



CALIFORNIA
HEALTH
POLICY
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Policy Brief

The Overdose Crisis in California: 2017-2021

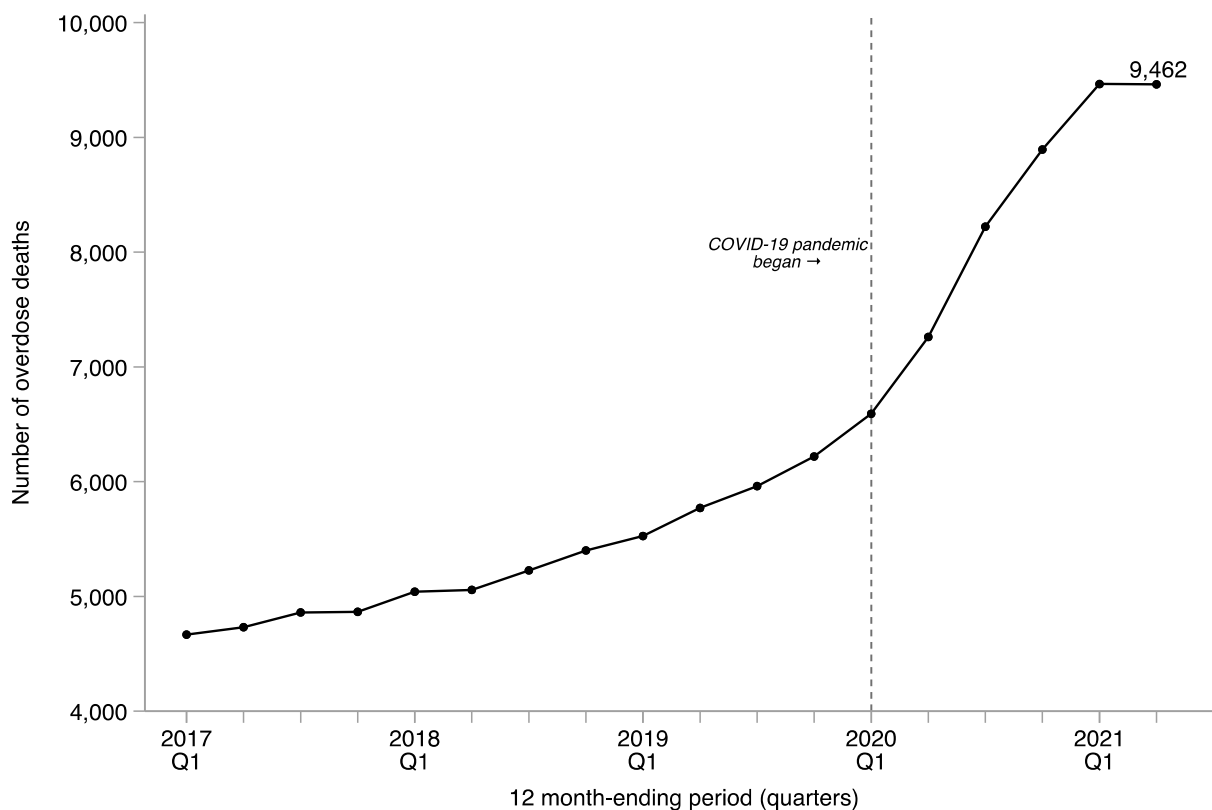
January 2022

The COVID-19 pandemic has attracted unprecedented attention from policy makers, but the crisis of fatal drug overdoses deserves significant attention. There is an urgent need for real action from policy makers since fatal drug overdoses are largely preventable. The data for this analysis is from the California Department of Public Health (CDPH) Overdose Surveillance Dashboard and the National Center for Health Statistics (NCHS).

Topline Findings

- **Preventable drug-related overdose deaths have doubled since 2017.** In the 12-months between June 2020 and June 2021 over 9,462 Californians died from drug-related overdose which is equal to 23 preventable drug-related overdose deaths per 100,000 state residents.
- **The COVID-19 pandemic was associated with an acceleration of the overdose crisis and with approximately 1,000 additional unpredicted deaths in 2020.**
- **Drug-related fatal overdose is a top-ten cause of death in California** and kills more people than influenza/pneumonia and over twice as many people as car accidents.
- **Synthetic opioids (e.g., fentanyl) and stimulants (e.g., methamphetamine) are the drugs most frequently involved in the increasing number fatal overdoses.** Approximately 90 percent of all fatal overdoses now involve one or both these drug classes. In 2017 there were 537 deaths related to synthetic opioids, but in the year between June 2020 and June 2021 there were 4,831 deaths, an 800% increase.
- **Overdose deaths disproportionately impact some age groups and race/ethnicities, and the pandemic made the overdose epidemic worse amongst many of the most disadvantaged.** Blacks are the most overrepresented amongst overdose fatalities and they experienced the largest increase in overdose mortality. The rate of lethal synthetic opioid overdoses rose amongst all age groups, but the increase was greatest amongst those in their 20s.

