



CALIFORNIA
HEALTH
POLICY
STRATEGIES, L.L.C.

Policy Brief Fatal Overdoses in California: 2018-2023

March 2025

Topline Findings

- **Preventable overdose deaths have more than doubled.** From 2018 to 2023, drug-related overdose deaths in California surged, reaching 11,359 deaths in 2023—an age-adjusted rate of 29.4 per 100,000 people.
- **A leading cause of death.** Drug-related overdoses are now among the top 10 causes of death in California, claiming as many lives as lung cancer or diabetes and three times as many as car accidents.
- **Fentanyl deaths have increased ninefold.** Fatal fentanyl overdoses skyrocketed from 786 deaths in 2018 to 7,137 in 2023—an increase of over 800%.
- **Fentanyl and stimulants drive the crisis.** Fentanyl is involved in 63% of all fatal overdoses and accounts for 91% of opioid-related deaths. Stimulants, such as methamphetamine, contribute to 54% of all overdose deaths.
- **Overdose is the leading cause of death for young Californians.** Among individuals aged 15 to 44, drug overdoses accounted for 28% of all deaths in 2023. The fatal overdose rate in this age group increased from 94 per 100,000 in 2018 to 127 in 2023, with 66% of this increase due to opioid-related overdoses.
- **Racial disparities persist and have worsened.** While overdose deaths impact all racial and ethnic groups, Black and Native American communities are disproportionately affected. In 2023, the age-adjusted overdose death rate was 69 per 100,000 for Black Californians and 82 per 100,000 for Native Americans—compared to the statewide average of 29 per 100,000. Black Californians have experienced the largest percentage increase—231%—in overdose rates over the past six years.

Magnitude of the Overdose Epidemic

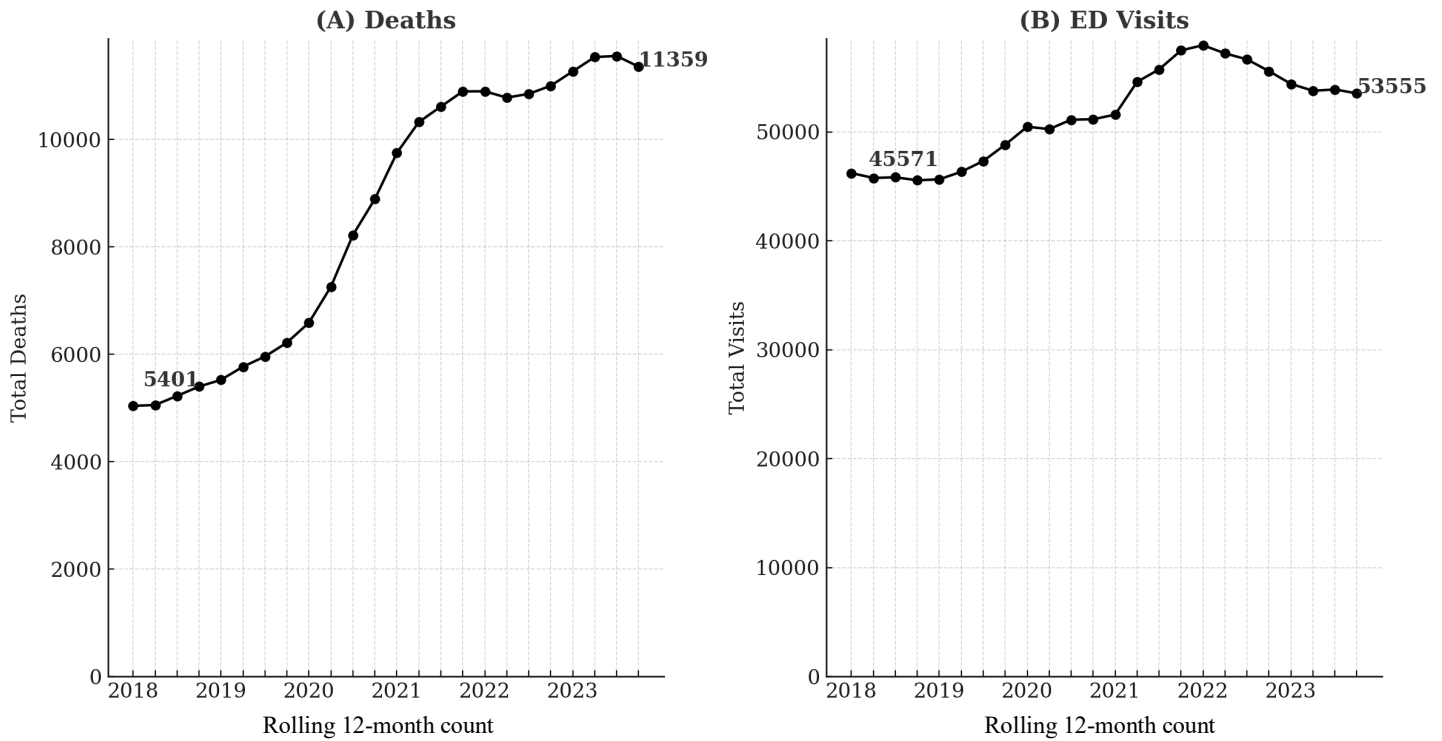
Figure 1.
Drug-Related Overdose Deaths Relative to the CDC's Top 10 Causes of Death
 California 2018 and 2023

