electronic data to Customs and Border Protection on merchandise arriving in the United States through international mail to

improve monitoring and reduce the trafficking of illicitly produced fentanyl and other synthetic opioids.

Measures to improve the prescription of opioids and reduce their nonmedical use also included the authorization of appropriations for grants to states to establish, maintain, or upgrade prescription drug monitoring programs (PDMPs).¹² The laws also authorized other grants to expand the return of unused prescription opioids and to help laboratories detect fentanyl and related substances.

11. Drugs and other substances that are considered controlled substances are categorized into five schedules. Schedule II controlled substances, which have a high potential for abuse, include opioids such as morphine, methadone, and fentanyl. For a complete list of Schedule II controlled substances, see Drug Enforcement Administration, Diversion Control Division, “Controlled Substance Schedules” (accessed March 14, 2022), www.deadiversion.usdoj.gov/schedules.

12. Prescription drug monitoring programs are state-based electronic databases that capture prescriptions for controlled substances, including prescription opioids. See Centers for Disease Control and Prevention, “Prescription Drug Monitoring Programs (PDMPs)” (May 19, 2021), www.cdc.gov/drugoverdose/pdmp/states.html.



Table 3-3.

Harm-Reduction and Multiple-Strategy Provisions in Laws Enacted in Response to the Opioid Crisis

	CARA	21st Century Cures Act	SUPPORT for Patients and Communities Act
Harm Reduction Only	Authorized the appropriation of \$90 million for grants for expanding access to opioid overdose reversal medications and devices and education	None	Authorized the appropriation of \$144 million for grants for expanding access to opioid reversal medications and devices and education, as well as training for first responders
Multiple Strategies	Authorized the appropriation of \$540 million for grants for comprehensive strategies, including treatment alternatives to incarceration, improvement and expansion of PDMPs, and training on opioid overdose reversal medications and devices	Authorized the appropriation of \$1.0 billion for grants for activities such as prevention, supporting access to health care services (including those provided by federally certified opioid treatment programs or other appropriate health care providers to treat substance use disorders), improving PDMPs, and expanding access to opioid overdose reversal medications	Authorized the appropriation of \$5.7 billion for a demonstration program to provide technical assistance on best practices on alternatives to opioids for pain management and for grants to expand prevention and access to treatment, improve PDMPs, support implementation of voluntary programs for care and treatment of individuals after a drug overdose, and other comprehensive strategies, among other activities

Data source: Congressional Budget Office.

In this report, CBO focuses on provisions that were estimated to increase or decrease mandatory spending by more than \$500,000 or that authorized the appropriation of funds to address the opioid crisis. Dollar amounts related to authorizations of appropriations do not affect federal spending unless funds are subsequently appropriated. Such amounts reflect provisions related to opioids or substance use disorder with two exceptions. First, to focus on new activities to address the opioid crisis, the agency excluded authorizations of appropriations for programs in existence before the three laws were enacted. Second, CBO did not include authorizations of appropriations for programs aimed at addressing trauma in children in contact with adults with substance use disorder, because those programs address secondary effects, rather than direct effects, of the opioid crisis.

Provisions with multiple strategies combined strategies to lower the demand for opioids, the supply of opioids, and the harm of opioids.

CARA = Comprehensive Addiction and Recovery Act; PDMP = prescription drug monitoring program; SUPPORT = Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment.

Reducing the Harm From Opioid Use Disorder

All three laws authorized grants to minimize the harmful effects of OUD alone or in combination with strategies to reduce demand and supply (see Table 3-3). Some provisions authorized appropriations for grants to expand access and training related to medications or devices for reversing opioid overdoses. Most of those authorizations combined strategies to reduce harm with those that targeted lowering the demand for and supply of opioids. For instance, the 21st Century Cures Act authorized \$500 million to be appropriated in 2017 and 2018 for state opioid response grants, for a total of \$1 billion. The SUPPORT for Patients and Communities Act authorized additional funding for 2019 to 2021. State grants can be used for a variety of purposes, including expanding access to prevention and health care services to treat SUDs, funding recovery supports, improving PDMPs, and expanding access to opioid overdose reversal drugs.

Federal Funding

The laws devoted resources to address the opioid crisis through mandatory spending and also authorized

appropriations for such purposes.¹³ For example, one provision that expands Medicaid coverage of treatments for OUD was estimated to increase mandatory spending, whereas authorizations of appropriation of funds, such as for grants to states to support programs to reduce opioid prescribing, will not affect federal spending unless funds are subsequently appropriated.¹⁴

The Congressional Budget Office estimated that provisions in CARA will reduce mandatory outlays, and provisions in the SUPPORT for Patients and Communities

13. When identifying changes in mandatory spending and authorized amounts related to opioids, CBO included provisions related to SUD more generally because the laws primarily focused on the opioid crisis. As a result, the amount of funds ultimately used for addressing the opioid crisis may be overestimated.

