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Overdose Crisis in Transition: Changing State Trends in a Widening Drug Death Epidemic

STATE BRIEF

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SUMMARY

This brief examines the United States opioid epidemic analyzing trends in overdose deaths from various types of opioids, as well as cocaine and psychostimulants. Using vital statistics data, it focuses predominantly on trends and variation across the states.

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To read more about the history of the opioid crisis and the drugs involved, read SHADAC's earlier papers on the topic:

National and State Trends in Opioid-Related Overdose Deaths from 2000 to 2017.

INTRODUCTION

In January 2020, the U.S. Centers for Disease Control and Prevention (CDC) announced that the national mortality rate from drug overdoses had declined by 4.6 percent from 2017 to 2018—dropping from about 70,200 to 67,400 deaths.[1] Although drug overdose death rates still hovered near record highs, the improvement offers encouragement that federal, state and local efforts to fight the opioid crisis may be starting to return desired results. However, a deeper examination of the overdose data across individual drug types paints a more nuanced picture.

While the United States has made progress in reducing deaths from some types of opioids, deaths from other opioids have continued to climb. In 2018, U.S. overdose death rates from natural and semi-synthetic opioids (i.e., prescription opioid painkillers) declined significantly compared with the prior year, as did those from the illicit opioid heroin. But death rates from synthetic opioids (e.g., fentanyl) again increased significantly—reaching yet another record high.

Also concerning are emerging signs that the opioid crisis is increasingly broadening to encompass deaths from non-opioid illicit substances; for instance, in 2018, U.S. overdose death rates for cocaine and for psychostimulants (e.g., methamphetamine) increased significantly. Substantial evidence has recently emerged linking the growth in death rates from cocaine and psychostimulants with the opioid crisis. The CDC released research findings that indicate more than 70 percent of cocaine overdoses, and roughly 50 percent of methamphetamine overdoses, also involve opioids,[2] and U.S. Drug Enforcement Administration (DEA) reports reveal that illicitly trafficked cocaine and methamphetamine have increasingly begun to also contain opioids.[3,4]

This brief examines variation and changes in opioid-related drug overdose deaths across the states, with a particular focus on changes in death rates in recent years, especially in 2018. National-level analysis can be found in the companion brief, Opioid Crisis in Transition: Changing National Trends in a Widening Drug Death Epidemic.

Disaggregating the Crisis

For nearly two decades, the U.S. has experienced statistically significant increases in overdose deaths related to opioids; these increases have occurred throughout the country, with nearly every state experiencing increases in overdose deaths from one or more types of opioids since 2000.[5] However, while examining composite data on opioids points towards a singular overarching trend of increase, breaking down overdose deaths by individual or related drug types shows a more complex story, with related but distinct trends in mortality for different types of opioids and associated drugs. Additionally, while opioid death rates have increased almost universally across different subpopulations in the U.S. (e.g., age, sex, race/ethnicity, and metropolitan/non-metropolitan communities), not all groups have been affected equally.

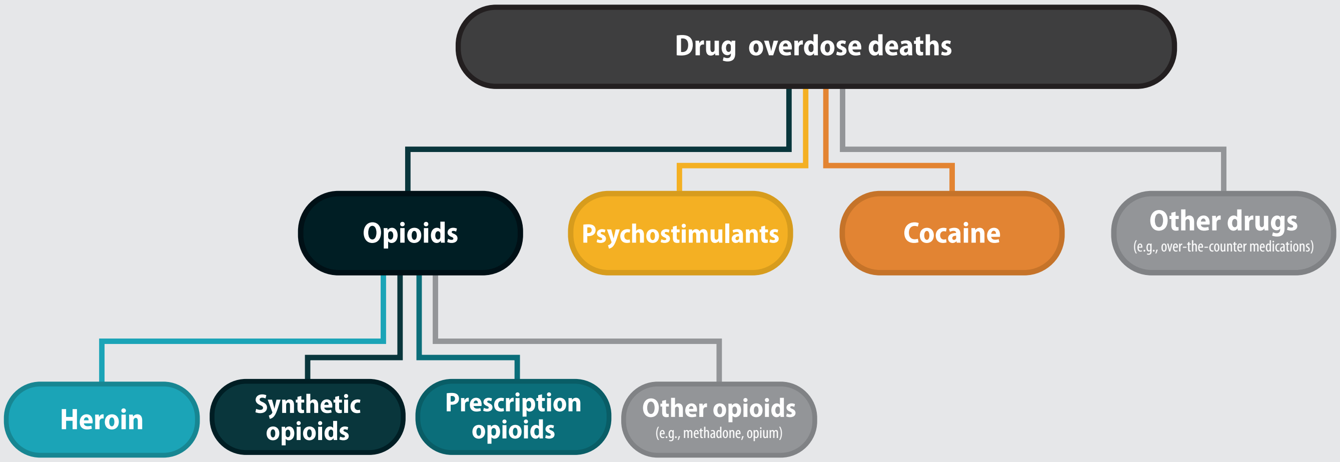
This analysis focuses primarily on the three categories of opioids that account for the bulk of opioid overdose deaths, as well as two other categories of non-opioid drugs that evidence suggests are related to the opioid crisis, and are grouped according to how overdose data are recorded.

Opioid and Related Overdose Deaths

Using vital statistics data published by the CDC, we examined rates of drug overdose deaths from three types of opioids—natural and semi-synthetic opioids (i.e., prescription opioid painkillers), heroin, and synthetic opioids—that account for the bulk of opioid overdose deaths. We also examined two types of non-opioids—cocaine and psychostimulants—because evidence indicates they are closely related to the opioid crisis, with CDC research finding that most cocaine overdose deaths and roughly half of methamphetamine overdose deaths also involve opioids.[6]

Additionally, because our initial analysis found competing patterns across different types of drugs—with some rates increasing while others decreased—we also further examine two aggregate categories of overdose deaths to determine the cumulative effects. We define those aggregate categories as "opioid overdose deaths," which includes those from prescription opioids, heroin, and synthetic opioids, as well as other types of opioids that have considerably lower death rates (e.g., methadone, opium);[7] and "drug overdose deaths," which includes overdose deaths from any drug—including opioids, psychostimulants, cocaine, as well as other types of drugs (e.g., other prescription and over-the-counter medications) (Figure 1).

Figure 1. Categories of Drug Overdose Deaths



Opioids and Associated Drugs

This issue brief examines overdose death rates involving the following drug categories:

Prescription Opioids

Natural opioids (e.g., morphine) and semi-synthetic opioids (e.g., hydrocodone, oxycodone) are drugs derived directly from the opium poppy or synthesized using its derivatives. This category is commonly called "prescription opioid painkillers," a term used in this brief.

Heroin

Heroin is classified as a semi-synthetic opioid, but overdose deaths from heroin are tracked separately due to its illicit status and having no sanctioned medical uses in the U.S.

Synthetic Opioids

Synthetic opioids are drugs created to act on the brain's opioid receptors but, unlike other opioids, don't require opium poppy as an ingredient. Some drugs in this category have legitimate medical uses (such as fentanyl and tramadol), but most synthetic opioid deaths are believed to be caused by illicitly manufactured and trafficked drugs.

Cocaine

Cocaine, which is trafficked in both powder and "crack" or rock forms, is not an opioid. However, recent CDC research found that most cocaine overdose deaths have also involved opioids.[8]

Psychostimulant

"Psychostimulants with abuse potential" is a broad category of drugs that includes some prescription medications (e.g., Adderall, Ritalin) and illicit methamphetamine, which accounts for the largest share of psychostimulant overdose deaths.[9] These are not opioids, but recent CDC research found that roughly half of methamphetamine deaths also involved opioids.[10]

Opioid Death Trends

Since 2000, overdose death rates have increased significantly for each of the drug categories we examined (Figure 2). In 2017, deaths from certain opioids hinted at early signs of progress in the fight to contain the crisis, as overdose rates from heroin and prescription opioids departed from their trend of growth and remained stable as compared to the prior year. But data from 2018 showed an even clearer departure from historical trends. While death rates from some drugs continued to increase, deaths from heroin and prescription opioids declined—all of which were significant changes.

In 2018, the overdose death rate from heroin dropped by 3.8 percent when compared with 2017, declining from 4.9 to 4.7 deaths per 100,000 people. Death rates from prescription opioids recorded a larger decline of 14.7 percent, dropping from 4.4 to 3.8 deaths per 100,000 people. However, death rates from synthetic opioids climbed 9.6 percent, growing from 9.0 to 9.9 deaths per 100,000 people. Meanwhile, deaths also increased from certain non-opioid drugs that are nonetheless frequently involved in opioid overdoses. Cocaine overdose death rates increased 4.1 percent, from 4.3 to 4.5 deaths per 100,000 people. And death rates from psychostimulants, such as methamphetamine, increased by 22.1 percent, from 3.2 to 3.9 deaths per 100,000 people. All of these changes were statistically significant.

Ultimately, those competing patterns had a net positive effect on drug overdose death rates, though overall they remained near peak levels. From 2017 to 2018, death rates from aggregated drug overdose deaths—including opioids, cocaine, psycho-stimulants and other drugs—declined 4.6 percent, from 21.7 to 20.7 deaths per 100,000 people (Figure 3). During that same time, death rates from aggregated opioid overdoses declined by 2.1 percent, from 14.9 to 14.6 deaths per 100,000 people. Both of those declines were statistically significant.

Figure 2. U.S. Overdose Death Rates by Drug Type per 100,000 People, 2000-2018

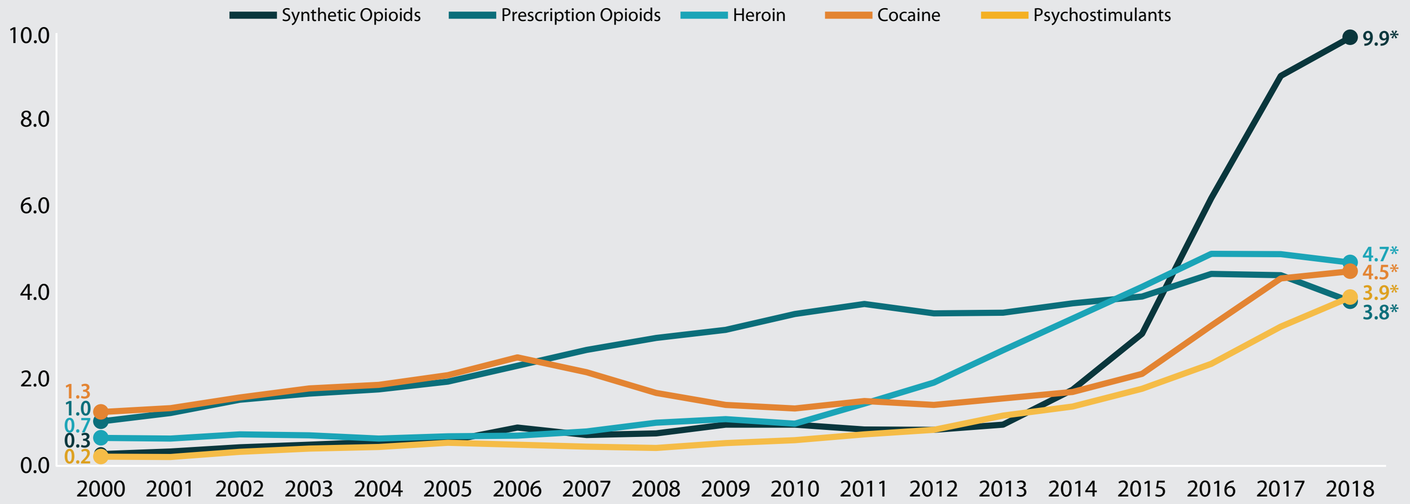
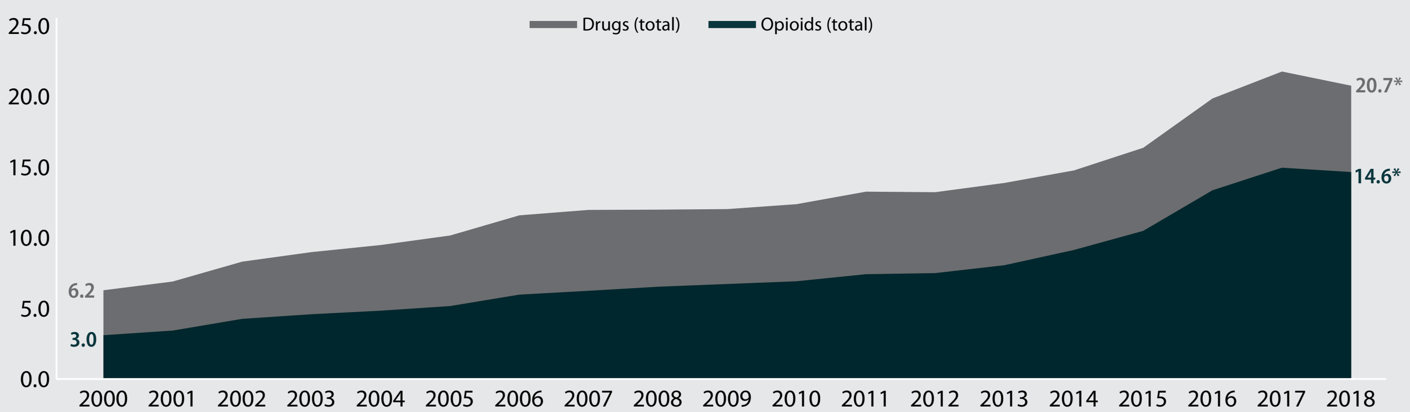


Figure 3. U.S. Drug and Opioid Overdose Death Rates per 100,000 People, 2000-2018



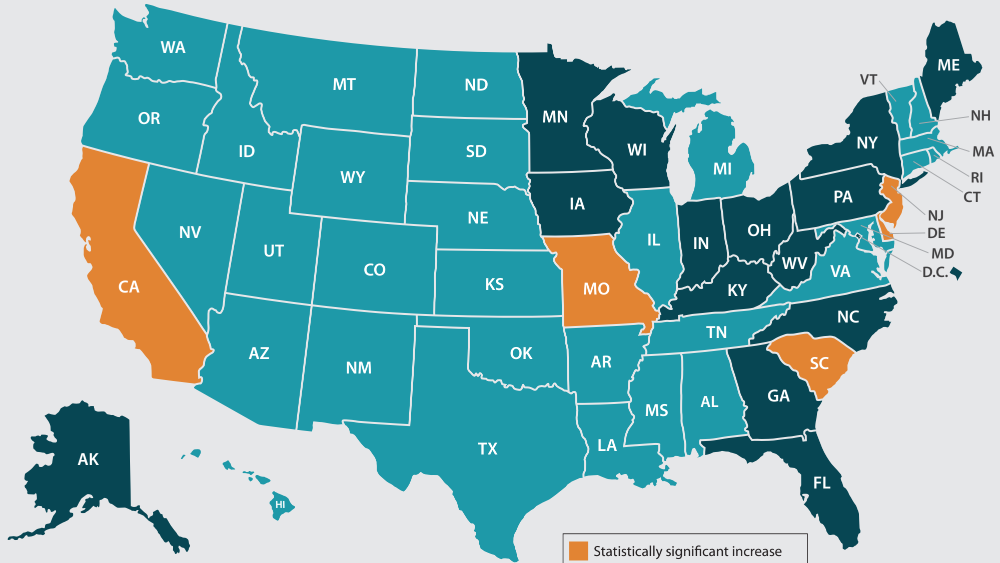
* Statistically significant change since 2000 at 95% level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

A state-level analysis of drug and opioid overdose deaths shows an overall pattern that is consistent, albeit more nuanced. From 2017 to 2018, only five states experienced statistically significant increases in their drug overdose death rates, while 15 states (including the District of Columbia [D.C.]) saw significant declines in their rates (Figure 4). However, most states saw no significant changes in their drug overdose death rates.

The state-level picture was similar for strictly opioid-related overdose deaths, with only seven states experiencing significant increases in their opioid overdose death rates, while 14 saw significant declines (including D.C.) (Figure 5). But again, the majority of states saw no statistically significant changes in their opioid overdose death rates.

Together, these data illustrate some important findings. The U.S. appears to be making its first steps toward progress in reducing death rates from some opioids, with those from heroin and prescription opioids holding statistically steady in 2017 and declining in 2018. Unfortunately, however, overdose deaths from synthetic opioids have continued to rise, perhaps in part because efforts focused on combatting overdose deaths from prescription opioids may have driven some people toward illicitly trafficked opioids.[11,12,13] Cocaine and psychostimulant overdose death rates also continued to grow. In fact, as of 2018, overdose deaths from these two types of non-opioid drugs were each significantly higher than those from prescription opioids—and significantly higher than the prescription opioid overdose death rate recorded in 2011, when the CDC first announced the epidemic (Figure 6).