2018				2023				
Cause and Rank	Deaths		Age-Adjusted Rate	Cause and Rank	Deaths		Age-Adjusted Rate	Change in Age-Adjusted Rate from 2018
	Rank	Count	Rate		Rank	Count	Rate	
Diseases of heart	1	62,547	139.7	Diseases of heart	1	64,173	138.1	-1.1%
Malignant neoplasms	2	59,962	135	Malignant neoplasms	2	60,419	128.3	-5.0%
Alzheimer disease	3	16,627	37.1	Accidents	3	21,212	51.1	+51.6%
Cerebrovascular diseases	4	16,457	37	Cerebrovascular diseases	4	17,961	39.1	+5.7%
Accidents	5	14,153	33.7	Alzheimer disease	5	16,035	35.3	-4.9%
Chronic lower respiratory diseases	6	13,634	30.9	Drug Overdose		11,359	29.4	+127.9%
Diabetes mellitus	7	9,506	21.4	Chronic lower respiratory diseases	6	12,020	25.7	-16.8%
Influenza and pneumonia	8	6,917	15.6	Diabetes mellitus	7	11,325	24.1	+12.6%
Drug Overdose		5,401	12.9	Essential hypertension and hypertensive renal disease	8	6,653	14.3	+16.3%
Essential hypertension and hypertensive renal disease	9	5,511	12.3	Chronic liver disease and cirrhosis	9	6,474	14.3	+18.2%
Chronic liver disease and cirrhosis	10	5,390	12.1	Influenza and pneumonia	10	5,387	11.7	-25.0%

[Sources and notes](#)

Discussion: The rising toll of drug-related overdoses in California is evident when compared to the CDC's leading underlying causes of death (UCD). Between 2018 and 2023, the age-adjusted mortality rate for drug overdoses increased by 127.9%, rising from 12.9 to 29.4 deaths per 100,000 people. This dramatic increase elevated overdose deaths from the ninth to the sixth leading cause of death, surpassing chronic lower respiratory diseases and diabetes.

Figure 2.
Number of drug-related overdose (a) deaths and (b) emergency department visits
 California, 2018 to 2023



[Sources and notes](#)