14. For more background on budgetary terms and the authorization process, see Congressional Budget Office, *Common Budgetary Terms Explained* (December 2021), www.cbo.gov/publication/57420, and *Expired and Expiring Authorizations of Appropriations for Fiscal Year 2022* (August 2022), www.cbo.gov/publication/57760.

Table 3-4.

Budgetary Effects of Laws Enacted in Response to the Opioid Crisis, by Fiscal Year

Millions of Dollars

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
	CARA^a												
Estimated Mandatory Outlays	-1	-10	1	20	-14	-25	-32	-35	-43	-47	n.a.	n.a.	-187
Amounts Authorized to Be Appropriated	168	168	168	166	166	0	0	0	0	0	n.a.	n.a.	835
	21st Century Cures Act												
Amounts Authorized to Be Appropriated	500	500	0	0	0	0	0	0	0	0	n.a.	n.a.	1,000
	SUPPORT for Patients and Communities Act^a												
Estimated Mandatory Outlays	n.a.	n.a.	122	174	385	567	655	162	155	158	161	172	2,708
Amounts Authorized to Be Appropriated	n.a.	n.a.	1,454	1,472	1,452	952	952	0	0	0	0	0	6,282

Data source: Congressional Budget Office. See www.cbo.gov/publication/58221#data.

Estimated changes in mandatory outlays are based on CBO’s cost estimates. The cost estimate for CARA is available at www.cbo.gov/publication/51783, and the cost estimate for the SUPPORT for Patients and Communities Act is available at www.cbo.gov/publication/54515. In this report, CBO focuses on provisions that would either increase or decrease mandatory spending by more than \$500,000.

Amounts authorized to be appropriated for the 21st Century Cures Act are based on CBO’s cost estimate available at www.cbo.gov/publication/52301. Because CBO’s cost estimates for CARA and the SUPPORT for Patients and Communities Act did not include changes in spending subject to appropriation, in this report the agency examined the text of the laws as enacted. For all three laws, CBO summed authorizations subject to appropriation related to opioids or substance use disorder with two exceptions. First, to focus on new activities to address the opioid crisis, the agency excluded authorizations of appropriations for programs in existence before the three laws were enacted. Second, CBO did not include authorizations of appropriations for programs aimed at addressing trauma in children in contact with adults with substance use disorder, because those programs address secondary effects, rather than direct effects, of the opioid crisis. Actual appropriations may have differed from the amounts authorized.

The table includes provisions related to the three main strategies to address opioid use disorder: reducing demand, reducing supply, and reducing harm. Effects of provisions not related to opioids or substance use are not included in the table.

Components may not sum to totals because of rounding.

For CARA and the 21st Century Cures Act, CBO’s cost estimate spanned fiscal years 2017 to 2026. For the SUPPORT for Patients and Communities Act, the cost estimate spanned fiscal years 2019 to 2028.

CARA = Comprehensive Addiction and Recovery Act; SUPPORT = Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment; n.a. = not applicable.

a. Section 303 of CARA was estimated to reduce revenues by \$24 million over the 2017–2026 period. Section 3201 of the SUPPORT for Patients and Communities Act was estimated to reduce revenues by \$66 million over the 2019–2028 period. Those revenue effects are not shown in the table.

Act will increase mandatory outlays (see Table 3-4).¹⁵ The laws also authorized amounts to be appropriated, although CBO cannot quantify the amount of authorized appropriations that were later appropriated because appropriation acts do not always refer to specific authorizing laws, or they may refer to multiple authorizing laws.¹⁶

15. Changes in mandatory spending are based on CBO’s cost estimates. In this report, CBO focuses on provisions that were estimated to increase or decrease mandatory spending by more than \$500,000.

16. Amounts authorized to be appropriated for the 21st Century Cures Act are based on CBO’s cost estimate available at www.cbo.gov/publication/52301. Because CBO’s cost estimates for CARA and the SUPPORT for Patients and Communities Act did not include changes in spending subject to appropriation, in this report the agency examined the text of the laws as enacted. For all three laws, CBO summed authorizations subject

Estimated Changes in Mandatory Outlays

Individual provisions aimed at curbing the demand for and supply of opioids will increase mandatory outlays in some cases and decrease them in others. In particular, some of the provisions aimed at reducing supply will increase mandatory outlays, and others will reduce them. None of the provisions aimed at curbing demand will reduce mandatory outlays.

to appropriation related to opioids or substance use disorder with two exceptions. First, to focus on new activities related to opioids, CBO excluded authorizations of appropriations for programs in existence before the three laws were enacted. Second, the agency excluded authorizations of appropriations for programs that aim to address trauma in children in contact with adults with SUD because those programs address secondary effects, rather than direct effects, of the opioid crisis.