Figure 1.
Number of drug-related overdose deaths
California, 2017 Q1 to 2021 Q2

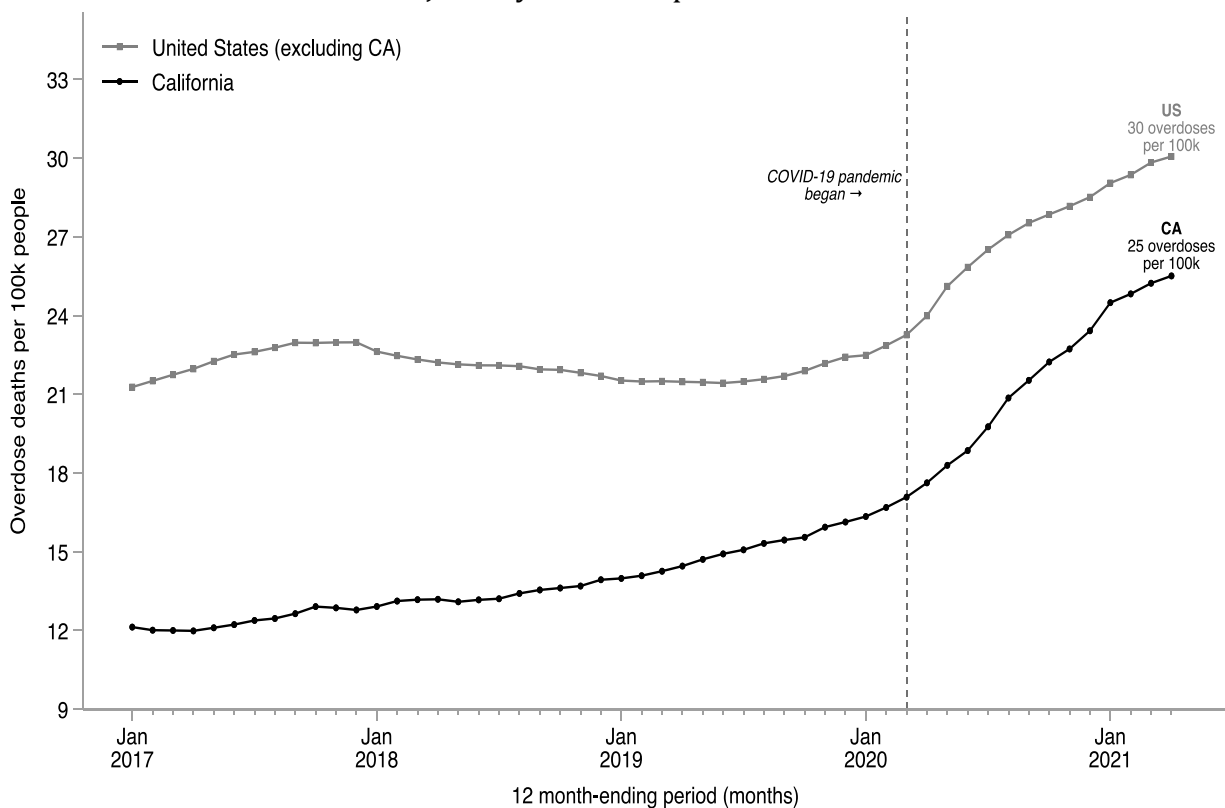


[Sources and notes](#)

Discussion: The raw number of drug-related overdose deaths are rising in California. Preliminary mortality records indicate that in the 12-month period between June 2020 and June 2021 there were at least 9,462 drug overdose deaths in California which is equivalent to over 23 drug-related overdose deaths per 100,000 state residents (age-adjusted rate). These numbers will likely be revised slightly upwards since many coroners have backlogs. Drug-related fatal overdose is a top-ten cause of death in California. Accidental drug overdoses kill more people than influenza/pneumonia and over twice as many people as car accidents.

As has been reported elsewhere, the overdose crisis worsened in California during 2020. The COVID-19 pandemic was associated with an uptick in fatal drug overdoses. The total number of fatal overdoses in 2020 exceeded the expected value based on forecasted trends. Based on the trajectory of the overdose epidemic between 2017 and 2019 we estimated that approximately 8,000 people would have died from an accidental overdose in 2020 alone. However, by the end of 2020 at least 9,000 Californians had passed away because of a drug-related overdose.

