

U.S. Overdose Death Rate Dropped Nearly 30% in Two Years, Driven Largely by Decline in Fentanyl Fatalities

New Data by Education Show the Disproportionate Burden on People With a High School Diploma or Less

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Appendix

[Click to view state-level data on drug overdose death rates from 2022 to 2024.](#)

Since their rapid ascent and tragic peak during the COVID-19 pandemic, U.S. drug overdose deaths have dropped precipitously.¹ In 2024, just under 80,000 lives were lost to fatal overdoses. While still historically high, that represents a dramatic decline after more than 100,000 deaths a year in 2021, 2022, and 2023.²

The decline in overall drug overdose deaths has been driven primarily by a reduction in fatal overdoses involving fentanyl and related synthetic opioids, a class of drugs that has emerged as the center of gravity in the U.S. opioid epidemic in recent years.³ Between 2022 and 2024, fatal overdoses involving fentanyl and related synthetic opioids declined from a high-water mark of nearly 74,000 to fewer than 48,000—a drop of 35%.

It is not entirely clear why drug overdose deaths have declined so quickly. One possibility is individual-level behavior changes, such as fewer people using drugs or more people using drugs in ways aimed at reducing risks, such as avoiding injection in favor of smoking as a mode of administration.⁴ Another possibility is that public health interventions, such as expanding access to evidence-based treatments for opioid use disorder (OUD) and widespread distribution of the opioid overdose-reversing medication naloxone, have begun to pay dividends.⁵ And some recent research has suggested that the supply of illicitly manufactured and trafficked fentanyl has been constrained, perhaps a result of U.S. and international policymakers' efforts to hamper supply chains for illicitly trafficked fentanyl.⁶

However, we should also recognize that the U.S. drug crisis is not remotely over. In fact, there are various signs that continued success in reducing drug overdose deaths may become increasingly difficult to achieve, as drug markets evolve, demographic patterns shift, and drug traffickers adapt. For instance, as fentanyl emerged as a growing public health threat in recent years, other non-opioid drugs—especially cocaine and methamphetamine—became intertwined in drug trafficking and the overdose crisis, killing record numbers of people, as well.⁷ These developments appear to have contributed to new disparities in drug overdose deaths. For instance, the most recent data show that cocaine overdose deaths disproportionately kill Black people, and methamphetamine overdoses disproportionately kill American Indian or Alaska Native people. Additionally, cocaine and methamphetamine overdose deaths have continued to climb among elderly adults, even as overdose death rates have leveled off or declined for other ages.

Another issue is that there are indications that drug traffickers have been innovating in ways that could undermine recent progress. For instance, in some parts of the U.S., drug traffickers have been adding the non-opioid animal tranquilizer xylazine to fentanyl and other substances, which can cause a variety of new challenges, such as overdoses that cannot be reversed with naloxone.^{8,9,10} Additionally, public health and law enforcement officials have raised concerns about the emergence of new kinds of illicit synthetic opioids, including nitazenes and orphines, which can be much more potent than fentanyl.^{11,12} Important to acknowledge for this brief is that the United States' outdated vital statistics data infrastructure makes the identification of emerging drug threats to public health challenging to quantify—and challenging to mitigate—until they develop into full-blown crises.¹³

Using mortality data from the U.S. National Vital Statistics System, obtained through the U.S. Centers for Disease Control and Prevention's (CDC) WONDER database, this brief examines trends and patterns in fatal drug overdoses. It provides an overview of trends since 2011, when the CDC first declared a drug overdose "epidemic," with a particular focus on how the crisis has evolved since fatal overdoses peaked in 2022, and how overdose deaths vary across states and by demographic groups.

Recent Trends in the Opioid Epidemic

For roughly a quarter-century, the U.S. has experienced a long-term trend of growing drug overdose deaths. The crisis began relatively slowly and quietly, driven primarily by a steady uptick in fatal overdoses caused by prescription opioid painkillers, such as OxyContin.¹⁴ Around the time the CDC first declared an overdose “epidemic” in 2011, the dynamics began to change, with a pivot away from prescription opioid painkillers toward illicitly trafficked heroin.¹⁵ Some experts attribute this change, in part, to efforts to mitigate the crisis through interventions such as reducing prescribing of opioid painkillers by health care providers and reformulation of these medications to deter abuse.¹⁶

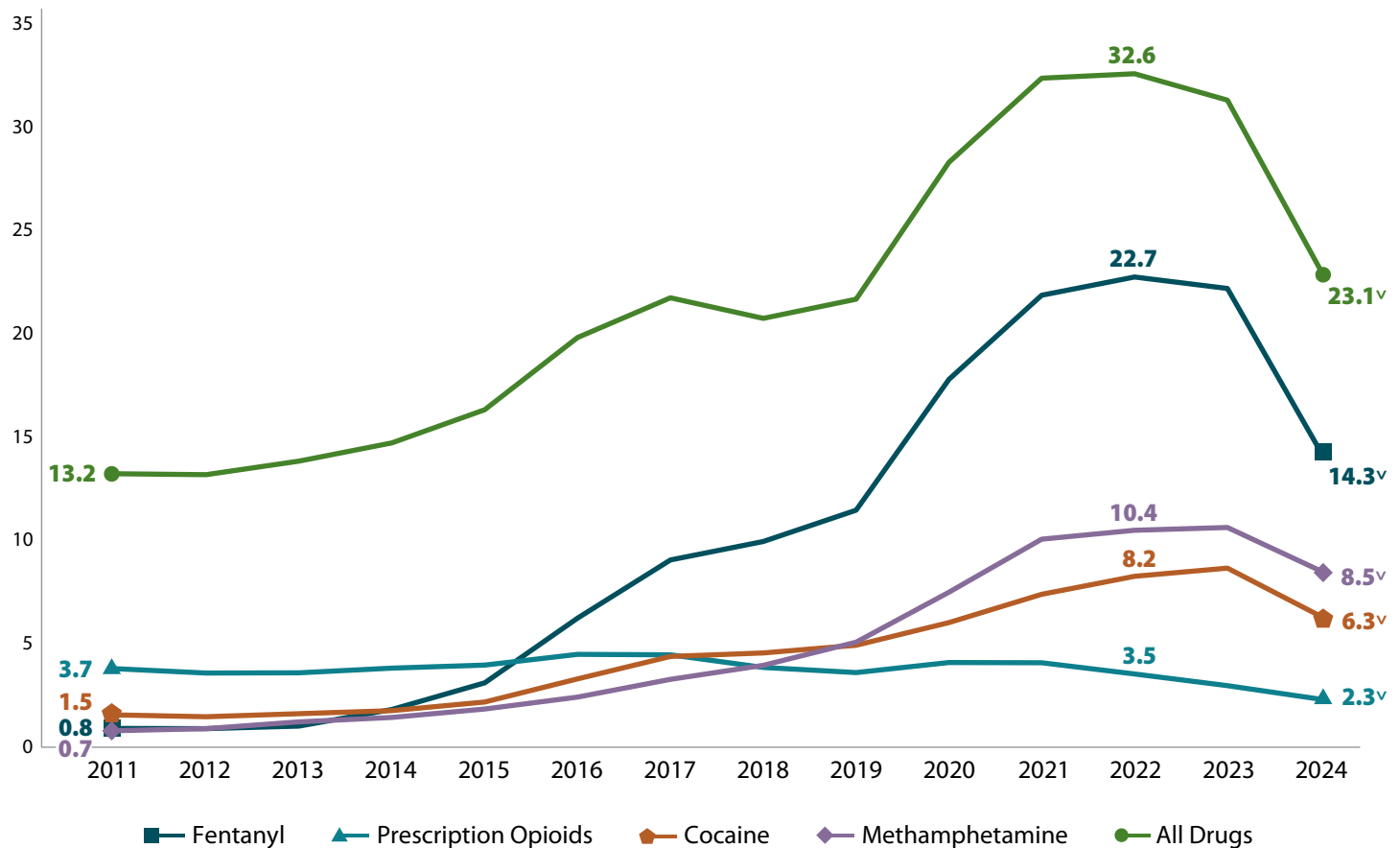
The rise of heroin was then followed by the arrival of fentanyl and similar synthetic opioids in the illicit drug market, likely an innovation by illicit drug traffickers to capitalize on relative advantages of the drug. Because fentanyl is typically much more potent than heroin, it can be easier and more profitable to traffic. Additionally, as a synthetic opioid, fentanyl can be manufactured more surreptitiously, without the vast fields of opium poppies required as raw ingredients for producing heroin—a weak link in drug supply chains that are vulnerable to anti-narcotic initiatives by law enforcement agencies.