Figure 3-1.

Estimated Effects on Mandatory Outlays of Laws Enacted in Response to the Opioid Crisis

Millions of Dollars



Data source: Congressional Budget Office. See www.cbo.gov/publication/58221#data.

CBO's cost estimate for CARA spanned fiscal years 2017 to 2026. The cost estimate for the SUPPORT for Patients and Communities Act spanned fiscal years 2019 to 2028.

Estimated changes in mandatory outlays are based on CBO's cost estimates. The cost estimate for CARA is available at www.cbo.gov/publication/51783, and the cost estimate for the SUPPORT for Patients and Communities Act is available at www.cbo.gov/publication/54515. In this report, CBO focuses on provisions that were estimated to increase or decrease mandatory spending by more than \$500,000.

The figure includes provisions related to two of the three main strategies to address opioid use disorder: reducing demand and reducing supply. The two acts did not include provisions aimed at reducing harm that affect mandatory outlays. Effects of provisions not related to opioids or substance use are not included in the figure.

CARA = Comprehensive Addiction and Recovery Act; SUPPORT = Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment.

By CBO's estimate, on net, opioid-related provisions in CARA will reduce mandatory outlays by \$187 million over the 2017–2026 period, and provisions in the SUPPORT for Patients and Communities Act will increase mandatory outlays by \$2.7 billion over the 2019–2028 period, mostly for Medicaid (see Figure 3-1). The estimated net reduction of \$187 million in CARA reflects a \$54 million increase in outlays from provisions related to reducing the demand for opioids, as well as a reduction of \$241 million in outlays from provisions related to reducing the supply of prescription opioids subsidized by the federal government. By contrast, the estimated \$2.7 billion net increase in mandatory outlays stemming from the SUPPORT for Patients and Communities Act results from an estimated \$2.9 billion increase in spending from provisions related to reducing the demand for opioids and an estimated \$205 million reduction in outlays from provisions aimed at reducing supply. A few of the provisions that will affect mandatory outlays are temporary and are set to expire in the next few years.

Spending Subject to Appropriation

Altogether, the three laws authorized the appropriation of \$8.1 billion between 2017 and 2023; the SUPPORT for Patients and Communities Act accounted for most of those authorizations (see Figure 3-2). Specifically, CARA authorized appropriations totaling \$835 million between 2017 and 2021, the 21st Century Cures Act authorized appropriations totaling \$1.0 billion between 2017 and 2018, and the SUPPORT for Patients and Communities Act authorized appropriations totaling \$6.3 billion between 2019 and 2023.¹⁷ Most provisions allowed for multiple strategies.

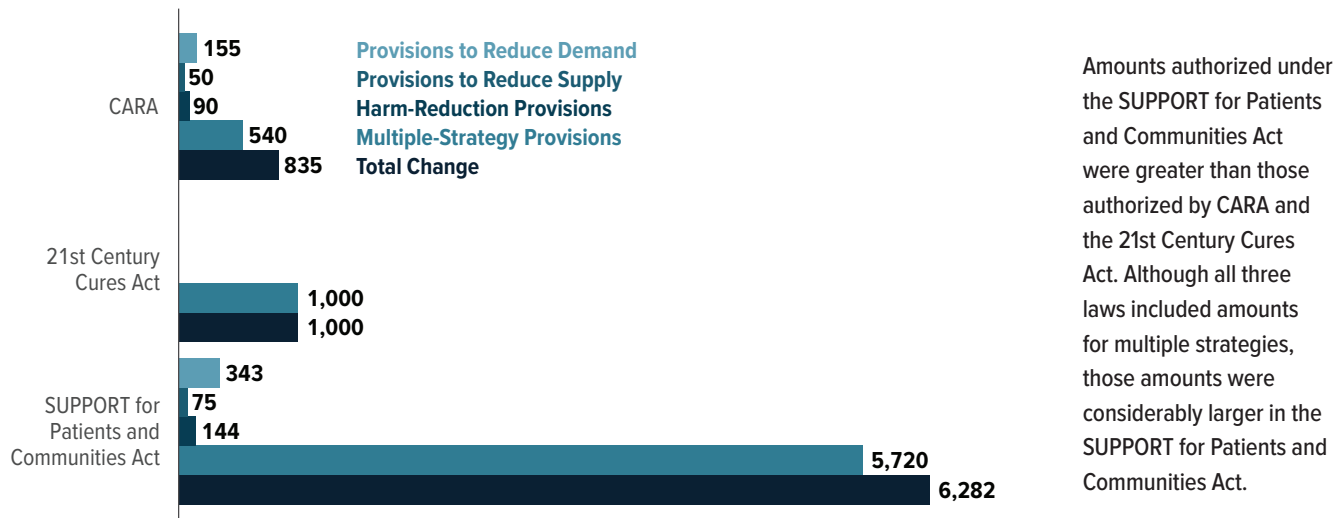
Subject to future appropriation action, the laws authorized funding for different levels of government,

