

Opioid-Related Overdose Deaths in California, 2021

California Department of Public Health
Substance and Addiction Prevention Branch
Overdose Prevention Initiative

California continues to face a serious public health crisis with the dynamic and rapidly changing opioid epidemic having substantial health impacts. This brief describes demographic differences in opioid-related overdose fatalities in 2021 and compares the burden of drug-related overdose to other acute causes of death in California.

Introduction

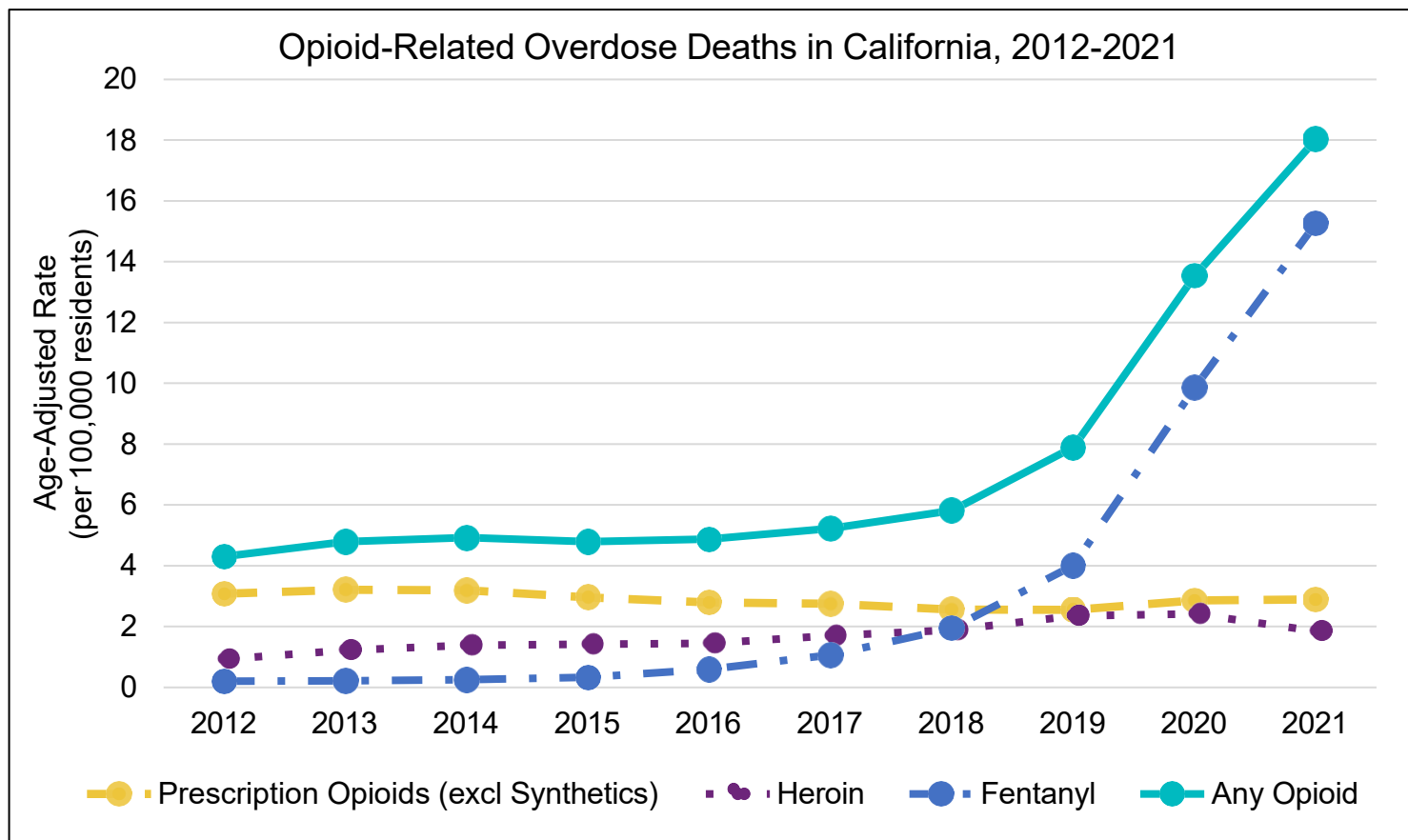
In 2021, there were 10,898 all drug-related overdose deaths in California, with an age-adjusted rate of 26.8 deaths per 100,000 residents. **The majority (65.8%) of these drug-related overdose deaths involved an opioid, a total of 7,175 opioid-related overdose deaths.** This represents an age-adjusted rate of 18.0 opioid-related overdose deaths per 100,000 residents. Of the opioid-related overdose deaths, fentanyl (a synthetic opioid) contributed to 5,961 drug overdose deaths, with an age-adjusted rate of 15.3 fentanyl-related deaths per 100,000 residents.