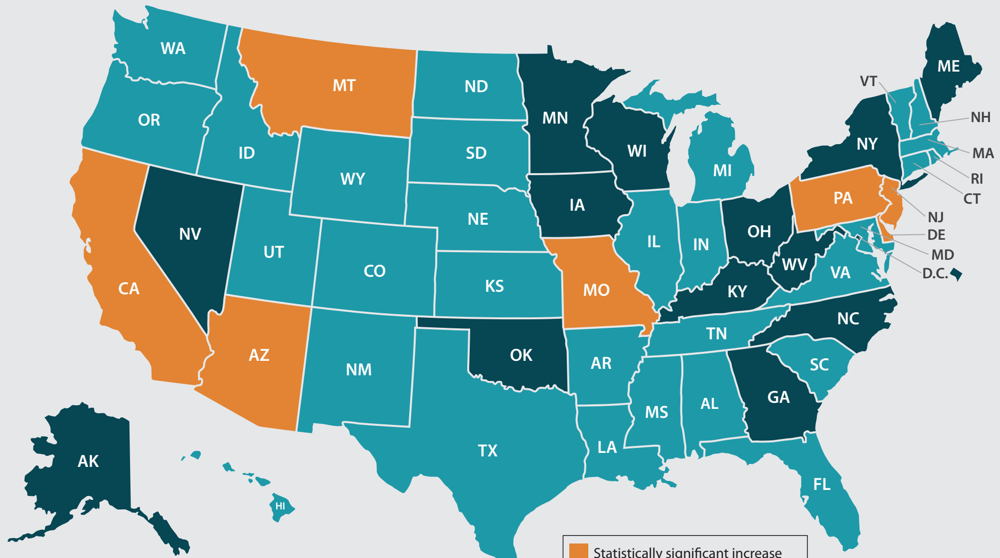
Figure 4. Change in State Drug Overdose Death Rates, 2017-2018



Statistically significant increase
Statistically significant decrease
No statistically significant change

Note: Statistically significant changes since 2017 at the 95% confidence level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

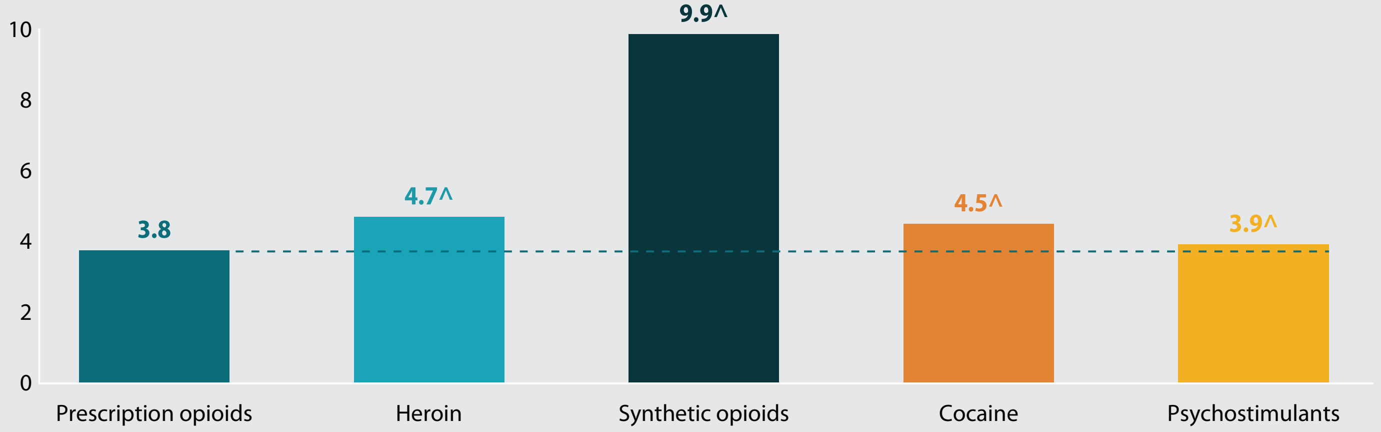
Figure 5. Change in State Opioid Overdose Death Rates, 2017-2018



Statistically significant increase
Statistically significant decrease
No statistically significant change

Note: Statistically significant changes since 2017 at the 95% confidence level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Figure 6. U.S. Prescription Opioids vs. Other Drug Overdose Death Rates per 100,000 People, 2018



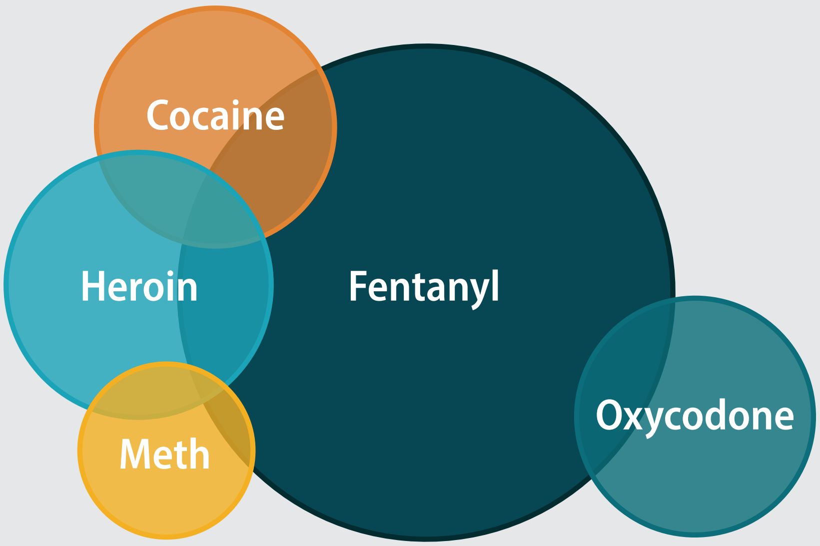
^ Significantly higher than prescription opioid rate at 95% level.
v Significantly lower than prescription opioid rate at 95% level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Overlapping Opioid, Cocaine and Psychostimulant Overdose Deaths

A 2018 study by the CDC found that opioid overdose deaths commonly involve more than one substance.[14] Sometimes multiple opioids are involved (e.g., fentanyl and heroin), and sometimes those deaths involve opioids as well as other non-opioid substances, especially cocaine and psychostimulants (e.g., methamphetamine).

Figure 7 illustrates common patterns in opioid-involved overdose deaths, with the size of the circles roughly illustrating the relative rates of deaths from the named substances and the amount of overlap indicating the frequency of multi-drug overdose deaths.[15] For example, because the study found that about 37 percent of heroin deaths also involved fentanyl, the circle representing heroin is overlapped by the circle for fentanyl by roughly that amount.[16]

Figure 7. Common Patterns in Overlapping Drug Overdose Deaths



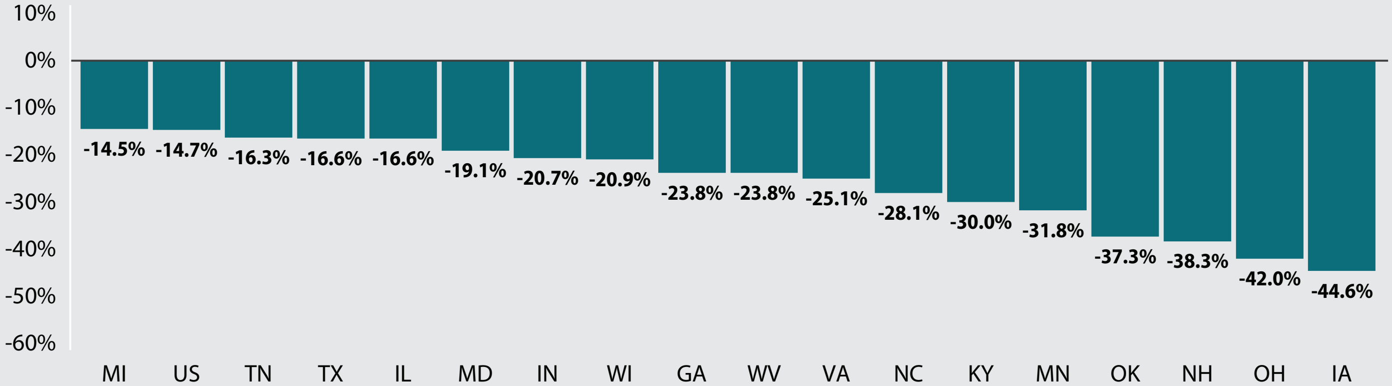
Prescription Opioids

Among drug types we examined, state-level data on prescription opioid overdose death rates in 2018 demonstrated the most promising changes—a pattern consistent with the national data, which showed a 14.7 percent decline in the U.S. prescription opioid overdose death rate since 2017.

Of the 50 states and D.C., 17 experienced statistically significant declines in their prescription opioid overdose death rates between 2017 and 2018 (Figure 8). Among the states with the largest declines were Iowa (-44.6 percent), Ohio (-42.0 percent) and New Hampshire (-38.3%). The remaining 33 states and D.C. saw their rates of prescription opioid overdose deaths remain statistically stable (Appendix Figure 1). None recorded a statistically significant increase.

Prescription opioid overdose death rates continued to vary among the states, but the variation was smaller than for other drug types. Despite a declined between 2017 and 2018, West Virginia had the highest rate at 12.0 deaths per 100,000 in 2018, while Texas's rate of 1.6 deaths per 100,000 was the lowest (Figure 9).

Figure 8. Significant Changes in Prescription Opioid Overdose Death Rates per 100,000 People, 2017-2018



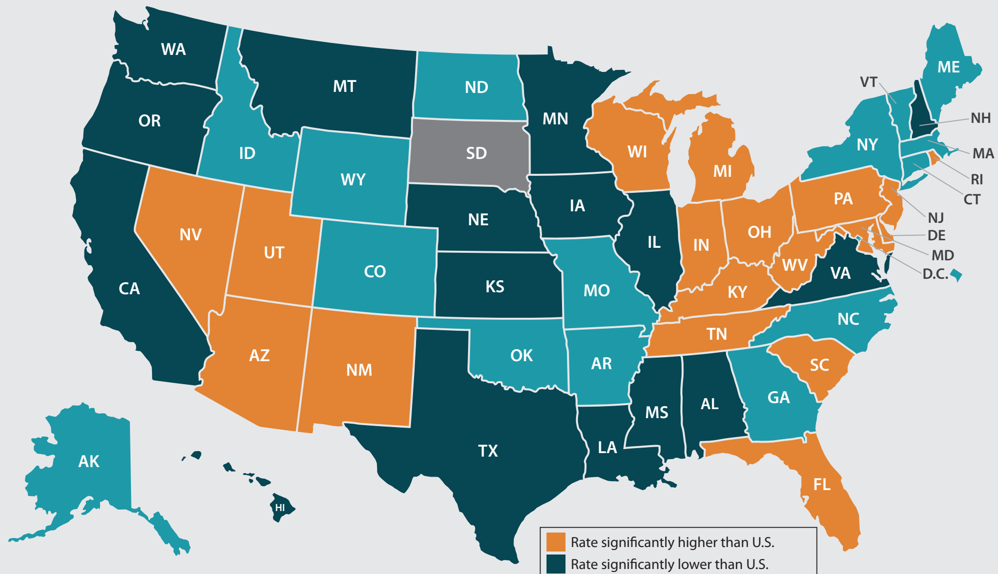
Note: Only states that saw statistically significant changes in their overdose death rates from 2017 to 2018 are shown.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

A map of state prescription opioid death rates compared to the U.S. rate shows that the problem of prescription opioids remains geographically distributed throughout the country, especially compared to other drugs. However, the map does illustrate some concentration among Southwest states and around a group of Appalachian states (Kentucky, Ohio, and West Virginia) commonly understood to represent the epicenter of the opioid crisis (Figure 10).[17]

Figure 9. Highest and Lowest State Prescription Opioid Overdose Death Rates per 100,000 People, 2018

Five Highest Rates	
West Virginia	12.0
Utah	9.6
Tennessee	7.4
Maryland	6.8
Delaware	6.7
Five Lowest Rates	
Texas	1.6
Iowa	1.7
Hawaii	1.8
Minnesota	1.9
Nebraska	1.9
Montana	2.0

Figure 10. State Prescription Opioid Overdose Death Rates, 2018



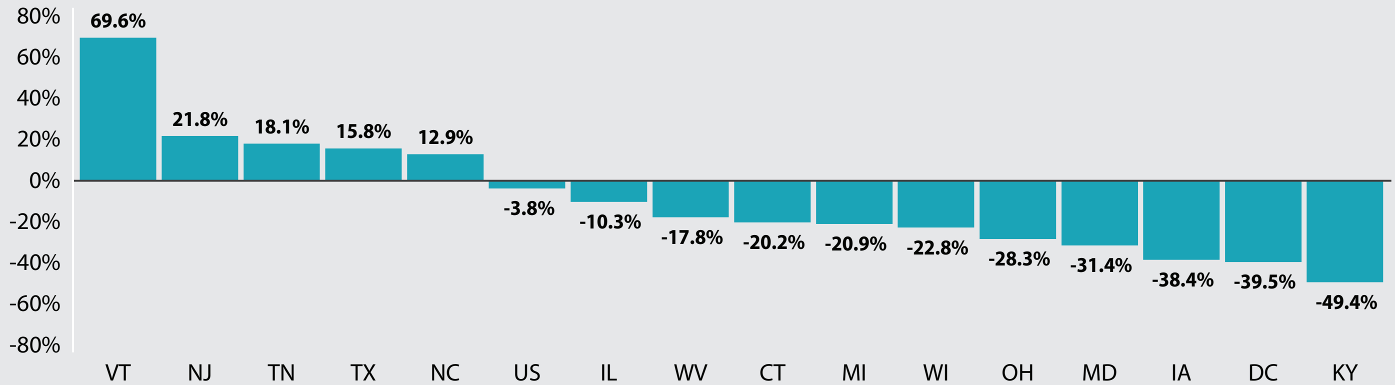
Note: Statistically significant difference from U.S. at the 95% confidence level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Heroin

Aside from prescription opioids, heroin was the only other drug type to see a statistically significant decline in overdose death rates at the national level, dropping by 3.8 percent from 2017 to 2018. Taken together, state-level data also show a pattern that is overall positive on balance; however, progress is not as auspicious as with prescription opioids.

Among the 50 states and D.C., 10 states experienced statistically significant declines in their heroin overdose death rates, led by Kentucky (-49.4 percent), D.C. (-39.5 percent) and Iowa (-38.4 percent) (Figure 11). However, five states experienced statistically significant increases in their heroin overdose death rates, led by Vermont (69.6 percent), New Jersey (21.8 percent) and Tennessee (18.1 percent). The remaining majority of states saw no significant changes in their heroin overdose death rates (Appendix Figure 2). The decline in D.C. is a notable example of measureable success, since it had the highest heroin death rate in 2018. Conversely, the continued growth of heroin overdose death rates in New Jersey is particularly concerning since the state already had the fifth-highest rate in 2017.

Figure 11. Significant Changes in Heroin Overdose Death Rates per 100,000 People, 2017-2018



Note: Only states that saw statistically significant changes in their overdose death rates from 2017 to 2018 are shown.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

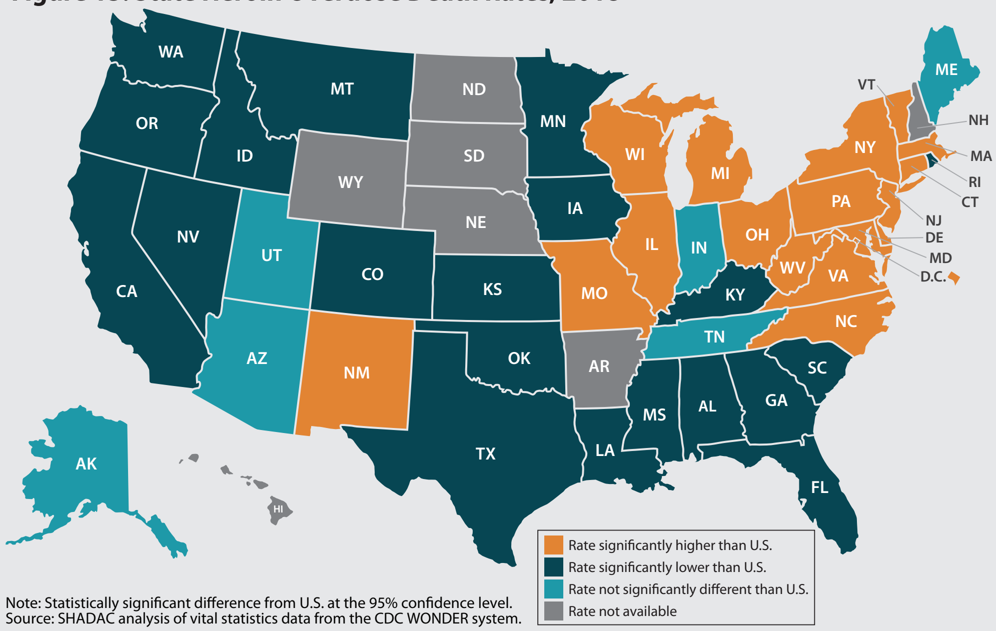
States' death rates from heroin also fell along a wider range than those from prescription opioids. In 2018, Delaware recorded the highest heroin overdose death rate at 15.9 deaths per 100,000, while Iowa and Kansas shared the lowest death rate at 1.3 deaths per 100,000 people (Figure 12).