17. CBO's cost estimates did not include changes in funding subject to appropriation for CARA and for the SUPPORT for Patients and Communities Act. For this report, the agency examined the text of the laws as enacted and summed all funding subject to appropriation. As a result, the budgetary effects are limited to specified authorizations of appropriations. Other provisions authorized programs and activities without explicit funding levels.

Figure 3-2.

Amounts Authorized to Be Appropriated by Laws Enacted in Response to the Opioid Crisis

Millions of Dollars



Data source: Congressional Budget Office. See www.cbo.gov/publication/58221#data.

CARA authorized appropriations between 2017 and 2021, the 21st Century Cures Act authorized appropriations between 2017 and 2018, and the SUPPORT Act authorized appropriations between 2019 and 2023.

Amounts authorized to be appropriated for the 21st Century Cures Act are based on CBO’s cost estimate available at www.cbo.gov/publication/52301. Because CBO’s cost estimates for CARA and the SUPPORT for Patients and Communities Act did not include changes in spending subject to appropriation, in this report the agency examined the text of the laws as enacted. For all three laws, CBO summed authorizations subject to appropriation related to opioids or substance use disorder with two exceptions. First, to focus on new activities to address the opioid crisis, the agency excluded authorizations of appropriations for programs in existence before the three laws were enacted. Second, CBO did not include authorizations of appropriations for programs aimed at addressing trauma in children in contact with adults with substance use disorder, because those programs address secondary effects, rather than direct effects, of the opioid crisis. Actual appropriations may have differed from the amounts authorized.

The figure includes provisions related to the three main strategies to address opioid use disorder: reducing demand, reducing supply, and reducing harm. Certain provisions in the laws used a combination of strategies.

CARA = Comprehensive Addiction and Recovery Act; SUPPORT = Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment.

including state and local governments. Other entities that could receive funding included tribal organizations, federally qualified health centers, community organizations, and accredited schools of allopathic medicine or osteopathic medicine and teaching hospitals.

The actual amounts appropriated may have differed from the amounts authorized. Quantifying how much of the funds that were authorized in the major opioid laws were later appropriated is challenging for two reasons. First, appropriation acts may not clearly identify the legislation that authorized the funding. For instance, the legislative text may be sufficiently broad to support a range of activities related to opioids, including ones authorized by the three major laws discussed in this report, but also those from other authorizations. Second, appropriation acts may identify specific authorizing legislation but provide one amount of funding for multiple programs, making it

impossible to identify the appropriated amounts related to specific authorizing legislation.

According to one study, total federal appropriations to address the opioid crisis—including not only funds corresponding to the three major opioid laws but also annual funding for federal agencies with programs related to addressing OUD—increased from \$2.1 billion in fiscal year 2017 to \$6.1 billion in fiscal year 2020.¹⁸ Those funds were allocated to multiple federal agencies, including HHS, the Office of National Drug Control Policy, and the Department of Justice; most of the funds were appropriated to the Substance Abuse and Mental Health Services Administration.

18. Michele Gilbert and others, *Combating the Opioid Crisis: Smarter Spending to Enhance the Federal Response* (Bipartisan Policy Center, April 2022), Figure 10, <https://tinyurl.com/93dcwb7w>.



Chapter 4: The Crisis After Enactment of the Recent Laws and During the Pandemic

Deaths involving opioids increased in most years between the enactment of the laws and the start of the coronavirus pandemic but more slowly than in the immediately preceding years. In addition, the use of prescription opioids continued to fall after the laws were enacted, but those changes may not be attributable to the laws.

Deaths from opioid overdoses increased dramatically during the pandemic, with disproportionate increases among some racial and ethnic groups. A variety of factors may have contributed to increased opioid-involved mortality in 2020, including greater demand for opioids due to the stresses of the pandemic and disconnection from treatment and other recovery supports. Evidence also indicates that opioid use became more dangerous during the pandemic because some people switched to more potent substances and increased solitary drug use.