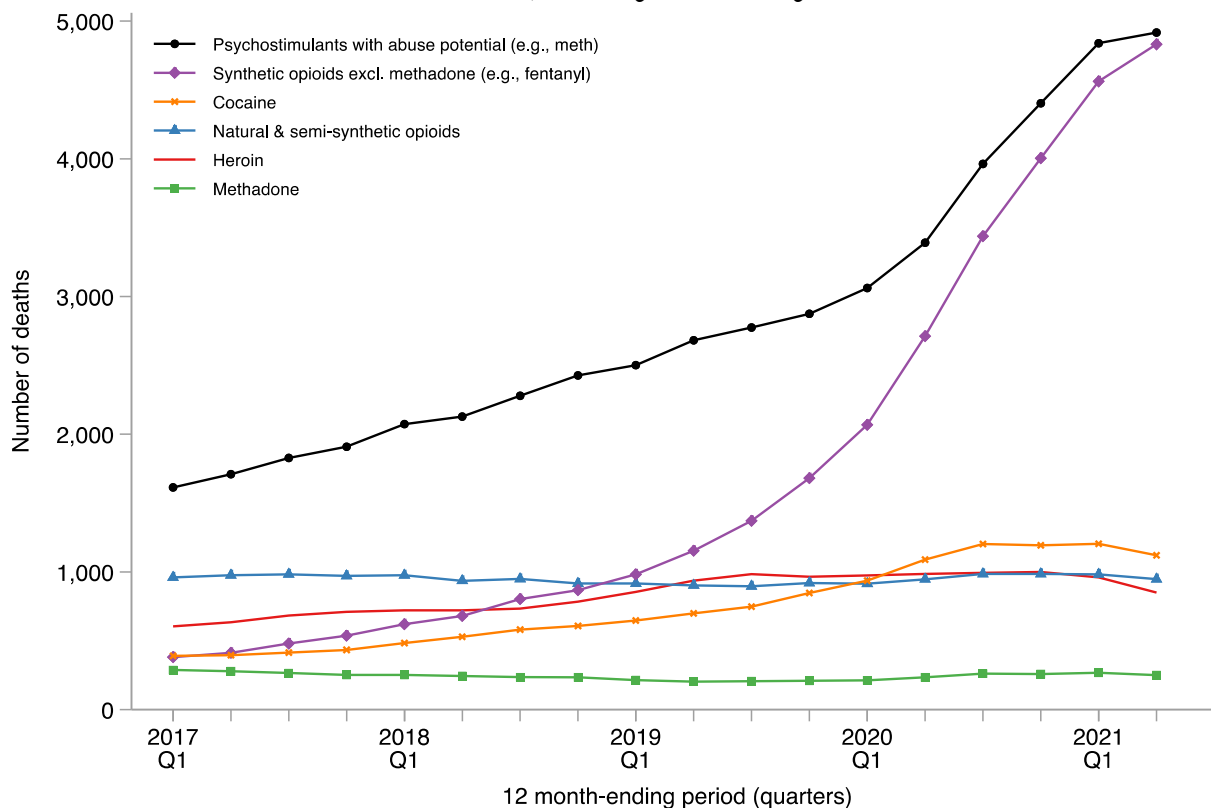
Figure 2.
Crude rate of drug-related overdose deaths in California & the United States
 January 2017 to April 2021



[Sources and notes](#)

Discussion: The rate of drug-related overdose deaths is rising fast in both California and the United States. Preliminary mortality records maintained by the federal government indicate that in the 12-month period between April 2020 and April 2021 there were 10,010 drug overdose deaths in California (about 25 fatal overdoses per 100k) and over 87,980 in the rest of the United States (roughly 30 fatal overdoses per 100k). Since 2017, the raw number of fatal drug overdoses has risen 45% in the rest of the United States and has risen 110% in California. Since the 12-month period April 2019 to April 2020 fatal drug-related overdoses are up 26% in the rest of the United States while being up 44% in California. Although growth rates should not be directly compared because of different baselines the relatively rate of increase in California highlights that the drug overdose crisis should be urgently addressed. The crisis level of preventable overdose deaths in California deserves attention just the same as it does in other states that have been gripped by the epidemic.

Figure 3.
Number of fatal overdose deaths involving each drug or drug class
 California, 2017 Q1 to 2021 Q2

