

Drug Overdose Quarterly Report Quarter 3: July–September 2023



County of San Diego Health and Human Services Agency
Public Health Services
Epidemiology and Immunization Services Branch

www.sdepi.org

October 2023





Drug Overdose Surveillance



Table of Contents

| | |
|---|-------|
| Drug Overdose Report Summary and Overview | 1 |
| Drug Overdoses by Year and Quarter | 2 |
| Drug Overdose by Drug | 3 |
| Opioid Overdoses by Sex | 4 |
| Opioid Overdoses by Age | 5 |
| Opioid Overdoses by Race/Ethnicity | 6 |
| Opioid Overdoses by Region of Residence | 7 |
| Opioid Overdoses by Demographics | 8 |
| Feature Topic: Opioid and Stimulant Overdoses | 9-15 |
| Data Definitions/Limitations | 16-18 |

Drug Overdose Surveillance Report

Introduction and Sources

This report provides an overview of statistics regarding fatal and non-fatal drug overdoses in San Diego County. Each quarterly report will include a standard set of figures, updated to the most recent calendar year quarter available (Pages 2-8). In addition, a different specific topic will be featured each quarter. The 'featured topic' for this report is drug overdoses involving both stimulants and opioids.

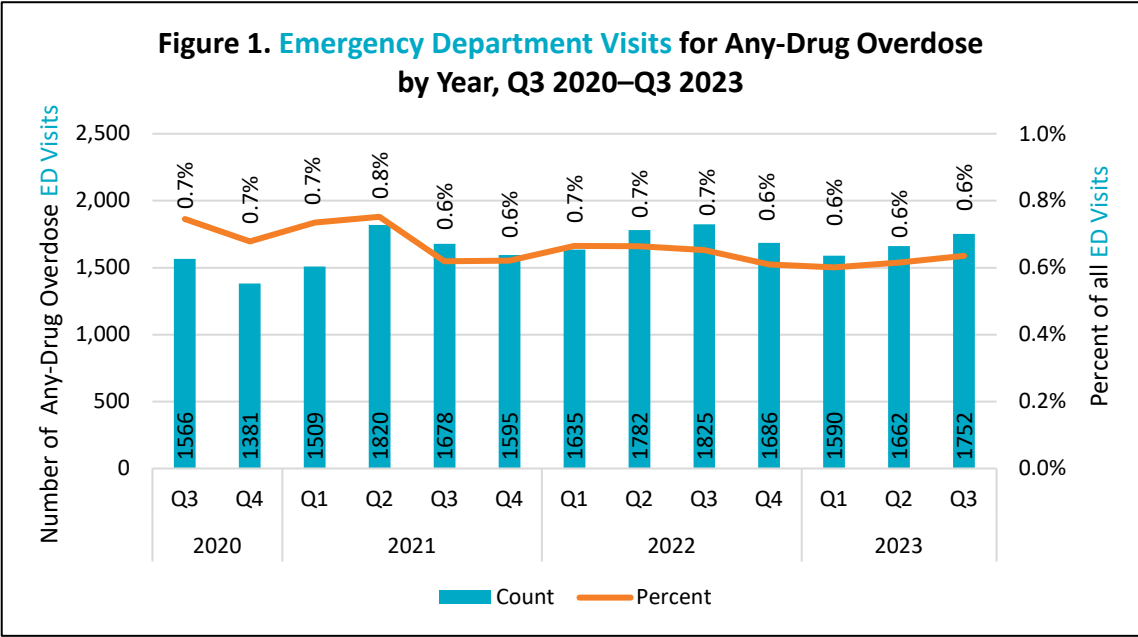
Primary data sources included in this report are:

- County of San Diego (County) Emergency Department (ED) Syndromic Surveillance includes chief complaint and some discharge data received daily from 16 of 18 civilian EDs in San Diego County.
 - Unless otherwise noted, the ED data presented in the report are syndromic surveillance data.
 - ICD-10 codes for drug and/or overdose terms are not often available; therefore, word search queries are also used.
 - Syndromic data provide a more timely, though less complete, look at trends than the final ED data from [California Department of Health Care Access and Information](#) (HCAI).
- Mortality data are from the [Vital Records Business Intelligence System](#) (VRBIS), which is managed by the California Department of Public Health.
 - Deaths during the year 2023 are preliminary and subject to change. Data from the most recent quarters are too incomplete to present.
 - Unless otherwise noted, deaths are among San Diego County residents only.

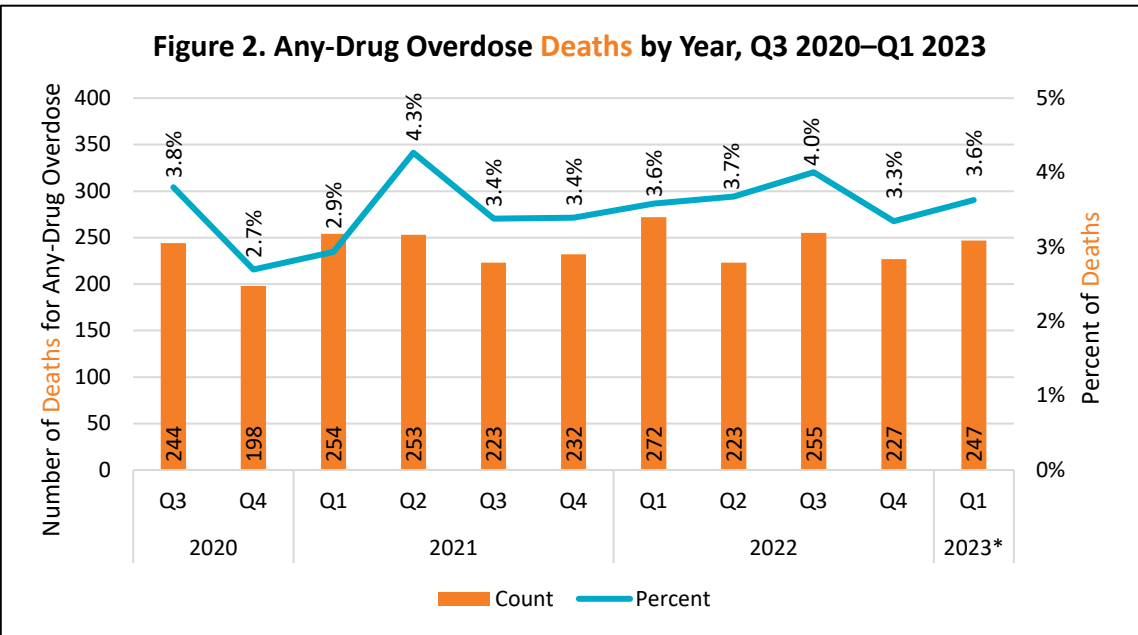
Overview

- The numbers of any-drug overdose and opioid overdose related ED visits increased by 12% and 34%, respectively from Q3 2020 to Q3 2023.
- In 2022, the proportion of overdose deaths that were opioid-related ranged from 70-77%.
- Both opioid overdose ED visits and deaths are higher among males and the gender differential has increased since Q3 2020. In Q3 2023, the rate of opioid overdose ED visits was 3.2 times higher in males compared to females.
- The age-specific rates for opioid overdose ED visits and deaths are highest among those aged 25-34 and 35-44.
- Opioid overdose ED visits were highest among residents in the Health and Human Services Agency (HHSA) Central Region (67.2 AAR) in Q3 2023. Opioid overdose deaths were highest among residents in the HHSA Central Region (28.4 AAR) in Q1 2023.

Drug Overdoses by Year and Quarter

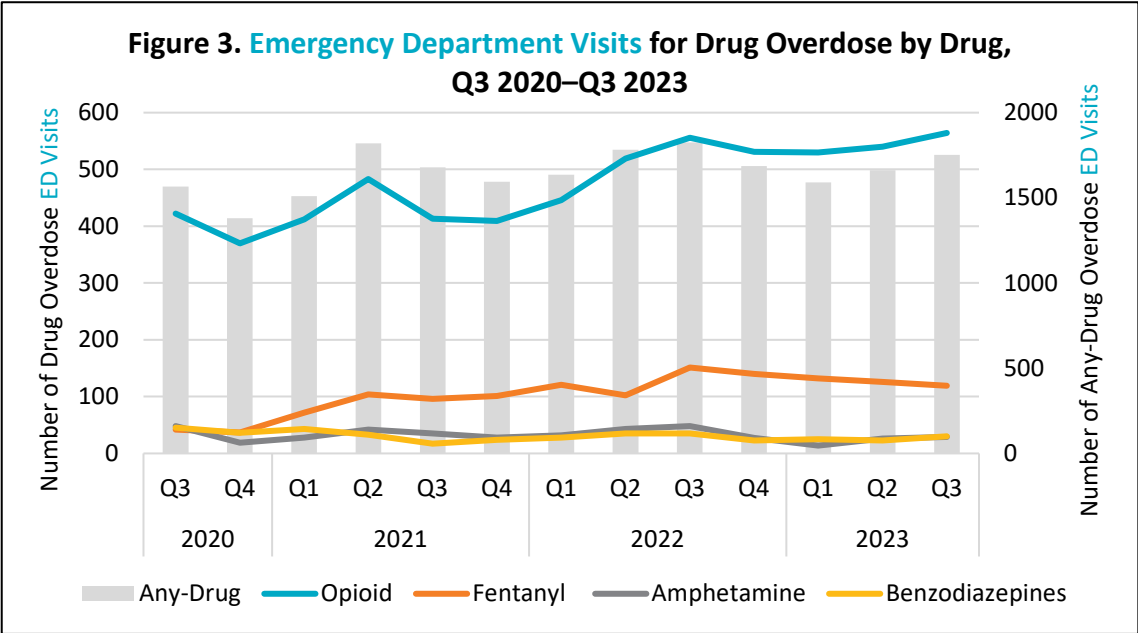


County of San Diego ED Syndromic Surveillance Data.

