



# Prescription Drug Monitoring Program

## Analysis of Prescription Opioid Overdose Death Statistics

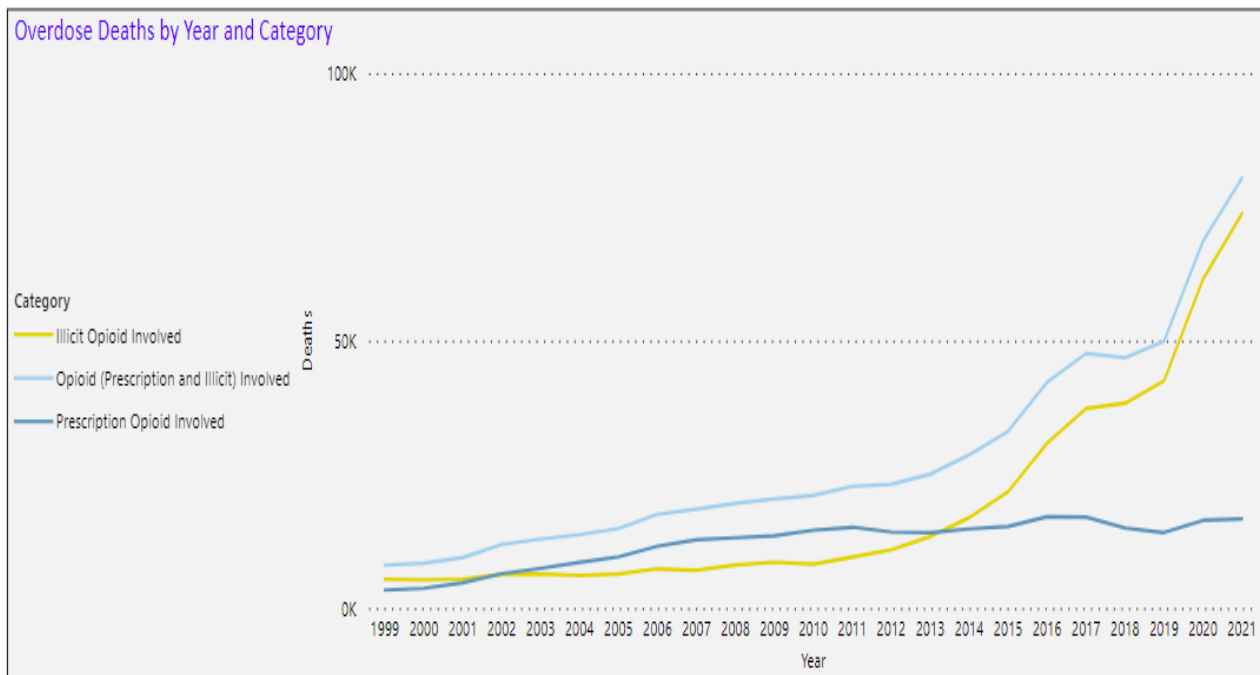
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## Analysis of Prescription Opioid Overdose Death Statistics

The opioid epidemic in the United States began in the late 1990s, when a surge in the prescribing of opioids for pain relief led to an increase in opioid-related overdoses and deaths. The opioid crisis was further exacerbated by the emergence of powerful synthetic opioids like fentanyl, which have caused an even greater increase in overdoses and deaths. The epidemic has been linked to the aggressive promotion of opioids by pharmaceutical companies and the ease of access to opioids due to the liberal prescribing habits of many healthcare providers. The result has been a dramatic increase in opioid addiction and overdose deaths, leading to a public health crisis. In response to the crisis, the federal government has been taking steps to address this issue, including increasing access to treatment, increasing resources for law enforcement and first responders, and encouraging the development of new non-opioid pain management options, as well as adopting a public health approach to the epidemic, emphasizing the need for education and prevention efforts to reduce the demand for opioids and the risk of overdose. The rise in the misuse and abuse of prescription opioids was a major factor for states, districts, commonwealths, and territories (SDCTs) to enact legislation creating prescription drug monitoring programs (PDMPs). Of the 54 PDMPs in the United States, 39 were established since 1999 and 20 of those during the last ten years. PDMPs allow healthcare providers to access detailed information about a patient's prescription history to identify potential misuse or abuse of prescription drugs. By providing a comprehensive overview of a patient's medication history, PDMPs can help healthcare providers detect potential opioid misuse before it becomes a larger problem. In addition, PDMPs can help healthcare providers identify patients who are "doctor shopping," or visiting multiple healthcare providers to obtain multiple prescriptions and intervene to prevent further misuse. Finally, PDMPs can help inform public health policies by providing valuable data on the number of opioid prescriptions and the rate of misuse in a particular area. By providing an effective and comprehensive way to monitor and intervene in the misuse of opioid prescriptions, PDMPs have been identified as a critical tool in combating the opioid epidemic in the United States. These efforts are showing signs of progress, with the number of overdose deaths declining in some areas of the country. However, there is still much work to be done to end the opioid crisis in the United States. It will take the combined efforts and resources of public health, public safety, and medical communities working in unison to have a lasting impact on this epidemic.