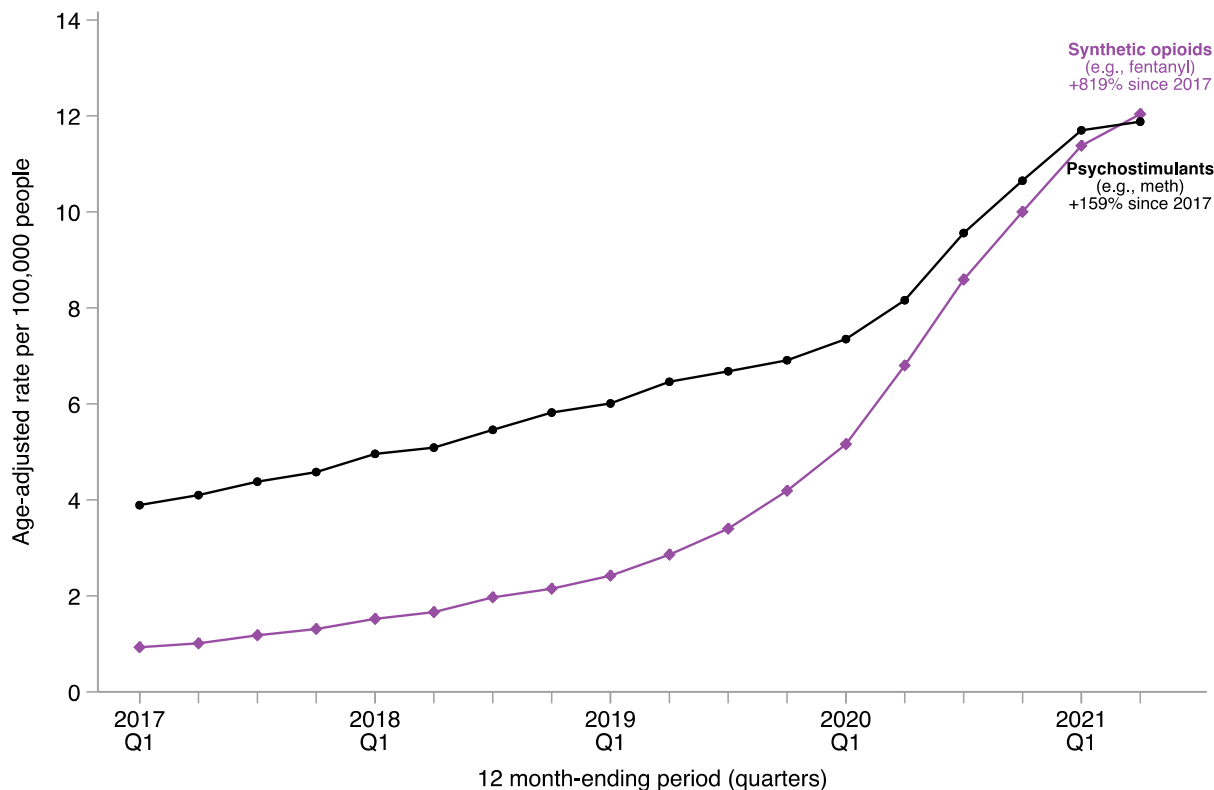


Source and notes

Discussion: The increase in opioid-related overdose deaths has been driven by the marked increase in deaths related to synthetic opioids (excluding methadone), such as fentanyl, and stimulants with abuse potential, such as methamphetamine. Please note that these categories are not mutually exclusive, so for example, an overdose fatality related to fentanyl and methamphetamine would show up in both categories separately.

In 2017 there were 537 deaths related to synthetic opioids, but in the 12-months between June 2020 and June 2021 there were 4,831 deaths, an 800% increase. The count of overdose fatalities involving psychostimulants, such as methamphetamine, has increased by 158% since 2017. Moreover, the number of overdose deaths related to heroin or cocaine use have also risen significantly over the last four years. Overdose deaths related to cocaine or heroin have increased by 158% and 20%, respectively, since 2017. The number of overdose deaths related to natural or semi-synthetic opioids have remained mostly unchanged.

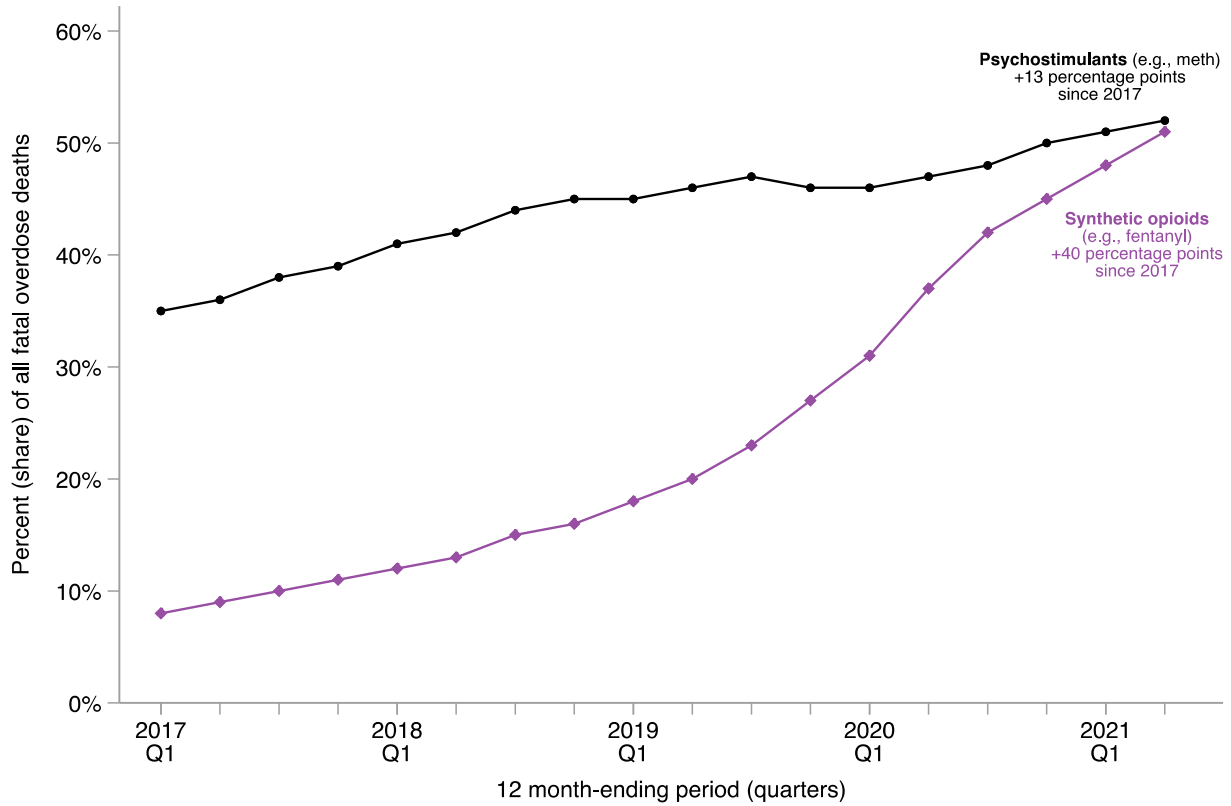
Figure 4.
Rate of fatal overdose deaths involving stimulants or synthetic opioids
California, 2017 Q1 to 2021 Q2