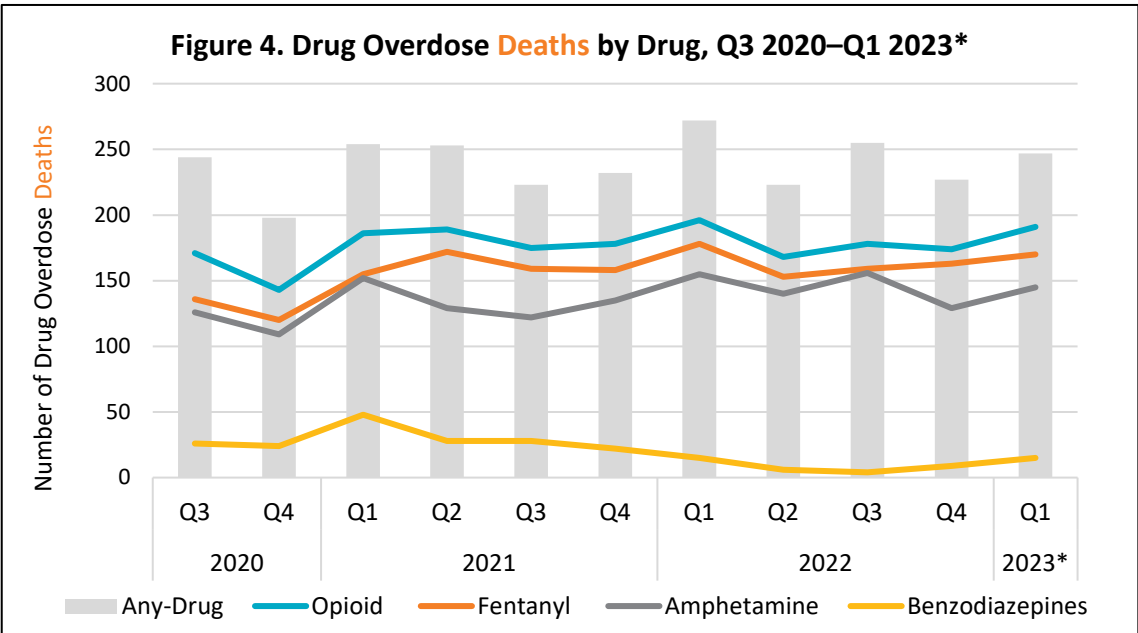


*Data from 2023 are preliminary and may change as new/updated information is received. Data obtained on 10/16/2023.

Drug Overdoses by Drug

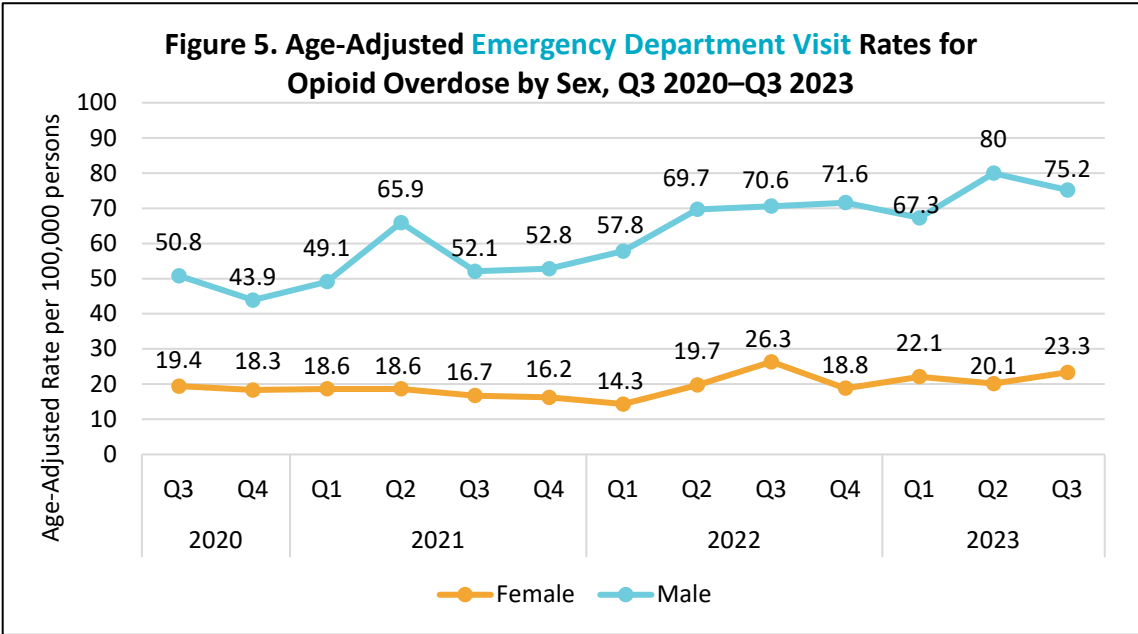


County of San Diego ED Syndromic Surveillance Data. Many chief complaints do not include a specific drug. Drug categories are not mutually exclusive. For example, both opioids and amphetamine may have contributed to the same ED visit and these data do not show relative contributions of each. Fentanyl is also included in the opioid category.

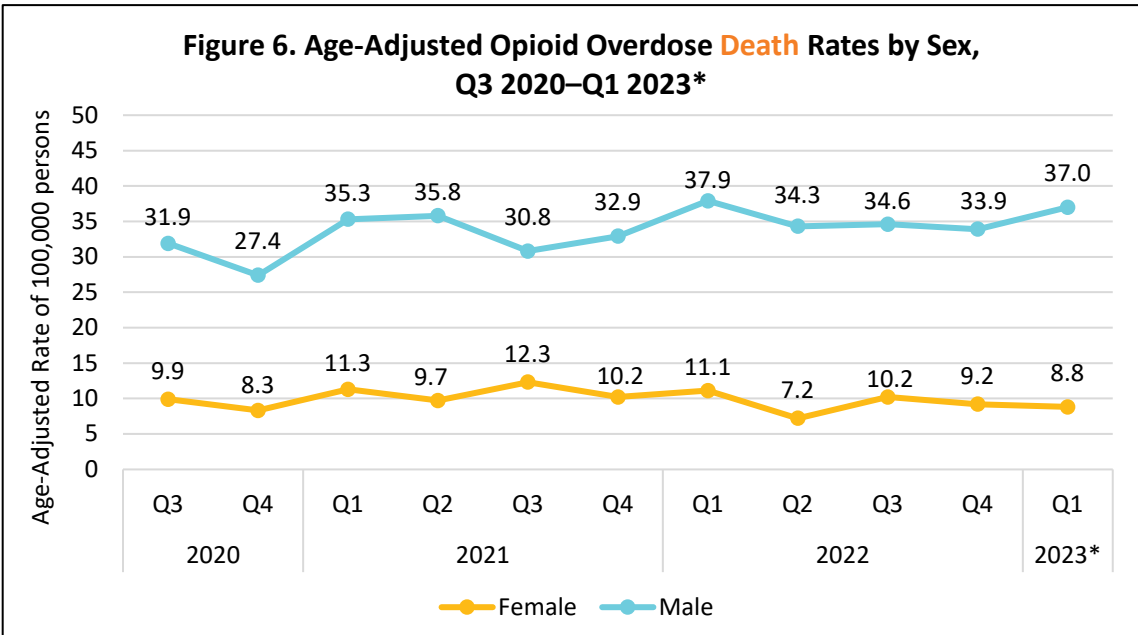


*Data from 2023 are preliminary and may change as new/updated information is received. Data obtained on 10/16/2023. Drug categories are not mutually exclusive. For example, both opioids and amphetamine may have contributed to the same death and these data do not show relative contributions of each. Fentanyl is also included in the opioid category.