Policy changes enacted in March 2020 reduced certain barriers to treatment, and additional federal funds to address the crisis were made available through the American Rescue Plan Act of 2021.

The Opioid Crisis Between the Enactment of the Laws and the Pandemic

From 2016 to 2019, deaths involving opioids increased; however, the annual rate of increase slowed. During that time, the Food and Drug Administration approved opioid analgesics for the treatment of pain as well as treatments for opioid use disorder and drugs to reverse opioid overdoses. Although trends in opioid-involved mortality coincided with the timing of the federal legislation, it is difficult to determine whether the observed changes in deaths and the use of prescription opioids can be attributed to the laws.

Opioid-Involved Deaths

The annual number of deaths involving opioids doubled from 2010 to 2016, increasing from 21,089 to 42,249, the year that the Comprehensive Addiction and

Recovery Act of 2016 and the 21st Century Cures Act were enacted (see Figure S-1 on page 2). Fatalities involving opioids increased to 47,600 in 2017, fell to 46,802 in 2018, and then rose again to 49,860 in 2019, an increase of 7 percent from the previous year.¹ The increase in opioid-involved fatalities continued to be driven by use of illicitly manufactured fentanyl and similar substances. In addition, the use of opioids in conjunction with psychostimulants continued its upward trend.² Deaths resulting from the use of prescription opioids and heroin fell between 2016 and 2019.

The FDA's Approval of New Products

In recent years, the FDA approved a number of new opioid analgesics. Several of the opioids were approved for the treatment of moderate to severe pain.³ One of the drugs approved was a potent opioid for use in medically supervised settings.⁴ The agency also approved

1. The Congressional Budget Office's analysis of the CDC WONDER database. See Centers for Disease Control and Prevention, National Center for Health Statistics, "About Multiple Cause of Death, 1999–2020" (accessed January 5, 2022), <http://wonder.cdc.gov/mcd-icd10.html>.
2. Julie O'Donnell and others, "Vital Signs: Characteristics of Drug Overdose Deaths Involving Opioids and Stimulants—24 States and the District of Columbia, January–June 2019," *Morbidity and Mortality Weekly Report*, vol. 69, no. 35 (September 4, 2020), pp. 1189–1197, <http://dx.doi.org/10.15585/mmwr.mm6935a1>.
3. Food and Drug Administration, "Timeline of Selected FDA Activities and Significant Events Addressing Opioid Misuse and Abuse" (June 28, 2022), <https://tinyurl.com/3n4t5yuy>.
4. The drug, Dsuvia, is a high-potency opioid, which was developed in collaboration with the Department of Defense for use by the military. Although it is intended for use in controlled settings, such as hospitals, experts have expressed concerns about Dsuvia's potential for diversion because of its potency. See Kelly Davio, "FDA Approves Painkiller Dsuvia Amid Criticism," *American Journal of Managed Care* (November 5, 2018), <https://tinyurl.com/2a3uwawr>.

the first generic opioid with an abuse-deterrent formulation.⁵

The FDA also approved several new products for the treatment of OUD and reversal of opioid overdoses. It approved the first nonopioid drug for the treatment of withdrawal symptoms associated with the abrupt cessation of opioid use and the first generic version of sublingual buprenorphine for the treatment of OUD. In addition, it approved the first generic naloxone nasal spray to reverse opioid overdose as well as a higher-dose naloxone nasal spray.⁶

Challenges in Evaluating the Effects of Federal Laws

The effects of recent federal laws on the opioid crisis are difficult to evaluate. Although total opioid-involved deaths increased between 2016 and 2019, the annual increase in deaths averaged 6 percent from 2017 to 2019, which was smaller than the 19 percent per year average increase from 2014 to 2016.

The slowdown could be due to increased use of naloxone to reverse opioid overdoses and of medication to treat OUD.⁷ Those activities were supported by the federal laws, but the slower growth in opioid-involved mortality cannot be directly attributed to the laws for two reasons. First, it is difficult to assess the extent to which the amounts authorized in the laws were subsequently appropriated and how funding was disbursed and eventually

used for programs addressing the opioid crisis.⁸ Second, isolating the effect of the laws is challenging because the funding they provided complemented annual appropriations to agencies tasked with addressing the opioid crisis. Some of the issues involved in evaluating the effects of federal spending on drug misuse may be addressed by closing gaps in data collection.⁹

The Opioid Crisis During the Pandemic

Opioid-involved deaths increased sharply during the pandemic. Unlike the rise in mortality during the early stages of the crisis, opioid-involved death rates during the pandemic increased for several racial and ethnic groups in addition to non-Hispanic White people. Deaths involving fentanyl and the combined use of opioids and psychostimulants continued to increase during the pandemic, but deaths from prescription opioids also rose.