Since the rise of fentanyl, evidence suggests that drug trafficking organizations also began leveraging their infrastructure to better distribute and market certain non-opioid substances, such as cocaine and methamphetamine, which are often comingled with opioids. Signs of this can be seen in increased seizures by law enforcement agencies of cocaine and methamphetamine alongside fentanyl, as well as in the elevated rates of overdose deaths involving fentanyl combined with cocaine and fentanyl combined with methamphetamine.^{17,18,19} Drug users sometimes intentionally use fentanyl together with stimulants such as cocaine and methamphetamine for complementary effects (e.g., a “speedball”). However, people may also find themselves using opioids and stimulants together unintentionally as traffickers accidentally comingle or intentionally mix opioids and non-opioids. For instance, fentanyl is sometimes mixed with cocaine or methamphetamine by drug traffickers at the wholesale- or retail-level, as can be found in counterfeit pills made to resemble medications such as OxyContin and Adderall.²⁰

Vital statistics mortality data show that one of the most recent developments in the opioid crisis is a dramatic drop in fatal drug overdoses. Between the high-water mark for the overdose crisis in 2022 and the most recently published data from 2024, the U.S. rate for total drug overdose deaths (i.e., fatal overdoses involving all types of drugs) has declined by 29.1% (Figure 1). This was driven largely by a 37.1% decline in the rate of fatal overdoses involving synthetic opioids other than methadone (as shorthand, we will refer to this category as “fentanyl” for the rest of this brief, as CDC research has found that fentanyl is the most common cause of fatal overdoses in this drug category).²¹

The rate of overdose deaths involving prescription opioids (i.e., natural and semi-synthetic opioids other than heroin) declined by 35.2%, though these are far less common than fentanyl overdose deaths (2.3 deaths per 100,000 people versus 14.3 deaths per 100,000 people in 2024, respectively). The fatal overdose rate for cocaine declined by a smaller 23.5%. The fatal overdose rate for “psychostimulants with abuse potential”—which we will refer to as “methamphetamine” for the rest of this brief, as CDC research has found that methamphetamine is the most common cause of fatal overdoses in this drug category—declined by a smaller-yet 18.7%.

Figure 1. Fentanyl, Prescription Opioid, Methamphetamine, Cocaine, and All Drug Overdose Death Rates per 100,000 People, 2011–2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

^v Rate significantly lower than 2022 rate at 95% level.

It is important to acknowledge that a large share of fatal overdoses involve multiple drugs, with many involving fentanyl and one or more other substances. For instance, in 2024, 48.1% of prescription opioid overdose deaths also involved fentanyl, 58.8% of methamphetamine overdose deaths also involved fentanyl, and 67.4% of cocaine overdose deaths also involved fentanyl.

As a result of fentanyl and prescription opioid overdose deaths declining more rapidly than those involving other drugs, these two drug categories comprised a smaller share of all drug overdose deaths in 2024 than they did in 2022. Fentanyl fell from representing 69.7% of all overdose deaths in 2022 to 61.9% in 2024, and prescription opioids declined from 10.7% of all overdose deaths to 9.8%. Conversely, because cocaine and methamphetamine overdose deaths declined more slowly than fentanyl and prescription opioids, they comprised a larger share of all overdose deaths in 2024 than in 2022. Cocaine grew from 25.2% of all drug overdose deaths in 2022 to 27.2% in 2024, and methamphetamine grew from 32.1% of all drug overdose deaths to 36.8%.

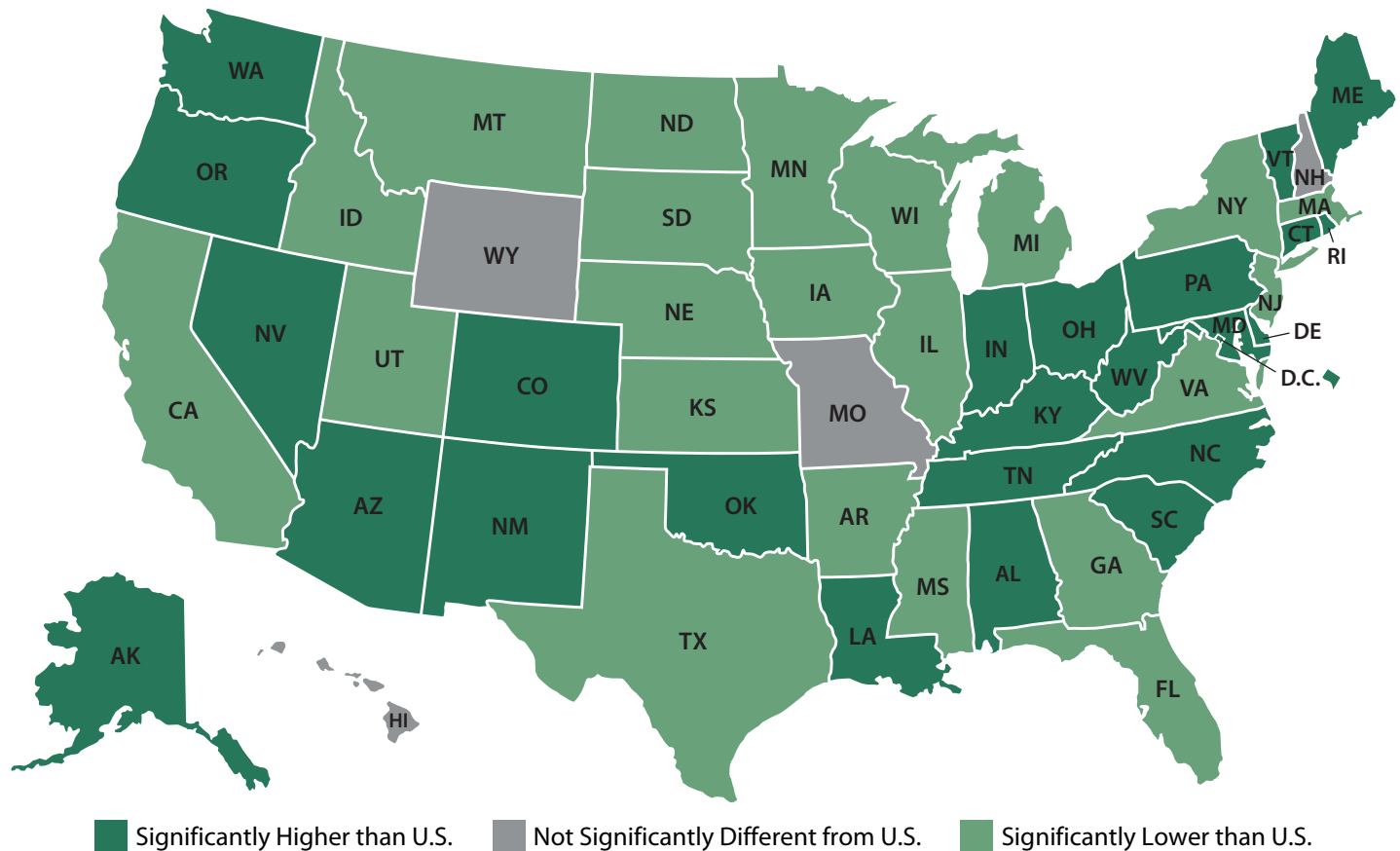
State-level Variation and Trends in Drug Overdose Deaths

All Drugs

At the state-level, an overwhelming majority of 41 states, plus the District of Columbia, experienced statistically significant declines in fatal overdose rates from all drugs between 2022 and 2024 ([Appendix](#)); only Alaska, Nevada, Oregon, and Washington saw statistically significant increases in their overdose death rates for all drugs, while Hawaii, Iowa, South Dakota, Utah, and Wyoming saw no statistically significant change.

For much of the history of the opioid crisis, overdose death patterns have varied across states and regions. The Mississippi River can be used as a geographic boundary to illustrate differences in overdose death rates by drug type, roughly splitting states into two halves, with 26 states laying entirely or mostly east of the river and 24 states laying entirely or mostly west of the river. For fatal overdoses from all drugs, a majority of states with rates significantly higher than the U.S. rate were found east of the Mississippi River (Figure 2). In 2024, Nebraska had the lowest rate of fatal overdoses from all drugs, at 8.1 deaths per 100,000 people, while West Virginia had the highest rate, at 48.9 deaths per 100,000 people (Figure 3).

Figure 2. State vs. U.S. Overdose Death Rates from All Drugs, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Figure 3. Highest and Lowest State Overdose Death Rates from All Drugs, 2024

Five Highest Rates

State	Death Rate per 100,000 People
West Virginia	48.9
Alaska	45.1
District of Columbia	43.2
Washington	37.6
New Mexico	37.1

Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Five Lowest Rates

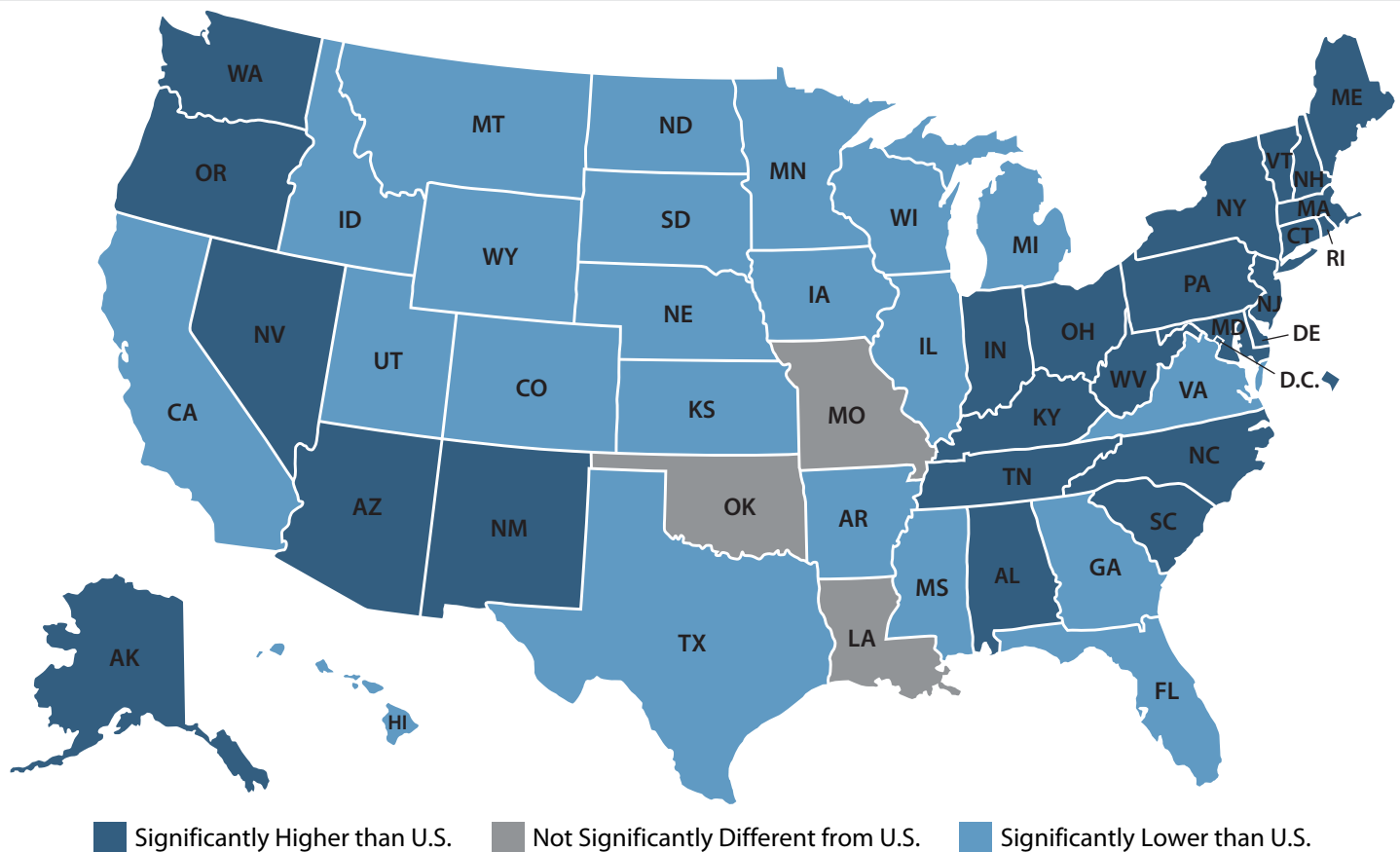
State	Death Rate per 100,000 People
Nebraska	8.1
South Dakota	11.9
Iowa	13.7
Arkansas	13.9
North Dakota	14.8

Fentanyl

For fentanyl and similar synthetic opioids, 42 states, plus the District of Columbia, experienced statistically significant declines in fatal overdose rates between 2022 and 2024 ([Appendix](#)); only Alaska, Nevada, Oregon, Utah, and Washington saw statistically significant increases in their overdose death rates for fentanyl, while Hawaii, Montana, and South Dakota saw no statistically significant change. States were roughly split between those that had rates significantly higher than the U.S. and those that had rates significantly lower than the U.S.; only three had rates not significantly different from the U.S. rate (Figure 4).

States with fentanyl overdose death rates significantly higher than the U.S. rate were largely concentrated in the eastern U.S.; most states east of the Mississippi River had rates significantly higher than the U.S. rate, while only six states west of the Mississippi River had rates higher than the U.S. rate (Figure 4). In 2024, Nebraska had the lowest rate of fatal overdoses from fentanyl, at 2.6 deaths per 100,000 people, while West Virginia had the highest rate, at 36.1 deaths per 100,000 people (Figure 5).

Figure 4. State vs. U.S. Fentanyl Overdose Death Rates, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Figure 5. Highest and Lowest State Fentanyl Overdose Death Rates, 2024

Five Highest Rates

State	Death Rate per 100,000 People
West Virginia	36.1
Alaska	33.9
District of Columbia	32.7
Washington	27.9
Vermont	27.7

Five Lowest Rates

State	Death Rate per 100,000 People
Nebraska	2.6
South Dakota	3.8
Iowa	4.3
Arkansas	5.1
North Dakota	5.7

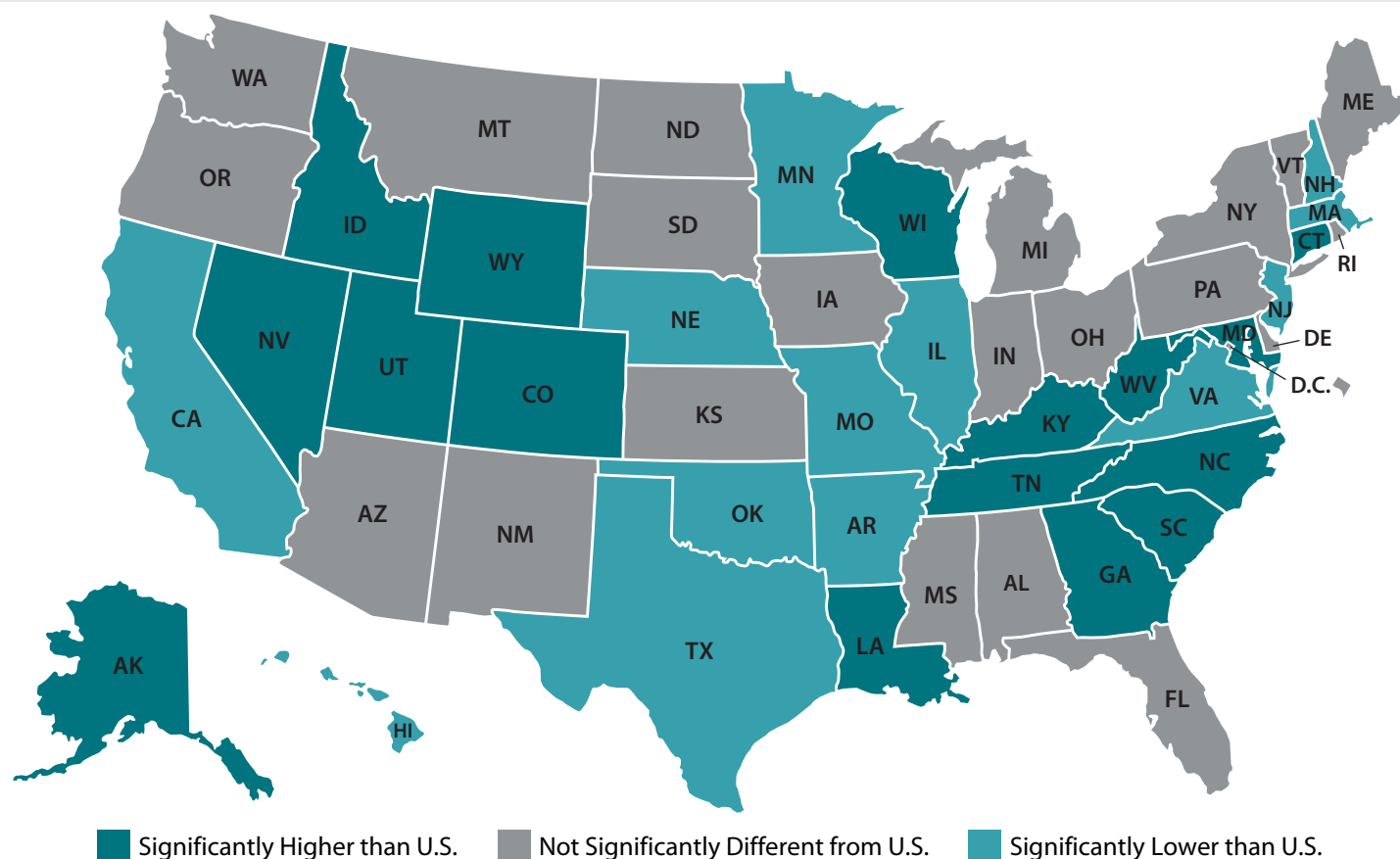
Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Prescription Opioids

For prescription opioids, 34 states experienced statistically significant declines in fatal overdose rates between 2022 and 2024 ([Appendix](#)); zero states saw a statistically significant increase in fatal overdoses from prescription opioids, while 14 states, plus the District of Columbia, saw no statistically significant change.

State and regional patterns differed for prescription opioid overdose death rates. More than 20 states had prescription opioid overdose death rates that were not significantly different from the U.S. rate, partly a result of less state-level variation in rates compared to other drug types. Additionally, the states with rates that were significantly higher than the U.S. rate were split relatively evenly between states east and west of the Mississippi River (Figure 6). In 2024, Nebraska had the lowest rate of fatal overdoses from prescription opioids, at 0.7 deaths per 100,000 people, while Utah had the highest rate, at 4.7 deaths per 100,000 people (Figure 7).