Between 1999 and 2021, 644,832 people died from overdoses involving opioids (both prescription and illicit). In 2020, the Centers for Disease Control and Prevention's (CDC) Wide-ranging Online Data for Epidemiologic Research ([WONDER](#)) database reported 68,630 opioid-related overdose deaths in the United States, and in 2021 the number rose to an all-time high of 80,411. From 2017 to 2021, there was a 69 percent increase in the total number of opioid-related overdose deaths, due to the 98 percent increase in fatalities involving illicit opioids. From 2010 to 2021, the number of overdose deaths caused by illicit opioids (heroin and illicit fentanyl) rose dramatically, from 8,211 to 73,785, while the number of overdose deaths linked to prescription opioids has stayed constant, ranging from 14,583 (2010) to 16,706 (2021), with a peak of 17,087 in 2016.



### Overdose Death Statistics Source

The WONDER database is an internet system that provides access to a wide array of public health information. Analysis of the raw data, without accounting for testing and reporting variations in compiling the overdose data, is limited in its applicability. The WONDER database is a valuable resource tool but cannot be solely relied upon for an accurate portrayal of overdose deaths, since there is no national standard for testing and reporting of overdose information.

Users of this database can search for and read published documents on public health concerns, including reports, recommendations and guidelines, and articles and statistical research data published by CDC, as well as reference materials and bibliographies on health-related topics, and query numeric data sets on CDC’s information systems, via “fill-in-the blank” web pages. Public-use data sets about deaths, cancer incidence, HIV and AIDS, tuberculosis, births, census data, and many other topics are available for query, and the requested data are readily summarized and analyzed. Users can produce tables, maps, and charts and download tab-delimited text exports of summary statistics.

The Multiple Cause of Death data consist of national mortality and population data spanning the years 1999 to 2021. Data are based on death certificates for U.S. residents. Each death certificate contains a single underlying cause of death, up to 20 additional multiple causes, and demographic data. The number of deaths, crude death rates, age-adjusted death rates, and 95 percent confidence intervals for death rates can be obtained by cause of death, place of residence, and year. The Multiple Cause of Death data are produced by the National Center for Health Statistics (NCHS) at CDC. Mortality information is collected by SDCT registries and provided to the National Vital Statistics System. Underlying cause of death and demographic descriptors are indicated on the death certificates. The underlying cause of death is defined by the World Health Organization (WHO) as “the disease or injury which initiated the train of events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury.” Underlying cause

of death is selected from the conditions entered by the physician on the cause of death section of the death certificate. The specific criteria used to generate the overdose statistics in this document are listed in Appendix A. Note: *T40.4 Other synthetic narcotics* is listed with the ICD-10 codes for prescription drugs; this code includes fentanyl. Analysis of the death certificates by the CDC listing fentanyl as a contributing cause reveal that the fentanyl was illicit instead of prescription. Therefore, T40.4 was not used in the calculations of prescription opioid overdose deaths.

## Statistical Summary

The PDMP Training and Technical Assistance Center (TTAC) at the Institute for Intergovernmental Research (IIR) has compiled overdose death statistics from 1999 to 2021 ([PDMP TTAC website](#)). This section details the prescription opioid overdose data trends from 2017 to 2021. The raw statistics are listed in Appendix B.

The national age-adjusted overdose death rate (AAODR) for prescription opioids per 100,000 people has remained constant over the last 5 years, peaking in 2017 at 5.2.