The increase in opioid overdose mortality may be attributed to increased demand for opioids and more dangerous use of opioids, such as when people switch to more potent opioids or increase their use of substances in isolation. That increase occurred even though policy changes during the pandemic expanded access to OUD treatment and increased federal funding to address the opioid crisis.

Opioid-Involved Deaths

Deaths involving opioids increased dramatically during the pandemic. In 2020, 68,630 opioid-involved fatalities occurred, a 38 percent increase from 2019 (see Figure S-1 on page 2).¹⁰ The increase in deaths involving opioids during the first year of the pandemic continued to be driven by use of illicitly manufactured

5. Abuse-deterrent formulation opioids have tamper-resistant properties that make it harder to crush them into a form that can be injected or snorted. Concerns have been raised about whether those formulations provide a false sense of the substances' safety and whether they could encourage people to substitute them for illegally produced opioids. See Johanna Catherine Maclean and others, "Economic Studies on the Opioid Crisis: Costs, Causes, and Policy Responses," *Oxford Research Encyclopedia of Economics and Finance* (June 2021), <https://doi.org/10.1093/acrefore/9780190625979.013.283>; and Aaron J. Salwan, Nicholas E. Hagemeyer, and Sam Harirforoosh, "Abuse-Deterrent Opioid Formulations: A Key Ingredient in the Recipe to Prevent Opioid Disasters?" *Clinical Drug Investigation*, vol. 38, no. 7 (July 2018), pp. 573–577, <https://doi.org/10.1007/s40261-018-0651-3>.
6. Food and Drug Administration, "Timeline of Selected FDA Activities and Significant Events Addressing Opioid Misuse and Abuse" (April 1, 2022), <https://tinyurl.com/3n4t5yuy>.
7. Department of Health and Human Services, "Opioid Crisis Statistics" (February 12, 2021), <https://tinyurl.com/2p88zswx>.

8. One study found that almost a third of states' opioid response grant funds authorized by the 21st Century Cures Act remained unspent after two years. See Department of Health and Human Services, Office of Inspector General, *States' Use of Grant Funding for a Targeted Response to the Opioid Crisis* (March 2020), www.oig.hhs.gov/oei/reports/oei-BL-18-00460.asp.
9. Government Accountability Office, "The Crisis of Drug Misuse and Federal Efforts to Address It" (November 19, 2021), <https://tinyurl.com/2p943taw>; and Michele Gilbert and others, *Combating the Opioid Crisis: Smarter Spending to Enhance the Federal Response* (Bipartisan Policy Center, April 2022), <https://tinyurl.com/93dcwb7w>.
10. CBO's analysis of the CDC WONDER database. See Centers for Disease Control and Prevention, National Center for Health Statistics, "About Multiple Cause of Death, 1999–2020" (accessed August 17, 2022), <http://wonder.cdc.gov/mcd-icd10.html>.

fentanyl and similar substances.¹¹ Although those substances continued to account for most opioid-involved fatalities, deaths from prescription opioids also increased after a three-year period of no growth or declining growth.¹² Deaths from using opioids in conjunction with psychostimulants continued to rise. Preliminary data for 2021 indicate that the trend of increases in the number of opioid-involved deaths has continued.¹³

Although the early waves of the opioid crisis had a disproportionate effect on non-Hispanic White people, greater increases in opioid overdoses occurred among other racial and ethnic groups during the pandemic. The number of opioid-involved deaths per 100,000 people among non-Hispanic Black and Native American or Alaska Native people surpassed the number for non-Hispanic White people in 2020 (see Figure 1-2 on page 10). Dramatic increases in the number of deaths involving opioids per 100,000 people also occurred among Hispanic people and Asian or Pacific Islanders.¹⁴

The increases may have been driven by the greater health and economic effects of the pandemic on communities of color.¹⁵ Research has found that, during March 2020, the number of buprenorphine prescriptions filled declined for non-White patients but not for

non-Hispanic White patients.¹⁶ (Buprenorphine is one of the medications used to treat OUD.) In addition, Black, Hispanic, and Native American or Alaska Native people had higher age-adjusted risk of hospitalization and death from COVID-19 than White people. Black and Hispanic people were also more likely than White people to have had difficulty paying household expenses and to have experienced food insecurity during the pandemic.¹⁷