[Source and notes](#)

Discussion: The age-adjusted rate of overdose deaths related to synthetic opioids (especially fentanyl) has risen by 819% since 2017 and 77% in just the last year. In the 12-months between June 2020 and June 2021 there were 12.04 overdose deaths related to the use of synthetic opioids (mostly involving fentanyl) per 100,000 state residents, but in the 12-months between June 2019 and June 2020 there were only 6.8 fatal overdoses from synthetic opioids per 100,000 people. The age-adjusted rate of overdose deaths related to psychostimulants, such as methamphetamine, has increased by 159% since 2017 and 46% over the last year. Between June 2020 and June 2021 there were approximately 11.88 fatal overdoses involving stimulants (especially methamphetamine) per 100,000 people.

Figure 5.
Share of all fatal overdose deaths involving stimulants or synthetic opioids
California, 2017 Q1 to 2021 Q2



[Source and notes](#)

Discussion: The percent of all overdose fatalities involving a synthetic opioid such as fentanyl has increased by 40 percentage points since 2017 and 14 percentage points over the last year. Fentanyl became the leading cause of any opioid-related overdose death in early 2019. Moreover, the percent of all drug-related accidental fatal overdoses involving a stimulant such as methamphetamine increased by 13 percentage points since 2017 and 5 percentage points in the last year. Meth and fentanyl are both extremely common in accidental drug overdose deaths; approximately 90 percent of all fatal overdoses now involve either one or both these drugs.

Figure 6.
All drug-related overdose deaths by age groups
 California, 2020

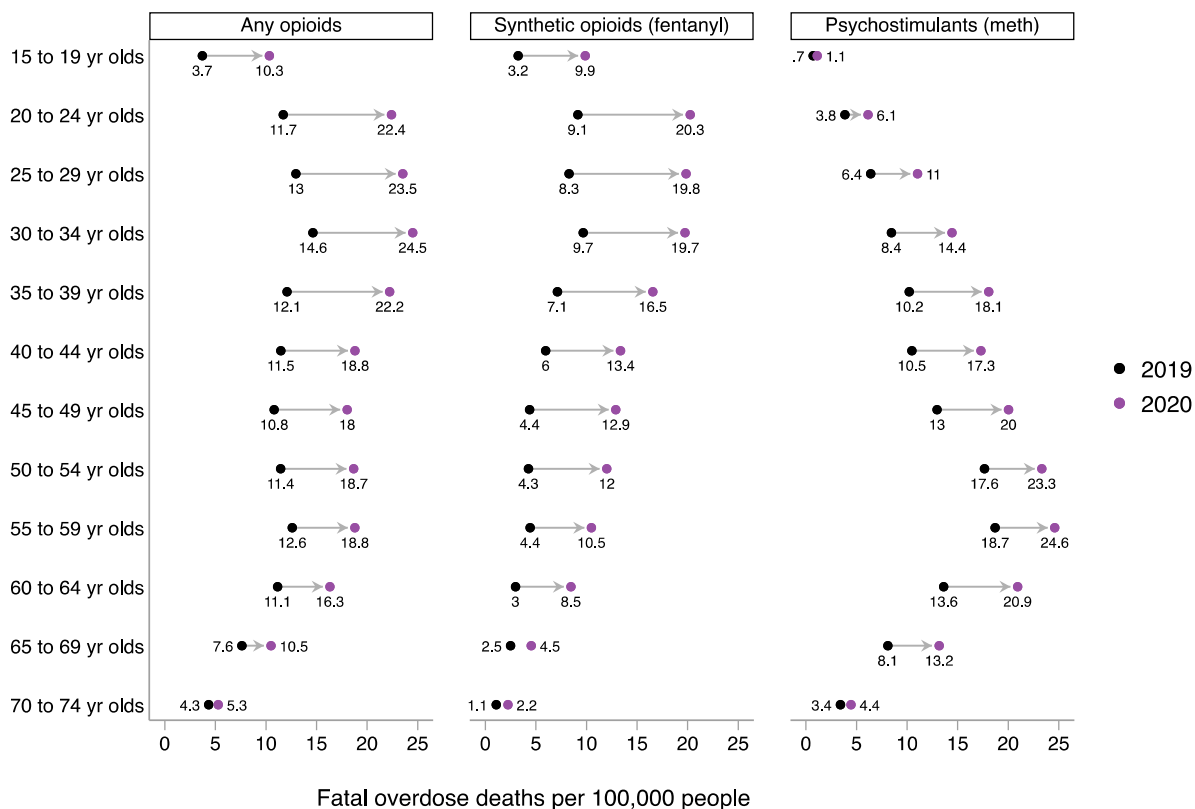
	Overdoses per 100,000	Number of overdoses	Percent of all overdose deaths	Percent of population
15 to 19 yr olds	11.64	295	3%	7%
20 to 24 yr olds	26.51	699	8%	7%
25 to 29 yr olds	29.21	916	10%	7%
30 to 34 yr olds	32.37	948	11%	6%
35 to 39 yr olds	33.83	936	11%	7%
40 to 44 yr olds	30.94	785	9%	6%
45 to 49 yr olds	33.24	815	9%	6%
50 to 54 yr olds	37.43	926	10%	6%
55 to 59 yr olds	41.01	1,017	11%	6%
60 to 64 yr olds	34.44	798	9%	6%
65 to 69 yr olds	23.16	450	5%	5%
70 to 74 yr olds	10.81	170	2%	4%