Males continued to have considerably higher any opioid-related and fentanyl-related overdose death rates when compared to females. Notably, fentanyl-related overdose death rates were dramatically higher for males than females. Males had an age-adjusted rate of 23.8 deaths per 100,000 residents while females had an age-adjusted rate of 6.4 deaths per 100,000 residents.

Opioids are often used in combination with other drugs. This includes two or more substances taken within a short period of time or taken together, regardless of intent (e.g., intentionally or unintentionally). Multiple substances may be taken together unintentionally if drugs have been mixed or cut with other substances.¹ In 2021

- 3,290 deaths involved an opioid and a psychostimulant with abuse potential (e.g., methamphetamine), an age-adjusted rate of 8.4 per 100,000 residents.
- 1,010 deaths involved an opioid and cocaine, an age-adjusted rate of 2.5 per 100,000 residents.
- 802 deaths involved an opioid and a benzodiazepine, an age-adjusted rate of 2.0 per 100,000 residents.

Opioid-Related Overdose Deaths Over Time

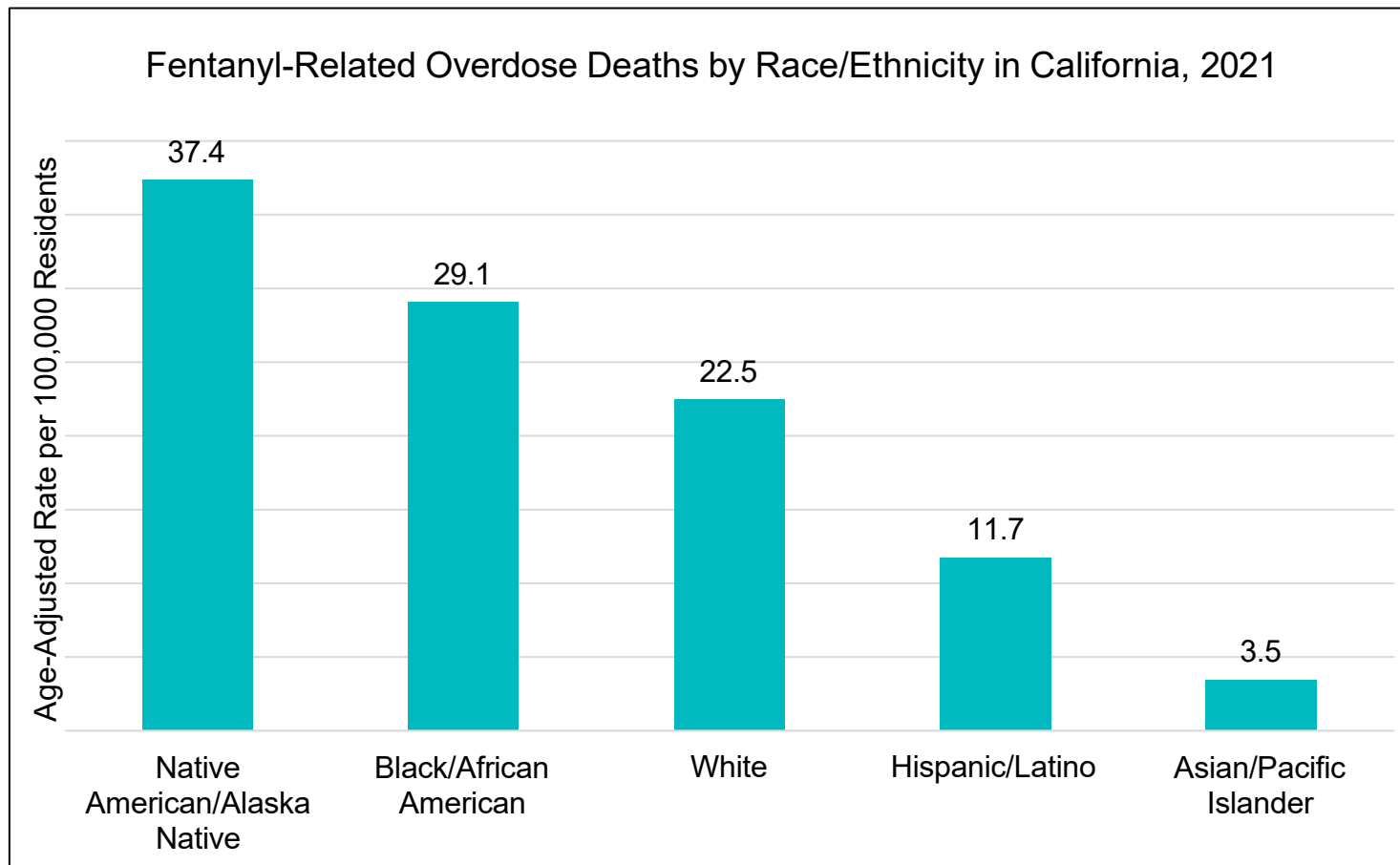


Any opioid-related and fentanyl-related overdose deaths have substantially increased from 2012 to 2021. However, age-adjusted overdose death rates for heroin and prescription opioids (excluding synthetics) have remained relatively constant over the same time period. There has been a large increase in any opioid-related overdose death rates in California since 2018, and in particular, fentanyl-related overdose death rates have increased substantially since 2018.

From 2020 to 2021,

- Any opioid-related (including fentanyl) overdose death rates increased by 33.2%, from 13.5 per 100,000 residents in 2020 to 18.0 per 100,000 residents in 2021.
- Fentanyl-related overdose death rates increased by 54.9%, from 9.9 per 100,000 residents in 2020 to 15.3 per 100,000 residents in 2021.
- Heroin-related overdose death rates decreased by 23.6%, and prescription opioid (excluding synthetics)-related overdose death rates had a slight increase by 1.1%, staying relatively stable.