Year	Deaths	Population	AAODR
<b>2017</b>	17,029	325,719,178	5.2
<b>2018</b>	14,975	327,167,434	4.5
<b>2019</b>	14,139	328,239,523	4.2
<b>2020</b>	16,416	329,484,123	4.9
<b>2021</b>	16,706	331,893,745	4.9

In 2021, two SDCTs had an AAODR that was more than double the 2021 national AAODR:

SDCT	Deaths	Population	AAODR
<b>West Virginia</b>	231	1,782,959	13.9
<b>Alaska</b>	79	732,673	10.7

In 2021, there were three SDCTs with an AAODR that was less than half the 2021 national AAODR:

SDCT	Deaths	Population	AAODR
<b>Hawaii</b>	34	1,441,553	2.1
<b>Nebraska</b>	41	1,963,692	2.1
<b>Texas</b>	715	29,527,941	2.4

Overall, there were 24 SDCTs that showed a percentage change decrease in the AAODR and 27 SDCTs with an increase from 2017 to 2021 (See Appendix C). Below are the SDCTs with the greatest percentage change in AAODR from 2017 to 2021:

SDCT	% Decrease	SDCT	% Increase
Ohio	-46.57	Louisiana	88.10
Oklahoma	-43.03	Arkansas	54.90
Utah	-32.06	Mississippi	52.08
Maryland	-26.03	Idaho	46.03
District of Columbia	-24.14	Oregon	36.36
West Virginia	-24.01	Montana	33.33
Iowa	-23.08	Kansas	29.21
Arizona	-21.01	New York	26.26
New Hampshire	-20.97	South Carolina	25.22
Michigan	-19.12	Pennsylvania	24.60

### Spotlight on Utah – A Case Study

As mentioned above, there were 24 SDCTs showing a decrease in prescription opioid overdose deaths from 2017 through 2021; however, only Utah has a decrease in each of those years. In fact, Utah has shown a decrease every year since 2014. Interviews with representatives from the Utah PDMP and Department of Health and Human Services provided valuable insights on the state’s efforts. PDMP TTAC conducted research and article reviews that provided additional information.

Utah has implemented several measures to reduce drug overdose deaths since 2017. According to the [Utah Department of Health and Human Services \(DHHS\)](#), drug poisoning deaths are a preventable public health problem and the leading cause of injury death, outpacing those due to firearms, falls, and motor vehicle crashes. In [2017](#), there were 7,000 daily opioid prescriptions, which dropped to 5,200 by 2022, a 26 percent overall reduction. Following are examples of the efforts taken by the state of Utah to reduce overdose deaths.

**[Utah Opioid Crisis Response Blueprint:](#)** Published on **January 31, 2022**, serves as a road map for utilizing opioid settlement funds in the state. Aimed at maximizing the benefits of settlement spending to alleviate opioid-related harms in Utah.

**[Health Improvement Plan:](#)** A collaborative effort to address prescription drug misuse, abuse, and overdose. The plan focuses on prevention, education, and naloxone training.

**[Legislation and Policy Decisions:](#)** The Utah Senate passed sections of the Utah Code urging health insurers to minimize opioid addiction and overdose deaths. Policies include non-narcotic treatment alternatives for chronic pain and medication-assisted treatment for opioid dependence disorders.

**[Public Awareness and Harm Reduction:](#)** A public awareness campaign on the risk of opioid, overdose indicators, the use of naloxone, and the safe use, storage, and disposal of narcotic drugs.

**Utah Opioid Task Force:** A voluntary group that includes representation from agencies and organizations across the state. As subject-matter experts, their mission includes acting against opioid abuse through law enforcement, prosecution, legislation, and innovation. The [Opioid Settlement Task Force \(UTOTF\)](#) is part of this group.

**Academic Detailing:** The Division of Professional Licensing Program oversees academic detailing to educate healthcare providers on the appropriate use of opioids. Academic detailing is an interactive, personalized educational program that supports Utah healthcare providers in the prescribing of opioid drugs, including an [opioid prescribing toolkit](#).

**Opioid Dashboard Development:** The Utah DHHS Program provides an opioid dashboard to track opioid abuse and misuse while reducing stigma.

**Stop the Opioid Campaign:** This campaign works to raise awareness on opioid abuse and misuse while reducing stigma.

**Naloxone Dissemination and Overdose Reversal Tracking:** A joint effort between the University of Utah and the White House Office of National Drug Control Policy to track nonfatal opioid overdoses and overdose reversals. A first-of-its-kind program.

**Local Health Departments and Community Partners Funding:** The state provides funding to local health departments, 2-1-1, and other community partners who work alongside the Utah DHHS in the opioid epidemic.

**Opioid Overdose Fatality Review Committee (OFRC):** In response to the growing opioid epidemic, the Utah Department of Health and Human Services Violence and Injury Prevention Program established the Opioid Overdose Fatality Review Committee (OFRC). The primary purpose of the OFRC is to establish effective strategies to prevent and respond to opioid overdoses. The OFRC meets regularly to review opioid overdose deaths and make recommendations to prevent future deaths.