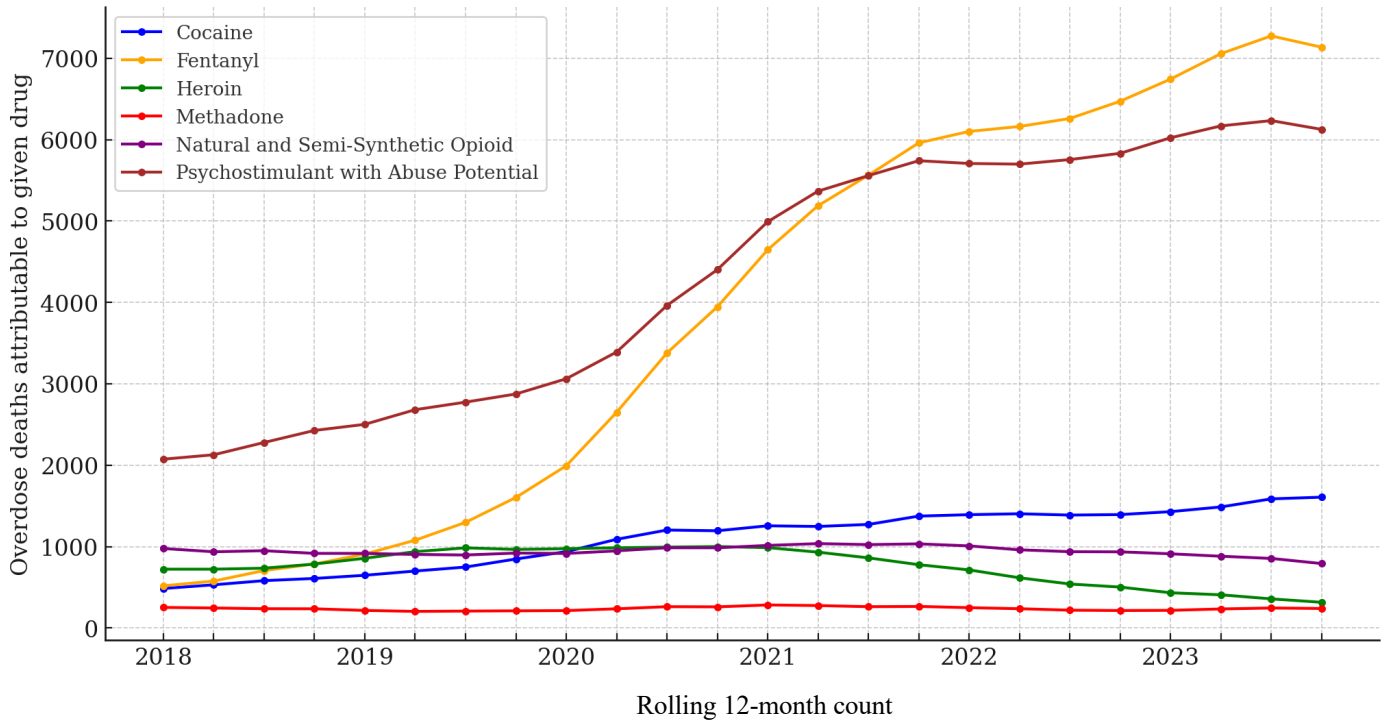
Discussion: Total overdose deaths more than doubled between 2018 and 2023, rising from 5,401 to 11,359. The sharpest increase occurred between 2020 and 2021, likely due to multiple factors, including:

- The growing presence of fentanyl and other synthetic opioids
- Disruptions to treatment and harm reduction services during the COVID-19 pandemic
- Shifts in the illicit drug supply

Emergency department (ED) visits for drug-related overdoses followed a similar trend, increasing from 45,571 in 2018 to a peak above 55,000 before slightly declining to 53,555 in 2023.

Substances Driving Overdose Deaths

Figure 3.
Number of fatal overdose deaths by drug class
California, 2018 to 2023



[Source and notes](#)

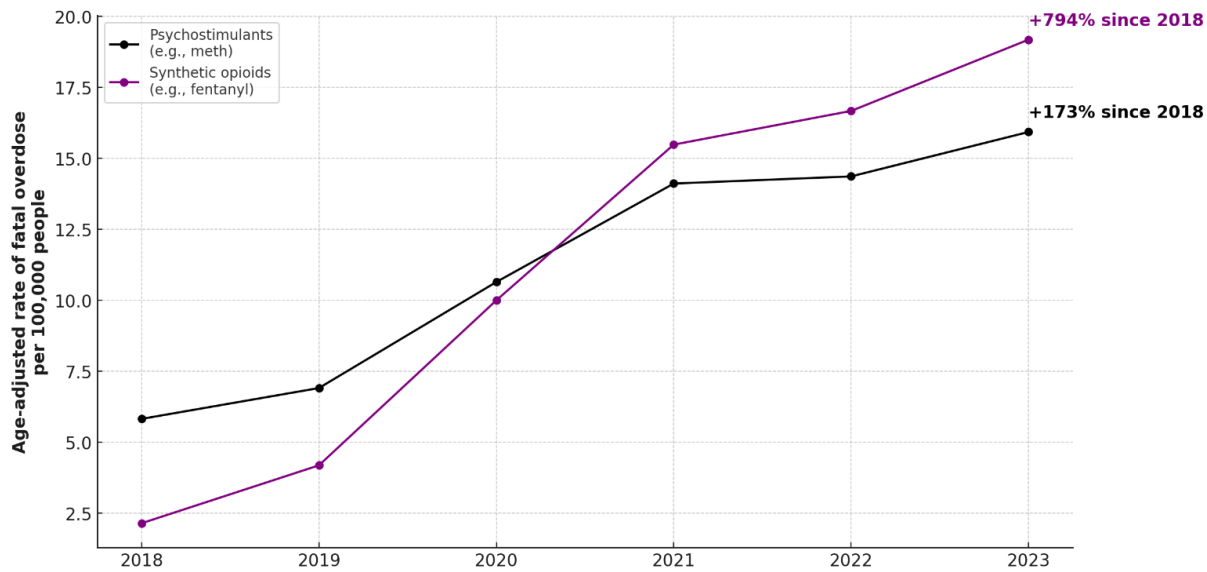
Discussion: The sharp rise in overdose mortality is primarily driven by the surge in fentanyl- and stimulant-related deaths. Between 2018 and 2023:

- Fentanyl-related deaths increased by 808%, from 786 to 7,137.
- Psychostimulant-related deaths—mainly from methamphetamine—rose by 152.5%, from 2,427 to 6,127.

Heroin-related overdose deaths have declined since 2020, coinciding with fentanyl’s displacement of heroin in the illicit opioid supply. Deaths from prescription opioids such as oxycodone and hydrocodone have slightly decreased, suggesting that efforts to curb opioid prescribing may have helped mitigate prescription-related overdoses.

Meanwhile, methadone-related deaths have remained stable, reflecting its controlled use in medication-assisted treatment programs. Cocaine-related deaths have gradually increased, likely due to fentanyl contamination in stimulant drug supplies.

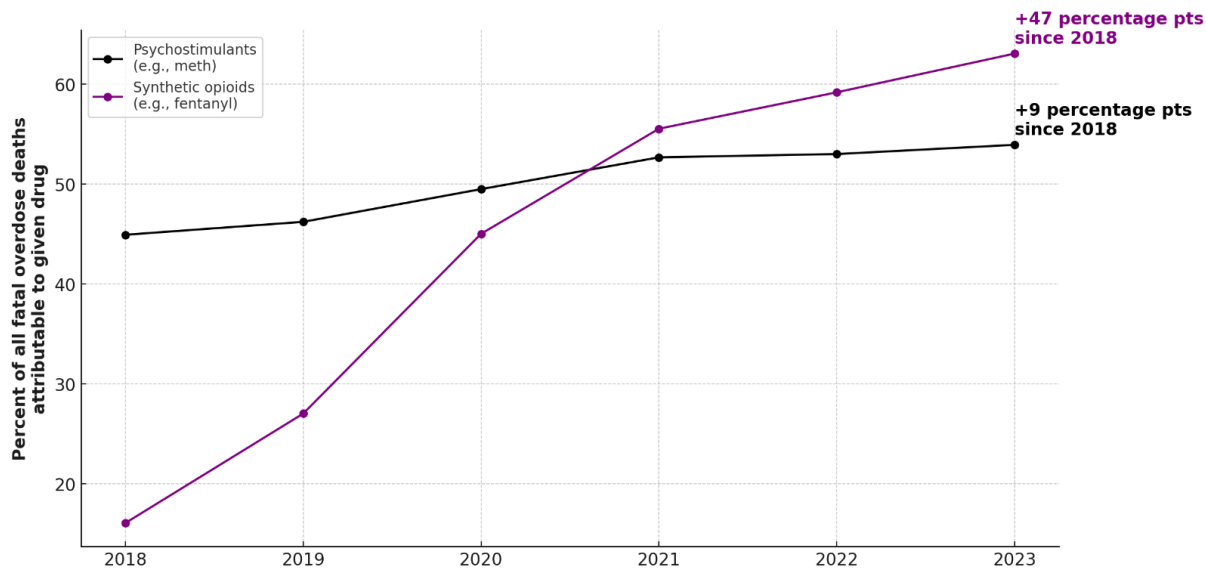
Figure 4.
Rate of fatal overdose deaths involving synthetic opioids (fentanyl) or stimulants (meth)
 California, 2018 to 2023



[Source and notes](#)

Discussion: Between 2018 and 2023, the age-adjusted mortality rate for synthetic opioids rose by 794.3%, from 2.1 to nearly 19 per 100,000. The sharpest increase occurred between 2019 and 2021, when rates more than tripled. Meanwhile, psychostimulant-related fatalities, primarily from methamphetamine, grew by 173%, increasing from 5.8 to over 15 per 100,000.