Figure 6. State vs. U.S. Prescription Opioid Overdose Death Rates, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Figure 7. Highest and Lowest State Prescription Opioid Overdose Death Rates, 2024

Five Highest Rates

State(s)	Death Rate per 100,000 People
Utah	4.7
Kentucky and West Virginia	4.3
Wyoming	4.1
Alaska	4.0
Idaho, Tennessee, and Nevada	3.9

Five Lowest Rates

State(s)	Death Rate per 100,000 People
Nebraska	0.7
New Hampshire	1.1
Hawaii and Arkansas	1.4
Virginia and Massachusetts	1.5
California and Minnesota	1.6

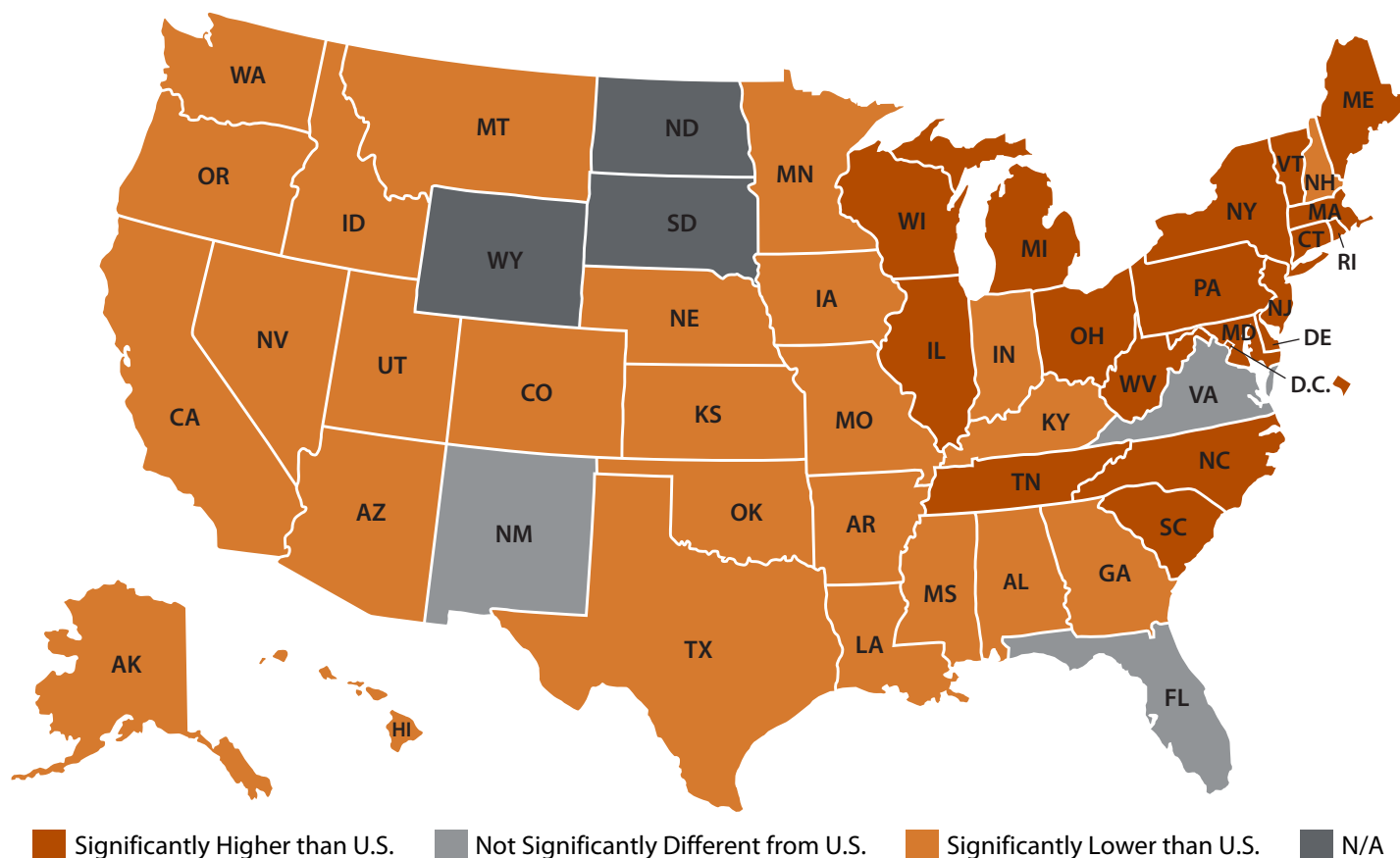
Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Cocaine

For cocaine, 24 states, plus the District of Columbia, experienced statistically significant declines in fatal overdose rates between 2022 and 2024 ([Appendix](#)). Three states (Nevada, Oregon and Washington) saw statistically significant increases, and 17 states saw no statistically significant change in their cocaine overdose death rates. Significance testing was not possible for six states (Idaho, Montana, Nebraska, North Dakota, South Dakota, and Wyoming) due to suppression of rates by the CDC for small numbers of cocaine overdose deaths in those states in 2022, 2024, or both.

Cocaine overdose death rates demonstrated a clear regional pattern. All states with cocaine overdose death rates significantly higher than the U.S. rate were found east of the Mississippi River (Figure 8). In 2024, Nebraska and Montana had the lowest rate of fatal overdoses from cocaine, at 1.0 deaths per 100,000 people, while the District of Columbia had the highest rate, at 23.7 deaths per 100,000 people (Figure 9).

Figure 8. State vs. U.S. Cocaine Overdose Death Rates, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Figure 9. Highest and Lowest State Cocaine Overdose Death Rates, 2024

Five Highest Rates

State	Death Rate per 100,000 People
District of Columbia	23.7
Vermont	19.3
Rhode Island	15.7
Delaware	15.4
Maine	15.2

Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Five Lowest Rates

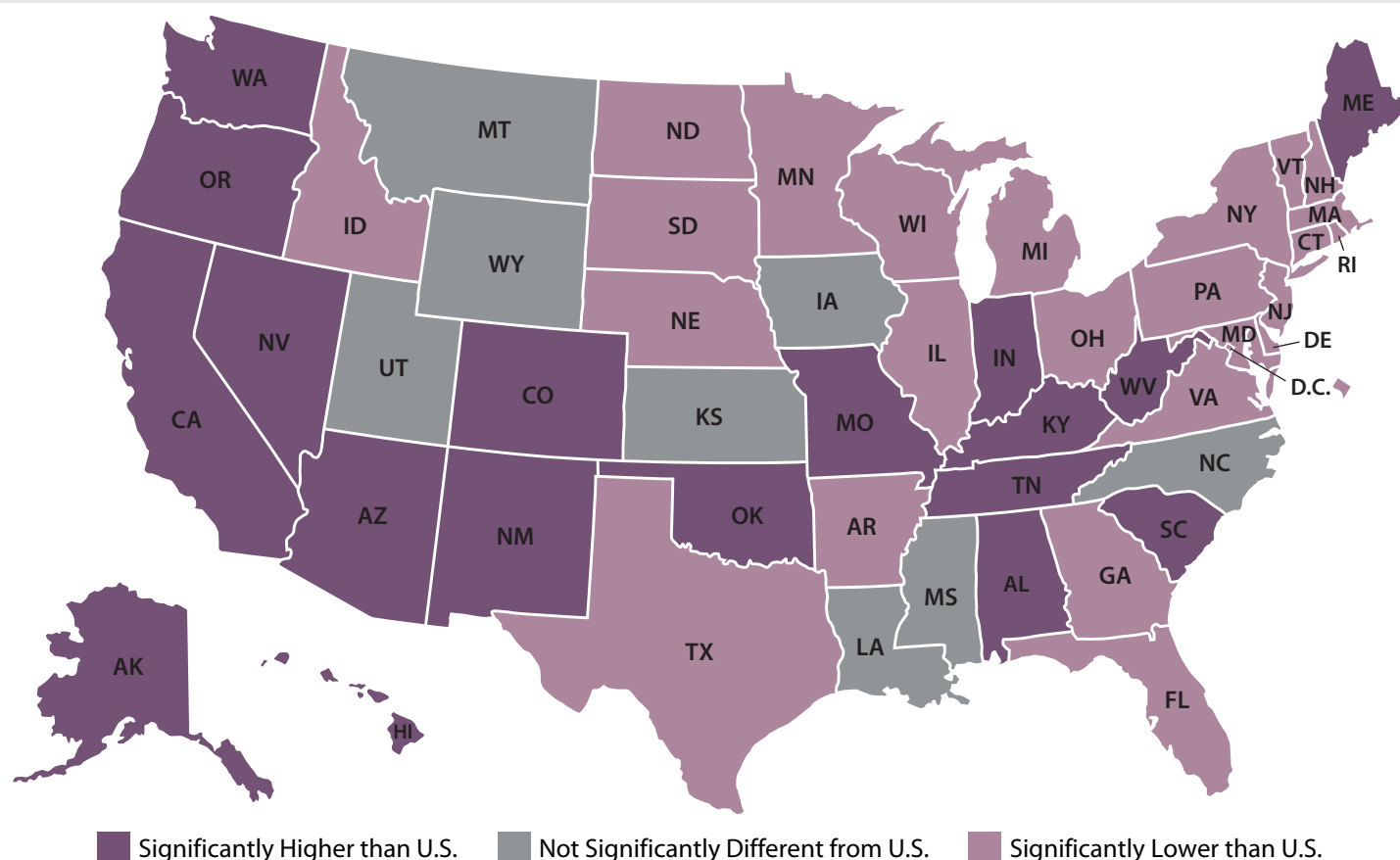
State(s)	Death Rate per 100,000 People
Nebraska and Montana	1.0
Iowa and Idaho	1.1
Arkansas	1.2
Utah	1.8
Hawaii	1.9

Methamphetamine

For methamphetamine and other psychostimulants, 31 states experienced statistically significant declines in fatal overdose rates between 2022 and 2024 ([Appendix](#)); only Alaska, Hawaii, Nevada, Oregon, and Washington saw statistically significant increases in their overdose death rates for methamphetamine, while 14 states saw no statistically significant change. Significance testing was not possible for the District of Columbia due to suppression of its 2022 rate by the CDC for small numbers of methamphetamine overdose deaths.