In contrast with prescription opioids, a map of state heroin overdose death rates compared to the U.S. rate demonstrates a clear geographic pattern. Almost all states with heroin death rates significantly above the U.S. average are found in a nearly contiguous block east of the Mississippi River, a pattern that has continued from earlier years of the crisis (Figure 13).[18]

Figure 12. Highest and Lowest State Heroin Overdose Death Rates per 100,000 People, 2018

Five Highest Rates	
Delaware	15.9
New Jersey	14.8
Vermont	12.5
West Virginia	12.3
District of Columbia	10.9
Five Lowest Rates	
Iowa	1.3
Kansas	1.3
Mississippi	1.4
Minnesota	1.7
Idaho	1.8
California	1.9

Figure 13. State Heroin Overdose Death Rates, 2018



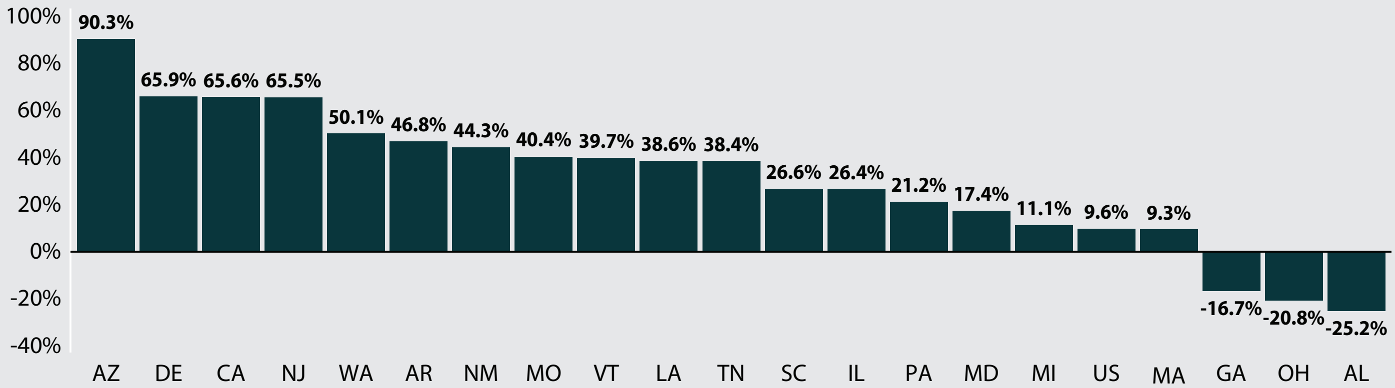
Note: Statistically significant difference from U.S. at the 95% confidence level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Synthetic Opioids

Nationally, death rates from synthetic opioids recorded further annual growth from 2017 to 2018, this time with an increase of 9.6 percent. Although state-level trends stayed largely consistent with that persistent rise, there were some limited examples of improvement.

From 2017 to 2018, 17 states experienced statistically significant increases in their synthetic opioid overdose death rates. Those states were led by Arizona, which saw its synthetic opioid death rate nearly double from 4.0 to 7.7 deaths per 100,000 people (90.3 percent), Delaware (65.9 percent) and California (65.6 percent) (Figure 14). Just three states saw their death rates from synthetic opioids decline significantly: Alabama (-25.2 percent), Ohio (-20.8 percent) and Georgia (-16.7 percent). Of those states, however, Ohio's decrease is particularly notable because the state had the second-highest synthetic opioid death rate in 2017—demonstrating measureable progress in a state that has been especially hard hit by the opioid crisis. Among the remaining states, 25 saw no significant changes in their synthetic opioid death rates, and testing wasn't possible for six due to suppressed rates for relatively small numbers of deaths (Appendix Figure 3).[19]

Figure 14. Significant Changes in Synthetic Opioid Overdose Death Rates per 100,000 People, 2017-2018



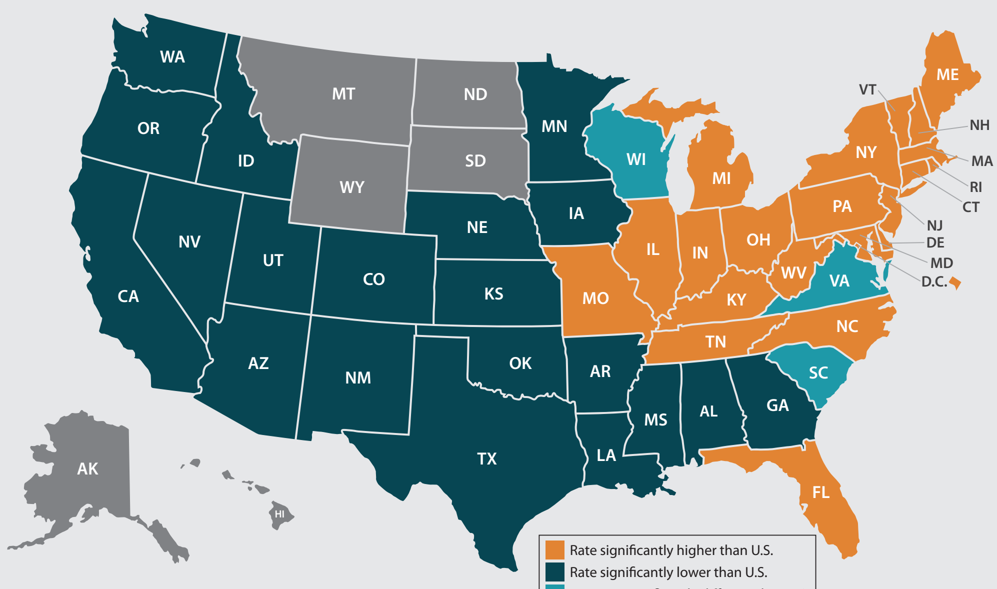
Note: Only states that saw statistically significant changes in their overdose death rates from 2017 to 2018 are shown.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

As in prior years, the range in state synthetic opioid overdose death rates was vast, with the largest state rates registering a difference almost 30 times that of smallest state rates. Much like patterns seen with heroin, the wide range in overdose death rates from synthetic opioids appears related to geography, with higher rates generally found in eastern states and lower rates in the west (Figure 16).[20] In 2018, West Virginia's synthetic opioid overdose death rate of 34.0 deaths per 100,000 people was the largest, while the rate of 1.2 deaths per 100,000 in Texas was the smallest (Figure 15).

Figure 15. Highest and Lowest State Synthetic Opioid Overdose Death Rates per 100,000 People, 2018

Five Highest Rates	
West Virginia	34.0
Delaware	33.1
New Hampshire	31.3
Maryland	29.6
Massachusetts	26.8
Five Lowest Rates	
Texas	1.2
Nebraska	1.4
Idaho	1.7
Kansas	1.7
Oklahoma	2.0
California	2.2
Colorado	2.2

Figure 16. State Synthetic Opioid Overdose Death Rates, 2018



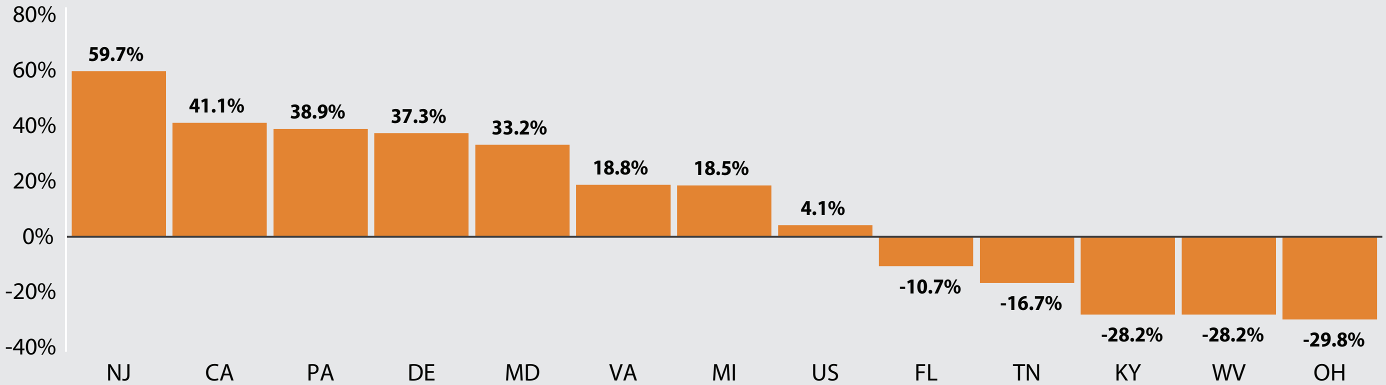
Note: Statistically significant difference from U.S. at the 95% confidence level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Cocaine

While cocaine overdose death rates at the national level registered a statistically significant 4.1 percent increase from 2017 to 2018, the state landscape shows a relatively balanced portrait, with most states experiencing no significant changes in death rates and nearly even numbers of states reporting significant increases and decreases.

Between 2017 and 2018, seven states experienced statistically significant increases in their cocaine overdose death rates, topped by New Jersey (59.7 percent), California (41.1 percent) and Pennsylvania (38.9 percent) (Figure 17). At the same time, five states saw significant decreases in cocaine death rates, topped by Ohio (-29.8 percent), and Kentucky and West Virginia (-28.2 percent). The majority of states—29 and D.C.—did not experience statistically significant changes in their cocaine overdose death rates, and testing wasn't possible for nine due to suppressed rates for relatively small numbers of deaths (Appendix Figure 4).

Figure 17. Significant Changes in Cocaine Overdose Death Rates per 100,000 People, 2017-2018



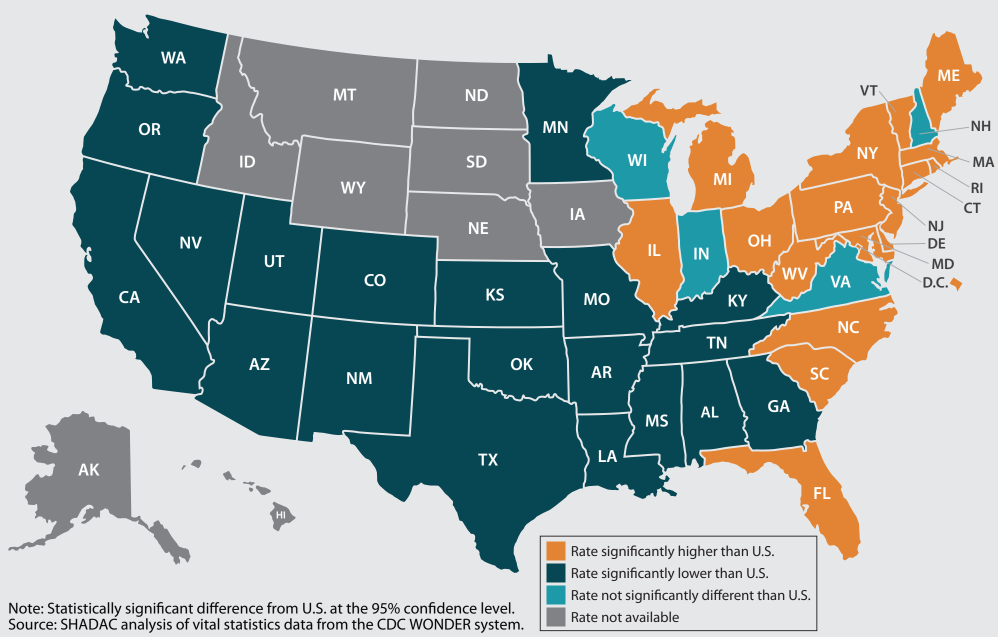
Note: Only states that saw statistically significant changes in their overdose death rates from 2017 to 2018 are shown.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

The range in cocaine overdose death rates in 2018 was much smaller than synthetic opioids and more similar to heroin. Delaware had the highest cocaine death rate at 15.9 deaths per 100,000, while Arkansas and Minnesota had the lowest at 0.9 deaths per 100,000 people (Figure 18). A map of state cocaine overdose death rates as compared to the U.S. rate, however, shows geographic concentration in the eastern U.S. much the same as synthetic opioids (Figure 19).[21]

Figure 18. Highest and Lowest State Cocaine Overdose Death Rates per 100,000 People, 2018

Five Highest Rates	
Delaware	15.9
District of Columbia	14.2
Rhode Island	13.1
Maryland	11.4
Massachusetts	10.7
Five Lowest Rates	
Arkansas	0.9
Minnesota	0.9
Kansas	1.0
Oregon	1.1
Oklahoma	1.1
Mississippi	1.2
California	1.4

Figure 19. State Cocaine Overdose Death Rates, 2018



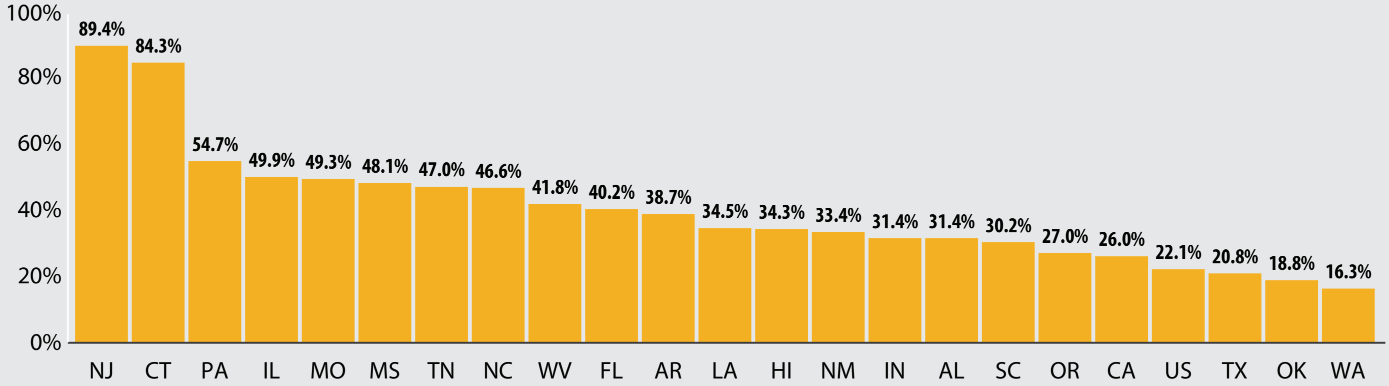
Note: Statistically significant difference from U.S. at the 95% confidence level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Psychostimulants

Perhaps unsurprisingly, considering the national increase of 22.1 percent in psychostimulant overdose deaths from 2017 to 2018, the state-level data on psychostimulants presented the most ominous and uniform pattern of the drugs we examined. More states saw significant increases in their psychostimulant death rates than any other drug type, and no state saw a significant decline.

Between 2017 and 2018, 22 states experienced statistically significant increases in death rates from psychostimulants—a broad class of drugs that includes prescription medications such as Adderall and Ritalin, used for treating attention deficit hyperactivity disorder, and methamphetamine, which research has found accounts for the largest share of psychostimulant overdose deaths (Figure 20).[22] Those states with significant increases were led by New Jersey (89.4 percent) and Connecticut (84.3 percent)—whose psychostimulant death rates nearly doubled—and Pennsylvania (54.7 percent). An equal number of 22 states did not see statistically significant changes in their psychostimulant overdose death rates, while testing wasn't possible for the remaining seven due to suppressed rates for relatively small numbers of deaths (Appendix Figure 5).

Figure 20. Significant Changes in Psychostimulant Overdose Death Rates per 100,000 People, 2017-2018



Note: Only states that saw statistically significant changes in their overdose death rates from 2017 to 2018 are shown.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

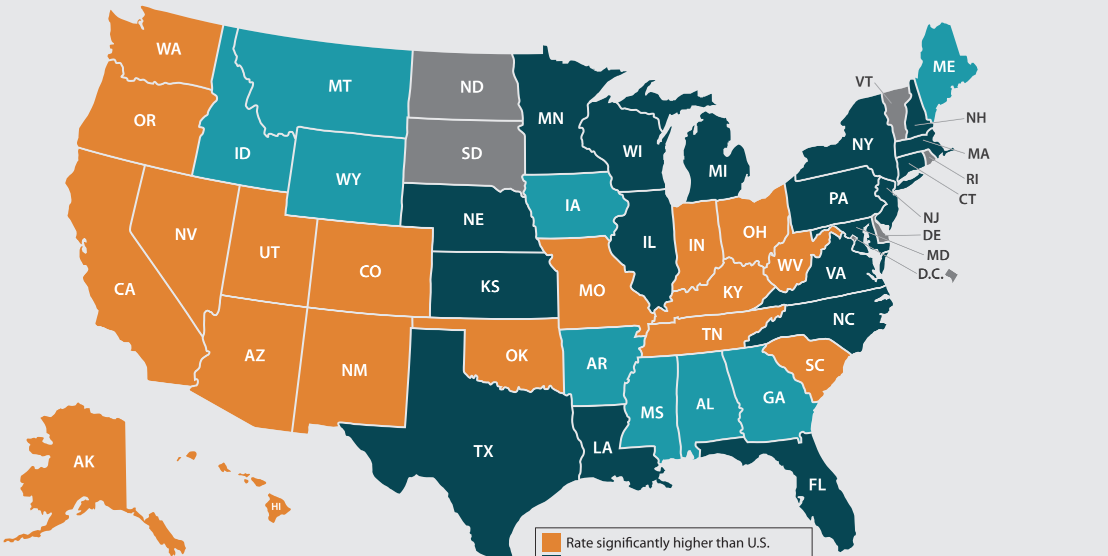
Death rates from psychostimulants saw relatively wide variation between the top and bottom states, due in part to the fact that the state with the highest rate, West Virginia, stood as an outlier with a rate that was about 75 percent higher than the second highest state, New Mexico (Figure 21). In 2018, the highest psychostimulant overdose death rate was found in West Virginia at 19.3 per 100,000 people, while the lowest was in New York at 1.0 deaths per 100,000 people. As recent research has shown that about half of methamphetamine overdose deaths also involve opioids (frequently, the synthetic opioid fentanyl), it is worth acknowledging that West Virginia also had the highest death rate from synthetic opioids in 2018.[23]

A map of state psychostimulant overdose deaths again shows patterns of geographic concentration, but these patterns are noticeably distinct from the other drugs we covered earlier in this brief. Although a discrete group of states—including Kentucky, Ohio and West Virginia—can be found in the eastern U.S. with relatively high rates of psychostimulant deaths, most of the states with rates significantly higher than the U.S. rate are found west of the Mississippi River (Figure 22).