Figure 5.
Share of all fatal overdose deaths involving synthetic opioids (fentanyl) or stimulants (meth)
 California, 2018 to 2023



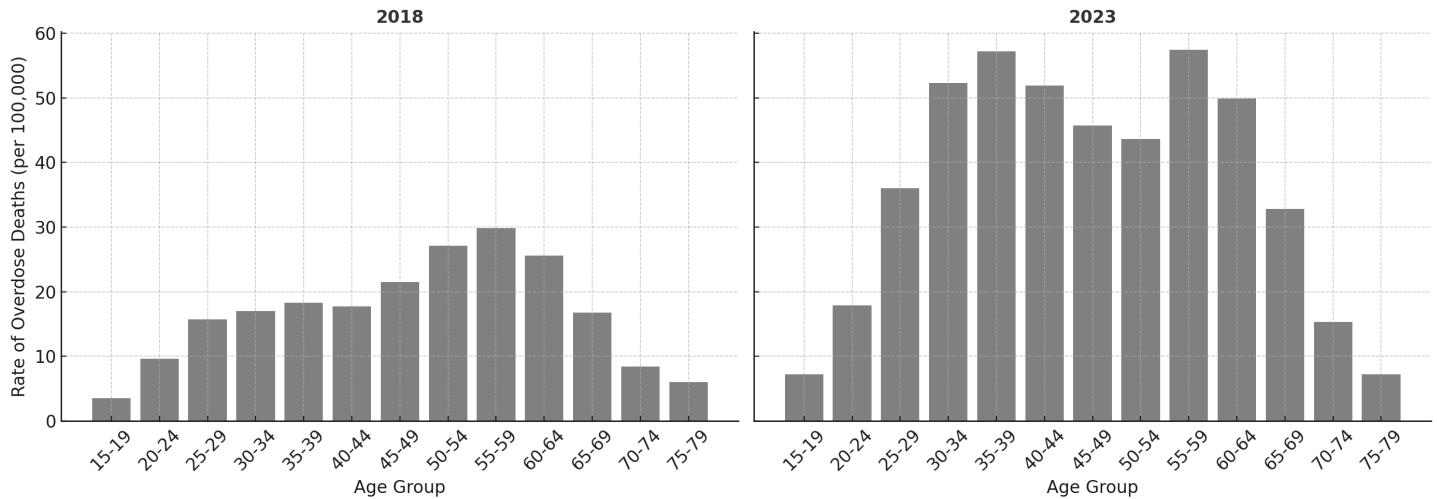
[Source and notes](#)

Discussion: While synthetic opioids now drive the majority of overdose deaths—fentanyl is involved in 63.1% of cases—methamphetamine remains a major contributor, appearing in 54.0% of fatalities. The growing overlap between these substances points to an increasing trend of stimulant-opioid co-use. Many individuals using stimulants may unknowingly be exposed to fentanyl due to cross-contamination in illicit drug supplies, significantly increasing overdose risk. Others intentionally combine stimulants and opioids in an attempt to counterbalance effects, which greatly heightens the likelihood of fatal interactions.

Changes in the illicit drug market, including the widespread presence of synthetic opioids, have further exacerbated polysubstance use trends. In addition to fentanyl, emerging synthetic substances such as nitazenes—highly potent synthetic opioids—and xylazine, a non-opioid sedative linked to severe respiratory depression, are increasingly found in both fentanyl and stimulant supplies, compounding overdose risks.

Overdose Impact Across Age Groups:

Figure 6.
Fatal overdose death rate by age groups across all drugs,
 California 2018 and 2023