Opioid Overdoses by Sex

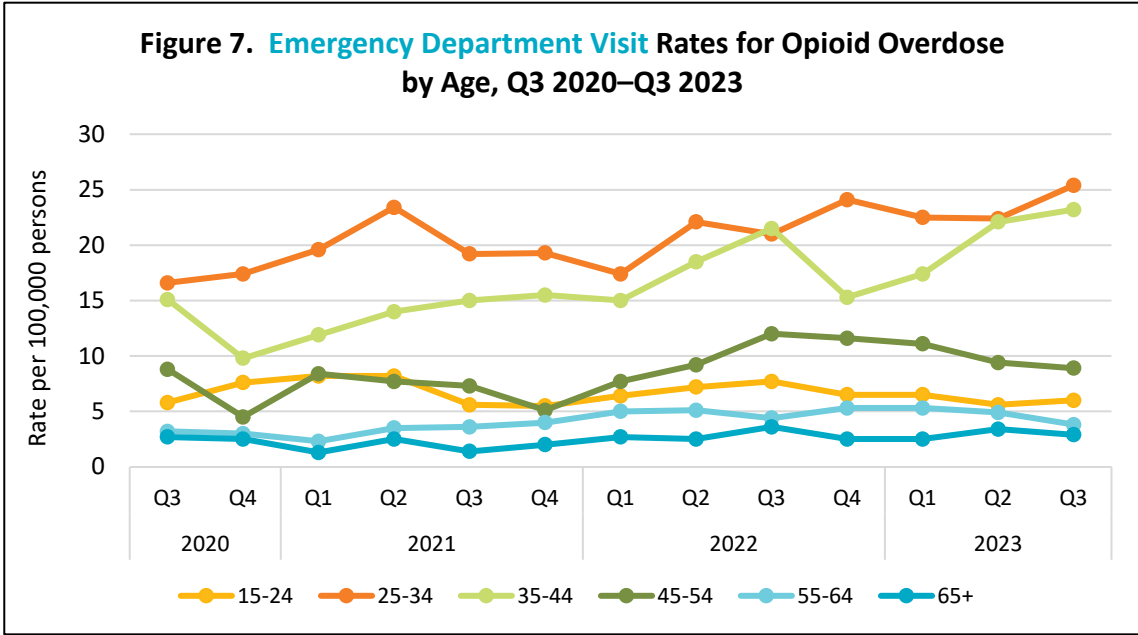


County of San Diego ED Syndromic Surveillance Data.

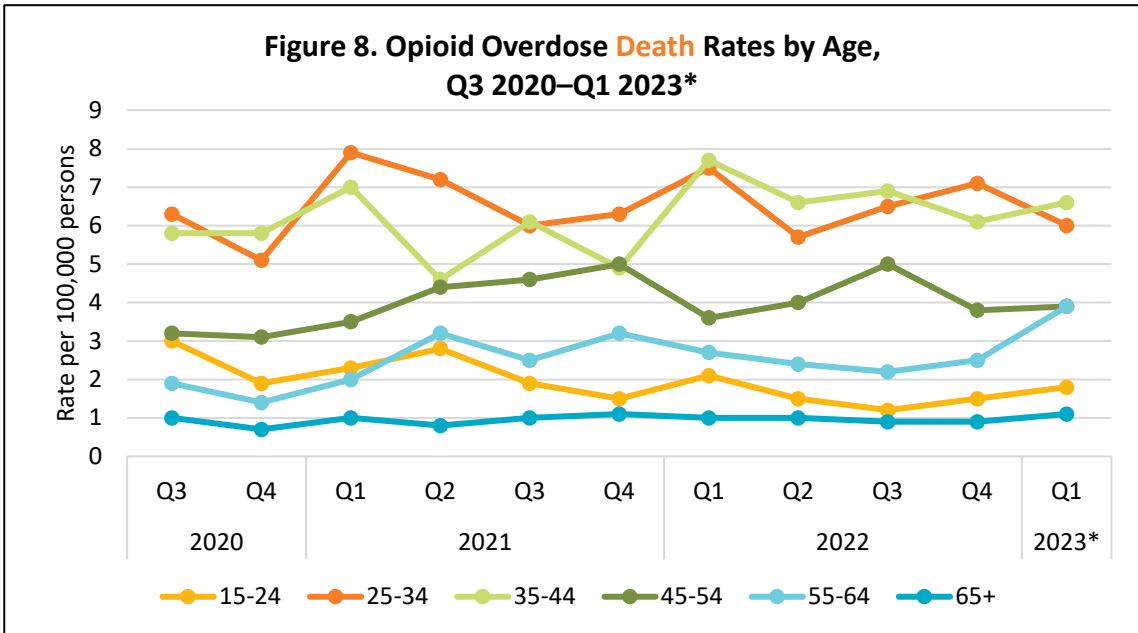


*Data from 2023 are preliminary and may change as new/updated information is received. Data obtained on 10/16/2023.

Opioid Overdoses by Age



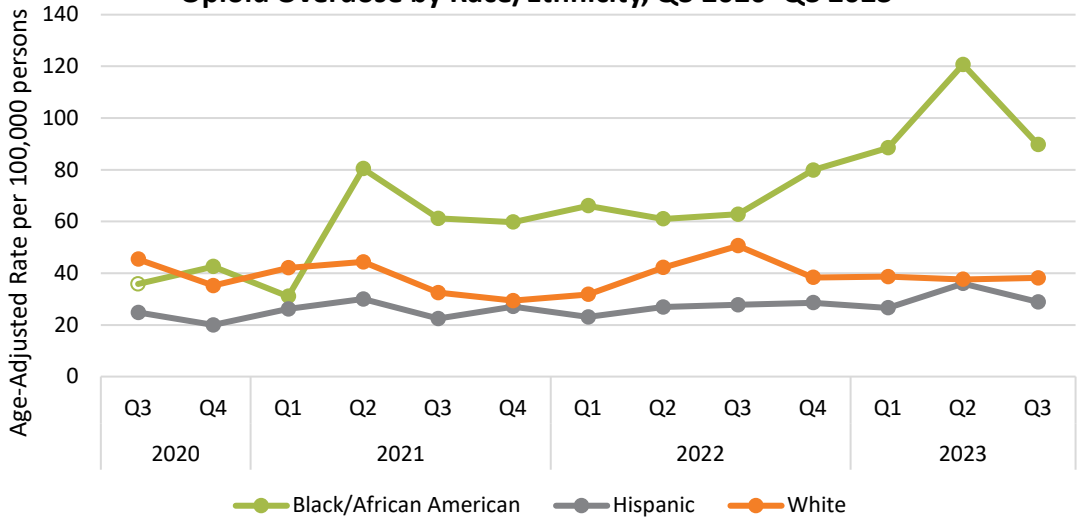
County of San Diego ED Syndromic Surveillance Data.



*Data from 2023 are preliminary and may change as new/updated information is received. Data obtained on 10/16/2023.

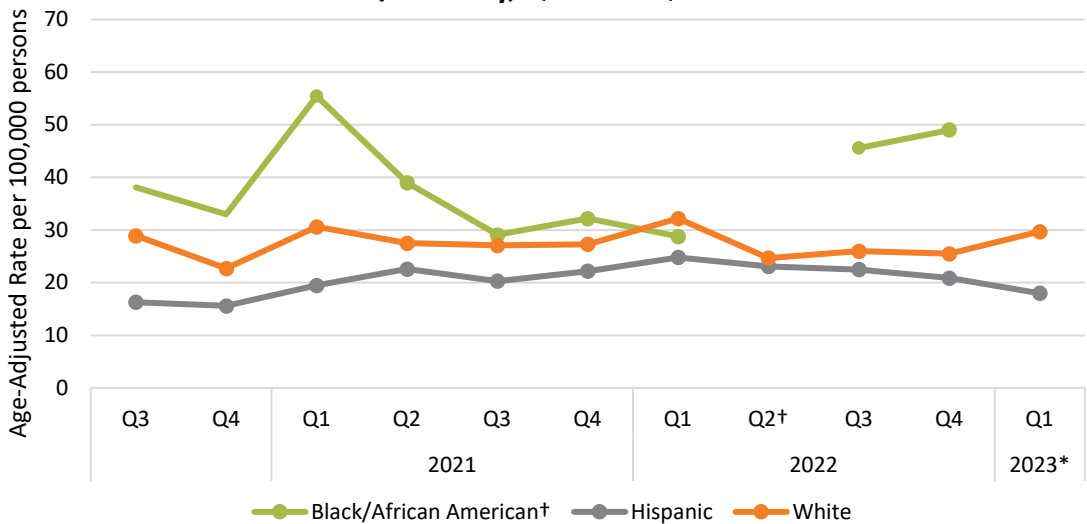
Opioid Overdoses by Race/Ethnicity

Figure 9. Age-Adjusted Emergency Department Visit Rates for Opioid Overdose by Race/Ethnicity, Q3 2020–Q3 2023



Notes: Data for other racial/ethnicity groups cannot be presented due to small numbers (<11). Persons of Hispanic/Latino ethnicity may belong to any race group. All categories except Hispanic/Latino include persons who race is know but ethnicity is non-Hispanic or unknown. County of San Diego ED Syndromic Surveillance Data.