Utah is particularly affected by prescription opioids, which are responsible for 38 percent of the unintentional and undetermined drug poisoning deaths in the state. Though not a part of this study by TTAC, illicit opioids, specifically fentanyl, are increasing more rapidly. Four of every 11 Utah citizens who die each week from drug overdose die from prescription opioids, according to Utah data.

The state's efforts to reduce overdose deaths also lowered the number of total opioid prescriptions and raised awareness of opioid abuse and misuse. However, the state still faces challenges in reducing the number of drug overdose deaths. Utah believes it is important to continue evaluating and improving state-based prevention policies and programs to address this ongoing public health problem. Similar efforts are under way in other states. Utah representatives expressed gratitude for the support and advice from PDMPs across the country as they implemented their programs. A full list of Utah's substance use reports is available [here](#).

From a national perspective, the success of Utah's program serves as an example of how a state can take a multidisciplinary approach towards reducing the harm caused by opioid misuse.

Additional strategies include data sharing, improved interoperability, the use of mental health screening tools, clinical guidelines, predictive analytics, and the emergence of generative artificial intelligence (AI), including Large Language Models (LLM).

### **The Impact of Covid on Prescription Drug Overdoses and the Utah Program**

The Covid-19 pandemic exacerbated the opioid crisis in the United States, as lockdowns, social isolation, and reduced access to treatment increased the risk of overdose deaths. According to the CDC, over 93,000 people died from drug overdoses in 2020, a 29.4 percent increase from 2019 and the highest number ever recorded in a single year.

Prescription opioids remain a major contributor to the overdose epidemic, accounting for 15,000 deaths in 2020, a 4.6 percent increase from 2019. Prescription opioids are often misused, diverted, or combined with other substances, such as alcohol or benzodiazepines, which can increase the risk of fatal respiratory depression. The most involved prescription opioids are oxycodone, hydrocodone, morphine, and methadone.

The Utah Department of Health and Human Services (DHHS) implemented several strategies to prevent and reduce prescription opioid overdoses, such as monitoring prescription drug use and trends, educating prescribers and patients on safe opioid prescribing and disposal practices, expanding access to naloxone (a medication that can reverse opioid overdoses), and providing support and resources to individuals and families affected by opioid use disorder. The DHHS also collaborates with other agencies and organizations, such as the Utah Opioid Task Force, and the Utah Harm Reduction Coalition, to coordinate and enhance the response to the opioid crisis.

### **Final Thoughts**

The objective of PDMP TTAC's analysis of overdose statistics was to identify which efforts were most effective in reducing prescription opioid overdose deaths. Through its research, PDMP TTAC found that many SDCTs or PDMPs have implemented similar programs, such as prescriber education, prescribing guidelines, naloxone distribution programs, overdose fatality review teams, mandatory PDMP enrollment and use, and substance use disorder treatment resources. However, these programs have had varying levels of success and were found to have dissimilar effects on overdoses when implemented in different SDCTs. This difficulty in comparing overdose rates is due to the variations in how overdoses are identified and reported. A study, [Methodological Complexities in Quantifying Rates of Fatal Opioid-Related Overdose](#), provides an in-depth explanation of the issues surrounding overdose death statistics. Therefore, caution should be used when making comparisons between SDCTs, performing trend analysis over time, or evaluating the remediation efforts based solely on the numbers reported.

## Appendix A – Overdose Data Criteria

Category	Underlying Cause	Contributing Cause
<b>Prescription opioid poisoning</b>	X40, X41, X42, X43, X44, X60, X61, X62, X63, X64, X85 Y10, Y11, Y12, Y13, Y14	T40.2, T40.3
<b>Illicit opioid poisoning</b>	X40, X41, X42, X43, X44, X60, X61, X62, X63, X64, X85, Y10, Y11, Y12, Y13, Y14	T40.0, T40.1, T40.4, T40.6