Fentanyl-Related Overdose Deaths by Race/Ethnicity



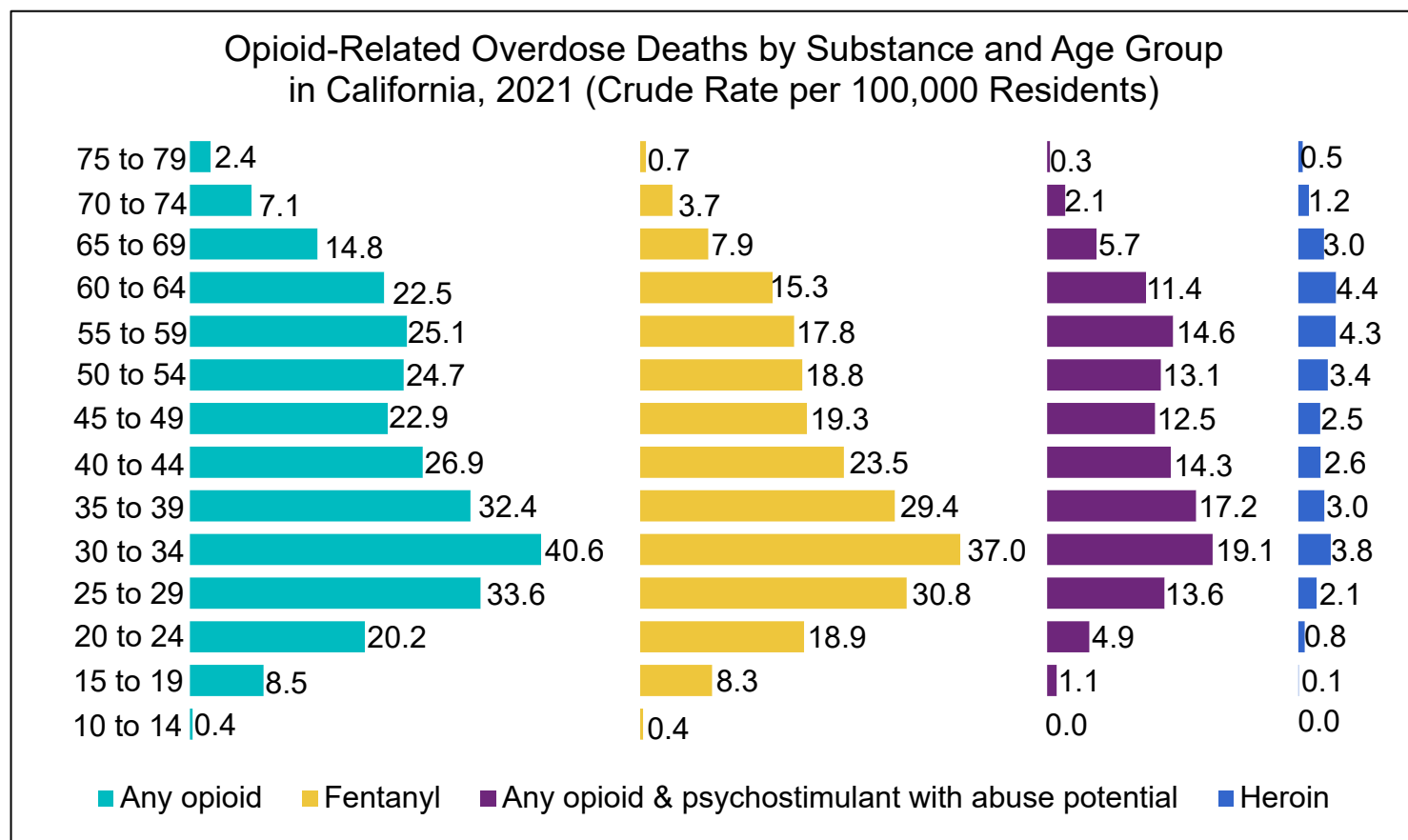
In 2021, Native American/Alaska Natives had the highest rate of fentanyl-related overdose deaths compared to individuals of other race/ethnicities, with an age-adjusted rate of 37.4 per 100,000 residents. Black/African Americans had the second highest age adjusted death rate for fentanyl at 29.1 per 100,000 residents. In contrast, Asian/Pacific Islanders had the lowest rate of fentanyl-related overdose deaths with an age-adjusted rate of 3.5 per 100,000 residents. Any opioid-related overdose death rates follow a similar pattern, with the highest rate among Native American/Alaska Natives and the lowest rate among Asian/Pacific Islanders.

Opioid-Related Overdose Deaths by Substance and Age

Younger adult age groups (25 to 34 years) had disproportionately higher rates of any opioid-related and fentanyl-related overdose deaths than older age groups (>50 years) with the highest rates among 30- to 34-year-olds.

Among 30- to 34-year-olds, the age-specific rate of any opioid-related overdose deaths was 40.6 per 100,000 residents. Similarly, the age-specific rate of fentanyl-related overdose deaths was 37.0 per 100,000 residents in 2021. 30- to 34-year-olds also experienced the highest age-specific rate of overdose deaths involving both opioids and psychostimulants with abuse potential (19.1 per 100,000 residents).