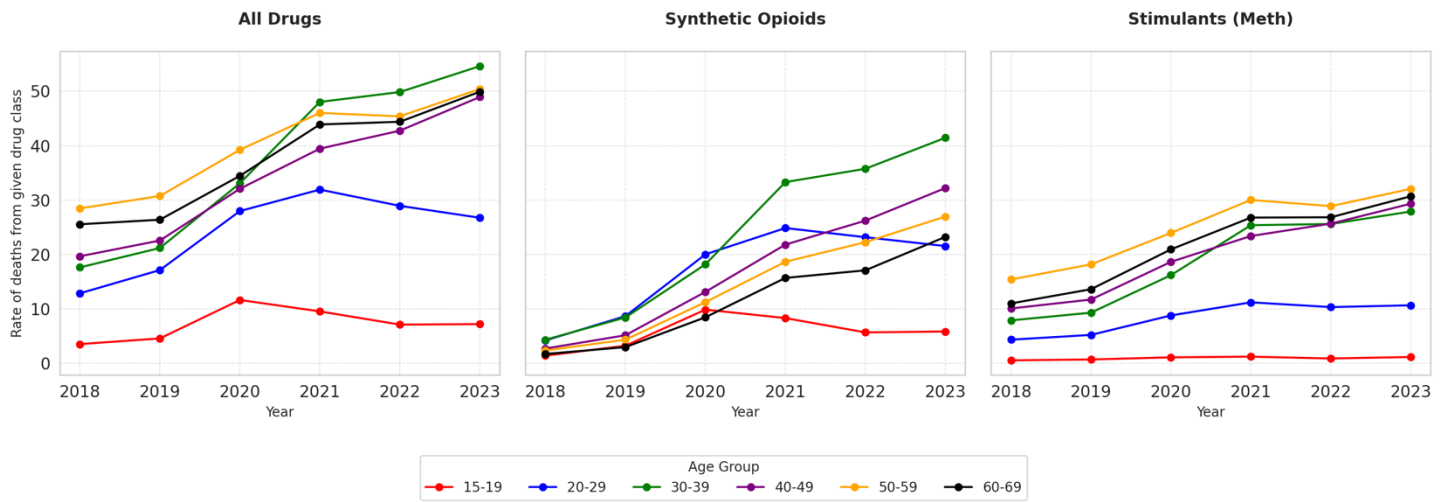
[Source and notes](#)

Figure 7.
Fatal overdose deaths by age groups
 California, 2023

Age Group	All Drugs		Synthetic Opioids (Fentanyl)		Stimulants (Meth)	
	Number	Rate	Number	Rate	Number	Rate
15-19	191	7.2	155	5.9	31	1.2
20-24	510	17.9	409	14.3	173	6.1
25-29	987	36	797	29.1	424	15.5
30-34	1373	52.3	1082	41.2	645	24.6
35-39	1336	57.2	974	41.7	739	31.6
40-44	1253	51.9	870	36	735	30.5
45-49	1034	45.7	635	28.1	636	28.1
50-54	1034	43.7	571	24.1	666	28.1
55-59	1308	57.4	682	29.9	824	36.2
60-64	1162	49.9	541	23.2	715	30.7
65-69	700	32.8	276	12.9	375	17.6

[Source and notes](#)

Figure 8.
Fatal overdose deaths by age group and drug class over time,
California 2018-2023



[Source and notes](#)

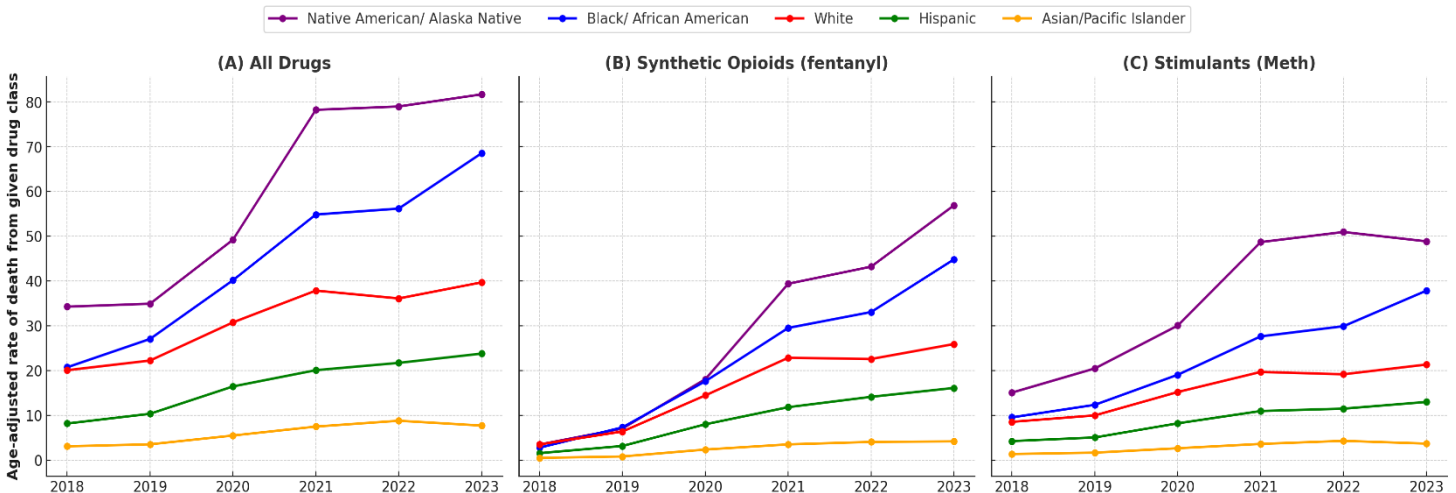
Discussion: From 2018 to 2023, overdose deaths increased across all age groups, with the steepest rises occurring among Californians aged 30-64. Within this group, individuals aged 30-39 saw the most rapid surge, overtaking other age groups to become the most at-risk demographic. This shift was driven largely by a sharp increase in synthetic opioid-related overdoses, which have disproportionately impacted younger middle-aged adults. Concurrently, stimulant-related deaths have risen across all age groups, highlighting an increasing trend of polysubstance use.