### Underlying Cause ICD-10 Codes Descriptions

- X40 (Accidental poisoning by and exposure to nonopioid analgesics, antipyretics, and antirheumatics)
- X41 (Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism, and psychotropic drugs, not elsewhere classified)
- X42 (Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified)
- X43 (Accidental poisoning by and exposure to other drugs acting on the autonomic nervous system)
- X44 (Accidental poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances)
- X60 (Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics, and antirheumatics)
- X61 (Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism, and psychotropic drugs, not elsewhere classified)
- X62 (Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified)
- X63 (Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system)
- X64 (Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances)
- X85 (Assault by drugs, medicaments, and biological substances)
- Y10 (Poisoning by and exposure to nonopioid analgesics, antipyretics, and antirheumatics, undetermined intent)
- Y11 (Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism, and psychotropic drugs, not elsewhere classified, undetermined intent)
- Y12 (Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent)
- Y13 (Poisoning by and exposure to other drugs acting on the autonomic nervous system, undetermined intent)
- Y14 (Poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances, undetermined intent)

### Contributing Cause ICD-10 Codes Descriptions – Prescription Drugs

- T40.2 (Other opioids)
- T40.3 (Methadone)

### Contributing Cause ICD-10 Codes Descriptions – Illicit Drugs

- T40.0 (Opium)
- T40.1 (Heroin)
- T40.4 (Other synthetic narcotics)
- T40.6 (Other and unspecified narcotics)



## Appendix B – Prescription Opioid Overdose Statistic Tables

National Ranking of 2021 Death Rates for Prescription Opioid Overdoses				
Rank	SDCT	Deaths	Population	AAODR
1	West Virginia	231	1,782,959	13.90
2	Alaska	79	732,673	10.70
3	Kentucky	439	4,509,394	9.60
4	New Mexico	199	2,115,877	9.50
5	Tennessee	646	6,975,218	9.40
6	South Carolina	432	5,190,705	8.50
7	Delaware	83	1,003,384	8.40
8	Vermont	47	645,570	8.00
9	Maryland	524	6,165,129	7.90
10	Connecticut	301	3,605,597	7.70
11	Maine	104	1,372,247	7.60
12	Rhode Island	85	1,095,610	7.50
13	Indiana	492	6,805,985	7.40
14	Nevada	239	3,143,991	7.20
15	Louisiana	316	4,624,047	7.00
16	Utah	214	3,337,975	6.90
17	New York	1,322	19,835,913	6.30
18	Wisconsin	356	5,895,908	6.20
19	District of Columbia	44	670,050	6.10
20	Pennsylvania	770	12,964,056	6.00
21	North Carolina	557	10,551,162	5.50
22	Colorado	333	5,812,069	5.50
23	Florida	1,153	21,781,128	5.30
24	Michigan	512	10,050,811	5.10
25	Mississippi	146	2,949,965	5.10
26	Georgia	545	10,799,566	5.00

National Ranking of 2021 Death Rates for Prescription Opioid Overdoses				
Rank	SDCT	Deaths	Population	AAODR
27	Illinois	655	12,671,469	4.90
28	Idaho	92	1,900,923	4.90
29	New Jersey	464	9,267,130	4.80
30	Washington	402	7,738,692	4.80
31	Oregon	210	4,246,155	4.60
32	Arizona	327	7,276,316	4.40
33	Wyoming	27	578,803	4.40
34	Ohio	506	11,780,017	4.30
35	Virginia	369	8,642,274	4.20
36	Massachusetts	301	6,984,723	4.20
37	Kansas	115	2,934,582	4.10
38	Arkansas	111	3,025,891	3.90
39	Minnesota	207	5,707,390	3.60
40	Oklahoma	143	3,986,639	3.60
41	Missouri	212	6,168,187	3.50
42	Alabama	172	5,039,877	3.50
43	New Hampshire	49	1,388,992	3.50
44	Montana	32	1,104,271	3.10
45	California	1,240	39,237,836	2.90
46	North Dakota	20	774,948	2.70
47	Iowa	80	3,193,079	2.60
48	Texas	715	29,527,941	2.40
49	Nebraska	41	1,963,692	2.10
50	Hawaii	34	1,441,553	2.10
51	South Dakota	13	895,376	Data Unreliable
<b>Total</b>		<b>16,706</b>	<b>331,893,745</b>	<b>4.9</b>