Methamphetamine overdose deaths also demonstrated a regional pattern, with a majority of states with rates significantly higher than the U.S. found west of the Mississippi River, though there were also several states with rates higher than the U.S. rate found east of the Mississippi (Figure 10). In 2024, Connecticut and Maryland had the lowest rate of fatal overdoses from methamphetamine, at 1.9 deaths per 100,000 people, while West Virginia had the highest rate, at 28.0 deaths per 100,000 people (Figure 11).

Figure 10. State vs. U.S. Methamphetamine Overdose Death Rates, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Figure 11. Highest and Lowest State Methamphetamine Overdose Death Rates, 2024

Five Highest Rates

State	Death Rate per 100,000 People
West Virginia	28.0
Alaska	27.8
Washington	22.1
New Mexico	21.7
Nevada	20.8

Five Lowest Rates

State(s)	Death Rate per 100,000 People
Maryland and Connecticut	1.9
Massachusetts	2.4
New Jersey	2.5
Nebraska	2.8
New York	3.1

Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

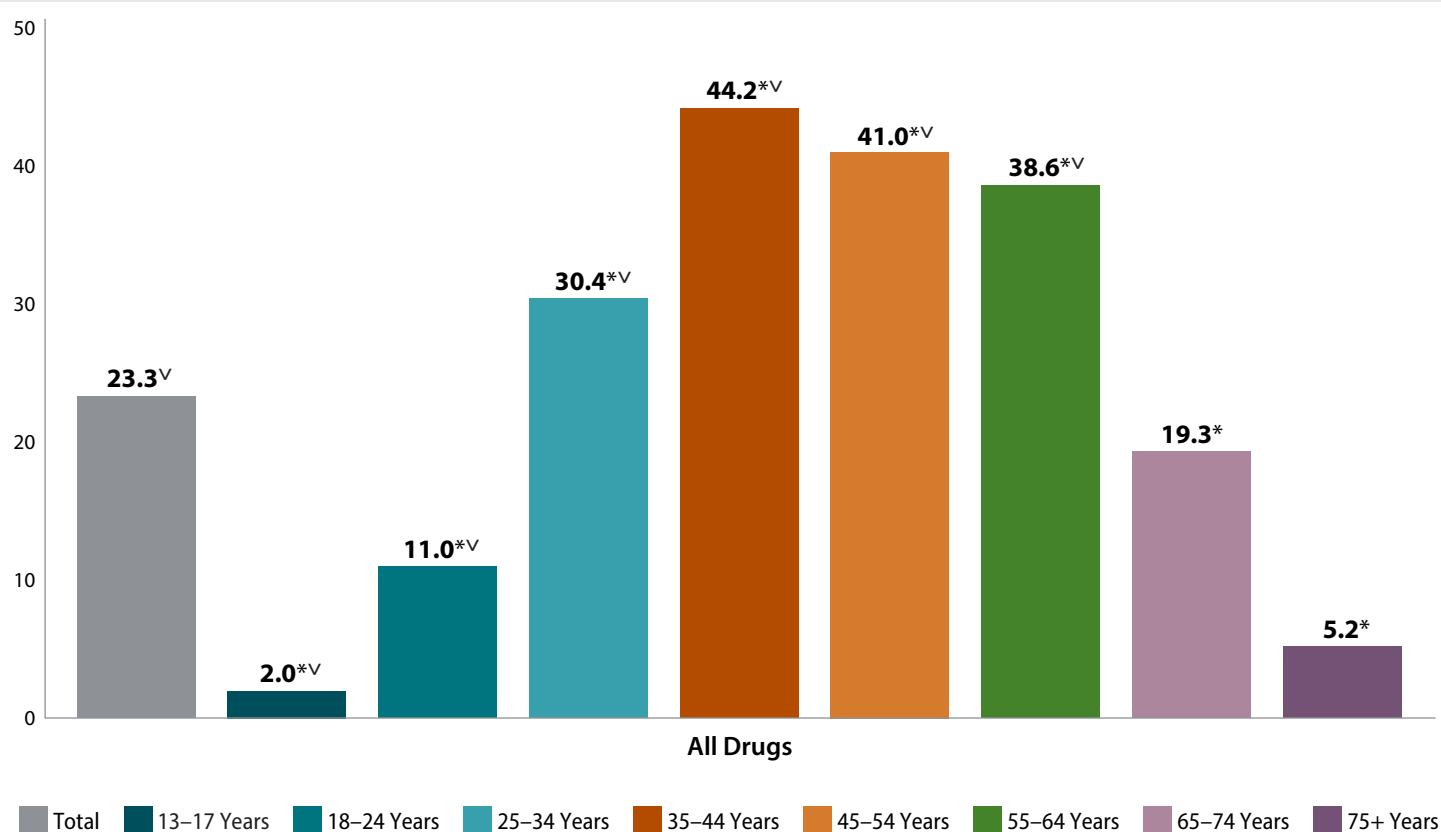
Drug Overdose Deaths: Variation and Trends by Demographic Subgroups

In addition to releasing data on drug overdose deaths by state and drug type, the CDC also makes data available by certain demographic characteristics. It publishes drug overdose death *rates* by age and race/ethnicity subgroups, and it publishes drug overdose death *counts* by education level.²² We analyzed data by age and by race/ethnicity similarly to how we analyzed data across states—by using rates and testing for statistical significance in differences. Because data by education level are published only as counts rather than rates, we used a different approach for that analysis, using what is called a **proportionality index**; we briefly describe this method and how to interpret results in the “Overdose Proportionality by Education” section.

Overdose Death Rates by Age

In examining overdose death rates for all drugs by age, the data show that rates declined significantly between 2022 and 2024 among adolescents (age 13–17 years old) and working-age adults (age groups 18–24, 25–34, 35–44, 45–54, and 55–64 years old) (Figure 12). Rates did not decline significantly among elderly adults age 65–74 or age 75 and older. No age subgroup saw a statistically significant increase in overdose deaths from all drugs.

Figure 12. Overdose Death Rates from All Drugs by Age, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

^ Rate significantly higher than 2022 rate at 95% level.

v Rate significantly lower than 2022 rate at 95% level.

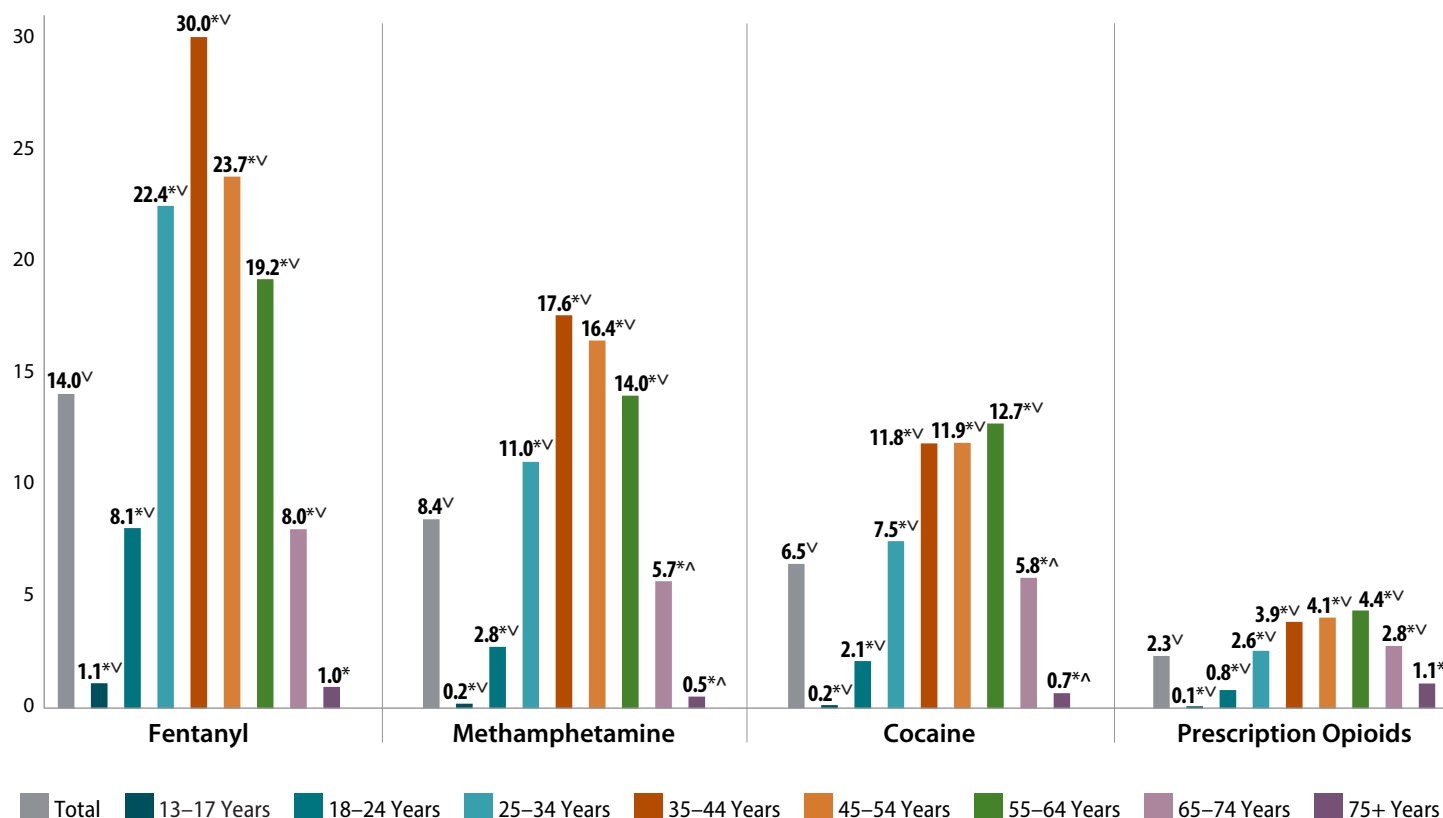
* Rate significantly different from total rate at 95% level.