Figure 10. Age-Adjusted Opioid Overdose Death Rates by Race/Ethnicity, Q3 2020–Q1 2023*



*Data from 2023 are preliminary and may change as new/updated information is received. Data obtained on 10/16/2023. † Data for Black/African American not presented for Q2 2022 and Q1 2023 due to counts <11. Notes: Data for other racial/ethnicity groups cannot be presented due to small numbers (<11). Persons of Hispanic/Latino ethnicity may belong to any race group. All categories except Hispanic/Latino include persons who race is know but ethnicity is non-Hispanic or unknown.

Opioid Overdoses by Demographics

Table 1. Number of Emergency Department Visits* for Opioid Overdose, Trends and Change by Quarter

| | 2021 Q3 | 2022 Q3 | 2023 Q3 | Percent Change 2022 to 2023 |
|-------------------------------------|-----------|-----------|-----------|--------------------------------|
| | N (%) | N (%) | N (%) | % |
| Total Opioid Overdose Visits | 413 (100) | 556 (100) | 564 (100) | +1% |
| HHS Region of Residence | | | | |
| North Coastal | 17 (6) | 22 (6) | 22 (7) | 0% |
| North Central | 62 (23) | 69 (19) | 76 (24) | +10% |
| Central | 73 (27) | 102 (28) | 89 (28) | -13% |
| South | 29 (11) | 44 (12) | 36 (11) | -18% |
| East | 42 (15) | 76 (21) | 62 (19) | -18% |
| North Inland | 48 (18) | 57 (15) | 36 (11) | -37% |
| Unknown | 142 | 186 | 243 | |
| Sex | | | | |
| Female | 65 (24) | 104 (33) | 91 (23) | -13% |
| Male | 208 (76) | 209 (67) | 313 (77) | +9% |
| Unknown | 140 | 164 | 160 | |
| Age Group[†] | | | | |
| <15 | ** | ** | ** | ** |
| 15-24 | 50 (12) | 68 (12) | 53 (10) | -22% |
| 25-34 | 144 (38) | 156 (31) | 191 (36) | +21% |
| 35-44 | 101 (34) | 144 (34) | 156 (38) | +8% |
| 45-54 | 54 (17) | 89 (20) | 66 (17) | -26% |
| 55-64 | 41 (10) | 51 (8) | 43 (7) | -14% |
| 65+ | 16 (4) | 39 (7) | 31 (6) | -21% |
| Race/Ethnicity | | | | |
| Black/African American | 24 (12) | 26 (9) | 37 (15) | +42% |
| Hispanic [†] | 65 (37) | 78 (28) | 83 (33) | +9% |
| White | 108 (63) | 174 (63) | 128 (52) | -26% |
| Unknown | 160 | 245 | 274 | |

*County of San Diego ED Syndromic Surveillance Data .

**Data for other demographic groups cannot be presented due to small numbers (<11).

†Notes: Persons of Hispanic/Latino ethnicity may belong to any race group. All categories except Hispanic/Latino include persons who race is know but ethnicity is non-Hispanic or unknown.

There was a larger than usual amount of zip code data missing in 2022 data, across hospitals in multiple regions; changes between 2022 and 2023 should be interpreted with caution.

Opioid Overdoses by Region of Residence

Figure 11. Age-Adjusted **Emergency Department Visit** Rates for Opioid Overdose by Region of Residence, Q3 2023

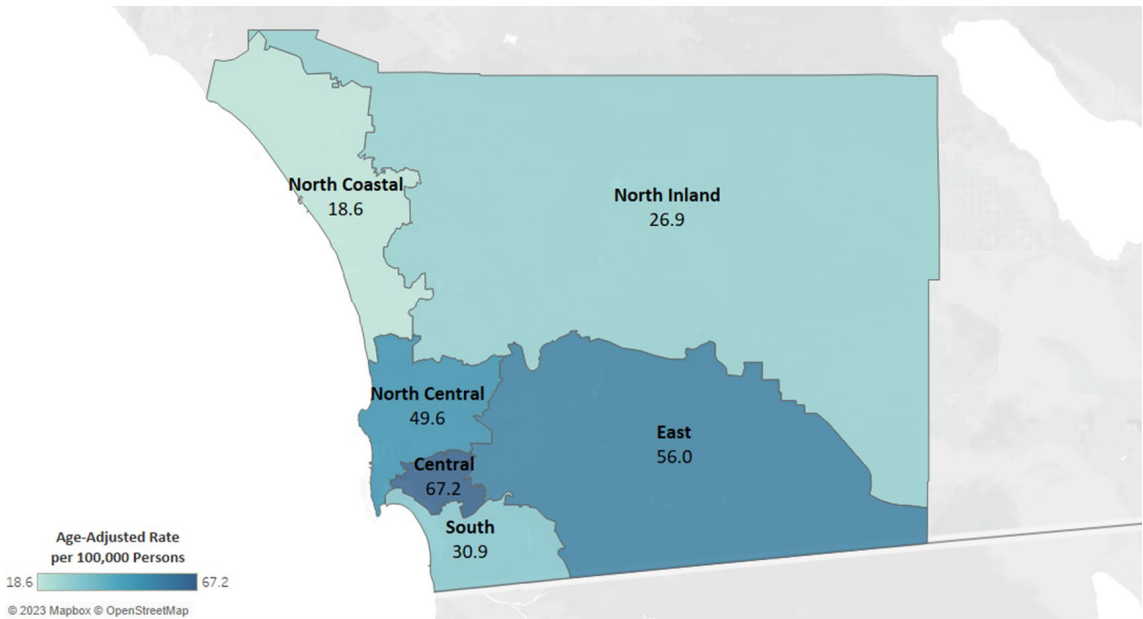
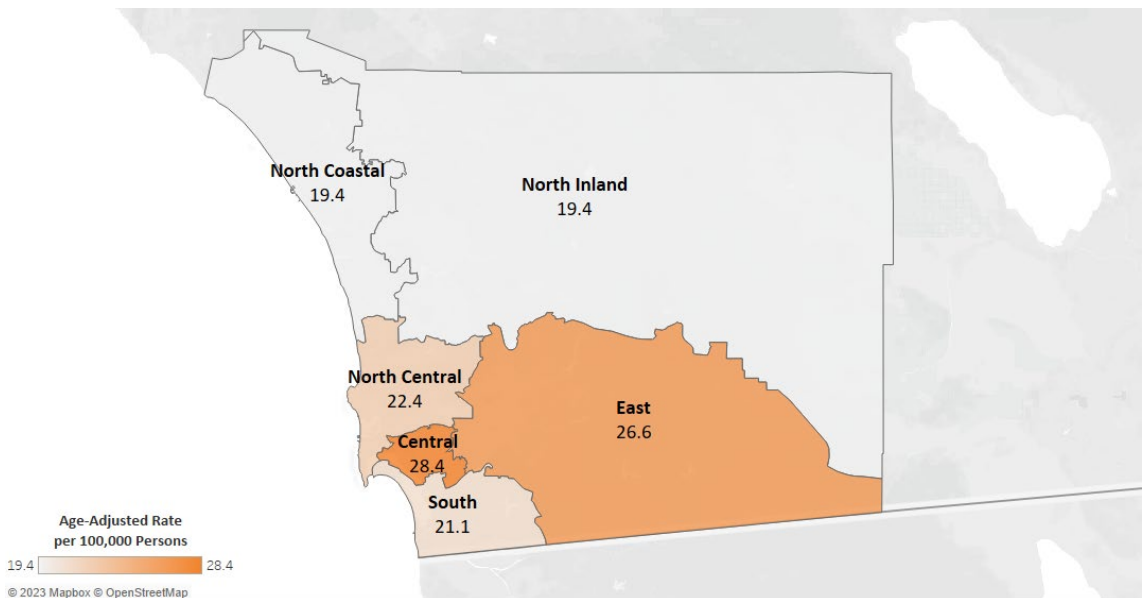


Figure 12. Age-Adjusted Opioid Overdose **Death** Rates by Region of Residence, Q1 2023



Feature Topic: Opioid and Stimulant Overdoses

Introduction

In the United States there has been an increased use of stimulants in chronic opioid users.¹ Psychostimulant- and cocaine- related overdose deaths have increased in the United States from 2009 to 2020.² Opioid use is a major contributor to stimulant-related overdoses.^{3,4} This quarter’s feature topic looks at deaths, hospitalization, and emergency department visits in San Diego County that involve both a stimulant and opioids.