While overdose deaths rose sharply across all age groups from 2019 to 2020, trends began to diverge in subsequent years. By 2021, overdose deaths among adolescents aged 15-19 began to decline, stabilizing in 2023 at nearly twice their 2018 levels. Similarly, overdose rates among Californians aged 20-29 began decreasing in 2022. This trend is likely due to a decline in synthetic opioid-related fatalities within this younger cohort. In contrast, overdose deaths among those aged 30-69 have continued to increase annually, suggesting a growing concentration of risk among middle-aged and older adults.

The shifting age distribution of overdose deaths may reflect a cohort effect, where individuals who began substance use in early adulthood face escalating risks as they age. This may be due to prolonged exposure, increased polysubstance use, and worsening health conditions. Additionally, older adults may encounter greater barriers to treatment and harm reduction services, contributing to persistently high overdose mortality. These evolving patterns underscore the urgency of adapting public health interventions to meet the needs of middle-aged and older adults while maintaining efforts to prevent substance use initiation among younger cohorts.

Overdose Impact Across Race and Ethnicity:

Figure 9.
Fatal overdose deaths by race/ethnic group over time,
California, 2018-2023



[Source and notes](#)

Figure 10.
Fatal overdose deaths by race/ethnic group
California, 2023

Race/Ethnic Group	All Drugs		Synthetic Opioids (Fentanyl)		Stimulants (Meth)	
	Number	Rate	Number	Rate	Number	Rate
White	5548	39.7	3334	25.9	3032	21.3
Hispanic	3642	23.8	2494	16.1	1950	13.0
Black/ African American	1577	68.5	1010	44.8	842	37.8
Asian/Pacific Islander	458	7.7	237	4.2	223	3.7
Native American/ Alaska Native	134	81.7	90	56.9	80	48.9

[Source and notes](#)

Figure 11.
Fatal overdose deaths by race/ethnic group
California, 2023

Race/Ethnic Group	2018			2023		
	% of Cases	% of Population	Representation Ratio*	% of Cases	% of Population	Representation Ratio*
Asian/Pacific Islander	3.8%	15.8%	0.2	4.0%	16.2%	0.2
Black/ African American	10.2%	6.2%	1.7	13.9%	5.8%	2.4
Hispanic	22.6%	39.3%	0.6	32.1%	41.3%	0.8
Native American/ Alaska Native	1.3%	0.5%	2.5	1.2%	0.4%	2.8
White	62.0%	38.2%	1.6	48.8%	36.4%	1.3

* Greater than 1= Overrepresented

[Source and notes](#)

Discussion: In 2023, Native Americans and Black Californians had the highest fatal drug overdose rates, at 81.7 and 68.5 age-adjusted deaths per 100,000 people, respectively. Despite making up just 0.4% and 5.8% of the state’s population, they accounted for 1.2% and 13.9% of all overdose deaths. In contrast, Asian and Pacific Islanders were the most underrepresented, comprising 16.2% of the population but only 4.0% of all fatal overdoses.

Although all racial and ethnic groups experienced an increase in overdose fatalities from 2018 to 2023, Native Americans and Black Californians saw the steepest rises. Among Black Californians, the overdose fatality rate increased by 48.8 per 100,000—a 230.9% surge—while Native Americans saw a 47.4 per 100,000 increase, representing a 138.2% rise. White Californians, who accounted for the largest absolute number of overdose deaths, also saw a substantial increase, though at a lower relative rate.

These racial disparities in overdose deaths may reflect longstanding inequities in access to treatment, harm reduction resources, and broader social determinants of health. Many Native American communities, particularly those in rural areas, have limited access to medication-assisted treatment (MAT), naloxone distribution, and syringe service programs (SSPs), leading to higher rates of untreated substance use disorders and fatal overdoses. Black Californians have historically been over-policed for drug-related offenses, leading to lasting disparities in incarceration rates and barriers to post-release treatment. Overdose risk is particularly high among formerly incarcerated individuals, who experience reduced opioid tolerance and limited access to harm reduction services upon release. Additionally, economic instability and housing insecurity further contribute to overdose vulnerability.