Adolescents had the lowest drug overdose death rate in 2024, at 2.0 deaths per 100,000 people, followed by the oldest adults, age 75 and older, at 5.2 deaths per 100,000 people. Like those groups, young adults (age 18–24) also had an overdose death rate significantly lower than the overall population, at 11.0 deaths per 100,000 people, as did elderly adults age 65–74, at 19.3 deaths per 100,000 people. Adults age 35–44 had the highest overdose death rate for all drugs, at 44.2 deaths per 100,000 people, which was significantly higher than the overall population. Adults age 25–34, 45–54, and 55–64 also had overdose death rates for all drugs that were significantly higher than the overall population.

The patterns and changes over time by age subgroup were similar for fentanyl and prescription opioid overdose death rates, seeing significant declines among most age subgroups between 2022 and 2024, along with significantly higher rates among working-age adults compared to the overall population (Figure 13). For both cocaine and methamphetamine, overdose death rates were again higher among working-age adults compared to the overall population.

While cocaine and methamphetamine overdose death rates declined among adolescents and non-elderly adults (i.e., adults younger than 65), they did increase significantly among elderly adults, (age 65–74 and 75 and older).

Figure 13. Drug Overdose Death Rates by Age, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

^ Rate significantly higher than 2022 rate at 95% level.

v Rate significantly lower than 2022 rate at 95% level.

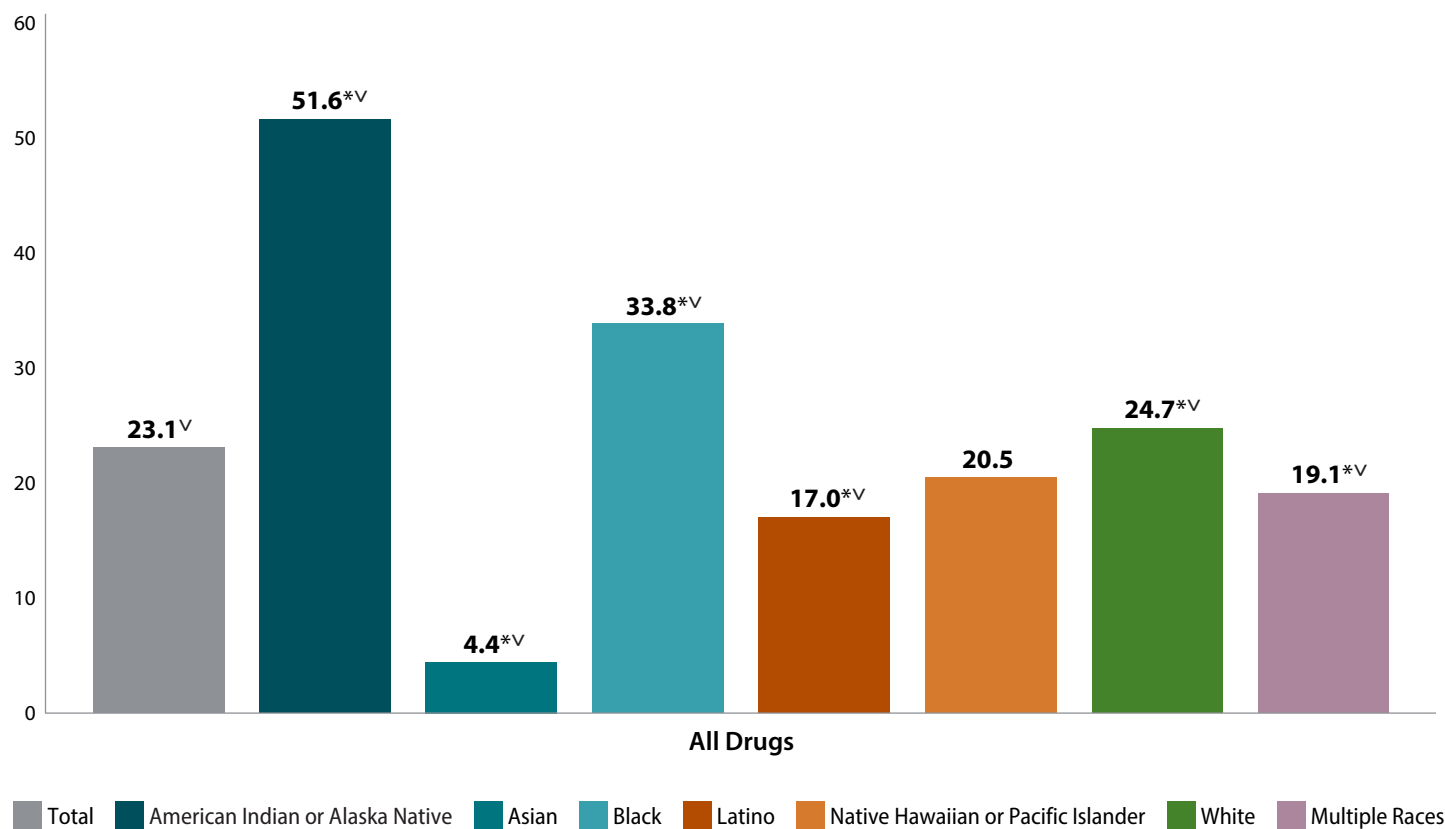
* Rate significantly different from total rate at 95% level.

Overdose Death Rates by Race/Ethnicity

By racial and ethnic groups, overdose death rates for all drugs fell almost across the board—declining among American Indian or Alaska Native, Asian, Black, Latino, White, and people of multiple races (Figure 14). No subgroup saw its overdose rate for all drugs increase significantly, and only Native Hawaiian or Pacific Islander people experienced no statistically significant change.

Compared to the overall population rate, American Indian or Alaska Native, Black, and White people had overdose death rates for all drugs that were significantly higher, while Asian, Latino, and people of multiple races had rates that were significantly lower. The rate for Native Hawaiian or Pacific Islander people was not significantly different from the total population rate of overdose deaths for all drugs.

Figure 14. Overdose Death Rates from All Drugs by Race/Ethnicity, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