Opioid Use

A number of factors may have contributed to increased use of opioids during the pandemic. Anxiety, depression, and social isolation increased because of measures intended to reduce the spread of the coronavirus, including school closures, as well as concerns about contracting the virus.¹⁸ Also potentially fueling the demand for opioids were pandemic-related job losses that contributed to economic insecurity, which was mitigated but not eliminated by government transfer payments.¹⁹ At the same time, disruptions in in-person treatment and social

11. Centers for Disease Control and Prevention, “Increase in Fatal Drug Overdoses Across the United States Driven by Synthetic Opioids Before and During the COVID-19 Pandemic,” *Health Alert Network* (December 17, 2020), <https://emergency.cdc.gov/han/2020/han00438.asp>.

12. Deaths involving prescription opioids may have increased because they are increasingly contaminated with fentanyl when acquired on the street. See American Medical Association, “Issue Brief: Nation’s Drug-Related Overdose and Death Epidemic Continues to Worsen” (September 7, 2022), <https://tinyurl.com/3uwpuxnj> (PDF, 1.27 MB); and Drug Enforcement Administration, “DEA Issues Public Safety Alert on Sharp Increase in Fake Prescription Pills Containing Fentanyl and Meth” (press release, September 27, 2021), <https://tinyurl.com/mtjpfcxh>.

13. Farida B. Ahmad and others, “Provisional Drug Overdose Death Counts” (National Center for Health Statistics, February 9, 2022), www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm.

14. CBO’s analysis of the CDC WONDER database. See Centers for Disease Control and Prevention, National Center for Health Statistics, “About Multiple Cause of Death, 1999–2020” (accessed January 5, 2022), <http://wonder.cdc.gov/mcd-icd10.html>.

15. Danielle F. Haley and Richard Saitz, “The Opioid Epidemic During the COVID-19 Pandemic,” *JAMA*, vol. 324, no. 16 (October 2020), pp. 1615–1617, <http://dx.doi.org/10.1001/jama.2020.18543>.

16. Thuy Nguyen and others, “Racial and Ethnic Disparities in Buprenorphine and Extended-Release Naltrexone Filled Prescriptions During the COVID-19 Pandemic,” *JAMA Network Open*, vol. 5, no. 6 (June 2022), <https://doi.org/10.1001/jamanetworkopen.2022.14765>.

17. Latoya Hill, Samantha Artiga, and Sweta Haldar, “Key Facts on Health and Health Care by Race and Ethnicity” (Kaiser Family Foundation, January 2022), <https://tinyurl.com/2p935sd6>; and Julianne Holt-Lunstad, “The Double Pandemic of Social Isolation and COVID-19: Cross-Sector Policy Must Address Both,” *Health Affairs Blog* (June 22, 2020), <https://doi.org/10.1377/forefront.20200609.53823>.

18. Latoya Hill, Samantha Artiga, and Sweta Haldar, “Key Facts on Health and Health Care by Race and Ethnicity” (Kaiser Family Foundation, January 2022), <https://tinyurl.com/2p935sd6>; and Nirmita Panchal and others, “The Implications of COVID-19 for Mental Health and Substance Use” (Kaiser Family Foundation, February 2021), <https://tinyurl.com/27ahyxbj>.

19. During the pandemic, overdose mortality increased among unemployed people who received transfer payments. The evidence does not indicate that the increased mortality was due to a “check effect,” where people used transfer payments to purchase drugs and then overdosed. Anxiety and social isolation are risk factors for overdose, and individuals who experienced unemployment during the pandemic may have experienced increases in both. See Alexandria Macmadu and others, “Comparison of Characteristics of Deaths From Drug Overdose Before vs During the COVID-19 Pandemic in Rhode Island,” *JAMA Network Open*, vol. 4, no. 9 (September 2021), <https://doi.org/10.1001/jamanetworkopen.2021.25538>.

supports may have led to relapses among some people who were in recovery.²⁰

The increased use of and deaths from fentanyl and related substances may have been due, in part, to a temporary disruption in the availability of less potent opioids, which became harder to get as a result of pandemic mitigation measures, such as lockdowns.²¹ Total prescription opioids received by patients during the early months of the pandemic fell, driven by a decline in opioid prescriptions given to patients who had not used prescription opioids in the past year. That decline was due to cancellations in nonemergency medical visits and surgeries stemming from pandemic mitigation measures in the spring of 2020.²²

In addition, solitary use of opioids increased because of social distancing measures. Use of opioids in isolation can be more dangerous because of the lack of bystanders to administer naloxone in the event of an overdose.²³