Methods

This report leverages mortality data from the [Vital Records Business Intelligence System](#) (VRBIS), which is managed by the California Department of Public Health and non-fatal Emergency Department (ED) and non-fatal inpatient hospitalization (HOSP) discharge data from [California Department of Health Care Access and Information](#) (HCAI). Detailed case definitions, including ICD-10 codes, for stimulant and opioid categories in pages 16-17. The time frame for the present analysis is presented from 2016-2021. Age-adjusted rates are per 100,000 people using 2021 SANDAG San Diego County Population Estimates. The top figures in pages 14-16 show the proportion of stimulant-related overdose deaths, hospitalization and ED visits which also had an opioid involved. Similarly, the bottom figures in the slides show the proportion of opioid-related overdoses that include a stimulant.

% of Stimulant-Related Overdose Deaths That Also Involve Opioids:

$$\frac{(\text{Stimulant and Opioid Overdose})}{\text{Total Stimulant Overdoses}} \times 100$$

% of Opioid-Related Overdose Deaths That Also Involve Stimulants:

$$\frac{(\text{Stimulant and Opioid Overdose})}{\text{Total Opioid Overdoses}} \times 100$$

Summary

- In 2021, 46% of all overdose deaths included both stimulants and opioids, a proportion that has been increasing steadily in the last six years. This corresponds to the downward trend seen in overdoses deaths related to stimulants without opioids, opioids without stimulants, and overdose deaths involving neither opioids nor stimulants. This pattern is not replicated in hospitalizations and ED visits, suggesting that the combination of opioids and stimulants results in more severe health outcomes.
- The proportion of stimulant-related overdose deaths that included an opioid increased from under 50% in 2016 to 70% in 2021.
- Nationally, opioid- and stimulant- related deaths are highest among persons of white race, males, and those aged 35-44.⁵ In San Diego County, the highest mortality rates involving both opioids and stimulants are amongst those aged 25-34, males, persons of American Indian or Alaskan Native race, and residents in the HHS Central Region.

Opioid and Stimulant Overdoses

Figure 13. Age-Adjusted Stimulant and Opioid Overdose Rates: Deaths, Hospitalizations, and ED Visits, 2016–2021

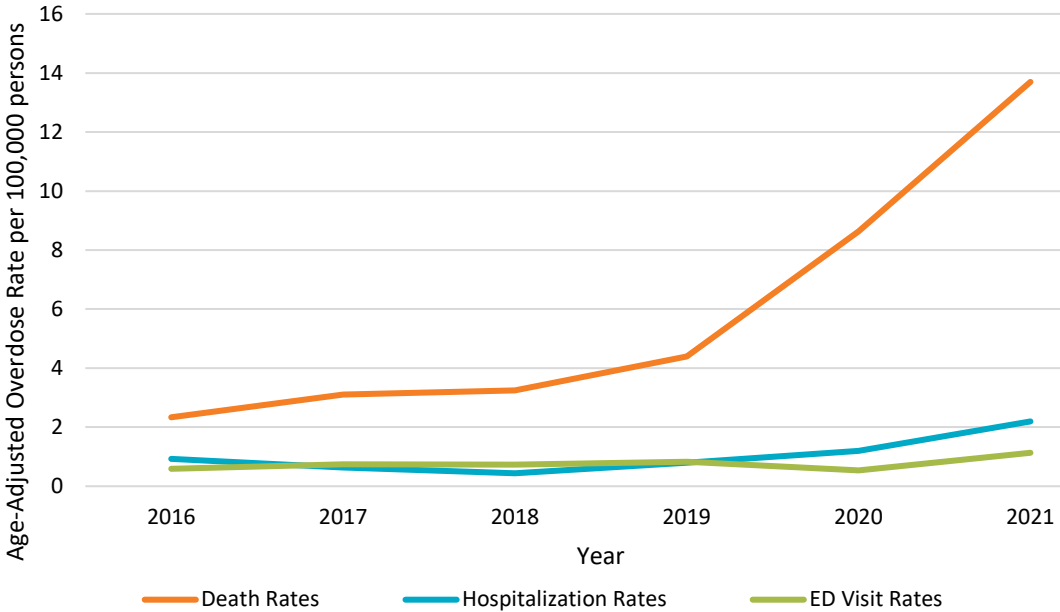
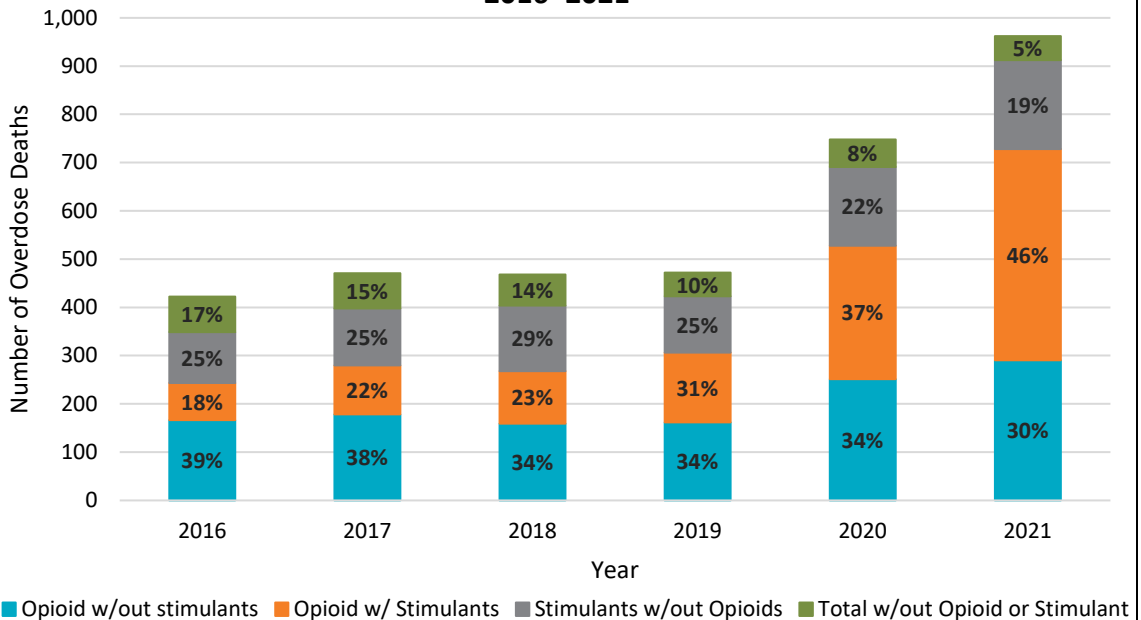