## 2017–2021 National Death Rates for Prescription Opioid Overdose by Year

SDCT	Year	Deaths	Population	AAODR
Alabama	2017	167	4,874,747	3.40
Alabama	2018	152	4,887,871	3.20
Alabama	2019	161	4,903,185	3.30
Alabama	2020	146	4,921,532	3.00
Alabama	2021	172	5,039,877	3.50
Alaska	2017	51	739,795	7.00
Alaska	2018	38	737,438	4.90
Alaska	2019	47	731,545	6.10
Alaska	2020	45	731,158	5.80
Alaska	2021	79	732,673	10.70
Arizona	2017	414	7,016,270	5.90
Arizona	2018	362	7,171,646	5.00
Arizona	2019	364	7,278,717	4.90
Arizona	2020	389	7,421,401	5.30
Arizona	2021	327	7,276,316	4.40
Arkansas	2017	125	3,004,279	4.40
Arkansas	2018	119	3,013,825	4.20
Arkansas	2019	98	3,017,804	3.50
Arkansas	2020	105	3,030,522	3.50
Arkansas	2021	111	3,025,891	3.90
California	2017	1,169	39,536,653	2.80
California	2018	1,084	39,557,045	2.60
California	2019	1,073	39,512,223	2.60
California	2020	1,208	39,368,078	2.90
California	2021	1,240	39,237,836	2.90
Colorado	2017	300	5,607,154	5.10
Colorado	2018	268	5,695,564	4.40
Colorado	2019	258	5,758,736	4.30
Colorado	2020	323	5,807,719	5.30
Colorado	2021	333	5,812,069	5.50
Connecticut	2017	273	3,588,184	7.70
Connecticut	2018	231	3,572,665	6.40
Connecticut	2019	283	3,565,287	7.80
Connecticut	2020	311	3,557,006	8.50
Connecticut	2021	301	3,605,597	7.70
Delaware	2017	78	961,939	8.70
Delaware	2018	82	967,171	8.90
Delaware	2019	75	973,764	8.20
Delaware	2020	82	986,809	8.40
Delaware	2021	83	1,003,384	8.40

## 2017–2021 National Death Rates for Prescription Opioid Overdose by Year

SDCT	Year	Deaths	Population	AAODR
District of Columbia	2017	58	693,972	8.40
District of Columbia	2018	41	702,455	5.70
District of Columbia	2019	36	705,749	4.90
District of Columbia	2020	65	712,816	8.70
District of Columbia	2021	44	670,050	6.10
Florida	2017	1,272	20,984,400	6.00
Florida	2018	1,282	21,299,325	6.00
Florida	2019	1,190	21,477,737	5.60
Florida	2020	1,255	21,733,312	5.80
Florida	2021	1,153	21,781,128	5.30
Georgia	2017	568	10,429,379	5.40
Georgia	2018	440	10,519,475	4.10
Georgia	2019	396	10,617,423	3.60
Georgia	2020	493	10,710,017	4.60
Georgia	2021	545	10,799,566	5.00
Hawaii	2017	40	1,427,538	2.50
Hawaii	2018	33	1,420,491	2.30
Hawaii	2019	26	1,415,872	1.60
Hawaii	2020	31	1,407,006	2.20
Hawaii	2021	34	1,441,553	2.10
Idaho	2017	63	1,716,943	3.80
Idaho	2018	75	1,754,208	4.30
Idaho	2019	81	1,787,065	4.50
Idaho	2020	89	1,826,913	4.90
Idaho	2021	92	1,900,923	4.90
Illinois	2017	623	12,802,023	4.80
Illinois	2018	539	12,741,080	4.20
Illinois	2019	545	12,671,821	4.20
Illinois	2020	696	12,587,530	5.40
Illinois	2021	655	12,671,469	4.90
Indiana	2017	425	6,666,818	6.60
Indiana	2018	370	6,691,878	5.60
Indiana	2019	400	6,732,219	6.20
Indiana	2020	461	6,754,953	7.20
Indiana	2021	492	6,805,985	7.40
Iowa	2017	104	3,145,711	3.40
Iowa	2018	64	3,156,145	2.10
Iowa	2019	60	3,155,070	2.00
Iowa	2020	64	3,163,561	2.20
Iowa	2021	80	3,193,079	2.60