Figure 21. Highest and Lowest State Psychostimulant Overdose Death Rates per 100,000 People, 2018

Five Highest Rates	
West Virginia	19.3
New Mexico	10.9
Hawaii	9.9
Nevada	9.6
Kentucky	8.8
Five Lowest Rates	
New York	1.0
Maryland	1.1
Massachusetts	1.2
Virginia	1.6
Nebraska	1.7
New Jersey	1.7

Figure 22. State Psychostimulant Overdose Death Rates, 2018



Note: Statistically significant difference from U.S. at the 95% confidence level.
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

CONCLUSIONS AND DISCUSSION

One of the hallmark features of the national opioid epidemic is a capacity to rapidly evolve, which it has demonstrated multiple times. While the crisis began with more than a decade of steady growth in overdose deaths from prescription opioids, that growth slowed around 2011—only to be swiftly overtaken by heroin death rates just a few years later. Then, after years of amounting to relatively small numbers of deaths, synthetic opioids emerged and eclipsed the death rates of both prescription opioids and heroin. Now, as some states begin to see early signs of progress in combatting the opioid crisis, deaths from certain non-opioid drugs that are closely intertwined with opioids have begun surging.

In 2018, drug overdose deaths overall and opioid overdose deaths in aggregate declined a small but statistically significant amount. However, this brief, which focused on the dynamics of the overdose crisis at a more granular level (by both individual states and drug types), uncovered a much more nuanced story. Death rates from both prescription opioids and heroin declined significantly at the national level in 2018, a sign that various efforts to intervene in the epidemic—such as expanding access medication assisted treatment for opioid addiction and use of the opioid overdose-reversing medication naloxone—may be succeeding in reducing death rates.

The reductions in overdose death rates were particularly dramatic for prescription opioids, which saw significant declines in death rates for 17 states, while the remaining states' death rates remained stable. That pattern of reduced death rates in some states and stability in the remaining states—with increases in none—suggests that efforts to turn the tide may be beginning to make an impact. Another potentially positive sign is that some of the largest declines in prescription opioid death rates were found in states that have been hit hardest by the opioid crisis, further evidence that it is possible to successfully intervene in the crisis. For example, West Virginia had the highest prescription opioid death rate in 2017, but its rate dropped by 23.8 percent in 2018; Kentucky had the third-highest prescription opioid death rate in 2017, but its rate dropped by 30.0 percent in 2018; and Ohio had the sixth-highest prescription opioid death rate in 2017, but its rate dropped by 42.0 percent in 2018.

The overall improvement in state-level heroin deaths was still apparent but uneven compared to prescription opioids, with statistically significant declines in a smaller number of 10 states. Additionally, five states saw their heroin death rates increase significantly in 2018, something that didn't happen in any state for prescription opioids. Although most states saw their heroin opioid death rates remain stable in 2018, the 10 states that saw their rates decline demonstrate that it is possible to reduce heroin death rates. But the increases in heroin death rates for five states in 2018 also show that states aren't necessarily on a uniform path to reversing the heroin component of the opioid crisis.

Despite evidence that some facets of the overdose crisis may be improving in certain states, we also found other components of the crisis that continued to worsen in 2018. Death rates from synthetic opioids grew significantly again in 2018, reaching yet another record level of 9.9 deaths per 100,000 people. At the state level, we found that 17 states experienced statistically significant increases in synthetic opioid overdoses deaths, demonstrating that despite a decline in overall opioid overdose deaths, the crisis isn't consistently improving across the states. In fact, the 2018 data illustrated some concerning new developments, such as significant increases in states (Arizona, Arkansas, California, Louisiana, New Mexico and Washington, for instance) that have historically otherwise had relatively low death rates from synthetic opioids. However, three states did record significant declines in their synthetic opioid overdose death rates. One of those states was Ohio, which was a relative bright spot in 2018 because it was the only state to experience statistically significant declines in death rates in three drug categories—prescription opioids, heroin and synthetic opioids. Ohio's experience is even more notable because it has historically had high death rates from opioids, with the second-highest rate from synthetic opioids, the seventh-highest rate from heroin, and the sixth-highest rate from prescription opioids, all in 2017.

On a more concerning note, our analysis found that death rates from cocaine and psychostimulants (such as methamphetamine) continued to increase in 2018. In fact, they both marked two disquieting milestones in 2018, overtaking the death rate for prescription opioids both for that year and when compared with 2011, which was the year the CDC first rang alarm bells about the epidemic. By that measure, deaths from cocaine and psychostimulants could now be considered a growing epidemic in their own rights.

Nevertheless, our findings about cocaine overdose deaths do offer some reason for hope. While U.S. cocaine overdose deaths increased significantly, their growth was relatively small as compared to synthetic opioids, for instance. Additionally, most states' cocaine overdose death rates remained stable, with only 12 reporting significant changes in 2018. Of those, seven states experienced significant increases in their cocaine overdose death rates, but five experienced significant declines—a pattern that isn't as overwhelmingly negative as for some other drugs

More than for any other drugs we examined, the data on psychostimulant overdose deaths seem foreboding. In 2018, death rates from psychostimulants grew faster than even the rate of synthetic opioids. Additionally, the state-level data trends were bleakest in the case of psychostimulant deaths, where we found that 22 states experienced significant increases in death rates while none saw significant declines. In addition to the large number of states that experienced significant increases in psycho-stimulant death rates, another reason for concern is that many of the states that saw those increases, such as California and Texas, have historically been relatively insulated from the opioid crisis. These data suggest that as the opioid crisis diversifies to incorporate non-opioid substances, it may also be widening geographically to a broader group of states.

On a broad scale, findings show that many states are making progress in curbing at least some types of opioid overdose deaths. However, other states have seen their opioid overdose death rates remain stable or have seen death rates from certain opioids continue to increase. Despite uneven improvements in opioid overdose deaths, state-level data show that other segments of the crisis continue to escalate. Considered together, these broader state-level patterns—and the particular examples of states such as Ohio—suggest that policy interventions can mitigate the death toll from drug overdoses, but also that it's far from time to let up on efforts to address the epidemic and instead to investigate and apply lessons of success to emerging threats like cocaine and psychostimulants.

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[4] There is insufficient evidence to say definitively whether the pattern of non-opioid illicit substances is driven primarily by unintentional contamination (e.g., drug traffickers accidentally mixing fentanyl into cocaine due to sloppy packaging) or intentional mixing of different drug types (e.g., drug traffickers purposefully blending methamphetamine and fentanyl into counterfeit prescription pills).

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[7] The category of overall opioid overdose death rates includes deaths from three types of opioids we do not examine independently in this brief because they are less common and have not experienced the same dramatic increase in death rates: opium; methadone; and other and non-specified opioids.

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[15] Though the figure uses names of specific substances from the CDC study (e.g., fentanyl, oxycodone, methamphetamine), the relative size of the circles are based on those substances' larger drug categories. For example, the size of the methamphetamine circle relative to the others is based on the rate of overdose deaths from "psychostimulants with abuse potential"—the parent drug category that includes methamphetamine.

[16] For ease of presentation, this figure treats fentanyl as the diagram "hub" because synthetic opioid deaths (the category including fentanyl) account for the most overdose deaths; while the amount that satellite substances overlap with fentanyl roughly corresponds to findings from the cited CDC study, the converse is not necessarily true. For example, approximately 37 percent of heroin deaths involve fentanyl, so the figure shows heroin overlapped roughly that amount by fentanyl. However, approximately 32 percent of fentanyl deaths involve heroin, which the figure does not reflect. Additionally, because the figure treats fentanyl as the hub, it is unable to illustrate the overlap between methamphetamine and cocaine overdose deaths.

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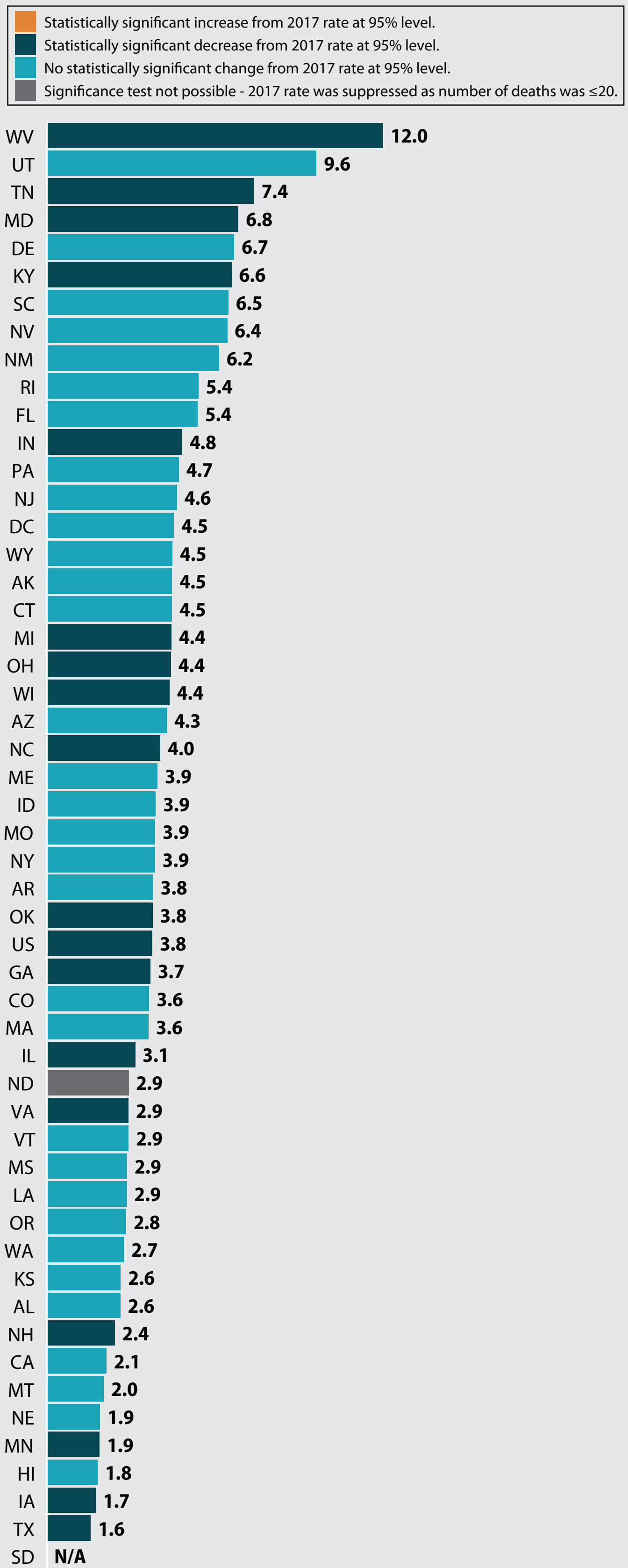
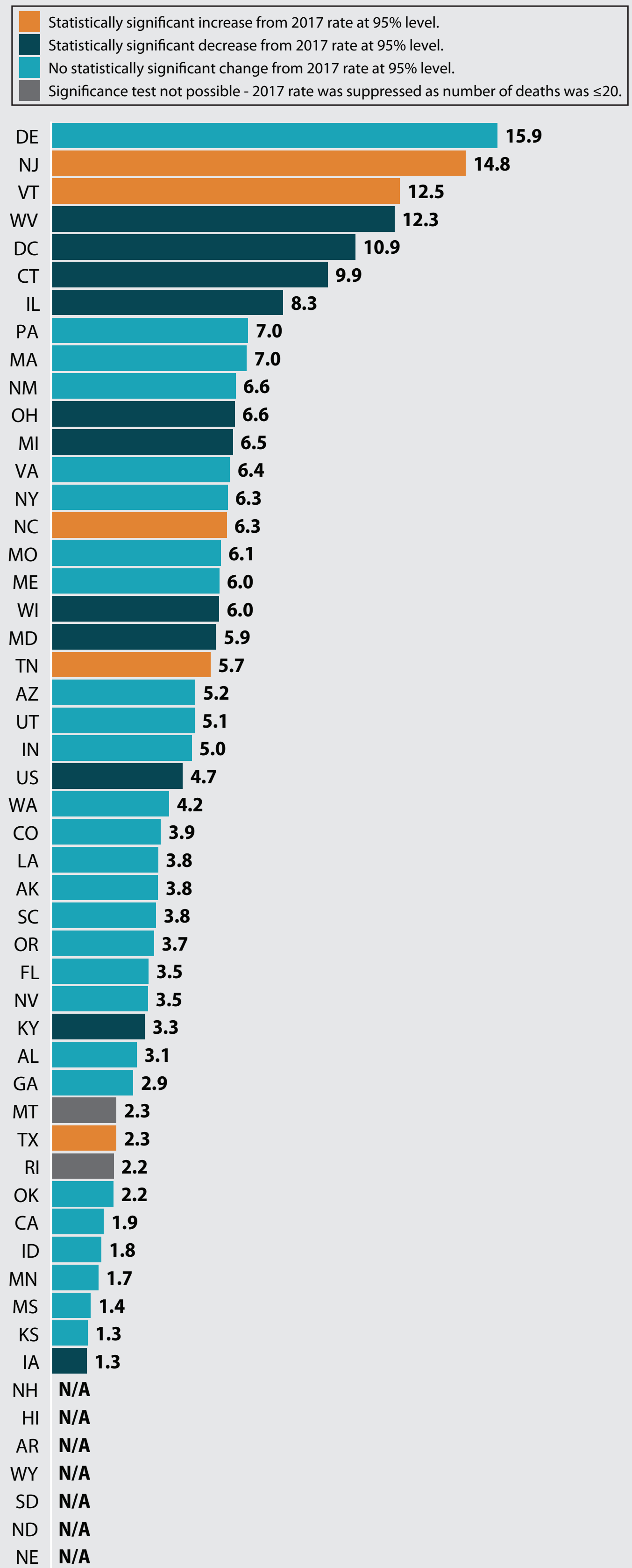
APPENDIX FIGURES: CHANGES IN OVERDOSE DEATH RATES, 2017-2018

Figure A1. Change in State Prescription Opioid Death Rates, 2017-2018



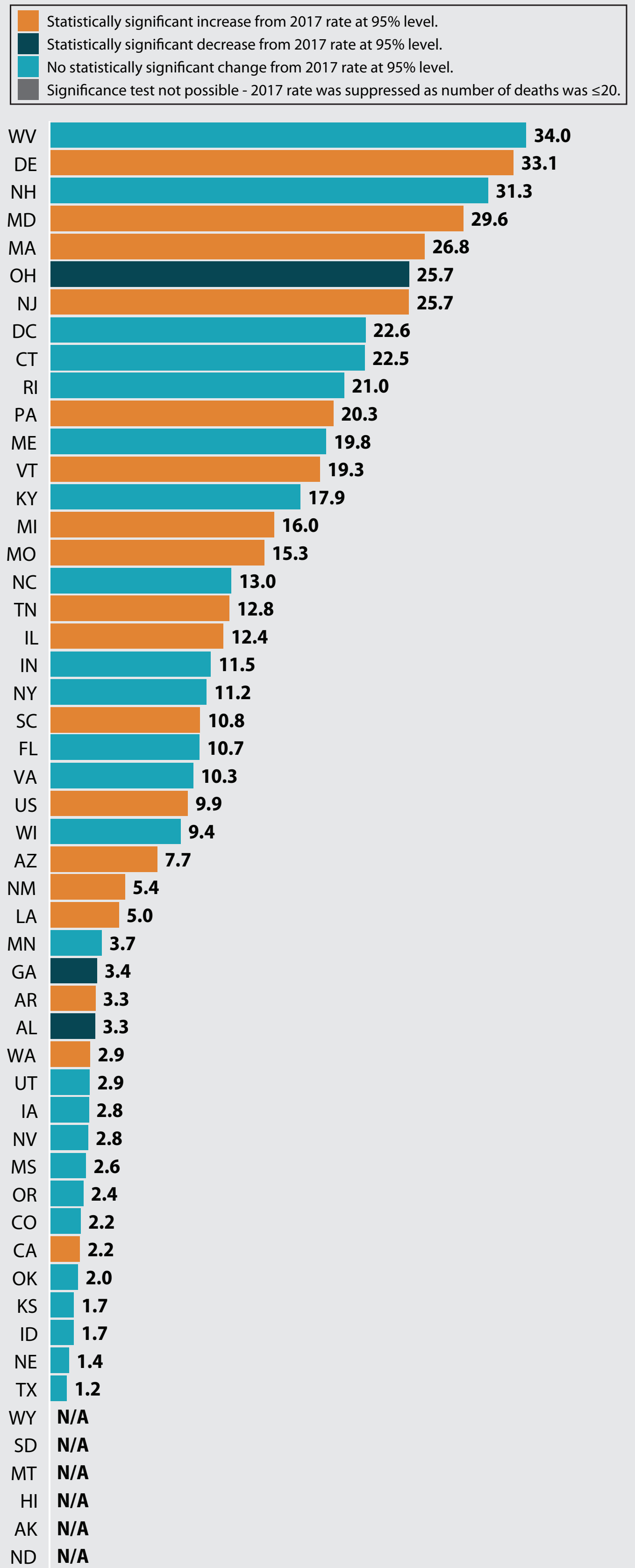
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Figure A2. Change in State Heroin Death Rates, 2017-2018