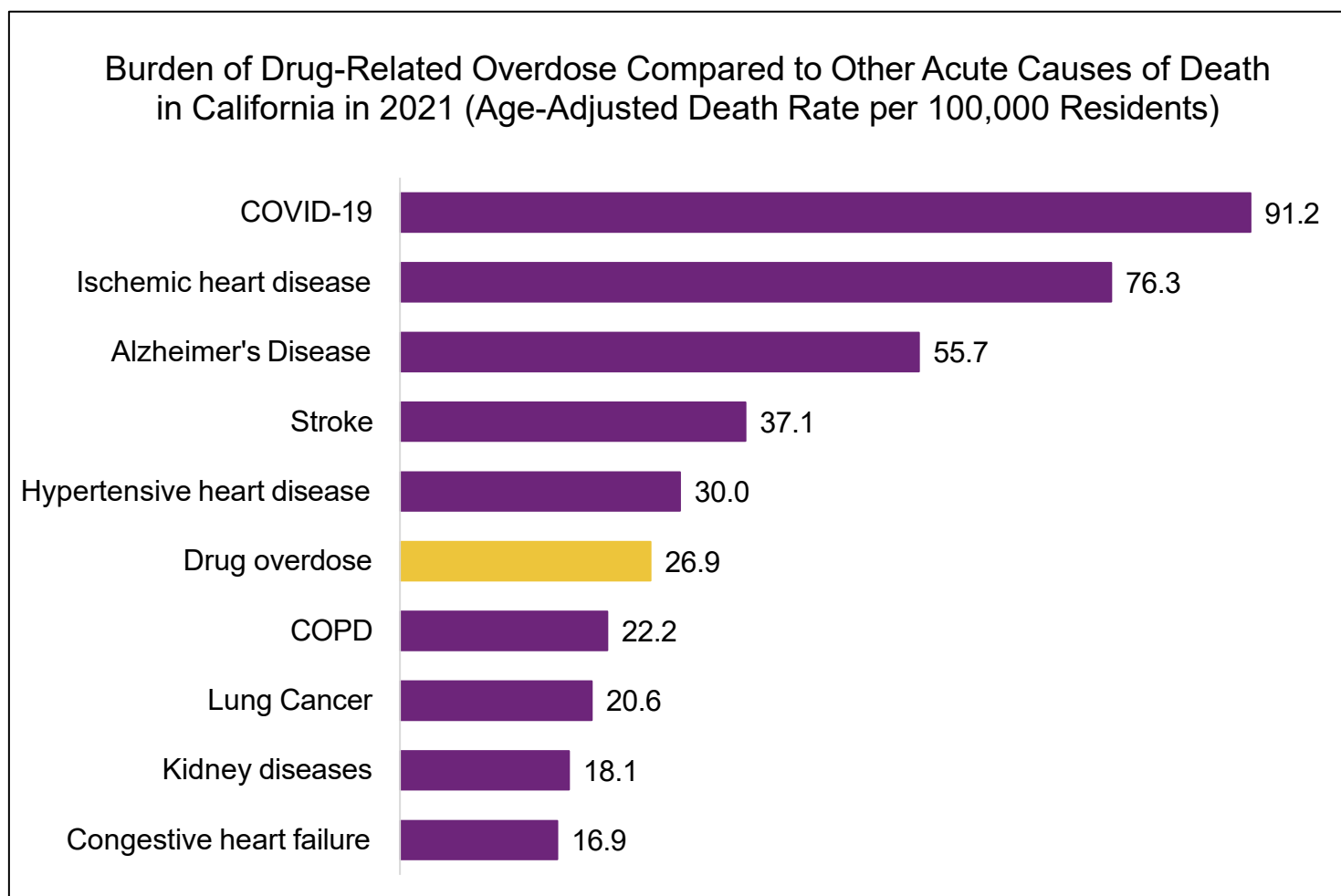
In contrast to fentanyl, heroin-related overdose death rates were the highest among older age groups (>50 years) with the highest rate among those 60- to 64-years-old, at an age-specific rate of 4.4 per 100,000 residents.



Burden of Drug-Related Overdose Deaths Compared to Other Acute Causes of Death in 2021¹