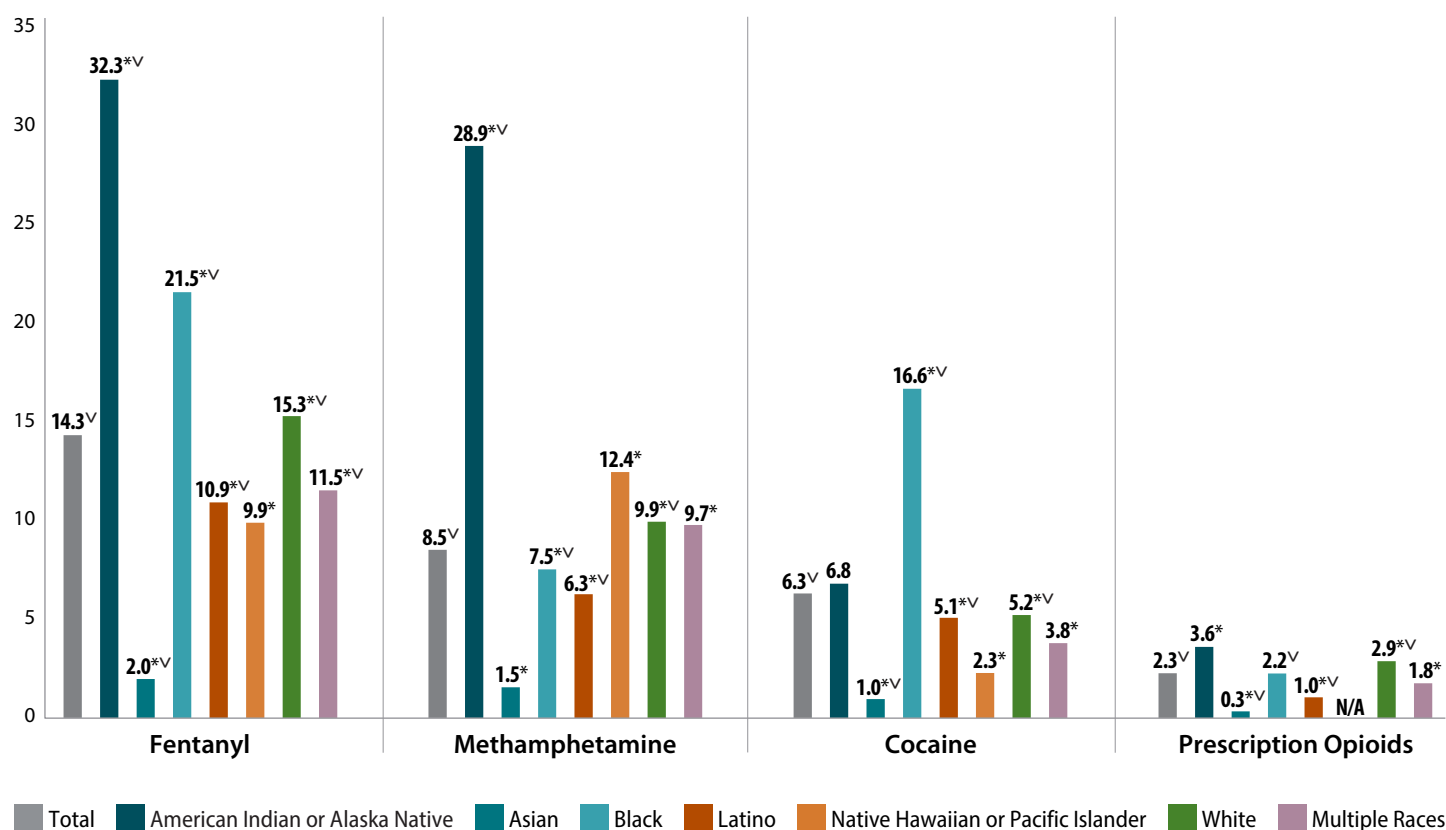
^ Rate significantly higher than 2022 rate at 95% level.

^v Rate significantly lower than 2022 rate at 95% level.

* Rate significantly different from total rate at 95% level.

For fentanyl, all racial and ethnic subgroups saw significant declines in their overdose death rates between 2022 and 2024, with the exception of Native Hawaiian or Pacific Islander people, whose rate did not change significantly (Figure 15). With a rate more than twice that of the overall population, American Indian or Alaska Native people had the highest fentanyl overdose death rate, followed by Black and White people—each of which were significantly higher than the overall population. Other subgroups had fentanyl overdose death rates lower or not significantly different from the overall population.

Figure 15. Drug Overdose Death Rates by Race/Ethnicity, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

^ Rate significantly higher than 2022 rate at 95% level.

∇ Rate significantly lower than 2022 rate at 95% level.

* Rate significantly different from total rate at 95% level.

For prescription opioids, Asian, Black, Latino, and White people saw significant declines in their overdose death rates between 2022 and 2024, while those for American Indian or Alaska Native people and people of multiple races did not see their rate change significantly. Significance testing was not possible for Native Hawaiian or Pacific Islander people as a result of suppression of data by the CDC due to small numbers of deaths in 2022 and 2024. American Indian or Alaska Native and White people had rates of prescription opioid overdose deaths that were significantly higher than the overall population. Other subgroups for which testing was possible had prescription opioid overdose death rates lower or not significantly different from the overall population.

For cocaine, Asian, Black, Latino, and White people saw significant declines in their overdose death rates between 2022 and 2024, while rates for American Indian or Alaska Native, and people of multiple races did not change significantly. Testing was not possible for Native Hawaiian or Pacific Islander people, as the 2022 rate for this group was suppressed due to small numbers of deaths. With a rate nearly triple that of the overall population, Black people were the only subgroup with a cocaine overdose death rate that was significantly higher than the overall population. Other subgroups had rates that were significantly lower or not significantly different from the overall population.

For methamphetamine, American Indian or Alaska Native, Black, Latino, and White people saw significant declines in their overdose death rates between 2022 and 2024, while the rates for Asian, Native Hawaiian or Pacific Islander, and people of multiple races did not change significantly. With a rate more than triple that of the overall population, American Indian or Alaska Native people had the highest rate of methamphetamine overdose deaths, followed by Native Hawaiian or Pacific Islander, White, and people of multiple races—each of which were significantly higher than the overall population. Other subgroups had rates that were significantly lower than the overall population.

Overdose Proportionality by Education

As we mentioned earlier, the CDC does not publish drug overdose death rates by education, but it has published counts of deaths by education level since 2021.^{23,24} As such, we analyzed these data using a **proportionality index methodology** to estimate whether certain demographic subgroups—in this case, different levels of educational attainment—are disproportionately impacted by drug overdose deaths.²⁵

In our analysis using this methodology, we compared the distribution of drug overdose deaths across education levels against the distribution of the U.S. population across those same education levels. The proportionality index approach assumes that if drug overdoses occurred at random, they would be distributed evenly across people of different education levels in proportion to their share of the total population.²⁶ So, if the proportionality index shows that drug overdose deaths are *not* distributed evenly across educational levels, that indicates disparities—or a disproportionate burden for some subgroups.

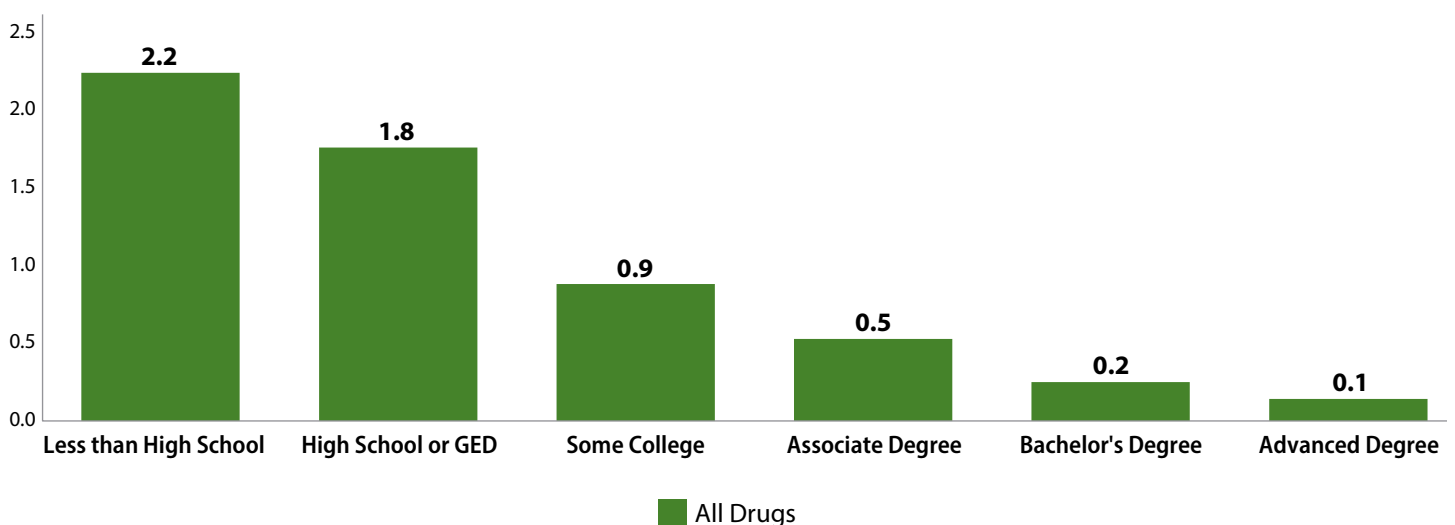
We calculated an index value for each educational subgroup—less than high school, high school or GED, some college, associate degree, bachelor's degree, and advanced degree (e.g., a master's, doctoral, law, or medical degree). In interpreting the results for each subgroup, an index value of 1.0 indicates that the prevalence of drug overdose deaths is approximately equal to what one would expect if drug overdose deaths were distributed proportionately across the population. A value higher or lower than 1.0 represents a disparity; for example, a value of 1.5 means a subgroup's share of overdose deaths is 50% *higher* than one would expect if they were distributed evenly across the population (i.e., a “negative” or “bad” disparity), and a value of 0.5 means a subgroup's share of overdose deaths is 50% *lower* than one would expect if they were distributed evenly across the population (i.e., a “positive” or “good” disparity).

This analysis is limited to drug overdoses for adults age 25 and older, as including children and young adults—who often have not had the time to complete common educational milestones, such as high school and college degrees—could have biased the results toward lower levels of education.²⁷

For overdose deaths involving all drugs by education level, we see clear and substantial disparities. Drug overdose deaths were disproportionately higher among people with less than a high school diploma or with a high school diploma or GED, with proportionality indices of 2.2 and 1.8, respectively (Figure 16). This means that fatal overdoses involving all drugs were roughly twice as common for these people as one would expect if fatal overdoses were distributed evenly across the population.