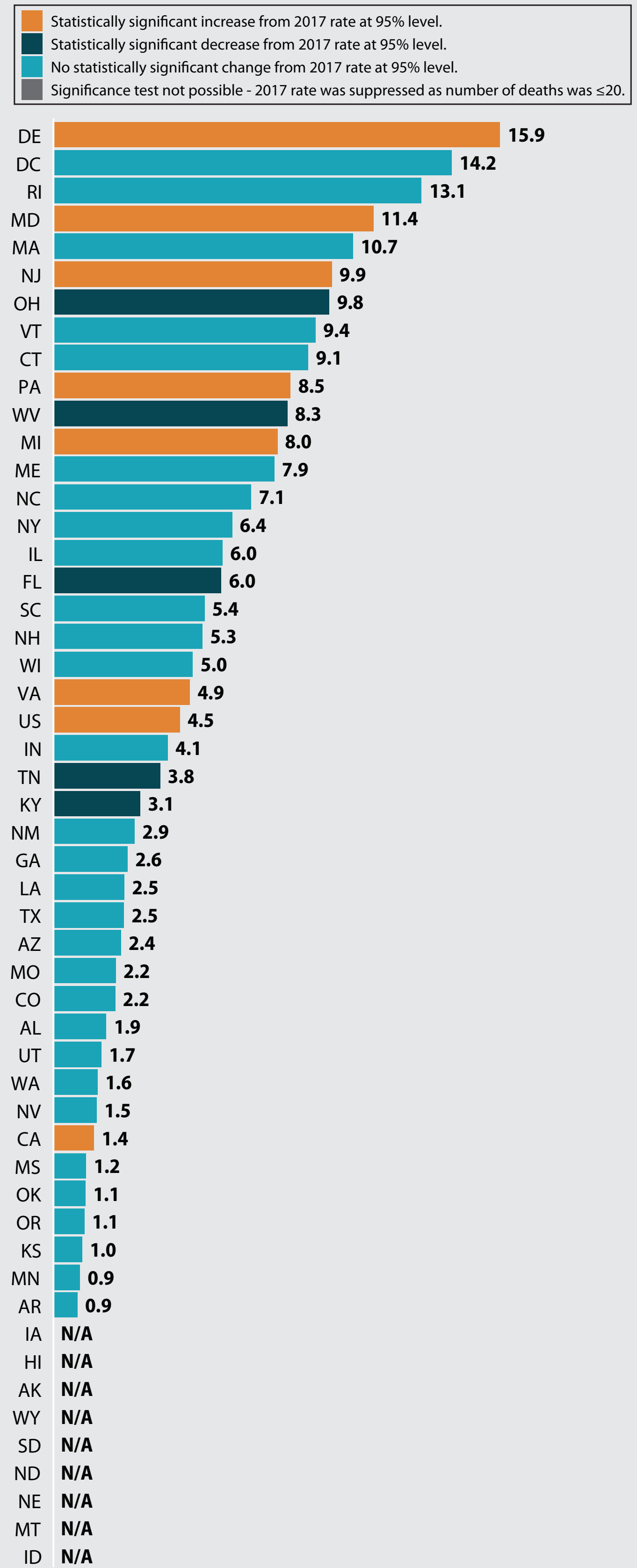
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Figure A3. Change in State Synthetic Opioid Death Rates, 2017-2018



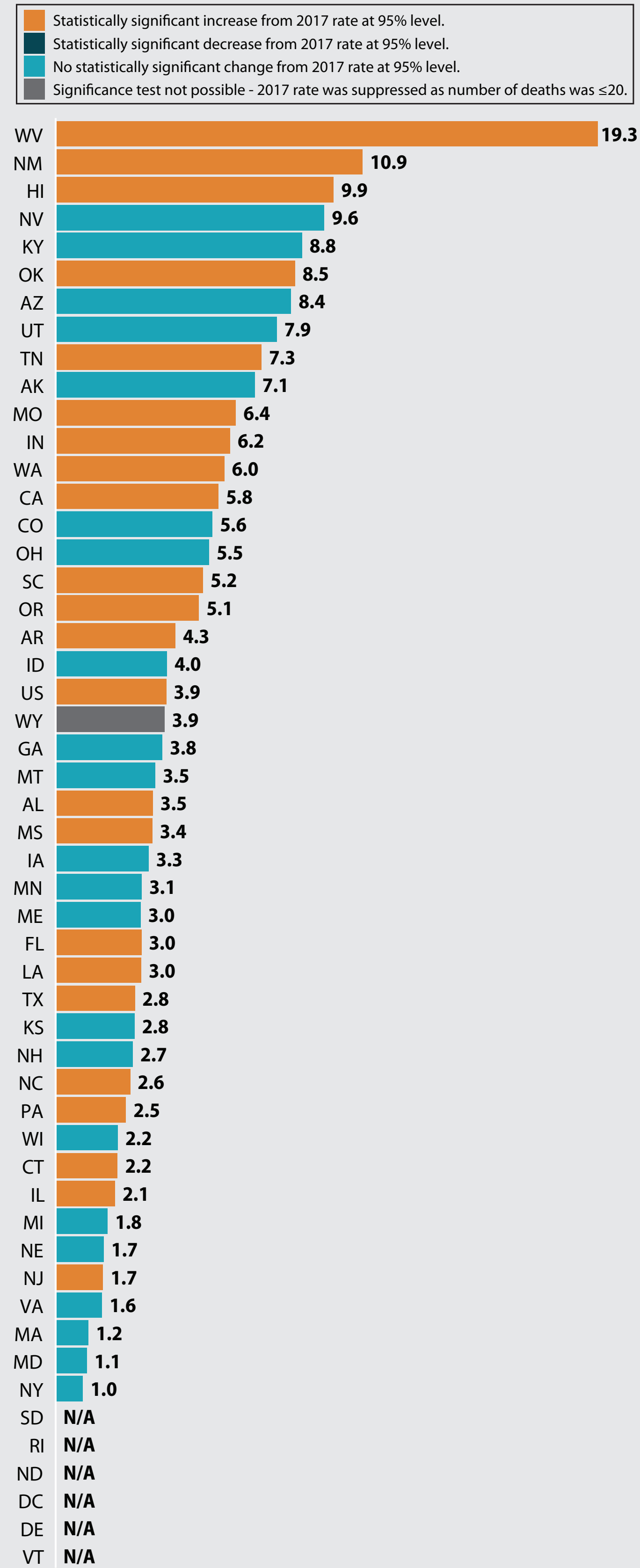
Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Figure A4. Change in State Cocaine Death Rates, 2017-2018



Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

Figure A5. Change in State Psychostimulant Death Rates, 2017-2018



Source: SHADAC analysis of vital statistics data from the CDC WONDER system.

APPENDIX TABLE 1: TOTAL DRUG OVERDOSE DEATHS PER 100,000 PEOPLE

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2000 2018 test	2017 2018 test
AK	7.1	9.4	12.2	12.7	12.7	11.4	11.1	10.1	18.1	17.9	11.6	14.2	17.4	14.4	16.8	16.0	16.8	20.2	14.6	*	*
AL	4.5	4.9	4.8	4.4	6.4	6.3	8.7	11.1	13.0	13.6	11.8	11.8	12.1	12.7	15.2	15.7	16.2	18.0	16.6	*	
AR	5.4	4.8	6.8	7.0	8.7	10.1	10.5	10.9	13.1	12.6	12.5	12.6	13.1	11.1	12.6	13.8	14.0	15.5	15.7	*	
AZ	10.6	10.9	12.0	12.7	13.7	14.1	14.9	15.7	13.5	16.1	17.5	16.9	17.7	18.7	18.2	19.0	20.3	22.2	23.8	*	
CA	5.8	3.6	8.7	8.9	8.8	9.0	9.6	10.5	10.4	10.7	10.6	10.7	10.3	11.1	11.1	11.3	11.2	11.7	12.8	*	*
CO	7.9	9.0	9.7	10.7	10.9	12.7	12.8	14.7	14.8	15.0	12.7	16.1	15.0	15.5	16.3	15.4	16.6	17.6	16.8	*	
CT	9.2	8.8	10.3	8.8	9.6	8.5	11.5	12.2	10.7	11.0	10.1	11.2	12.1	16.0	17.6	22.1	27.4	30.9	30.7	*	
DC	13.4	16.2	10.9	18.1	15.5	13.7	17.8	10.8	9.6	4.1	12.9	13.5	12.6	15.0	14.2	18.6	38.8	44.0	35.4	*	*
DE	7.0	8.0	10.5	9.4	7.6	7.5	9.4	11.4	14.3	15.4	16.6	17.6	15.2	18.7	20.9	22.0	30.8	37.0	43.8	*	*
FL	7.4	10.9	11.8	12.4	13.2	13.5	14.4	15.4	16.2	16.7	16.4	15.4	13.3	12.6	13.2	16.2	23.7	25.1	22.8	*	*
GA	4.4	6.0	6.5	6.9	7.5	8.2	8.9	9.7	9.7	10.3	10.7	10.7	10.6	10.8	11.9	12.7	13.3	14.7	13.2	*	*
HI	5.1	6.2	6.1	7.1	8.0	9.4	6.4	10.0	9.0	9.6	10.9	12.4	11.0	11.0	10.9	11.3	12.8	13.8	14.3	*	
IA	2.5	3.0	3.1	3.4	4.2	4.8	6.6	6.9	7.2	7.1	8.6	8.4	8.7	9.3	8.8	10.3	10.6	11.5	9.6	*	*
ID	5.1	7.8	9.1	7.9	7.4	8.1	9.3	8.6	9.8	11.6	11.8	12.9	11.9	13.4	13.7	14.2	15.2	14.4	14.6	*	
IL	7.0	7.1	7.9	6.8	8.3	8.4	10.9	9.4	10.6	10.8	10.0	10.9	12.5	12.1	13.1	14.1	18.9	21.6	21.3	*	
IN	3.5	4.7	4.8	7.1	8.8	9.8	11.8	12.4	13.2	14.0	14.4	15.3	16.0	16.6	18.2	19.5	24.0	29.4	25.6	*	*
KS	4.0	5.3	6.4	7.1	8.5	9.1	9.5	10.0	8.0	11.1	9.6	10.1	11.5	12.0	11.7	11.8	11.1	11.8	12.4	*	
KY	5.9	8.4	10.5	13.6	12.8	15.3	17.4	16.7	17.9	18.0	23.6	25.0	25.0	23.7	24.7	29.9	33.5	37.2	30.9	*	*
LA	5.6	6.0	8.3	12.1	12.1	14.7	16.5	18.8	14.9	13.1	13.2	13.5	12.3	17.8	16.9	19.0	21.8	24.5	25.4	*	
MA	7.1	10.5	10.7	12.6	10.3	12.0	14.7	14.0	11.9	12.2	11.0	12.7	12.7	16.0	19.0	25.7	33.0	31.8	32.8	*	
MD	11.3	11.5	12.9	13.8	11.9	11.4	13.2	13.2	11.8	12.5	11.0	11.7	13.7	14.6	17.4	20.9	33.2	36.3	37.2	*	
ME	4.8	6.5	10.9	10.3	11.0	12.4	12.0	12.4	12.3	12.7	10.4	11.8	11.5	13.2	16.8	21.2	28.7	34.4	27.9	*	*
MI	5.6	6.2	7.5	7.6	8.7	9.8	11.7	12.2	12.4	14.5	13.9	14.3	13.5	15.9	18.0	20.4	24.4	27.8	26.6	*	
MN	2.6	3.7	3.9	4.8	4.8	5.4	5.9	6.4	7.2	7.9	7.3	9.4	8.9	9.6	9.6	10.6	12.5	13.3	11.5	*	*
MO	5.5	6.3	7.5	9.3	9.8	10.7	13.0	12.3	13.1	14.6	17.0	16.4	16.2	17.5	18.2	17.9	23.6	23.4	27.5	*	*
MS	4.2	6.2	6.6	7.5	8.2	8.8	12.1	11.0	10.5	11.2	11.4	10.7	10.7	10.8	11.6	12.3	12.1	12.2	10.8	*	
MT	4.5	6.2	8.7	10.6	10.9	10.1	10.2	12.8	14.1	14.6	12.9	14.4	11.9	14.5	12.4	13.8	11.7	11.7	12.2	*	
NC	6.0	6.6	7.7	9.0	9.9	11.4	11.8	11.9	12.8	12.6	11.4	13.0	13.3	12.9	13.8	15.8	19.7	24.1	22.4	*	*
ND	N/A	N/A	N/A	3.5	N/A	N/A	N/A	4.8	7.4	4.4	3.4	N/A	3.1	2.8	6.3	8.6	10.6	9.2	10.2	--	
NE	2.8	3.9	3.9	3.2	3.6	5.0	5.4	4.8	5.5	5.9	6.7	7.1	7.9	6.5	7.2	6.9	6.4	8.1	7.4	*	
NH	3.4	6.1	8.7	9.5	9.6	10.7	11.2	13.8	9.4	12.5	11.8	15.3	13.4	15.1	26.2	34.3	39.0	37.0	35.8	*	
NJ	7.5	8.1	9.3	8.3	6.8	9.4	9.7	8.4	8.0	3.0	9.8	11.3	13.7	14.5	14.0	16.3	23.2	30.0	33.1	*	*
NM	15.1	14.4	16.1	19.7	16.9	20.1	21.8	23.4	26.7	22.0	23.8	26.3	24.7	22.6	27.3	25.3	25.2	24.8	26.7	*	
NV	13.7	12.3	14.8	15.2	16.0	18.7	18.0	18.9	19.2	20.1	20.7	22.8	21.0	21.1	18.4	20.4	21.7	21.6	21.2	*	
NY	4.0	5.6	4.8	5.0	4.3	4.8	8.6	8.6	8.5	8.0	7.8	9.7	10.4	11.3	11.3	13.6	18.0	19.4	18.4	*	*
OH	5.0	6.5	8.2	6.8	9.9	10.9	13.2	13.9	15.1	10.9	16.1	17.7	18.9	20.8	24.6	29.9	39.1	46.3	35.9	*	*
OK	7.1	8.0	7.1	11.8	13.9	13.8	16.2	18.8	15.6	20.6	19.4	18.9	20.6	20.6	20.3	19.0	21.5	20.1	18.4	*	
OR	6.0	6.9	8.9	9.8	10.0	10.4	12.9	13.2	11.8	12.9	12.9	13.5	12.5	11.3	12.8	12.0	11.9	12.4	12.6	*	
PA	9.5	7.9	9.1	11.4	12.7	13.2	13.5	13.9	14.9	15.2	15.3	18.3	19.0	19.4	21.9	26.3	37.9	44.3	36.1	*	*
RI	7.0	10.2	9.3	13.7	9.8	14.3	16.4	12.4	17.3	14.8	15.5	17.7	18.2	22.4	23.4	28.2	30.8	31.0	30.1	*	
SC	6.5	5.9	5.3	7.0	8.4	9.9	12.7	12.1	12.5	13.3	14.6	13.3	12.5	13.0	14.4	15.7	18.1	20.5	22.6	*	*
SD	2.8	3.2	3.1	3.3	5.8	5.5	5.1	4.1	7.3	6.7	6.3	7.1	5.5	6.9	7.8	8.4	8.4	8.5	6.9	*	
TN	6.9	7.3	8.5	11.3	12.8	14.5	16.0	15.8	14.8	15.2	16.9	17.2	17.6	18.1	19.5	22.2	24.5	26.6	27.5	*	
TX	5.0	6.6	7.5	8.1	8.2	8.5	9.5	9.3	8.5	9.8	9.6	10.1	9.4	9.3	9.7	9.4	10.1	10.5	10.4	*	
UT	10.4	10.4	14.0	16.1	16.3	19.3	19.1	21.3	19.0	19.1	16.9	19.5	23.1	22.1	22.4	23.4	22.4	22.3	21.2	*	
VA	5.6	6.2	6.8	7.2	7.3	7.5	8.0	8.9	9.0	8.5	6.8	9.7	8.9	10.2	11.7	12.4	16.7	17.9	17.1	*	
VT	5.8	7.1	7.5	10.2	8.0	8.5	12.2	10.8	10.9	8.3	9.7	12.9	10.9	15.1	13.9	16.7	22.2	23.2	26.6	*	
WA	9.2	8.1	10.4	11.1	12.7	13.0	13.6	14.4	14.8	14.3	13.1	14.1	13.7	13.4	13.3	14.7	14.5	15.2	14.8	*	
WI	4.6	5.0	6.2	7.0	7.9	9.3	10.6	11.1	10.6	10.9	10.9	12.1	12.2	15.0	15.1	15.5	19.3	21.2	19.2	*	*
WV	6.2	11.5	12.9	15.1	18.8	10.5	20.4	22.4	25.7	12.4	28.9	36.3	32.0	32.2	35.5	41.5	52.0	57.8	51.5	*	*
WY	4.6	4.5	6.9	5.9	9.1	4.9	10.6	12.3	14.0	11.0	15.0	15.2	16.8	17.2	19.4	16.4	17.6	12.2	11.1	*	
US	6.2	6.8	8.2	8.9	9.4	10.1	11.5	11.9	11.9	11.9	12.3	13.2	13.1	13.8	14.7	16.3	19.8	21.7	20.7	*	*

N/A: Death rate is suppressed because it is based on 20 or fewer deaths.
-- Significance testing not possible because rate from 2000/2017 was suppressed.
* Difference between 2000/2017 and 2018 rates is statistically significant at the 95% level.