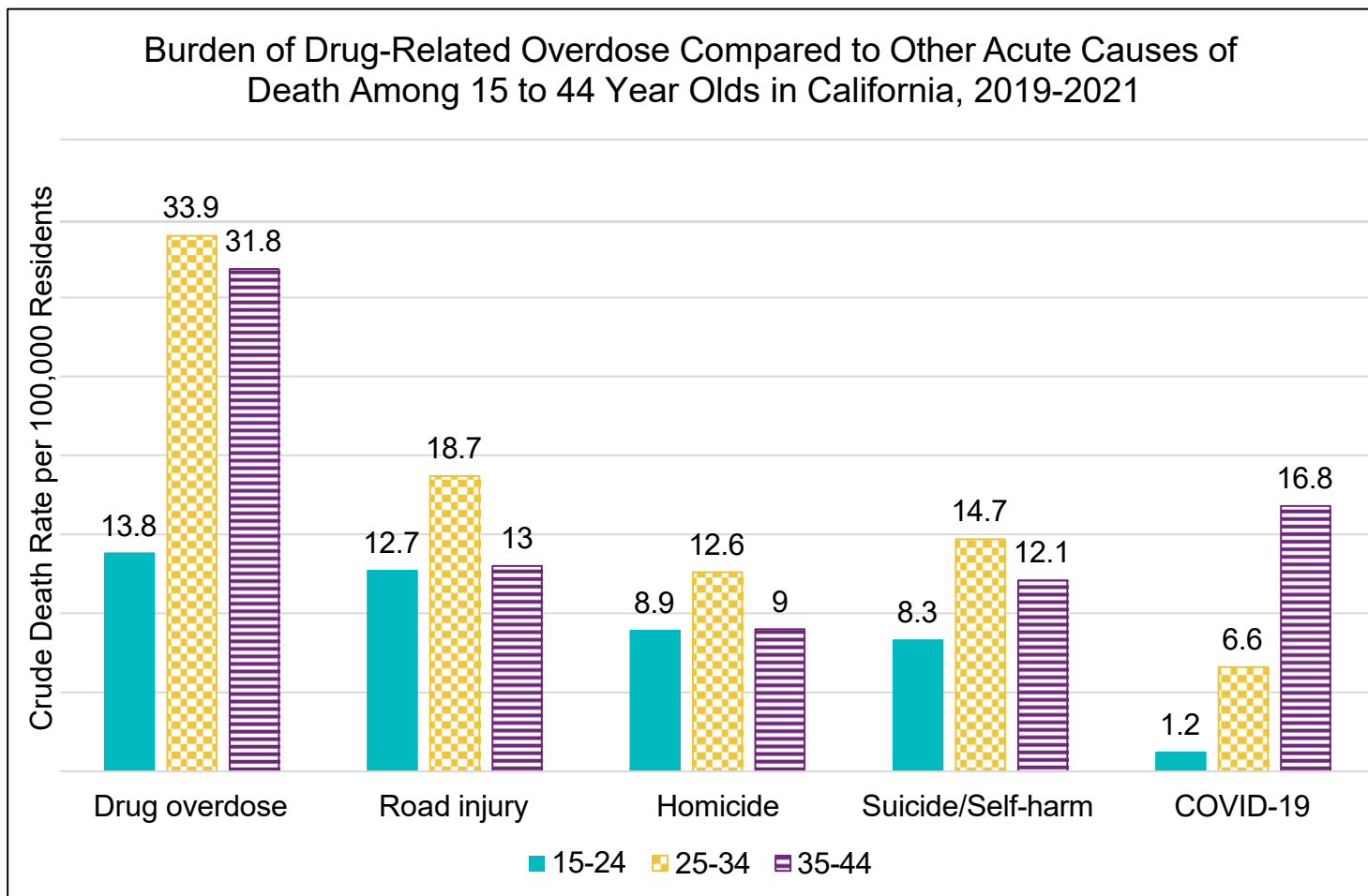
Drug-related overdose deaths were the sixth-leading acute cause of death, with an age-adjusted death rate of 26.9 per 100,000 residents in 2021. Strikingly, the drug-related overdose age-adjusted death rate was greater than the age-adjusted death rates for COPD, lung cancer, kidney diseases, and congestive heart failure.

Among males, drug-related overdose deaths were the fourth-leading acute cause of death, with an age-adjusted death rate of 40.6 per 100,000 residents. This rate was greater than the age-adjusted death rate for both hypertensive heart disease (33.7 per 100,000 residents) and stroke (38.5 per 100,000 residents). Drug-related overdose was not in the top 10 acute causes of death for females.



¹Data from the California Community Burden of Disease Engine

Burden of Drug-Related Overdose Deaths Compared to Other Acute Causes of Death in 2021¹



From 2019 to 2021, drug-related overdose deaths had the highest age-specific death rate among 15–44 year-olds. Additionally, drug-related overdose deaths were the second highest cause of death among 45- to 54-year-olds (not included in the figure) from 2019 to 2021. The highest age-specific death rate among 45–54 years was COVID-19 at 41.2 per 100,000 residents.