Figure 14. Opioid- and Stimulant-Related Overdose Deaths, 2016–2021



Opioid and Stimulant Overdoses

Figure 15. Opioid- and Stimulant-Related Overdose Hospitalizations, 2016–2021

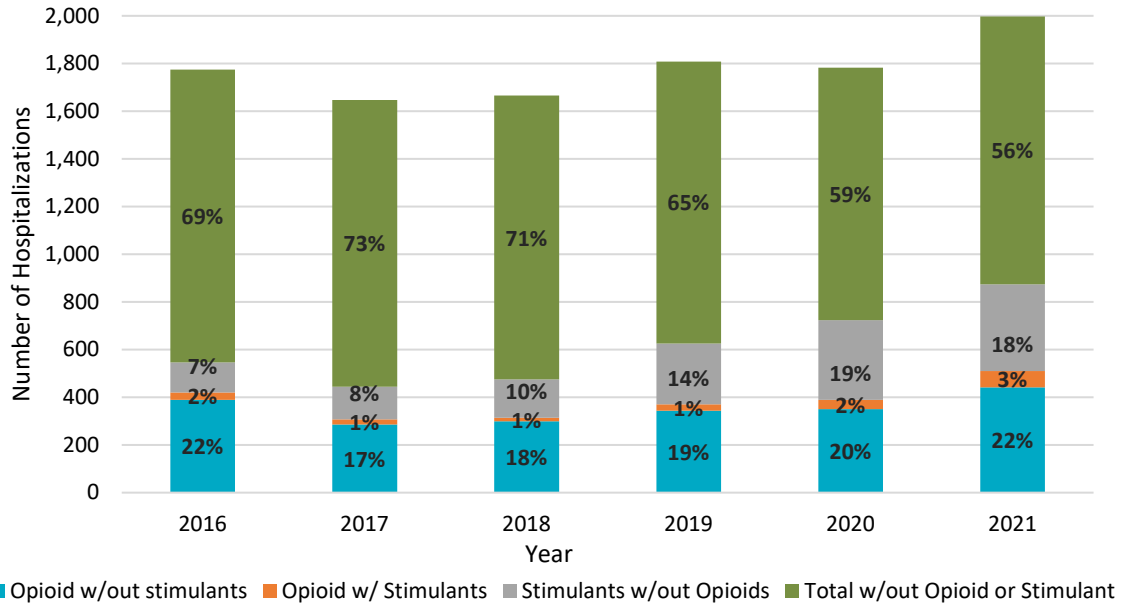
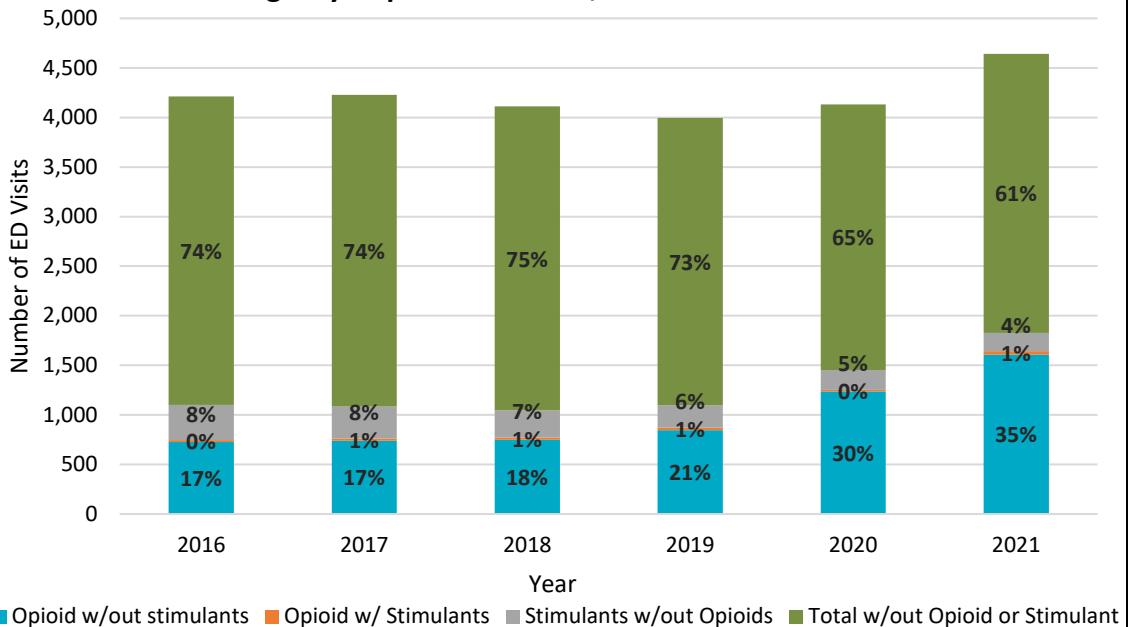


Figure 16. Opioid- and Stimulant-Related Overdose Emergency Department Visits, 2016–2021



Opioid and Stimulant Mortality

Figure 17. Stimulant-Related Overdose Deaths That Also Involve Opioids, 2016–2021

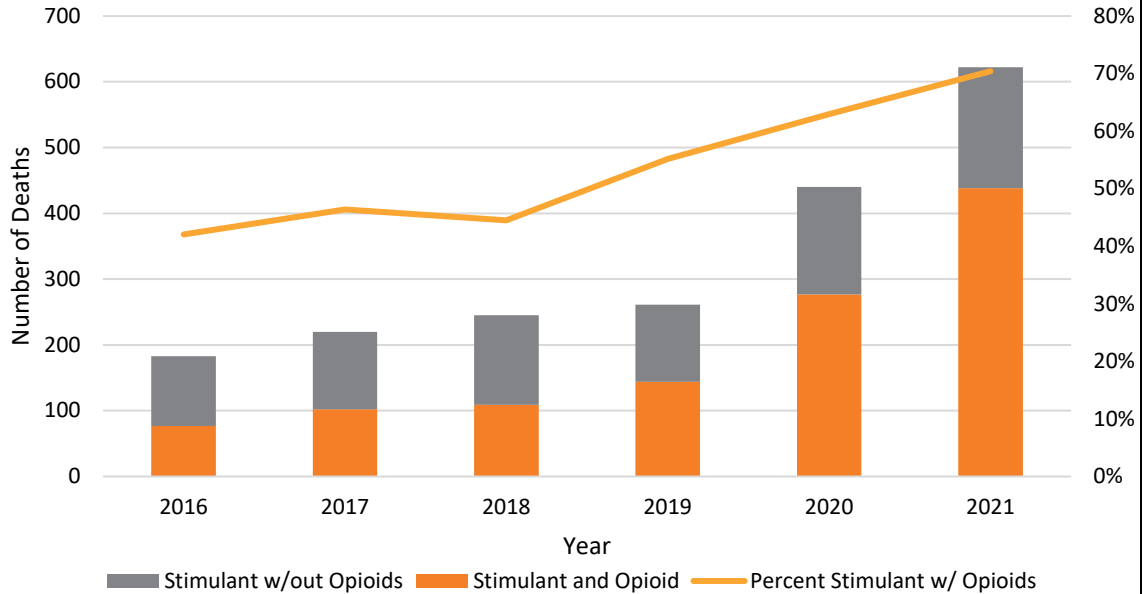
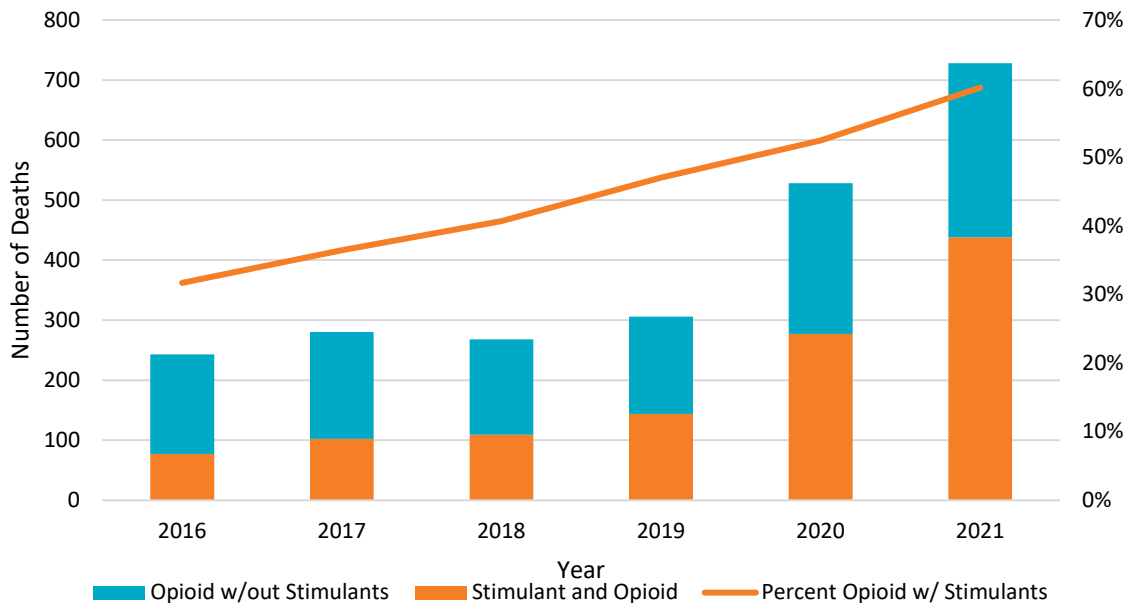


Figure 18. Opioid-Related Overdose Deaths That Also Involve Stimulants, 2016–2021



Opioid and Stimulant Hospitalizations

Figure 19. Stimulant-Related Overdose Hospitalizations That Also Involve Opioids, 2016–2021