APPENDIX TABLE 2: TOTAL OPIOID OVERDOSE DEATHS PER 100,000 PEOPLE

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2000 2018 test	2017 2018 test
AK	4.0	N/A	N/A	N/A	N/A	N/A	4.1	N/A	12.5	12.5	8.7	8.7	10.8	9.2	10.6	11.0	12.5	13.9	8.8	*	*
AL	1.0	1.3	1.6	1.1	1.8	1.8	2.7	3.6	4.1	4.5	4.1	3.8	3.6	3.5	5.6	6.1	7.5	9.0	8.3	*	
AR	0.8	1.1	3.5	3.4	4.8	4.6	5.1	5.4	7.2	7.2	6.8	6.2	6.0	5.6	6.3	7.2	5.9	6.5	7.4	*	
AZ	4.8	5.2	6.2	6.4	6.3	6.6	7.8	7.7	8.1	9.8	9.9	8.8	8.2	8.2	8.8	10.2	11.4	13.5	15.9	*	*
CA	3.0	1.6	4.2	4.0	4.0	3.8	4.1	4.5	4.8	5.2	5.0	5.0	4.4	4.9	5.0	4.9	4.9	5.3	5.8	*	*
CO	3.9	4.2	4.2	4.5	4.8	6.2	6.7	7.0	7.0	7.7	5.9	8.0	7.7	8.0	9.4	8.7	9.5	10.0	9.5	*	
CT	4.8	4.3	5.0	4.9	5.7	4.7	6.4	7.0	6.5	6.2	6.3	6.0	5.7	12.3	15.2	19.2	24.5	27.7	27.5	*	
DC	7.7	8.1	5.2	10.7	9.4	7.8	9.6	5.2	5.1	N/A	5.8	8.0	7.3	8.6	9.4	14.5	30.0	34.7	26.7	*	*
DE	3.7	4.5	6.0	4.5	4.2	3.5	4.5	5.1	7.7	9.3	12.0	12.6	9.2	12.8	13.9	14.8	16.9	27.8	39.3	*	*
FL	3.6	5.4	5.9	6.3	7.1	6.3	6.9	8.2	8.2	8.7	9.1	8.4	6.9	6.6	7.2	9.4	14.4	16.3	15.8	*	
GA	1.4	2.1	2.5	2.7	2.9	3.3	3.6	4.1	4.2	5.0	5.4	5.4	5.4	5.3	7.0	8.4	8.8	9.7	8.3	*	*
HI	2.3	3.0	3.7	3.4	4.4	5.0	4.0	5.7	3.9	4.1	5.3	5.4	4.5	4.7	3.9	4.1	5.2	3.4	4.1	*	
IA	N/A	0.9	1.3	1.4	2.1	2.4	3.3	3.6	4.4	4.9	5.1	5.9	5.9	6.1	5.3	5.8	6.2	6.9	4.8	--	*
ID	2.2	4.1	3.5	4.2	3.5	3.7	5.0	4.3	4.8	4.2	5.3	5.1	3.9	4.8	5.0	6.0	7.4	6.2	7.1	*	
IL	4.5	4.2	4.6	3.7	4.2	4.7	6.9	5.5	6.7	6.9	6.8	7.1	8.9	8.3	9.4	10.7	15.3	17.2	17.0	*	
IN	0.7	1.1	1.0	2.1	2.2	2.6	2.8	3.9	5.0	5.0	4.5	5.6	5.9	5.7	7.3	8.5	12.6	18.8	17.5	*	
KS	0.9	1.8	3.0	2.9	4.4	4.1	4.5	4.4	3.5	5.5	3.8	4.3	6.3	5.7	6.0	5.4	5.1	5.1	5.7	*	
KY	2.3	3.5	4.4	5.7	5.4	6.8	8.0	8.1	8.7	10.2	14.1	15.8	15.5	15.5	16.8	21.0	23.6	27.9	23.4	*	*
LA	1.2	1.8	2.1	2.7	3.2	3.8	4.6	4.9	2.9	2.8	2.8	2.5	3.7	5.9	5.7	6.3	7.7	9.3	10.0	*	
MA	4.8	7.6	7.4	9.0	7.1	8.6	10.1	9.9	9.1	9.4	8.3	9.9	10.4	13.3	17.0	23.3	29.7	28.2	29.3	*	
MD	8.7	8.8	9.7	9.9	8.5	8.6	9.7	10.3	8.7	9.9	8.7	9.1	10.9	12.3	15.0	17.7	29.7	32.2	33.7	*	
ME	3.2	4.3	7.3	6.7	7.7	9.0	7.3	8.1	8.2	8.7	7.1	6.7	7.9	9.9	13.7	19.3	25.2	29.9	23.4	*	*
MI	1.8	1.9	2.3	2.5	3.5	4.8	6.0	5.1	6.5	7.5	7.0	7.5	7.1	9.4	10.9	13.6	18.5	21.2	20.8	*	
MN	1.1	1.9	1.9	2.1	2.6	2.8	3.0	3.4	4.3	5.2	4.4	5.3	5.3	5.6	6.0	6.2	7.4	7.8	6.3	*	*
MO	2.4	2.4	3.4	4.8	4.9	5.3	7.1	6.7	8.2	9.0	10.3	10.2	9.3	10.7	12.0	11.7	15.9	16.5	19.6	*	*
MS	N/A	0.9	0.9	1.1	1.0	1.4	2.3	3.3	3.7	3.4	3.3	2.9	3.9	3.4	3.9	5.3	6.2	6.4	6.1	--	
MT	N/A	2.3	2.2	4.7	5.0	4.7	5.2	6.3	7.6	9.4	6.1	6.8	5.3	7.2	5.4	5.0	4.2	3.6	6.2	--	*
NC	3.5	4.1	4.9	5.8	6.6	7.5	7.8	8.2	9.1	9.1	8.1	8.6	8.6	8.7	10.0	11.9	15.4	19.8	17.9	*	*
ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.1	N/A	N/A	N/A	N/A	N/A	4.5	4.8	7.6	4.8	5.2	--	
NE	N/A	1.9	1.5	N/A	1.6	2.5	1.9	2.4	1.7	3.7	3.4	2.8	3.0	2.2	3.2	3.1	2.4	3.1	3.3	--	
NH	2.2	4.1	6.3	7.0	6.9	8.2	7.9	10.9	7.0	9.5	8.9	11.5	10.5	11.8	23.4	31.3	35.8	34.0	33.1	*	
NJ	4.1	4.6	5.6	5.1	3.6	5.0	4.3	3.9	3.8	0.7	4.2	5.1	6.8	7.6	8.2	9.8	16.0	22.0	29.7	*	*
NM	10.0	8.4	11.1	12.0	10.0	11.4	12.5	13.5	16.6	10.2	9.5	11.9	16.1	16.0	20.2	17.9	17.5	16.7	16.7	*	
NV	8.8	8.5	10.0	10.8	11.6	13.1	13.4	14.2	14.7	15.9	15.8	16.5	15.6	13.7	12.7	13.8	13.3	13.3	11.5	*	*
NY	2.6	3.2	2.9	3.0	2.4	2.9	5.2	5.2	5.6	5.4	5.4	6.8	7.6	8.3	8.6	10.8	15.1	16.1	15.1	*	*
OH	2.2	3.0	3.7	3.2	4.5	4.9	5.6	6.2	7.2	5.9	10.0	11.2	12.3	14.6	19.1	24.7	32.9	39.2	29.6	*	*
OK	3.8	4.6	4.3	7.5	8.9	9.0	11.1	13.9	11.4	15.5	13.9	13.0	14.2	13.4	13.0	11.2	11.6	10.2	7.8	*	*
OR	3.1	4.2	5.4	5.7	6.2	7.2	9.6	9.4	9.0	9.5	8.5	10.1	9.2	7.5	8.3	7.9	7.6	8.1	8.0	*	
PA	2.7	2.1	2.9	3.9	3.9	4.2	3.5	4.0	4.9	5.2	5.1	6.2	6.8	7.8	9.0	11.2	18.5	21.2	23.8	*	*
RI	5.4	7.4	6.8	9.3	7.0	10.3	12.2	8.0	12.5	10.6	10.5	13.3	13.2	18.1	19.8	23.5	26.7	26.9	25.9	*	
SC	2.2	2.0	2.0	2.2	3.1	3.5	4.9	4.5	4.8	5.2	5.9	5.3	5.1	5.4	10.7	11.4	13.1	15.5	17.1	*	
SD	N/A	N/A	N/A	N/A	2.7	3.1	3.3	2.5	4.2	4.6	4.5	4.5	3.1	4.4	4.1	3.5	5.0	4.0	3.5	--	
TN	1.8	2.4	2.9	5.0	6.4	7.5	7.7	7.8	7.7	8.5	10.0	10.1	11.4	11.9	13.4	16.0	18.1	19.3	19.9	*	
TX	1.8	2.6	3.4	3.6	3.7	3.9	4.6	4.3	3.9	4.6	4.4	4.6	4.4	4.0	4.3	4.7	4.9	5.1	4.8	*	
UT	7.6	7.8	9.7	11.8	11.8	14.2	13.9	14.7	14.0	14.7	12.8	14.6	16.1	15.9	16.8	15.9	16.4	15.5	14.8	*	
VA	3.4	4.2	4.7	4.8	5.1	4.7	5.3	6.4	6.2	5.9	4.8	7.1	6.5	7.6	9.1	9.9	13.5	14.8	14.3	*	
VT	3.6	5.0	5.8	7.2	6.1	6.1	9.4	8.8	8.6	6.0	6.8	9.1	8.6	11.6	11.0	13.4	18.4	20.0	22.8	*	
WA	5.8	5.3	7.4	7.5	9.0	9.2	10.0	9.7	10.1	10.2	8.9	9.9	9.7	8.9	9.2	9.3	9.4	9.6	9.4	*	
WI	2.1	2.6	3.2	3.7	4.0	4.9	6.0	6.7	6.6	6.9	7.3	8.3	8.6	10.6	11.1	11.2	15.8	16.9	15.3	*	*
WV	2.8	7.9	10.1	11.2	14.2	8.2	16.1	19.0	21.0	10.3	25.6	31.5	27.1	27.9	31.6	36.0	43.4	49.6	42.4	*	*
WY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.6	7.6	5.7	8.5	7.5	7.7	8.6	9.3	7.9	8.7	8.7	6.8	--	
US	3.0	3.3	4.1	4.5	4.7	5.1	5.9	6.1	6.4	6.6	6.8	7.3	7.4	7.9	9.0	10.4	13.3	14.9	14.6	*	*

N/A: Death rate is suppressed because it is based on 20 or fewer deaths.
-- Significance testing not possible because rate from 2000/2017 was suppressed.
* Difference between 2000/2017 and 2018 rates is statistically significant at the 95% level.

APPENDIX TABLE 3: TOTAL PRESCRIPTION OPIOID OVERDOSE DEATHS PER 100,000 PEOPLE

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2000 2018 test	2017 2018 test
AK	3.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.2	8.1	5.4	4.8	5.7	5.2	5.6	6.5	6.1	6.5	4.5		
AL	0.6	0.5	0.7	0.5	0.7	0.5	1.0	1.4	1.6	2.0	1.8	1.9	1.3	1.3	1.8	1.8	2.0	2.9	2.6	*	
AR	N/A	N/A	1.6	1.9	2.4	2.2	2.5	3.2	4.0	4.5	4.2	4.2	4.2	3.8	4.3	5.1	4.0	4.1	3.8	--	
AZ	1.9	1.6	2.5	2.5	2.7	3.1	3.2	3.6	4.1	5.0	5.2	4.9	5.0	3.9	4.2	4.5	4.8	4.9	4.3	*	
CA	1.9	0.9	2.7	2.3	2.1	2.1	2.2	2.5	2.9	3.0	2.8	3.0	2.4	2.6	2.6	2.4	2.3	2.3	2.1	*	
CO	1.3	2.1	1.5	1.6	1.7	2.2	2.5	3.7	3.4	3.3	2.6	3.7	4.2	4.1	4.6	4.5	3.7	4.3	3.6	*	
CT	N/A	N/A	0.7	0.7	0.8	0.8	1.1	0.9	1.0	0.9	1.1	1.2	1.0	3.8	4.3	4.8	5.5	5.2	4.5	--	
DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	7.4	5.6	4.5	--	
DE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.3	4.8	5.4	7.0	4.0	4.0	4.2	3.8	3.4	7.1	6.7	--	
FL	1.6	2.8	2.5	2.6	3.1	2.8	3.2	4.2	4.7	5.5	6.4	5.6	4.4	3.8	3.5	3.8	5.1	5.4	5.4	*	
GA	0.7	1.0	1.1	1.0	1.1	1.3	1.4	1.5	2.0	2.6	3.1	3.3	3.0	3.1	3.8	4.2	4.3	4.8	3.7	*	*
HI	1.8	2.2	2.2	2.0	2.4	2.9	2.2	3.6	2.4	2.5	2.8	3.3	2.6	2.7	2.4	2.4	2.9	2.1	1.8		
IA	N/A	N/A	N/A	N/A	1.1	1.2	1.8	1.8	2.7	2.9	2.6	3.0	3.4	3.6	2.7	2.5	2.7	3.1	1.7	--	*
ID	N/A	2.4	2.0	2.3	1.6	1.9	2.2	2.2	3.1	2.4	2.8	3.1	2.2	3.1	2.7	3.3	3.9	3.3	3.9	--	
IL	0.4	0.6	0.6	0.5	0.6	0.8	0.8	1.1	1.4	1.5	1.4	1.3	1.3	1.4	1.9	2.0	2.9	3.8	3.1	*	*
IN	N/A	0.4	0.4	0.6	0.8	0.9	0.8	1.3	1.7	2.3	2.2	2.7	2.1	1.7	2.3	2.2	3.5	6.1	4.8	--	*
KS	N/A	0.8	1.5	1.5	2.3	2.0	2.3	2.1	1.7	2.2	1.9	2.6	3.1	3.2	3.2	2.7	2.8	2.6	2.6	--	
KY	1.3	2.1	2.0	2.3	2.1	3.1	4.1	4.4	5.5	6.8	10.3	11.1	9.0	8.0	7.7	8.9	9.3	9.4	6.6	*	*
LA	0.5	1.0	0.9	1.2	1.2	1.2	1.5	2.1	1.4	1.3	1.5	1.2	1.6	1.9	2.0	2.3	2.3	3.5	2.9	*	
MA	0.5	1.1	1.1	1.3	1.0	1.4	2.3	2.5	2.1	2.2	2.5	2.4	2.5	2.6	2.6	3.3	3.7	3.6	3.6	*	
MD	0.4	0.4	0.4	0.5	1.3	1.6	1.9	2.2	2.9	3.2	3.5	4.0	4.2	4.9	6.2	6.5	10.7	8.5	6.8	*	*
ME	N/A	N/A	1.9	2.2	2.1	2.9	3.1	4.1	3.5	5.6	4.0	3.2	4.7	4.9	6.1	7.7	10.8	5.5	3.9	--	
MI	0.4	0.6	0.8	0.8	1.0	1.5	1.7	1.8	2.2	2.1	2.5	2.3	2.8	2.8	3.3	3.9	5.7	5.2	4.4	*	*
MN	N/A	0.8	0.8	0.8	1.2	1.2	1.1	1.5	1.6	2.1	1.8	1.8	2.0	2.0	1.9	2.2	2.5	2.8	1.9	--	*
MO	0.9	1.0	1.5	2.5	2.4	2.5	2.6	2.9	3.8	3.2	4.1	3.8	3.4	4.0	4.0	3.9	3.8	3.7	3.9	*	
MS	N/A	N/A	N/A	N/A	N/A	N/A	1.0	1.6	2.0	1.5	1.7	1.8	2.1	1.8	2.1	2.5	3.2	3.0	2.9	--	
MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.6	2.8	4.3	3.7	3.4	2.4	4.6	2.2	2.7	N/A	2.0	2.0	--	
NC	1.4	1.8	1.6	1.6	1.9	2.4	2.7	3.3	4.4	4.5	4.4	4.5	4.2	4.1	4.7	5.5	6.1	5.6	4.0	*	*
ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	--	--
NE	N/A	N/A	N/A	N/A	1.2	1.5	N/A	1.4	N/A	2.1	2.0	1.7	1.6	1.8	1.8	1.7	1.2	1.7	1.9	--	
NH	N/A	N/A	N/A	1.6	2.1	1.7	2.7	3.8	3.5	3.4	4.6	4.9	4.2	4.3	5.8	4.4	5.0	3.9	2.4	--	*
NJ	0.9	1.1	1.1	1.3	1.0	1.4	1.6	1.5	1.4	N/A	2.0	2.5	2.4	2.6	2.7	2.6	3.8	4.6	4.6	*	
NM	5.5	4.7	7.6	8.0	5.3	7.0	8.6	8.9	10.4	6.0	5.6	6.1	9.0	10.1	10.9	8.1	7.5	7.1	6.2		
NV	4.9	4.0	4.2	5.0	4.0	6.2	6.8	7.1	7.9	9.3	10.8	10.7	10.6	8.3	7.4	8.6	7.6	7.6	6.4	*	
NY	0.2	0.4	0.2	0.3	0.4	0.5	1.4	2.0	2.3	2.3	2.6	3.1	3.0	3.1	3.0	3.4	4.4	4.0	3.9	*	
OH	0.9	1.3	1.7	1.4	1.6	1.8	2.2	2.5	2.9	2.6	4.5	5.1	4.4	4.5	5.4	6.1	6.9	7.6	4.4	*	*
OK	2.0	2.8	2.4	4.2	4.2	4.9	6.0	8.0	6.9	9.4	9.3	9.4	10.1	9.8	9.6	7.2	7.4	6.0	3.8	*	*
OR	0.8	1.2	1.4	2.2	1.8	2.1	3.2	2.4	2.4	3.2	3.4	4.0	3.6	2.9	3.2	3.6	3.0	2.8	2.8	*	
PA	0.8	0.6	0.8	1.1	1.3	1.3	1.2	1.7	2.1	2.4	2.6	2.6	2.9	3.2	3.3	3.7	5.2	4.5	4.7	*	
RI	N/A	N/A	N/A	N/A	N/A	2.2	3.0	N/A	2.7	2.1	4.2	5.8	6.5	7.4	6.7	8.3	8.1	6.5	5.4	--	
SC	1.0	1.3	0.9	1.3	1.4	1.4	2.6	2.5	2.6	2.7	3.2	3.2	3.2	3.0	6.5	6.5	7.0	6.4	6.5	*	
SD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	2.8	N/A	3.5	2.4	N/A	2.8	N/A	N/A	--	--
TN	1.0	1.5	1.4	2.4	3.1	3.7	3.5	3.8	4.2	5.4	6.7	7.2	7.7	8.1	8.6	9.7	10.2	8.8	7.4	*	*
TX	0.7	1.0	1.4	1.6	1.6	1.8	2.5	2.2	1.8	2.2	2.2	2.0	1.8	1.7	1.7	1.7	1.8	1.9	1.6	*	*
UT	5.3	4.9	5.9	7.1	6.7	8.0	8.1	9.8	9.1	10.3	8.5	10.8	12.6	13.3	13.6	12.7	11.5	10.0	9.6	*	
VA	1.4	1.9	1.9	1.9	2.3	2.0	2.1	2.7	2.7	2.6	2.4	3.9	3.4	3.5	3.9	3.3	4.0	3.9	2.9	*	*
VT	N/A	N/A	N/A	4.7	3.9	N/A	4.1	4.6	4.7	3.6	4.3	4.7	4.0	5.9	3.4	3.9	3.9	3.9	2.9	--	
WA	1.6	2.0	2.2	2.6	3.3	3.6	4.0	4.1	4.4	4.7	4.1	4.5	4.6	3.7	3.8	3.5	3.7	3.1	2.7	*	
WI	0.9	1.2	1.7	1.9	1.9	2.4	2.9	3.2	3.1	3.3	4.0	3.9	3.9	4.8	4.8	4.3	5.7	5.5	4.4	*	*
WV	1.3	4.1	5.0	6.8	6.5	3.1	8.6	10.2	12.4	5.5	19.4	25.2	20.0	19.3	20.2	19.8	18.5	15.8	12.0	*	*
WY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.6	4.8	4.3	5.9	4.6	5.0	4.4	5.7	4.5	--	
US	1.0	1.2	1.5	1.7	1.8	1.9	2.3	2.7	3.0	3.1	3.5	3.7	3.5	3.5	3.8	3.9	4.4	4.4	3.8	*	*