Beyond economic and legal barriers, disparities in healthcare access and medical mistrust limit engagement in substance use treatment. Black and Native patients are less likely to be prescribed buprenorphine or naloxone for opioid use disorder than White patients, often due to implicit provider bias, geographic disparities in care, and systemic barriers in healthcare access. Lower enrollment in harm reduction and emergency care among these populations is further influenced by historic mistreatment and the lack of culturally responsive services, reinforcing cycles of untreated addiction and overdose risk.

Overdose Impact Across Counties:

Figure 12. Raw number and Age-adjusted rate of fatal overdoses for California counties, 2023 (cont. on next page)

County (alphabetical)	All Drugs		Synthetic Opioids (Fentanyl)	
	Age- adjusted rate	Number	Age- adjusted rate	Number
Alameda	27.1	403	20.3	282
Alpine	151.2	1	151.2	1
Amador	28.6	9	18.9	5
Butte	65.5	135	36.9	71
Calaveras	40.8	17	24.4	11
California	29.4	11359	19.2	7165
Colusa	41.9	8	23.3	4
Contra Costa	23.8	268	15.0	158
Del Norte	81.8	22	42.7	11
El Dorado	23.4	38	16.2	25
Fresno	25.0	231	11.3	101
Glenn	47.6	15	29.4	9
Humboldt	56.1	76	45.0	59
Imperial	13.1	20	9.6	14
Inyo	45.9	10	16.3	3
Kern	56.3	492	33.8	291
Kings	19.7	27	10.3	14
Lake	67.0	48	41.3	26
Lassen	59.3	19	39.7	12
Los Angeles	24.1	2277	16.1	1504
Madera	21.9	33	8.0	11
Marin	21.2	60	13.6	31
Mariposa	61.3	8	16.7	2
Mendocino	56.4	53	34.1	29
Merced	23.6	64	14.6	41
Modoc	0.0	0	0.0	0
Mono	4.2	1	0.0	0
Monterey	31.6	133	10.6	43
Napa	15.3	22	10.4	13
Nevada	48.8	44	35.5	31
Orange	24.1	739	18.1	533
Placer	18.8	74	13.4	49
Plumas	17.8	4	7.0	1
Riverside	34.7	852	22.6	537

County (alphabetical)	All Drugs		Synthetic Opioids (Fentanyl)	
	Age- adjusted rate	Number	Age- adjusted rate	Number
Sacramento	39.6	632	20.2	302
San Benito	24.0	16	19.3	13
San Bernardino	27.5	585	19.2	407
San Diego	27.3	915	18.2	593
San Francisco	65.3	616	50.4	468
San Joaquin	31.8	252	22.1	176
San Luis Obispo	37.2	100	25.5	67
San Mateo	17.2	119	11.5	76
Santa Barbara	34.6	144	13.7	52
Santa Clara	18.0	349	9.8	176
Santa Cruz	54.7	136	44.1	105
Shasta	49.4	83	38.8	65
Sierra	111.0	3	84.2	2
Siskiyou	44.6	17	40.1	14
Solano	30.6	139	14.3	60
Sonoma	27.2	129	19.5	89
Stanislaus	35.3	186	24.3	128
Sutter	24.8	23	18.3	16
Tehama	66.0	42	33.7	19
Trinity	0.0	0	0.0	0
Tulare	25.6	107	13.0	55
Tuolumne	43.8	20	29.0	11
Ventura	32.9	258	24.7	189
Yolo	22.4	43	11.8	21
Yuba	42.0	32	24.9	19

[*Source and notes*](#)

Appendix A: Data Source and Notes

Data Source

CDPH Center for Health Statistics and Informatics Vital Statistics [Overdose Surveillance Dashboard](#), Multiple Cause of Death and California Comprehensive Death Files

Notes

Figure 1: 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. Percentages may not sum to 100% due to rounding. Some demographic subgroups are relatively small, so it is difficult to calculate stable, reliable rates. Additionally, some counties have small populations, and 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](#)
 - Provided by the California Department of Public Health (CDPH) Health & Informatics Vital Statistics Center.
- [Center for Disease Control \(CDC\) WONDER Multiple Causes of Death \(MCOD\) database](#)
 - Final data for the period 2018-2023 (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 2021-2023 (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.

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