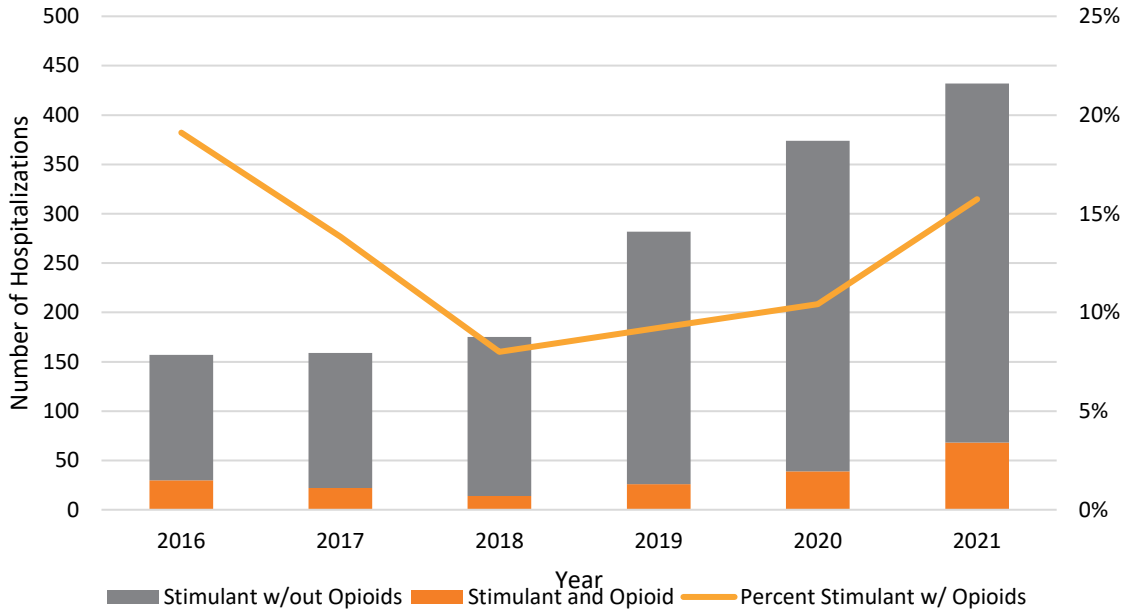
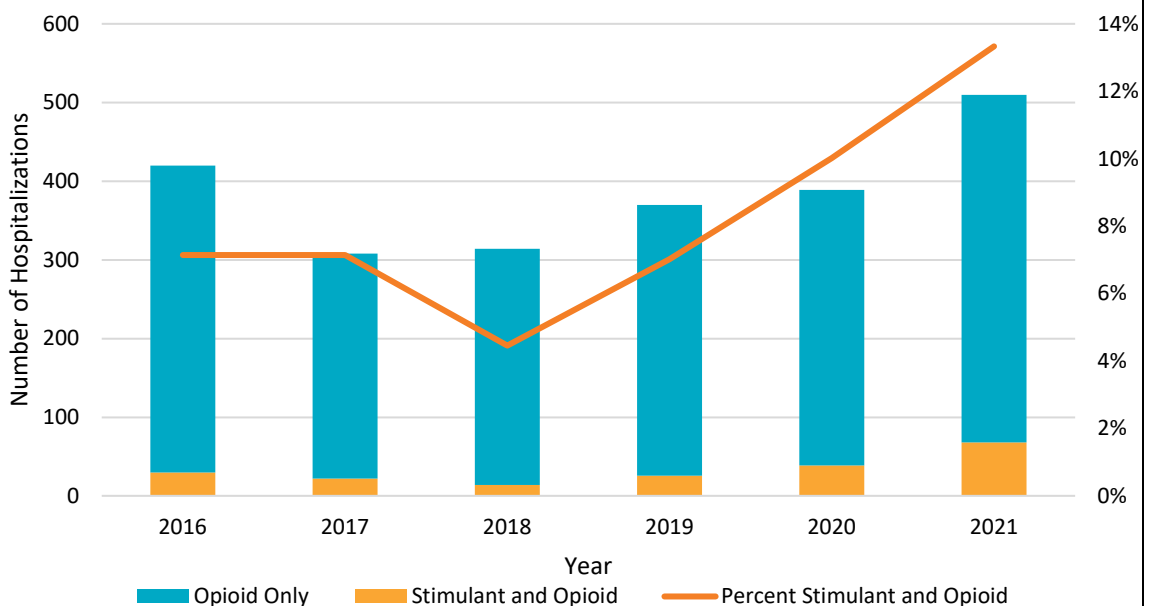


Figure 20. Opioid-Related Overdose Hospitalizations That Also Involve Stimulants, 2016–2021



Opioid and Stimulants Emergency Department Visits

Figure 21. Stimulant-Related Overdose Emergency Department Visits That Also Involve Opioids, 2016–2021

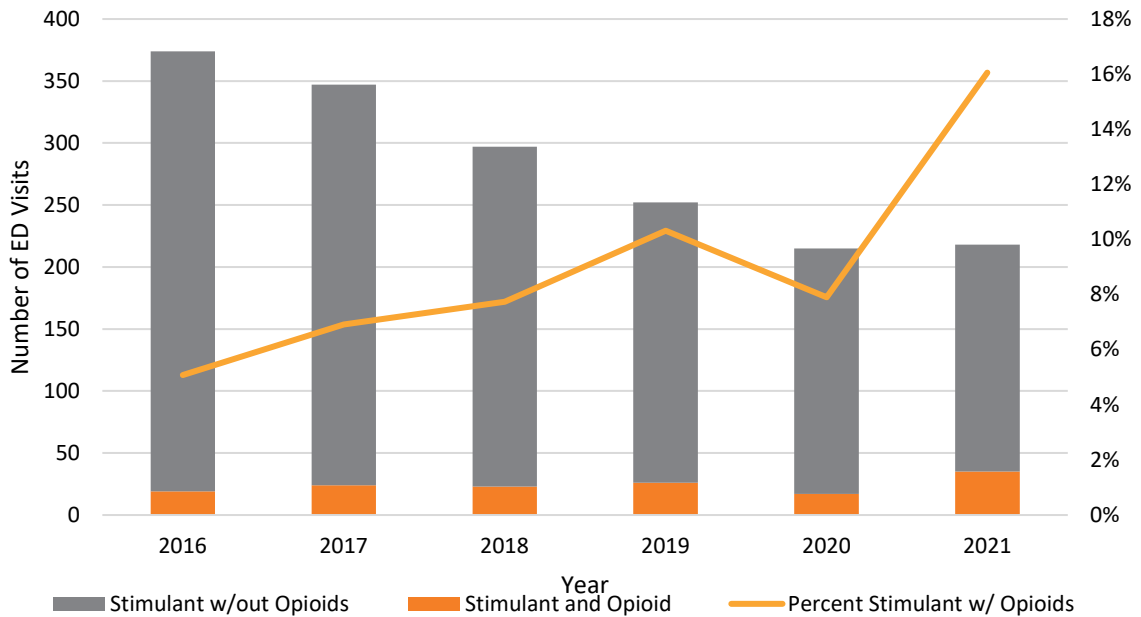
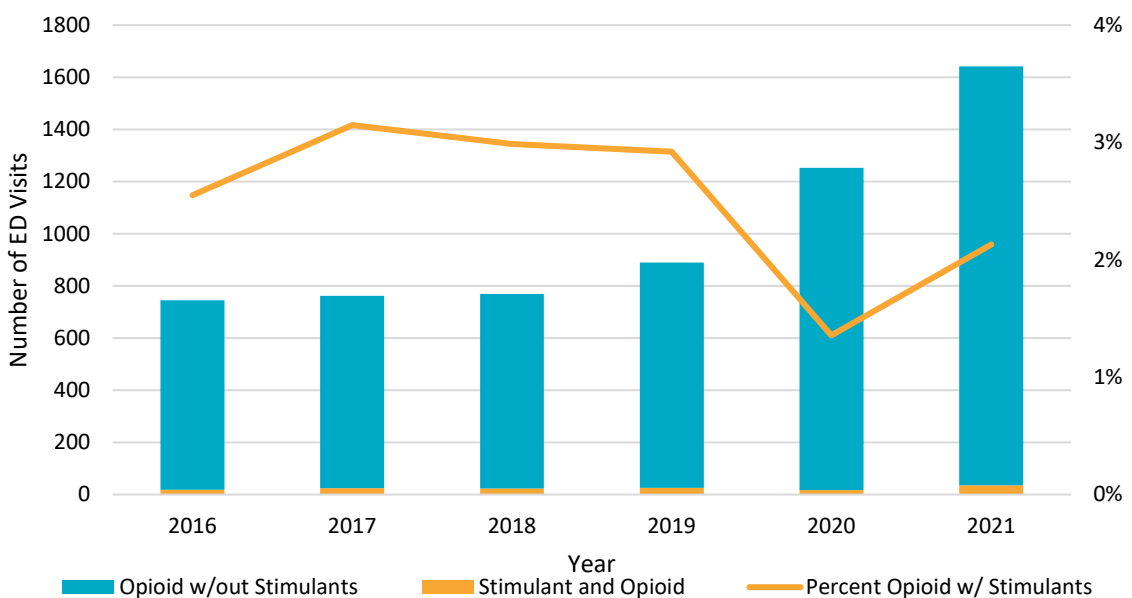


Figure 22. Opioid-Related Overdose Emergency Department Visits That Also Involve Stimulants, 2016–2021



Demographics

Table 2. Six-Year Age-Adjusted Rates for Stimulant- and Opioid-Related Overdose Deaths by Demographics, 2016–2021

| | Stimulant and Opioid Per 100,000 |
|--|-------------------------------------|
| 2016-2021, 6-Year Age Adjusted Rate | 5.90 |
| Age* | |
| <15 | 0.00 |
| 15-24 | 3.88 |
| 25-34 | 13.70 |
| 35-44 | 9.28 |
| 45-54 | 8.15 |
| 55-64 | 8.41 |
| 65+ | 2.46 |
| Sex | |
| Female | 2.76 |
| Male | 8.89 |
| Race/Ethnicity | |
| American Indian or Alaska Native | 19.09 |
| Asian | 0.78 |
| Black/African American | 10.31 |
| Hispanic† | 5.00 |
| Native Hawaiian, Pacific Islander | ** |
| Other | ** |
| White | 7.66 |
| HHSA Region of Residence | |
| Central | 8.35 |
| East | 7.16 |
| North Central | 4.51 |
| North Coastal | 5.87 |
| North Inland | 4.60 |
| South | 4.89 |

*Rates are age-specific rates.