¹Data from the California Community Burden of Disease Engine

Health Equity

The rates of drug-related overdose deaths differ by race/ethnicity and age. It is important to note these differences while considering the impact of broader contextual factors like social determinants of health. In 2021, Native Americans/Alaska Natives had the highest rate of fentanyl-related overdose deaths compared to individuals of other race/ethnicities. Blacks/African-Americans had the second highest rate. Additionally, in 2021, younger adult age groups (25 to 34 years) had disproportionately higher any opioid-related and fentanyl-related overdose death rates than older age groups (>50 years). Such differences give rise to questions around the role of adverse childhood experiences, trauma, family history of drug use, availability of illicit drugs in the community, access to health care services, including mental health, economic stability, and housing stability, among other factors in impacting drug-related overdoses.

These race/ethnicity and age disparities convey the need for interventions tailored to non-Hispanic Native American/Alaskan Native, Black/African-American, and younger adult populations who are experiencing higher rates of opioid- and fentanyl-related overdose deaths. The disparities also underscore the need for cross-sector solutions to prevent opioid- and fentanyl-related overdose deaths, including programs that address the social determinants of health.

Conclusion

In 2021, opioid- and fentanyl-related overdose deaths increased in California. Disparities in opioid- and fentanyl-related overdose death rates among different age groups and race/ethnicities are important to consider when planning prevention efforts. Drug overdose is more complex than one individual's decision to use drugs. Efforts to address the impacts of the social determinants of health and other underlying factors on the drug overdose epidemic are needed.

About the Overdose Prevention Initiative

CDPH's Overdose Prevention Initiative (OPI) works on the complex and changing nature of the drug overdose epidemic through prevention and research activities. OPI works to advance and amplify CDPH's unified response to reduce the harms from substance misuse and end the evolving drug overdose crisis in California through increased information sharing, policy development, and implementation of its seven core strategies²:

- Improve CDPH and state agency coordination.
- Improve state and local surveillance.
- Support individual and community resiliency by addressing upstream drivers of health.
- Increase public awareness and education.
- Expand naloxone access, saturation, and education.
- Promote harm reduction and drug checking services.
- Promote treatment and reduce stigma

Prevention Resources:

- [Overdose Prevention Initiative \(OPI\) Landing Page](#)
- [Persons Experiencing Chronic Pain](#)
- [People Who Use Drugs](#)
- [Information about Naloxone](#)
- [Information about Fentanyl](#)
- [Information about Opioids](#)
- [Drug Overdose Response](#)

Data retrieved from:

- [California Overdose Surveillance Dashboard](#)
- [California Community Burden of Disease Engine](#)

Technical Note:

The case definition for drug overdose differs between the California Community Burden of Disease Engine and the California Overdose Surveillance Dashboard for methodological reasons. Data should not be compared across both data sources but can be compared within data sources. For the California Community Burden of Disease Engine, drug overdose includes “accidental poisonings by drugs” ICD10 codes (X40-X44) and “substance use disorder” ICD10 codes (F11-F16, F18, F19), but it does not include “intentional self-poisoning by drugs” (X60-X64), “assault by drug poisoning” (X85), and “drug poisoning of undetermined intent” (Y10-Y14). For the California Overdose Surveillance Dashboard, drug overdose includes all overdose deaths caused by acute poisonings regardless of intent (e.g., unintentional, intentional, assault, or undetermined).

Acknowledgements:

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Suggested Reference

Tanniru N, Demeter NE, Pinsker EA. Opioid-Related Overdose Deaths in California, 2021. Sacramento, CA: California Department of Public Health, October 2023.

References

1. Polysubstance Use Facts. Centers for Disease Control and Prevention. Updated February 23, 2022. Accessed May 1, 2023. <https://www.cdc.gov/stopoverdose/polysubstance-use/index.html>.
2. California’s Approach to the Overdose Epidemic. California Department of Public Health. Updated December 29, 2022. Accessed July 19, 2023. <https://www.cdph.ca.gov/Programs/CCDPHP/sapb/Pages/CA-Approach.aspx>.