## 2017–2021 National Death Rates for Prescription Opioid Overdose by Year

SDCT	Year	Deaths	Population	AAODR
Kansas	2017	89	2,913,123	3.10
Kansas	2018	87	2,911,505	3.20
Kansas	2019	85	2,913,314	3.00
Kansas	2020	82	2,913,805	3.00
Kansas	2021	115	2,934,582	4.10
Kentucky	2017	433	4,454,189	10.20
Kentucky	2018	315	4,468,402	7.20
Kentucky	2019	345	4,467,673	7.80
Kentucky	2020	466	4,477,251	10.80
Kentucky	2021	439	4,509,394	9.60
Louisiana	2017	168	4,684,333	3.60
Louisiana	2018	144	4,659,978	3.00
Louisiana	2019	188	4,648,794	4.20
Louisiana	2020	269	4,645,318	6.00
Louisiana	2021	316	4,624,047	7.00
Maine	2017	100	1,335,907	7.60
Maine	2018	69	1,338,404	5.10
Maine	2019	73	1,344,212	5.60
Maine	2020	92	1,350,141	7.00
Maine	2021	104	1,372,247	7.60
Maryland	2017	711	6,052,177	11.50
Maryland	2018	576	6,042,718	9.20
Maryland	2019	589	6,045,680	9.40
Maryland	2020	589	6,055,802	9.40
Maryland	2021	524	6,165,129	7.90
Massachusetts	2017	321	6,859,819	4.60
Massachusetts	2018	331	6,902,149	4.70
Massachusetts	2019	288	6,892,503	4.00
Massachusetts	2020	363	6,893,574	5.30
Massachusetts	2021	301	6,984,723	4.20
Michigan	2017	633	9,962,311	6.50
Michigan	2018	556	9,995,915	5.60
Michigan	2019	454	9,986,857	4.60
Michigan	2020	495	9,966,555	4.90
Michigan	2021	512	10,050,811	5.10
Minnesota	2017	195	5,576,606	3.60
Minnesota	2018	136	5,611,179	2.50
Minnesota	2019	143	5,639,632	2.60
Minnesota	2020	213	5,657,342	3.80
Minnesota	2021	207	5,707,390	3.60

## 2017–2021 National Death Rates for Prescription Opioid Overdose by Year

SDCT	Year	Deaths	Population	AAODR
Mississippi	2017	96	2,984,100	3.20
Mississippi	2018	92	2,986,530	3.10
Mississippi	2019	97	2,976,149	3.20
Mississippi	2020	119	2,966,786	4.20
Mississippi	2021	146	2,949,965	5.10
Missouri	2017	253	6,113,532	4.10
Missouri	2018	265	6,126,452	4.40
Missouri	2019	242	6,137,428	3.90
Missouri	2020	233	6,151,548	3.80
Missouri	2021	212	6,168,187	3.50
Montana	2017	24	1,050,493	2.30
Montana	2018	26	1,062,305	2.30
Montana	2019	33	1,068,778	3.10
Montana	2020	39	1,080,577	3.60
Montana	2021	32	1,104,271	3.10
Nebraska	2017	37	1,920,076	2.00
Nebraska	2018	41	1,929,268	2.10
Nebraska	2019	39	1,934,408	2.00
Nebraska	2020	35	1,937,552	1.80
Nebraska	2021	41	1,963,692	2.10
Nevada	2017	276	2,998,039	8.70
Nevada	2018	235	3,034,392	7.20
Nevada	2019	189	3,080,156	5.80
Nevada	2020	245	3,138,259	7.60
Nevada	2021	239	3,143,991	7.20
New Hampshire	2017	62	1,342,795	4.80
New Hampshire	2018	43	1,356,458	3.10
New Hampshire	2019	45	1,359,711	3.30
New Hampshire	2020	44	1,366,275	3.00
New Hampshire	2021	49	1,388,992	3.50
New Jersey	2017	490	9,005,644	5.30
New Jersey	2018	517	8,908,520	5.80
New Jersey	2019	456	8,882,190	5.00
New Jersey	2020	457	8,882,371	5.00
New Jersey	2021	464	9,267,130	4.80
New Mexico	2017	171	2,088,070	8.50
New Mexico	2018	176	2,095,428	8.20
New Mexico	2019	179	2,096,829	8.90
New Mexico	2020	204	2,106,319	10.20
New Mexico	2021	199	2,115,877	9.50