**Data for other demographic groups cannot be presented due to small numbers (<11).

†Persons of Hispanic/Latino ethnicity may belong to any race group. All categories except Hispanic/Latino include persons whose race is known but ethnicity is non-Hispanic or unknown.

Definitions

Quarters are based upon calendar year and are defined as followed:

- Quarter 1 (Q1): January 1–March 31
- Quarter 2 (Q2): April 1–June 30
- Quarter 3 (Q3): July 1–September 30
- Quarter 4 (Q4): October 1–December 31

Case definitions for syndromic surveillance data:

- *Any-Drug Overdose*: Encounters with ICD-10 diagnosis codes for poisoning by drugs (T36-T50). If the diagnosis field is blank, then any-drug overdoses are identified using a text search algorithm for words related to overdose, any-drug type, or naloxone.
- *Opioid Overdoses*: Encounters with ICD-10 diagnosis codes for poisoning by opioids (T40.0X, T40.1X, T40.2X, T40.3X, T40.4, T40.60, T40.69). If the diagnosis is blank, then opioid overdoses are identified using a text search algorithm for words related to general opioids, overdose, heroin, fentanyl, and naloxone.
- *Fentanyl Overdoses*: Encounters with ICD-10 diagnosis code for poisoning by fentanyl (T40.41). If the diagnosis is blank, then fentanyl overdoses are identified using a text search algorithm for words related to fentanyl and overdose.
- *Amphetamine Overdoses*: Encounters with ICD-10 diagnosis code for poisoning by amphetamines (T43.62). If the diagnosis is blank, then amphetamine overdoses are identified using a text search algorithm for words related to amphetamine and overdose.
- *Benzodiazepine Overdoses*: Encounters with ICD-10 diagnosis code for poisoning by benzodiazepine (T42.4X). If the diagnosis is blank, then benzodiazepine overdoses are identified using a text search algorithm for words related to benzodiazepine and overdose.

Case definitions for mortality data (per [CDPH Overdose Surveillance Dashboard](#)):

- *Any-Drug Overdoses*: All overdose deaths, regardless of intent (e.g., unintentional, suicide, assault, or undetermined). This indicator does not include: (1) deaths related to chronic use of drugs (e.g., damage to organs from long-term drug use), 2) deaths due to alcohol and tobacco, and 3) deaths that occur under the influence of drugs, but do not involve acute poisoning. Deaths with any of the following ICD-10 codes as the underlying cause of death: X40-X44: Accidental poisonings by drugs; X60-X64: Intentional self-poisoning by drugs; X85: Assault by drug poisoning; Y10-Y14: Drug poisoning of undetermined intent.
- *Opioid Overdoses*: Any opioid as a contributing cause of death, regardless of intent. Opioids include both prescription opioid pain relievers such as hydrocodone, oxycodone, and morphine, as well as heroin and opium. Deaths related to chronic use of drugs are excluded from this indicator. ICD-10 codes include: T40.0: Opium; T40.1: Heroin; T40.2: Natural and semisynthetic opioids; T40.3: Methadone; T40.4: Synthetic opioids, other than methadone; T40.6: Other and unspecified narcotics.
- *Fentanyl Overdoses*: Drug overdose deaths caused by acute poisonings that involve fentanyl or fentanyl analogs as a contributing cause of death, regardless of intent. Deaths related to chronic use of drugs are excluded from this indicator. Overdose deaths involving fentanyl and associated analogs were identified by using a text search algorithm.

Definitions (continued)

- **Amphetamine Overdoses:** Drug overdose deaths caused by acute poisonings that involve psychostimulants with abuse potential excluding cocaine (T40.5), regardless of intent. Psychostimulants with abuse potential include methamphetamine, MDMA, dextroamphetamine, and levoamphetamine. Deaths related to chronic use of drugs are excluded from this indicator. Overdose deaths involving amphetamine and associated analogs were identified by using a text search algorithm.
- **Benzodiazepine Overdoses:** Drug overdose deaths caused by acute poisonings that involve benzodiazepines as a contributing cause of death, regardless of intent. Benzodiazepines include anti-anxiety medications such as alprazolam (Xanax) and lorazepam (Ativan). Deaths related to chronic use of drugs are excluded from this indicator. Overdose deaths involving benzodiazepine and associated analogs were identified by using a text search algorithm.

Stimulant and Opioid Definitions for Feature Topic

NOTE: Opioid and Stimulant Overdoses: Feature Topic defines Stimulant as a combination of amphetamine and cocaine overdoses as defined in this section.

Mortality

- Mortality data from the [Vital Records Business Intelligence System](#) (VRBIS), which is managed by the California Department of Public Health. See previous section for amphetamine and opioid definitions.
 - **Cocaine Overdoses:** Drug overdose deaths caused by acute poisonings that involve cocaine, regardless of intent. Deaths related to chronic use of drugs are excluded from this indicator. Overdose deaths involving cocaine and associated analogs were identified by using a text search algorithm.

Hospitalizations and Emergency Department (ED) Visits

Non-fatal ED and non-fatal inpatient hospitalization (HOSP) discharge data from [California Department of Health Care Access and Information](#) (HCAI).

- **Amphetamine Overdoses:** ED visits or inpatient hospitalizations caused by non-fatal acute poisonings due to the effects of amphetamines (stimulants such as methamphetamine), regardless of intent. ED visits or inpatient hospitalizations related to late effects, adverse effects, and chronic poisonings due to the effects of drugs are excluded from this indicator. ICD-10CM principal diagnosis code is T43.62 .
- **Cocaine Overdoses:** ED visits or inpatient hospitalizations caused by non-fatal acute poisonings due to the effects of cocaine, regardless of intent. ED visits or inpatient hospitalizations related to late effects, adverse effects, and chronic poisonings due to the effects of drugs are excluded from this indicator. ICD-10CM principal diagnosis code is T40.5X .
- **Opioid Overdoses:** ED visits or inpatient hospitalizations caused by non-fatal acute poisonings due to the effects of any opioid drugs, regardless of intent. ED visits or inpatient hospitalizations related to late effects, adverse effects, and chronic poisonings due to the effects of drugs are excluded from this indicator. Beginning in the 4th quarter of 2020, the generic ICD10-CM code for other synthetic narcotics (T40.4X) was replaced by three more specific codes (T40.41, T40.42, T40.49). ICD-10 codes include: T40.0X, T40.1X, T40.2X, T40.3X, T40.41, T40.42, T40.49, T40.60, T40.69.

References

1. Ellis MS, Kasper ZA, Cicero TJ. Twin epidemics: The surging rise of methamphetamine use in chronic opioid users. *Drug Alcohol Depend.* 2018 Dec 1;193:14-20. doi: 10.1016/j.drugalcdep.2018.08.029. Epub 2018 Oct 10. PMID: 30326396.
2. Hedegaard, Holly et al. (2021). Drug overdose deaths in the United States, 1999–2020.
3. Ciccarone D. The rise of illicit fentanyl, stimulants and the fourth wave of the opioid overdose crisis. *Curr Opin Psychiatry.* 2021 Jul 1;34(4):344-350. doi: 10.1097/YCO.0000000000000717. PMID: 33965972; PMCID: PMC8154745.
4. Kariisa M, Seth P, Scholl L, Wilson N, Davis NL. Drug overdose deaths involving cocaine and psychostimulants with abuse potential among racial and ethnic groups - United States, 2004-2019. *Drug Alcohol Depend.* 2021 Oct 1;227:109001. doi: 10.1016/j.drugalcdep.2021.109001. Epub 2021 Aug 28. PMID: 34492555.
5. O'Donnell J, Gladden RM, Mattson CL, Hunter CT, Davis NL. Vital Signs: Characteristics of Drug Overdose Deaths Involving Opioids and Stimulants — 24 States and the District of Columbia, January–June 2019. *MMWR Morb Mortal Wkly Rep* 2020;69:1189–1197. DOI: <http://dx.doi.org/10.15585/mmwr.mm6935a1>
6. Friedman J, Shover CL. Charting the fourth wave: Geographic, temporal, race/ethnicity and demographic trends in polysubstance fentanyl overdose deaths in the United States, 2010–2021. *Addiction.* 2023. <https://doi.org/10.1111/add.16318>

Limitations

- Overdoses that result in ED visits, hospitalizations, or deaths represent only a portion of the overall burden of drug overdoses.
- The accuracy of indicators based on ICD-10-CM codes found in syndromic surveillance ED visit data is limited by the completeness and quality of reporting and coding.
- Syndromic surveillance chief complaint is recorded as a free text field and captures the patient's primary reason for seeking medical care in near real-time; this may lack content that could assist public health with interpretation of the reason for visit.