[Source and notes](#)

Discussion: The overdose crisis in California impacts teens and adults across the entire age distribution, but the rate of fatal overdose is higher in some age groups than others. There may be opportunities to better address the crisis by tailoring health policy and harm reduction initiatives to serve people of various ages in subtly different fashions. Californians 50 to 59 years old have the highest rate of fatal overdose from all drugs; at least 1,943 people in their 50s died from overdose just in 2020 alone. Californians in their 30s and 50s are most over-represented amongst all drug overdose deaths, relative to their share of the larger population. People in their 20s and 40s are also over-represented amongst all fatal drug overdoses but not to the same extent. The rate of overdoses amongst teens 15 to 19 years old is high; there were 295 deaths amongst this group which is equivalent to 11.64 overdoses per 100,000 people.

Figure 7.
Rate of fatal overdose deaths by select drug class across age groups
California, 2019 vs 2020



Source and notes

Discussion: Younger Californian adults ages 20-39 years old have the highest rate of fatal overdoses involving any opioid or synthetic opioids. Whereas older Californian adults ages 45-64 years old have the highest rate of fatal overdoses involving stimulants. The age distribution of fatal overdoses involving synthetic opioids skews younger while the age of fatal overdoses involving stimulants skews older. Between 2019 and 2020, the rate of lethal synthetic opioid overdoses rose amongst every age group, but the increase was markedly greatest amongst those in their 20s. Between 2019 and 2020 every age group experienced the increased rate of stimulant-related fatal overdoses, but the increase was most severe for those in their 40s and 50s.

Figure 8.
All drug-related overdose deaths by race/ethnic group
California, 2020

	Overdoses per 100,000 (age-adjusted)	Number of overdoses	Percent of all overdose deaths	Percent of population
Native American/Alaska Native	49.21	103	1%	2%
Black/African American	40.16	1,054	12%	7%
White	30.75	4,765	54%	72%
Hispanic/Latino/a	16.43	2,604	29%	39%
Asian/Pacific Islander	5.31	358	4%	16%