With a proportionality index of 0.9, the share of fatal drug overdoses for people with some college was close to what one would expect if they were equally distributed across the population. But with proportionality indices of 0.5 or smaller, fatal drug overdoses were much less common among people with an associate degree, a bachelor's degree, or an advanced degree (e.g., a master's, doctoral, law, or medical degree) than one would expect if they were evenly distributed across the population.

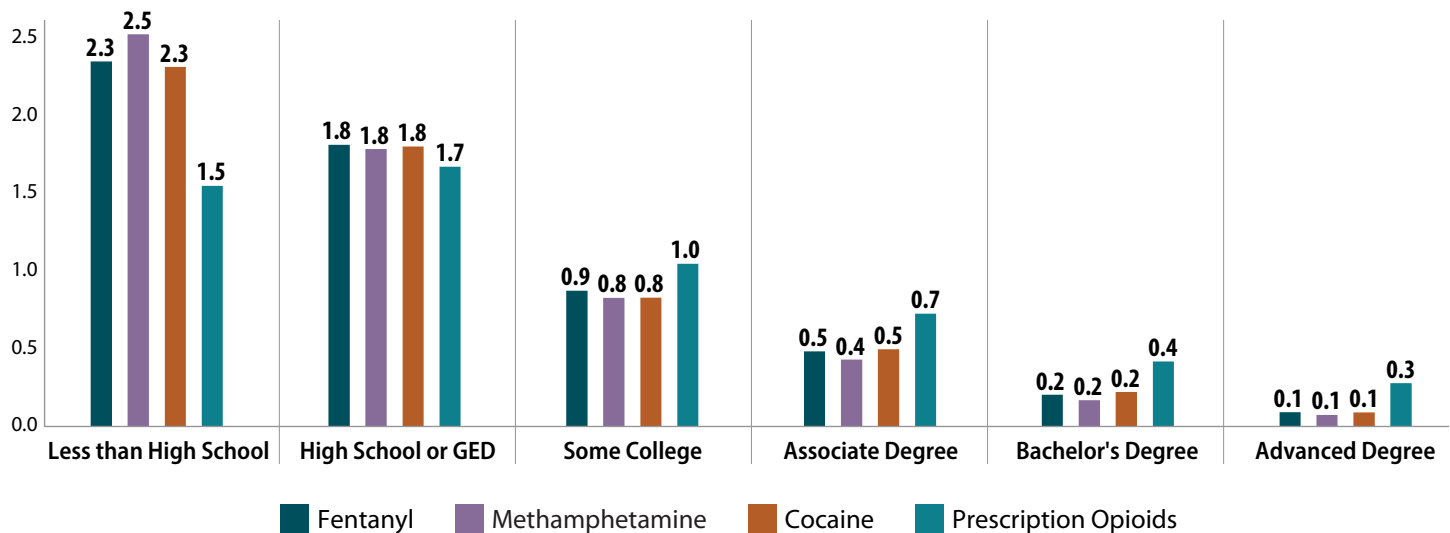
Figure 16. Overdose Death Proportionality Indices from All Drugs by Education, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

The pattern of disproportionate impacts of fatal drug overdoses on people with lower educational attainment was consistent within specific drug types, particularly fentanyl and other synthetic opioids, methamphetamine and other psychostimulants, and cocaine (Figure 17). The pattern was also similar for prescription opioid painkillers, though it was less pronounced; while people with lower levels of education experienced disproportionately more prescription opioid overdose deaths, and people with higher levels of education experienced disproportionately fewer prescription opioid overdose deaths, the difference was less extreme than for other drug categories.

Figure 17. Drug Overdose Death Proportionality Indices by Education, 2024



Source: SHADAC analysis of National Vital Statistics System (NVSS) data.

Conclusion and Discussion

The U.S. marked a milestone in 2024, with the largest decline in fatal drug overdoses in the past quarter-century, as well as the first time they have dropped for two consecutive years. These developments should be encouraging, as they demonstrate that progress is possible in the effort to turn the tide and save lives. However, we should be cautious not to declare victory just yet, as the 2024 drug overdose death toll of more than 79,000 lost lives remains historically high—it is, in fact, higher than any time before their spike during the COVID-19 pandemic. We still have far to go before the U.S. drives overdose deaths down to the levels seen before the opioid epidemic began in the late 1990s and early 2000s.

Patterns at the state level reinforce the cautiously sanguine findings seen at the national level: Fatal overdoses from all drugs declined or leveled off in nearly all states between their peak in 2022 and the latest data from 2024. That pattern appears to have been driven largely by declines in fatal overdoses caused by fentanyl and similar synthetic opioids, which also dropped or leveled off in all but a few states. The pattern of declining or plateauing overdose death rates was similar across the states for prescription opioid painkillers, cocaine, and methamphetamine and other psychostimulants—though none of these has dropped so precipitously as those involving fentanyl and similar synthetic opioids.

Analysis of drug overdose deaths data by demographic subgroups illuminate the disproportionate burden of the overdose crisis and the importance for focused interventions. For instance, our analysis found that cocaine and methamphetamine overdoses continued to climb among elderly adults, age 65–74 and 75 and older—the only age groups to see increased fatal overdose rates across all the drug types we examined. We also found dramatic disparities in fentanyl and methamphetamine overdose death rates for American Indian or Alaska Native people, and in cocaine overdose death rates for Black people, which represent a continuation of the longstanding trend we have documented in prior years.^{28,29,30}

Additionally, new data on drug overdose deaths by education level allowed us to examine the overdose crisis through a new lens. These data quantify a severely disproportionate burden of higher drug overdose deaths among people with lower levels of education, particularly those with less than a high school diploma or those with a high school diploma or GED. Overdose deaths for all drugs for these groups were roughly twice as common as would be expected if drug overdose deaths were distributed evenly across the population. The pattern was nearly identical for fentanyl, methamphetamine, and cocaine, and the disproportionate burden for people with lower levels of education was only slightly less pronounced for prescription opioids.

Given the close association between education level and income in the U.S., these results are consistent with research on the relationship between people's economic circumstances and the opioid crisis. For instance, other studies have shown that people with lower incomes have a higher risk for fatal overdoses, and people with lower incomes are also more likely to lack health insurance, which can limit their access to treatment for substance use disorders.^{31,32}

These latest data on drug overdose deaths provide evidence for optimism that the crisis need not be hopeless. But the data presented in this report—combined with prior experience on the continually evolving nature of the opioid crisis, presented in precursor briefs—point to certain known threats that cannot be dismissed.^{33,34}

One such threat is that the crisis may, yet again, pivot in ways that could allow for a resurgence in overdose deaths, such as when the illicit market for opioids shifted from heroin to fentanyl. Public health and law enforcement agencies throughout the U.S. have continued to identify new and emerging illicit drugs, including novel, powerful opioids that could supplant fentanyl, as well as non-opioids that are increasingly mixed by drug traffickers into the illicit drug supply.

A second threat is that the crisis has repeatedly spread to new subpopulations that had previously been less-severely impacted by growing drug overdose deaths. For instance, the intermingling of fentanyl with cocaine in illicit drug markets triggered a spike in overdose deaths among Black people, who had been relatively insulated from rising opioid overdose death rates during the time when the opioid crisis centered largely on prescription opioid painkillers. More recently, drug overdose deaths also spiked among adolescents during the pandemic, rising to become a top cause of death for this age group.³⁵ And, this brief found that overdose deaths from cocaine and methamphetamine have continued to climb among the elderly.

Together, these threats and findings underpin a need for continued diligence in tracking changes in overdose crisis trends, as well as state-level variation and differences across demographic subgroups. Though the declines in overdose deaths in 2024 are encouraging, prior experience reinforces that backsliding is possible. But continued tracking and early identification of emerging threats, along with state- and subgroup-level dynamics, can be used by policymakers, public health professionals, the health care system, and others to design and deploy tailored interventions.

While we do not know definitively what has caused the decline in overdose deaths, it is important to acknowledge the recent reversal in the trajectory of the opioid crisis. If for no other reason, noting that improvement reinforces the notion that progress is possible—that saving lives is both a laudable and achievable goal. The fact that we still do not know why overdose death rates have fallen is concerning, though. It reinforces the idea that the U.S. invest should in research and evaluation efforts to study what has been working to change the course of the crisis, as well as what has not been working, so that policymakers can focus scarce resources on initiatives most likely to pay off by saving and improving people's lives.

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²² While the CDC formerly published mortality rates by level of urbanization, it has stopped making those available and now only publishes deaths data in the form of counts. The CDC only recently began publishing mortality data by education in the form of counts only.

²³ The CDC has also stopped publishing drug overdose death rates by level of urbanization and now only releases death counts by level of urbanization. We conducted a similar proportionality index analysis for those data but found relatively minor differences across level of urbanization, compared with those we found by education.

²⁴ While the CDC data on education level of people deceased of drug overdoses is less complete than some other variables, the levels of missing data are still relatively small. For example, missing education level ranges from 3% in 2021 to 5% in 2023 and 2024 for overdoses involving all drugs.

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