N/A: Death rate is suppressed because it is based on 20 or fewer deaths.
-- Significance testing not possible because rate from 2000/2017 was suppressed.
* Difference between 2000/2017 and 2018 rates is statistically significant at the 95% level.

APPENDIX TABLE 4: TOTAL SYNTHETIC OPIOID OVERDOSE DEATHS PER 100,000 PEOPLE

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2000 2018 test	2017 2018 test
AK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.9	N/A	--	--
AL	N/A	N/A	N/A	N/A	N/A	N/A	0.5	0.4	N/A	0.7	0.7	N/A	N/A	0.6	1.0	1.6	3.5	4.3	3.3	--	*
AR	N/A	N/A	0.9	1.0	1.1	1.0	1.1	1.0	1.6	2.1	2.1	1.0	0.7	1.1	1.2	1.5	1.3	2.2	3.3	--	*
AZ	N/A	0.4	0.4	0.4	0.5	0.6	0.9	0.6	0.8	0.9	1.0	0.6	0.6	0.8	0.8	1.1	1.8	4.0	7.7	--	*
CA	0.2	0.1	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.9	1.3	2.2	*	*
CO	0.6	N/A	0.7	0.5	0.5	0.7	0.5	0.9	0.8	1.3	1.1	1.6	0.9	1.2	1.5	1.2	1.3	2.0	2.2	*	
CT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.6	N/A	0.5	0.6	N/A	N/A	1.4	2.7	6.1	14.8	20.3	22.5	--	
DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.9	19.2	25.7	22.6	--	
DE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.5	3.0	4.3	8.7	20.0	33.1	--	*
FL	0.5	0.7	0.8	1.1	0.9	0.8	0.7	0.7	0.7	0.9	0.8	0.7	0.8	1.0	1.8	3.2	8.3	11.0	10.7	*	
GA	N/A	0.3	0.4	0.4	0.4	0.5	0.6	0.7	0.6	0.9	1.0	0.9	0.6	0.8	1.7	2.8	2.7	4.1	3.4	--	*
HI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
IA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	1.2	1.5	1.0	1.3	1.0	1.0	1.5	2.0	3.2	2.8	--	
ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.3	1.3	1.7	--	
IL	0.2	0.3	0.3	0.3	0.3	0.5	3.0	0.8	0.7	0.9	0.9	0.7	0.6	0.6	1.0	2.2	7.2	9.8	12.4	*	*
IN	N/A	N/A	N/A	0.4	0.4	0.4	0.8	0.8	0.9	1.0	0.8	0.6	0.7	0.5	1.3	1.9	4.9	10.5	11.5	--	
KS	N/A	N/A	N/A	N/A	0.8	N/A	N/A	N/A	N/A	1.3	N/A	0.8	1.6	1.3	1.4	1.3	1.0	1.2	1.7	--	
KY	N/A	N/A	0.7	0.7	0.8	0.7	1.2	0.9	1.0	1.5	1.3	1.7	1.6	1.7	4.3	7.9	11.5	19.1	17.9	--	
LA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.5	N/A	N/A	0.5	0.4	N/A	0.6	0.7	0.8	2.0	3.6	5.0	--	*
MA	N/A	N/A	0.3	0.4	0.5	0.6	1.4	1.1	0.8	0.9	1.0	0.9	1.0	1.4	6.9	14.4	23.5	24.5	26.8	--	*
MD	N/A	N/A	N/A	N/A	N/A	0.4	0.9	0.6	0.6	0.9	0.9	1.0	0.8	1.5	3.8	5.8	17.8	25.2	29.6	--	*
ME	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.7	N/A	N/A	1.8	5.2	9.9	17.3	23.5	19.8	--	
MI	N/A	N/A	0.4	0.3	0.5	0.9	2.0	0.7	0.7	0.9	0.9	0.9	0.7	0.9	1.9	4.8	9.8	14.4	16.0	--	*
MN	N/A	N/A	N/A	N/A	N/A	N/A	0.5	0.5	0.6	0.7	0.7	0.6	0.7	0.6	0.8	1.0	1.9	3.5	3.7	--	
MO	0.5	0.7	0.5	0.6	0.9	0.8	2.5	1.2	1.0	1.2	1.5	1.1	1.0	1.6	1.9	3.1	7.8	10.9	15.3	*	*
MS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7	1.2	1.1	0.8	N/A	0.7	0.9	0.8	1.3	1.6	2.9	2.6	--	
MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
NC	0.6	0.7	0.6	0.8	1.3	1.3	1.2	1.2	1.3	1.8	1.8	1.6	1.4	1.2	2.2	3.1	6.2	13.2	13.0	*	
ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.2	N/A	N/A	N/A	N/A	N/A	N/A	1.3	1.4	--	
NH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.6	1.5	1.9	1.8	2.4	12.4	24.1	30.3	30.4	31.3	--	
NJ	N/A	0.4	0.3	0.3	0.3	0.3	0.4	0.4	N/A	N/A	0.4	0.3	0.4	0.6	1.2	2.8	7.9	15.5	25.7	--	*
NM	1.1	N/A	N/A	1.2	N/A	N/A	1.2	N/A	1.2	1.1	0.9	0.9	1.9	1.1	3.3	2.1	4.0	3.7	5.4	*	*
NV	N/A	0.9	1.0	N/A	1.0	1.2	1.1	0.9	1.0	1.5	1.4	1.6	0.9	0.9	1.0	1.1	1.7	2.2	2.8	--	
NY	N/A	0.2	0.1	0.1	N/A	0.1	0.7	0.6	0.6	0.9	0.9	0.8	0.8	1.1	1.4	3.3	8.3	11.3	11.2	--	
OH	0.3	0.5	0.5	0.4	0.7	0.9	1.1	1.0	0.9	0.8	1.5	1.4	1.2	1.4	5.5	11.4	21.1	32.4	25.7	*	*
OK	0.8	0.6	0.7	1.3	1.3	1.6	1.3	1.8	2.0	4.4	3.0	2.2	2.9	2.3	1.9	2.4	2.5	2.6	2.0	*	
OR	N/A	N/A	N/A	N/A	N/A	0.6	0.7	N/A	0.6	0.8	0.7	0.7	0.7	0.6	0.8	0.9	1.1	2.1	2.4	--	
PA	0.3	0.2	0.4	0.6	0.7	0.6	0.8	0.7	0.8	0.9	0.8	0.9	0.8	0.9	1.8	3.5	10.9	16.7	20.3	*	*
RI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	7.9	13.2	17.8	20.1	21.0	--	
SC	N/A	N/A	0.5	N/A	0.8	0.7	0.9	0.8	0.9	1.2	1.2	1.0	1.0	1.1	2.3	3.3	5.0	8.5	10.8	--	*
SD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
TN	N/A	N/A	0.3	1.1	1.3	1.3	1.1	1.4	1.6	1.2	1.1	1.0	1.2	1.5	2.1	4.0	6.2	9.3	12.8	--	*
TX	0.2	0.4	0.6	0.4	0.4	0.4	0.5	0.5	0.4	0.7	0.6	0.5	0.5	0.4	0.6	0.7	0.9	1.2	1.2	*	
UT	N/A	N/A	N/A	1.1	N/A	1.7	1.7	1.4	1.0	2.4	2.0	2.1	2.2	2.2	2.5	2.3	2.5	3.1	2.9	--	
VA	0.4	0.4	0.6	0.6	0.8	0.6	0.8	0.9	1.1	1.0	1.0	0.9	1.1	1.5	2.1	3.3	7.9	10.0	10.3	*	
VT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.6	5.6	10.1	13.8	19.3	--	*
WA	0.4	0.5	0.8	0.5	0.7	0.8	0.8	0.5	0.7	1.0	0.9	0.7	0.8	0.8	0.8	0.9	1.3	1.9	2.9	*	*
WI	0.4	0.4	0.5	0.8	0.8	0.9	1.0	1.0	1.0	1.3	1.2	1.1	0.9	1.4	1.6	2.1	5.3	8.6	9.4	*	
WV	N/A	2.1	2.2	2.5	3.7	2.4	2.9	4.6	5.0	2.4	5.8	5.6	5.0	5.6	7.2	12.7	26.3	37.4	34.0	--	
WY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
US	0.3	0.3	0.4	0.5	0.6	0.6	0.9	0.7	0.8	1.0	1.0	0.8	0.8	1.0	1.8	3.1	6.2	9.0	9.9	*	*

N/A: Death rate is suppressed because it is based on 20 or fewer deaths.
-- Significance testing not possible because rate from 2000/2017 was suppressed.
* Difference between 2000/2017 and 2018 rates is statistically significant at the 95% level.

APPENDIX TABLE 5: TOTAL HEROIN OVERDOSE DEATHS PER 100,000 PEOPLE

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2000 2018 test	2017 2018 test
AK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	3.2	3.3	4.7	6.5	4.9	3.8	--	
AL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	0.8	2.7	2.5	2.8	2.7	3.1	--	
AR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
AZ	N/A	0.5	0.5	1.2	0.8	0.6	0.9	0.9	1.1	1.4	1.5	1.9	1.6	2.3	3.1	3.8	4.5	5.0	5.2	--	
CA	1.0	0.7	1.0	1.0	0.8	0.7	0.8	0.8	0.9	0.9	0.8	0.9	0.9	1.2	1.4	1.5	1.4	1.7	1.9	*	
CO	0.8	0.5	0.6	0.4	0.5	0.8	0.8	0.8	0.9	1.4	0.9	1.5	1.8	2.3	2.9	2.8	4.2	3.9	3.9	*	
CT	3.2	2.8	2.6	3.2	2.8	2.2	2.5	3.5	3.2	2.9	2.3	2.5	2.9	6.5	8.9	11.3	13.1	12.4	9.9	*	*
DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.6	4.4	5.1	5.5	9.9	17.3	18.0	10.9	--	*
DE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4	4.5	6.3	7.1	6.1	13.3	15.9	--	
FL	1.1	1.3	1.3	1.3	0.9	0.7	0.5	0.5	0.6	0.5	0.3	0.4	0.6	1.0	1.9	3.1	3.6	3.6	3.5	*	
GA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.2	0.2	N/A	0.3	0.4	0.7	1.6	2.2	2.2	2.6	2.9	--	
HI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4	N/A	N/A	--	--
IA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0	1.3	1.6	1.7	2.1	1.3	--	*
ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.6	1.5	1.8	--	
IL	0.3	0.3	0.4	0.2	0.3	0.4	0.5	0.5	0.8	0.9	1.2	1.3	2.1	4.5	5.6	6.7	8.2	9.2	8.3	*	*
IN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.9	1.0	0.9	1.1	1.8	2.6	2.8	3.9	4.7	5.3	5.0	--	
KS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7	1.2	0.9	1.3	--	
KY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.6	0.9	1.3	3.4	5.1	5.5	7.4	7.6	6.6	3.3	--	*
LA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	2.7	2.4	2.9	3.4	3.6	3.8	--	
MA	N/A	N/A	N/A	0.4	N/A	0.3	0.6	1.1	0.9	0.9	1.1	2.2	3.8	4.4	7.2	9.6	9.5	7.0	7.0	--	
MD	N/A	N/A	0.5	0.5	1.3	1.4	1.9	2.3	1.8	2.7	1.6	1.8	2.9	3.6	5.2	6.6	10.7	8.6	5.9	--	*
ME	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	4.5	4.7	6.2	6.0	--	
MI	0.9	0.8	0.6	0.7	0.9	1.5	1.5	1.1	2.2	2.6	2.2	2.8	2.8	4.5	5.5	6.8	7.6	8.2	6.5	*	*
MN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	0.9	1.7	1.9	2.2	2.8	2.0	1.7	--	
MO	0.9	0.4	1.0	0.7	1.0	0.9	1.1	1.1	2.1	2.8	3.2	4.4	3.7	4.6	5.8	5.3	6.7	5.3	6.1	*	
MS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	1.4	1.2	1.3	1.4	--	
MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.3	--	--
NC	0.5	0.6	0.5	0.6	0.6	0.7	0.6	0.6	0.7	0.8	0.4	0.9	1.6	2.0	2.8	4.1	5.7	5.6	6.3	*	*
ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
NH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0	N/A	3.4	3.5	5.5	8.1	6.5	2.8	2.4	N/A	--	--
NJ	2.4	2.3	2.7	2.5	1.4	2.0	1.2	1.2	1.3	N/A	1.1	1.5	3.6	4.4	4.8	5.8	9.7	12.2	14.8	*	*
NM	2.2	1.2	1.3	1.4	1.8	2.5	1.1	1.4	3.3	2.4	1.1	3.4	5.2	4.6	7.2	8.1	8.2	7.4	6.6	*	
NV	1.9	1.1	1.8	1.6	1.2	1.9	1.4	1.6	1.2	0.8	N/A	1.5	1.6	1.7	2.2	2.7	2.9	3.1	3.5	*	
NY	0.1	0.3	0.3	0.3	0.2	0.2	0.6	1.0	1.1	1.3	1.0	1.7	2.6	3.3	4.2	5.4	6.5	6.8	6.3	*	
OH	0.7	0.8	1.0	0.8	1.1	1.2	1.1	1.4	2.1	2.0	3.3	4.0	6.4	9.1	11.1	13.3	13.5	9.2	6.6	*	*
OK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7	0.6	0.7	1.0	1.4	1.6	2.2	--	
OR	0.9	1.0	1.2	1.0	1.3	1.1	1.6	3.0	2.5	3.1	2.0	3.5	3.5	2.7	3.2	2.5	2.9	3.0	3.7	*	
PA	1.2	1.0	1.1	1.4	1.1	1.1	0.8	0.7	1.3	1.4	1.1	2.0	2.7	3.4	4.3	5.6	7.8	6.9	7.0	*	
RI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	6.5	6.8	4.3	2.5	N/A	2.2	--	--
SC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7	1.4	2.2	2.5	3.2	3.8	--	
SD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
TN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	0.8	1.1	2.3	3.3	4.1	4.8	5.7	--	*
TX	0.5	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.2	1.0	1.4	1.4	1.4	1.6	1.9	1.9	2.0	2.3	*	*
UT	2.3	1.9	1.2	1.3	0.9	1.9	1.8	1.9	2.7	2.1	1.9	2.7	3.0	4.2	3.8	4.3	5.6	4.8	5.1	*	
VA	0.9	1.2	1.2	1.2	0.9	0.8	0.9	1.2	1.1	1.3	0.5	1.3	1.4	2.5	3.1	4.3	5.4	6.7	6.4	*	
VT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.5	5.8	5.8	8.7	7.3	12.5	--	*
WA	0.9	0.8	1.1	1.0	0.9	0.8	0.8	1.2	1.0	1.0	0.9	2.2	2.5	2.9	4.1	4.2	3.9	4.0	4.2	*	
WI	0.5	0.4	0.5	0.5	0.4	0.6	0.5	0.6	1.2	1.4	1.7	2.5	3.4	4.3	4.9	5.3	7.3	7.8	6.0	*	*
WV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.2	2.1	N/A	1.7	2.0	3.8	8.7	9.8	11.8	14.9	14.9	12.3	--	*
WY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
US	0.7	0.6	0.7	0.7	0.6	0.7	0.7	0.8	1.0	1.1	1.0	1.4	1.9	2.7	3.4	4.1	4.9	4.9	4.7	*	*

N/A: Death rate is suppressed because it is based on 20 or fewer deaths.
-- Significance testing not possible because rate from 2000/2017 was suppressed.
* Difference between 2000/2017 and 2018 rates is statistically significant at the 95% level.