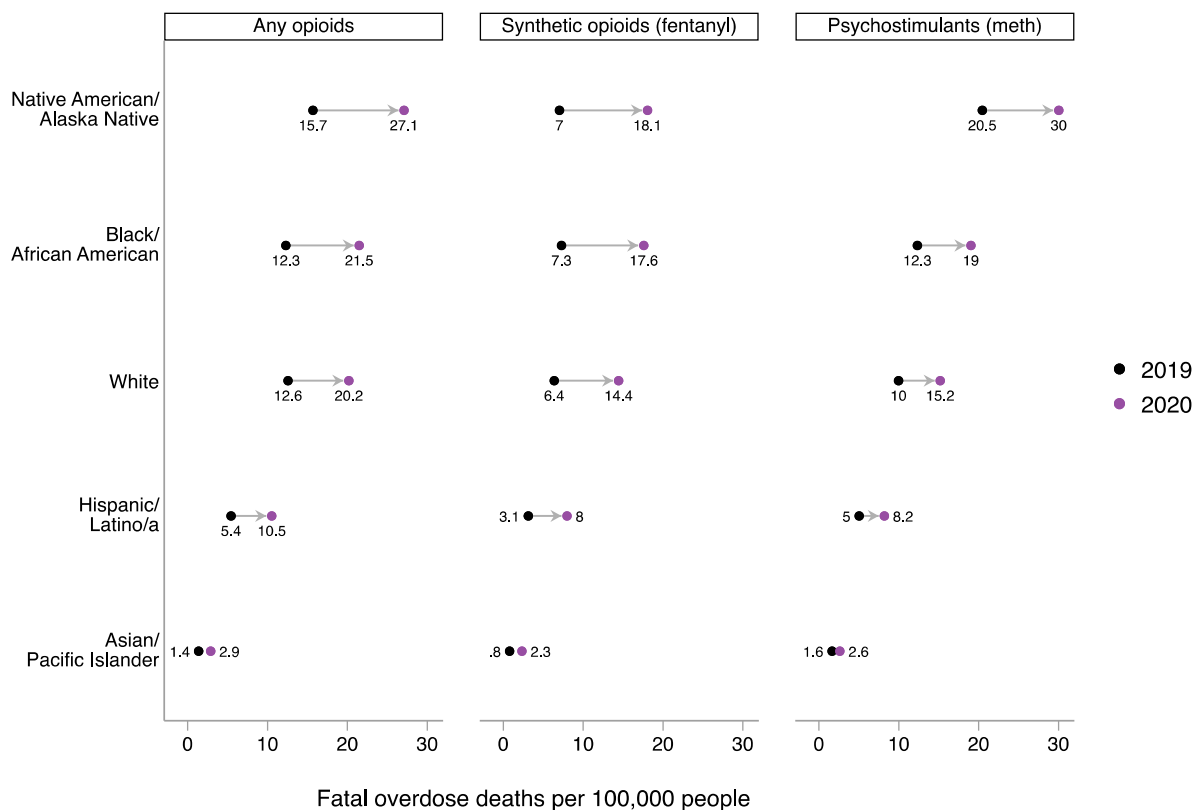


[Source and notes](#)

Discussion: In terms of raw overdose counts, Whites and Hispanics experienced the most fatal overdoses with at least 4,646 and 2,549 fatalities, respectively, in calendar year 2020. However, Blacks were by far the most overrepresented amongst overdose fatalities with respect to their share of the population. Blacks account for approximately 7% of the general California population but made up about 12% of all overdose deaths in 2020.

Structural racism and discrimination in California mean many communities lack options for affordable therapy to address opioid or stimulant use disorder. All efforts to address the overdose crisis should consider how it can also address the unequal burden of the epidemic in historically excluded communities and build capacity for accessible treatment amongst the homeless, unemployed, and both Native American and Black communities.

Figure 9.
Rate of fatal overdose deaths by select drug class across race/ethnic groups
 California, 2019 vs 2020



Source and notes

Discussion: Black and Native Americans experienced the largest increases in drug-related overdose mortality between 2019 and 2020. Compared to other racialized groups, Native Americans or Alaska Natives and Blacks or African Americans experience the highest age-adjusted rate of overdose death rate involving any opioid or stimulants. Native Americans experience the greatest rate of stimulant-related fatal overdoses. White Californians also experience a relatively high rate of fatal overdoses from all drugs combined but are especially impacted by opioids.

Appendix A: Sources and Notes

Sources

Figure 2: Source 1-[CDC NCHS. Underlying Cause of Death 1999-2018 from CDC WONDER online database](#). Source 2-[CDC NCHS, National Vital Statistics System, Provisional Drug Overdose Death Counts from NVSS Rapid Release database](#).

Figures 1 & 3-8: [CDPH Center for Health Statistics and Informatics Vital Statistics](#) - Multiple Cause of Death and California Comprehensive Death Files.

Notes

Figures 1 & 2: The total count of drug overdose deaths include unintentional overdoses, suicide overdoses, and overdoses with undetermined intent. ICD-10 codes summed to calculate total overdose deaths: X40-44, X60-64, & Y10-14. Death counts from 2020 are provisional and may be revised.

Figure 1: Figure 1 compares the (preliminary) observed number of accidental overdose deaths to projected number of overdose deaths by month for deaths occurring within California. Projected numbers for 2020 were calculated using a dynamic forecast based off an Autoregressive Integrated Moving Average (ARIMA) model. Any projected values are considered estimates with a degree of uncertainty, but the approximate uncertainty surrounding our estimates is not shown in this report (available promptly upon request).

Figure 3: Records for 2020 are preliminary. All overdose deaths are counted, regardless of intent (e.g., unintentional, suicide, assault, or undetermined). However, the following deaths are excluded: deaths related to chronic use of drugs, deaths due to alcohol or tobacco, and deaths that occur under the influence of drugs, but that do not involve acute poisoning. Please note that these categories are not mutually exclusive. Drug overdose deaths may involve multiple drugs; therefore, a single death might be included in more than one category when describing the number of drug overdose deaths involving specific drugs or drug classes. We observe data for 56 counties since records from Alpine and Sierra counties are censored because of their small size.