Policy Changes and Federal Funding During the Pandemic

The increase in opioid use occurred even though policy changes made in March 2020 in response to the pandemic may have resulted in lower barriers to treatment.²⁴ The use of Medicaid emergency authorities resulted in expanded eligibility and access to services, which reduced financial barriers to accessing OUD treatment and naloxone.²⁵ The federal

government also eased restrictions on methadone dispensing by allowing take-home doses for a 14- to 28-day period instead of requiring observed daily doses at federally regulated opioid treatment programs.²⁶ Lastly, the use of telemedicine to treat patients with OUD remotely was expanded.²⁷

Additional federal funds were made available to address the opioid crisis during the pandemic. The American Rescue Plan Act of 2021 appropriated funds for the prevention and treatment of SUD and for harm-reduction activities.²⁸ The law appropriated \$1.5 billion for block grants to prevent and treat SUD, which are being distributed largely by the Substance Abuse and Mental Health Services Administration.²⁹ The law also appropriated \$30 million for community-based funding of harm-reduction services, including naloxone distribution and syringe services programs.³⁰ In comparison, the three federal laws discussed in this report—CARA, the 21st Century Cures Act, and the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act—authorized appropriations of \$3.4 billion between 2021 and 2023. In the future, nonfederal money from the settlement of lawsuits against companies involved in the manufacture and distribution of opioids may also be available to support OUD prevention, treatment, and harm-reduction activities.³¹

20. Maryann Mason, Ponni Arukum, and Joe Feinglass, “The Pandemic Stay-at-Home Order and Opioid-Involved Overdose Fatalities,” *JAMA*, vol. 325, no. 24 (April 2021), pp. 2495–2496, <http://dx.doi.org/10.1001/jama.2021.6700>.

21. Ryan Mutter, Joshua Black, and Janetta Iwanicki, “Changes in the Street Prices of Prescription Opioids During the COVID-19 Pandemic,” *Psychiatric Services* (June 2022), <https://doi.org/10.1176/appi.ps.202100689>.

22. IQVIA Institute for Human Data Science, *Prescription Opioid Trends in the United States: Measuring and Understanding Progress in the Opioid Crisis* (December 2020), <https://tinyurl.com/5a9dk8en>.

23. Maryann Mason, Ponni Arukum, and Joe Feinglass, “The Pandemic Stay-at-Home Order and Opioid-Involved Overdose Fatalities,” *JAMA*, vol. 325, no. 24 (April 2021), pp. 2495–2496, <http://dx.doi.org/10.1001/jama.2021.6700>.

24. Danielle F. Haley and Richard Saitz, “The Opioid Epidemic During the COVID-19 Pandemic,” *JAMA*, vol. 324, no. 16 (October 2020), pp. 1615–1617, <http://dx.doi.org/10.1001/jama.2020.18543>.

25. Rachel Dolan and Madeline Guth, “How Have States Used Medicaid Emergency Authorities During COVID-19 and What Can We Learn?” (Kaiser Family Foundation, August 2021), <https://tinyurl.com/54bvjh5w>.

26. Substance Abuse and Mental Health Services Administration, “Opioid Treatment Program (OTP) Guidance” (March 2020), www.samhsa.gov/sites/default/files/otp-guidance-20200316.pdf (216 KB).

27. Thomas W. Prevoznik, Drug Enforcement Administration, letter to DEA qualifying practitioners (March 31, 2020), <https://tinyurl.com/3um79657> (PDF, 208 KB).

28. The funds are available until expended. States have until September 30, 2025, to spend any money they are awarded. See sec. 2702 of the American Rescue Plan Act of 2021, P.L. 117-2, 135 Stat. 4, www.congress.gov/bill/117th-congress/house-bill/1319/text.

29. Ibid.; and Substance Abuse and Mental Health Services Administration, “HHS Announces \$3 Billion in American Rescue Plan Funding for SAMHSA Block Grants to Address Addiction, Mental Health Crisis” (press release, May 18, 2021), www.samhsa.gov/newsroom/press-announcements/202105181200.

30. Sec. 2706 of the American Rescue Plan Act of 2021, P.L. 117-2, 135 Stat. 4, www.congress.gov/bill/117th-congress/house-bill/1319/text.

31. For information on how states are using opioid settlement funds, see National Academy for State Health Policy, “How States Are Administering Opioid Settlement Funds” (accessed July 13, 2022), <https://tinyurl.com/4tfuz9ff>.

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About This Document

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CBO seeks feedback to make its work as useful as possible. Please send comments to communications@cbo.gov.



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