APPENDIX TABLE 6: TOTAL COCAINE OVERDOSE DEATHS PER 100,000 PEOPLE

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2000 2018 test	2017 2018 test
AK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.7	3.5	N/A	N/A	2.7	N/A	N/A	N/A	N/A	N/A	N/A	--	--
AL	N/A	0.5	0.5	N/A	0.8	0.8	1.0	0.7	1.2	0.7	0.6	0.5	N/A	0.7	0.8	0.8	1.8	2.2	1.9	--	
AR	N/A	N/A	0.8	0.9	0.8	1.3	1.2	1.2	0.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	0.9	--	
AZ	2.5	2.3	2.9	2.6	2.2	2.2	2.7	2.1	1.2	1.6	1.0	0.9	0.9	0.7	0.7	0.9	1.2	2.0	2.4		
CA	0.9	0.5	1.1	1.1	1.0	1.1	1.2	1.1	0.8	0.7	0.6	0.7	0.5	0.6	0.6	0.7	0.9	1.0	1.4	*	*
CO	1.8	2.0	2.3	2.7	2.6	2.9	3.6	2.8	2.3	1.7	1.3	1.7	1.2	1.0	1.3	1.0	1.9	1.7	2.2		
CT	1.1	1.5	1.7	1.8	1.7	2.3	3.0	2.8	2.0	1.7	1.4	2.2	2.0	3.9	3.5	4.7	6.9	8.4	9.1	*	
DC	7.6	8.7	6.4	10.0	7.6	7.0	9.0	4.9	4.4	N/A	6.3	4.7	5.2	4.8	5.3	4.9	13.5	17.6	14.2	*	
DE	N/A	N/A	3.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	N/A	2.7	N/A	2.1	2.3	5.3	11.6	15.9	--	*
FL	1.3	2.1	2.2	2.6	2.6	3.0	3.2	3.3	2.3	1.7	1.8	2.0	1.7	1.9	2.2	2.9	5.4	6.7	6.0	*	*
GA	1.1	1.3	1.3	1.5	1.5	1.6	1.8	1.8	1.3	1.4	1.1	1.0	1.0	1.1	1.4	1.5	2.0	2.4	2.6	*	
HI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
IA	N/A	N/A	N/A	N/A	N/A	N/A	0.7	0.7	N/A	N/A	0.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
IL	2.8	2.6	2.9	2.7	3.5	3.4	4.4	3.2	3.1	2.6	2.2	2.4	2.6	2.2	2.1	2.5	4.0	5.7	6.0	*	
IN	N/A	0.5	0.5	0.6	0.9	0.8	0.9	0.9	0.8	0.6	0.7	0.5	0.6	0.8	0.8	1.1	1.7	4.0	4.1	--	
KS	0.9	N/A	0.8	1.2	1.3	1.3	1.8	1.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	1.0		
KY	N/A	0.7	0.9	1.0	1.1	1.7	2.1	1.8	1.4	0.9	0.9	0.8	1.3	1.8	1.7	2.4	3.5	4.3	3.1	--	*
LA	0.6	0.9	0.9	1.7	1.2	2.3	3.2	2.8	1.7	1.2	1.0	1.3	0.8	1.3	1.5	1.7	2.6	2.9	2.5	*	
MA	2.2	3.2	3.1	4.6	3.3	4.0	5.0	4.3	2.9	2.5	2.6	3.1	2.7	3.5	4.5	6.1	8.5	10.1	10.7	*	
MD	2.1	2.1	2.4	3.0	2.8	2.7	3.4	2.7	1.9	1.5	1.4	1.5	1.5	1.6	2.0	2.3	5.0	8.6	11.4	*	*
ME	N/A	N/A	N/A	N/A	1.6	N/A	1.8	2.3	N/A	N/A	N/A	N/A	N/A	N/A	1.9	2.8	5.0	7.7	7.9	--	
MI	0.9	0.8	1.0	1.1	1.5	2.0	2.3	1.8	1.7	1.9	1.4	1.5	1.4	1.9	2.3	3.2	5.3	6.7	8.0	*	*
MN	N/A	N/A	0.4	0.5	0.6	0.5	0.5	0.9	0.4	0.4	0.5	0.7	0.5	0.7	0.7	0.7	0.8	1.3	0.9	--	
MO	0.8	0.8	1.1	1.3	1.2	1.4	1.9	1.5	1.3	1.1	1.1	1.0	0.8	0.9	1.0	1.3	1.8	2.2	2.2	*	
MS	N/A	N/A	N/A	N/A	1.0	1.0	1.9	N/A	0.8	0.9	N/A	N/A	N/A	N/A	N/A	0.9	1.1	1.3	1.2	--	
MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
NC	1.0	1.1	1.6	2.1	2.4	3.4	3.7	2.5	2.0	1.8	1.3	1.8	2.1	1.8	2.3	3.2	5.1	7.2	7.1	*	
ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
NH	N/A	N/A	1.7	2.0	2.8	2.9	2.9	3.1	N/A	2.2	1.7	1.7	N/A	2.2	2.7	4.1	5.0	3.9	5.3	--	
NJ	2.0	2.2	2.6	2.5	2.1	3.5	2.3	1.9	1.7	N/A	1.6	1.3	1.8	2.2	2.1	2.3	4.4	6.2	9.9	*	*
NM	4.9	4.0	5.1	6.1	4.7	5.9	5.8	5.8	5.7	3.6	2.5	2.6	3.4	3.0	3.9	2.6	3.0	2.9	2.9	*	
NV	4.0	2.9	2.8	3.8	3.5	3.7	3.3	3.5	2.7	2.3	1.7	1.6	1.4	1.8	0.8	1.3	1.2	1.6	1.5	*	
NY	1.8	2.2	2.0	1.9	2.0	2.3	3.4	3.0	2.4	2.1	2.0	2.3	2.3	2.6	2.5	3.1	4.9	6.5	6.4	*	
OH	1.0	1.1	1.4	1.4	2.2	2.1	3.0	2.6	2.4	1.6	2.0	2.8	3.0	3.6	4.7	6.3	10.1	14.0	9.8	*	*
OK	N/A	0.6	N/A	1.3	1.6	1.1	1.2	2.0	1.0	0.9	1.0	1.0	1.0	0.7	N/A	0.7	0.8	1.1	1.1	--	
OR	0.7	0.7	0.8	N/A	0.8	1.0	1.0	1.3	0.8	0.6	0.5	0.9	N/A	N/A	0.5	0.6	0.7	0.9	1.1		
PA	1.0	0.7	1.2	1.4	1.6	1.8	1.8	1.6	1.8	1.5	1.7	1.7	1.5	1.5	1.6	2.2	4.2	6.1	8.5	*	*
RI	2.3	2.9	3.0	4.0	2.5	4.8	6.8	3.6	3.4	3.5	4.5	4.2	4.6	6.5	6.5	8.3	10.7	11.2	13.1	*	
SC	0.9	1.2	1.0	1.6	1.4	1.9	2.5	1.9	1.9	1.6	1.4	1.4	1.1	1.0	1.8	2.4	3.0	4.7	5.4	*	
SD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
TN	0.9	1.1	1.5	1.8	2.5	3.3	3.8	3.2	2.0	2.1	1.9	2.1	1.6	2.0	2.1	3.0	3.8	4.6	3.8	*	*
TX	1.2	1.6	1.9	2.1	2.2	2.2	2.9	2.5	1.8	1.7	1.6	1.8	1.6	1.5	1.5	1.7	2.1	2.4	2.5	*	
UT	3.2	2.3	2.3	3.2	2.8	3.4	3.7	3.2	2.7	2.2	1.4	1.6	1.9	1.0	1.4	1.5	1.7	1.5	1.7	*	
VA	1.0	1.0	1.5	1.5	1.7	1.8	1.8	1.8	1.2	0.8	0.9	1.2	0.8	1.3	1.5	2.0	3.0	4.1	4.9	*	*
VT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0	6.9	9.4	--	
WA	2.5	1.8	2.3	2.4	2.6	2.4	2.9	2.4	1.8	1.7	1.0	1.3	0.8	1.2	1.2	1.1	1.2	1.4	1.6	*	
WI	1.0	1.1	1.4	2.0	2.0	2.2	2.8	2.8	1.5	1.4	1.4	1.6	1.1	1.6	1.8	2.0	2.6	4.8	5.0	*	
WV	N/A	N/A	2.2	2.7	3.3	2.4	3.8	3.5	3.4	1.6	3.5	4.3	3.4	4.4	3.1	5.6	8.5	11.6	8.3	--	*
WY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
US	1.3	1.3	1.6	1.8	1.9	2.1	2.5	2.2	1.7	1.4	1.3	1.5	1.4	1.6	1.7	2.1	3.2	4.3	4.5	*	*

N/A: Death rate is suppressed because it is based on 20 or fewer deaths.
-- Significance testing not possible because rate from 2000/2017 was suppressed.
* Difference between 2000/2017 and 2018 rates is statistically significant at the 95% level.

APPENDIX TABLE 7: TOTAL PSYCHOSTIMULANT OVERDOSE DEATHS PER 100,000 PEOPLE

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2000 2018 test	2017 2018 test
AK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0	3.4	3.9	3.5	6.3	9.1	7.1	--	
AL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.5	N/A	N/A	0.5	0.6	0.9	1.2	2.6	3.5	--	*
AR	N/A	N/A	N/A	0.8	N/A	1.0	1.0	0.9	0.9	1.3	1.2	1.4	1.5	1.6	2.2	2.1	2.6	3.1	4.3	--	*
AZ	0.5	1.0	0.9	1.3	1.5	1.8	1.9	1.8	1.3	1.6	1.8	2.0	2.0	2.9	3.6	5.1	6.7	8.5	8.4	*	
CA	0.6	0.3	1.1	1.3	1.3	1.5	1.4	1.3	1.2	1.4	1.5	1.7	2.0	2.6	2.8	3.6	3.8	4.6	5.8	*	*
CO	N/A	0.5	N/A	0.7	0.6	1.1	0.7	0.9	0.8	0.8	0.8	1.2	1.1	1.9	2.2	2.6	3.6	5.2	5.6	--	
CT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.6	0.7	1.2	2.2	--	*
DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
DE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
FL	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.8	1.5	2.2	3.0	*	*
GA	N/A	N/A	0.2	N/A	0.5	0.5	0.5	0.3	0.3	0.5	0.7	0.6	0.8	1.1	1.4	2.2	2.4	3.6	3.8	--	
HI	N/A	N/A	N/A	1.8	2.2	2.7	1.6	2.3	2.2	2.7	3.3	3.5	3.0	4.0	4.0	5.9	6.8	7.4	9.9	--	*
IA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.9	N/A	1.0	1.7	1.4	2.2	2.7	3.3	3.3	--	
ID	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.7	1.9	2.6	2.9	2.7	4.0	--	
IL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.2	0.2	0.4	0.5	0.9	1.4	2.1	--	*
IN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.3	0.6	0.8	2.0	4.7	6.2	--	*
KS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	1.1	1.3	1.3	2.3	3.0	2.9	2.8	--	
KY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7	0.6	1.0	1.5	2.2	4.7	8.0	8.8	--	
LA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	0.8	1.0	1.8	2.3	3.0	--	*
MA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.3	0.4	0.7	0.6	0.7	1.0	1.2	--	
MD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.4	0.8	1.2	1.1	--	
ME	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.7	2.3	3.8	3.0	--	
MI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.3	N/A	0.3	0.6	0.6	0.9	1.6	1.8	--	
MN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.5	0.9	0.7	1.3	1.5	2.6	2.9	3.1	--	
MO	N/A	N/A	N/A	N/A	0.4	0.5	0.5	0.4	0.4	0.5	0.8	0.8	1.0	1.3	1.8	2.4	3.3	4.3	6.4	--	*
MS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	1.9	2.0	2.3	3.4	--	*
MT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.6	2.6	2.5	3.5	--	
NC	N/A	N/A	N/A	N/A	N/A	0.2	N/A	N/A	N/A	N/A	N/A	0.2	0.3	0.3	0.3	0.7	1.2	1.8	2.6	--	*
ND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0	N/A	--	--
NE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.5	N/A	2.1	1.7	--	
NH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.3	2.7	--	
NJ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.2	0.6	0.9	1.7	--	*
NM	N/A	N/A	N/A	1.3	1.6	2.1	2.0	1.9	1.5	1.4	1.4	1.7	3.4	4.2	6.3	6.1	7.1	8.2	10.9	--	*
NV	1.2	N/A	2.1	1.9	3.0	2.7	2.8	1.9	1.9	2.6	2.9	4.0	3.7	4.9	4.5	5.7	7.5	8.3	9.6	*	
NY	N/A	N/A	N/A	N/A	N/A	N/A	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4	0.8	1.0	1.0	--	
OH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.3	0.3	0.5	0.6	1.0	2.3	5.3	5.5	--	
OK	0.7	0.7	0.6	1.3	1.5	1.9	1.2	1.2	0.7	1.9	2.5	2.4	3.0	3.9	3.8	5.3	7.1	7.2	8.5	*	*
OR	N/A	N/A	0.7	0.6	0.8	0.9	N/A	N/A	0.6	0.9	0.9	1.6	1.4	2.1	2.9	3.1	3.6	4.0	5.1	--	*
PA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.2	0.2	0.3	0.3	0.5	0.9	1.6	2.5	--	*
RI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
SC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.6	1.4	1.9	2.7	4.0	5.2	--	*
SD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	N/A	--	--
TN	N/A	N/A	N/A	N/A	N/A	0.4	N/A	0.4	N/A	0.3	0.6	0.8	0.8	1.3	1.2	1.8	2.9	5.0	7.3	--	*
TX	0.2	0.2	0.3	0.4	0.4	0.6	0.5	0.4	0.4	0.5	0.6	0.7	0.8	1.2	1.4	1.7	2.1	2.3	2.8	*	*
UT	N/A	N/A	1.2	1.8	1.8	1.8	2.2	1.7	1.8	1.8	1.4	2.2	3.1	3.8	3.9	5.2	5.1	6.8	7.9	--	
VA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.3	0.6	0.7	0.9	1.4	1.6	--	
VT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--
WA	0.9	0.7	1.1	1.5	1.5	1.5	1.3	1.4	1.1	1.6	1.4	1.8	2.1	2.7	3.1	4.2	4.4	5.2	6.0	*	*
WI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.4	N/A	0.5	0.9	0.7	1.4	2.3	2.2	--	
WV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.3	2.2	3.9	7.0	13.6	19.3	--	*
WY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.9	--	--
US	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.6	0.7	0.8	1.2	1.4	1.8	2.4	3.2	3.9	*	*

N/A: Death rate is suppressed because it is based on 20 or fewer deaths.
-- Significance testing not possible because rate from 2000/2017 was suppressed.
* Difference between 2000/2017 and 2018 rates is statistically significant at the 95% level.