Figures 4-9: Records for 2020 are preliminary. All overdose deaths are counted, regardless of intent (e.g., unintentional, suicide, assault, or undetermined). However, the following deaths are excluded: deaths related to chronic use of drugs, deaths due to alcohol or tobacco, and deaths that occur under the influence of drugs, but that do not involve acute poisoning. We observe data for 56 counties since records from Alpine and Sierra counties are censored because of their small size.

Figures 6 & 8: Percentages may not sum to 100% due to rounding.

Figures 6-9: Some demographic subgroups are relatively small, so it is difficult to calculate stable, reliable rates. Standard errors are not shown but available upon request.

Appendix B: Data on Overdoses in the United States and California

There are three primary sources for data on overdose deaths:

- [California Opioid Overdose Surveillance Dashboard](#)
 - Final data for the period 2017 Q1-2020 Q4 (quarterly)
 - Provisional data for the period 2021 Q1-2021 Q2 (quarterly)
 - Provided by the California Department of Public Health (CDPH) Health & Informatics Vital Statistics Center.
 - The preliminary data for 2021 Q1 & Q2 was released 11/30/2021.
 - The preliminary data for 2021 cannot be disaggregated by demographics.
- [Center for Disease Control \(CDC\) WONDER Multiple Causes of Death \(MCOD\) database](#)
 - Final data for the period 1999-2019 (monthly)
 - Provided by the CDC National Center for Health Statistics (NCHS)
- [National Vital Statistics System \(NVSS\) Rapid Release Provisional Drug Overdose Death database](#)
 - Provisional data for the period 2020-2021 (monthly)
 - Provided by the CDC NCHS

Appendix C: Limitations

The findings in this report are subject to limitations:

1. Drug overdose deaths represent only a small proportion of the overall burden of drug misuse, dependence, and overdose.
2. Autopsies are done under variable circumstances and the substances tested for vary across time and jurisdiction. Recent improvements in toxicologic testing might account for some reported increases and differences across jurisdictions might contribute to observed differences.
3. Not all death certificates include any mention of specific drugs involved and the percent of death certificates with at least one drug specified varies widely by both state and county.
4. Potential racial or ethnic misclassification might lead to underestimates for certain groups, especially American Indians/Native Americans and Asians/Pacific Islanders.
5. Certain trend analyses are limited by the small numbers of deaths which means it is difficult to calculate stable rates.

Appendix D: Details on Measuring Drug-Related Overdose Fatalities

Drug overdose deaths are identified using ICD-10 underlying cause-of-death codes: X40–X44 (unintentional), X60–X64 (suicide), X85 (homicide), and Y10–Y14 (undetermined). Drug overdose deaths involving most drug categories are identified by specific multiple cause-of-death codes.

Drug categories include: heroin (T40.1); natural opioids, including morphine and codeine, and semisynthetic opioids, including drugs such as oxycodone, hydrocodone, hydromorphone, and oxymorphone (T40.2); methadone, a synthetic opioid (T40.3); synthetic opioids other than methadone, including drugs such as fentanyl and tramadol (T40.4); cocaine (T40.5); and psychostimulants with abuse potential, which includes methamphetamine (T43.6). Opioid overdose deaths are identified by the presence of any of the following MCODE codes: T40.0; T40.1; T40.2; T40.3; T40.4; or other and unspecified narcotics (T40.6).

Drug overdose deaths may involve multiple drugs; therefore, a single death might be included in more than one category when describing the number of drug overdose deaths involving specific drugs. For example, a death that involved both heroin and fentanyl would be included in both the number of drug overdose deaths involving heroin and the number of drug overdose deaths involving synthetic opioids other than methadone.

About the author

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Any errors are solely the responsibility of the author. The opinions expressed in this issue brief are those of the author and do not necessarily reflect the views or opinions of Health Management Associates or the California Department of Health Care Services.

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California Department of Health Care Services Medication Assisted Treatment Expansion Project

Through the State Opioid Response 2 grant funded by the Substance Abuse and Mental Health Services Administration, DHCS will receive \$210 million over two years to address the opioid crisis in California through the MAT Expansion Project. This funding builds on previous MAT Expansion Project efforts which have focused on preventing opioid overdoses and treating opioid use disorder as a chronic disease. The project will focus on populations with limited access to medication assisted treatment (MAT), including American Indian and Alaska Native tribal communities, individuals experiencing homelessness, and youth. The funds also allow flexibility for treating individuals with stimulant use disorders (addiction to substances such as cocaine or methamphetamine) in addition to opioids. Over 300,000 individuals will be impacted by the grant through efforts to prevent opioid misuse and overdose deaths, with a focus on regions with the highest rates of opioid use disorder and overdose. Areas with high rates of stimulant use disorder and overdose will also be prioritized for grant resources. Project activities will concentrate in areas where individuals with a substance use disorder may encounter services including primary care, hospitals, substance use disorder providers, county touchpoints, and criminal justice settings. This Learning Collaborative is funded under the MAT Expansion Project. For more information, see www.CaliforniaMAT.org



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