## 2017–2021 National Death Rates for Prescription Opioid Overdose by Year

SDCT	Year	Deaths	Population	AAODR
New York	2017	1,044	19,849,399	5.10
New York	2018	998	19,542,209	4.90
New York	2019	939	19,453,561	4.70
New York	2020	1,257	19,336,776	6.30
New York	2021	1,322	19,835,913	6.30
North Carolina	2017	659	10,273,419	6.50
North Carolina	2018	489	10,383,620	4.70
North Carolina	2019	420	10,488,084	4.00
North Carolina	2020	487	10,600,823	4.70
North Carolina	2021	557	10,551,162	5.50
North Dakota	2017	18	755,393	Data Unreliable
North Dakota	2018	24	760,077	3.40
North Dakota	2019	27	762,062	3.70
North Dakota	2020	19	765,309	Data Unreliable
North Dakota	2021	20	774,948	2.70
Ohio	2017	947	11,658,609	8.40
Ohio	2018	571	11,689,442	5.00
Ohio	2019	477	11,689,100	4.20
Ohio	2020	511	11,693,217	4.50
Ohio	2021	506	11,780,017	4.30
Oklahoma	2017	251	3,930,864	6.70
Oklahoma	2018	172	3,943,079	4.30
Oklahoma	2019	133	3,956,971	3.40
Oklahoma	2020	117	3,980,783	2.90
Oklahoma	2021	143	3,986,639	3.60
Oregon	2017	154	4,142,776	3.50
Oregon	2018	151	4,190,713	3.40
Oregon	2019	127	4,217,737	2.80
Oregon	2020	134	4,241,507	3.10
Oregon	2021	210	4,246,155	4.60
Pennsylvania	2017	618	12,805,537	4.90
Pennsylvania	2018	690	12,807,060	5.50
Pennsylvania	2019	623	12,801,989	5.00
Pennsylvania	2020	764	12,783,254	6.10
Pennsylvania	2021	770	12,964,056	6.00
Rhode Island	2017	99	1,059,639	8.80
Rhode Island	2018	85	1,057,315	7.70
Rhode Island	2019	63	1,059,361	5.90
Rhode Island	2020	87	1,057,125	8.40
Rhode Island	2021	85	1,095,610	7.50

## 2017–2021 National Death Rates for Prescription Opioid Overdose by Year

SDCT	Year	Deaths	Population	AAODR
South Carolina	2017	345	5,024,369	7.10
South Carolina	2018	375	5,084,127	7.40
South Carolina	2019	351	5,148,714	7.00
South Carolina	2020	435	5,218,040	8.50
South Carolina	2021	432	5,190,705	8.50
South Dakota	2017	16	869,666	Data Unreliable
South Dakota	2018	11	882,235	Data Unreliable
South Dakota	2019	16	884,659	Data Unreliable
South Dakota	2020	15	892,717	Data Unreliable
South Dakota	2021	13	895,376	Data Unreliable
Tennessee	2017	644	6,715,984	9.60
Tennessee	2018	550	6,770,010	8.20
Tennessee	2019	515	6,829,174	7.60
Tennessee	2020	605	6,886,834	9.00
Tennessee	2021	646	6,975,218	9.40
Texas	2017	646	28,304,596	2.30
Texas	2018	547	28,701,845	1.90
Texas	2019	535	28,995,881	1.80
Texas	2020	640	29,360,759	2.20
Texas	2021	715	29,527,941	2.40
Utah	2017	315	3,101,833	10.80
Utah	2018	306	3,161,105	10.50
Utah	2019	277	3,205,958	9.30
Utah	2020	235	3,249,879	7.90
Utah	2021	214	3,337,975	6.90
Vermont	2017	40	623,657	6.30
Vermont	2018	27	626,299	4.40
Vermont	2019	29	623,989	4.90
Vermont	2020	39	623,347	6.70
Vermont	2021	47	645,570	8.00
Virginia	2017	404	8,470,020	4.70
Virginia	2018	326	8,517,685	3.80
Virginia	2019	306	8,535,519	3.50
Virginia	2020	365	8,590,563	4.20
Virginia	2021	369	8,642,274	4.20
Washington	2017	343	7,405,743	4.30
Washington	2018	301	7,535,591	3.80
Washington	2019	268	7,614,893	3.30
Washington	2020	327	7,693,612	4.00
Washington	2021	402	7,738,692	4.80



## 2017–2021 National Death Rates for Prescription Opioid Overdose by Year

SDCT	Year	Deaths	Population	AAODR
West Virginia	2017	304	1,815,857	17.20
West Virginia	2018	234	1,805,832	13.10
West Virginia	2019	185	1,792,147	10.50
West Virginia	2020	303	1,784,787	18.40
West Virginia	2021	231	1,782,959	13.90
Wisconsin	2017	362	5,795,483	6.40
Wisconsin	2018	301	5,813,568	5.30
Wisconsin	2019	282	5,822,434	4.80
Wisconsin	2020	338	5,832,655	5.90
Wisconsin	2021	356	5,895,908	6.20
Wyoming	2017	31	579,315	6.00
Wyoming	2018	28	577,737	4.60
Wyoming	2019	28	578,759	4.70
Wyoming	2020	30	582,328	5.50
Wyoming	2021	27	578,803	4.40

## Appendix C – Percentage Change in Prescription Opioid Overdose Deaths From 2017 to 2021

Increase ■                      Decrease ■

