

Trends in Opioid and Benzodiazepine Use, Misuse, and Overdose

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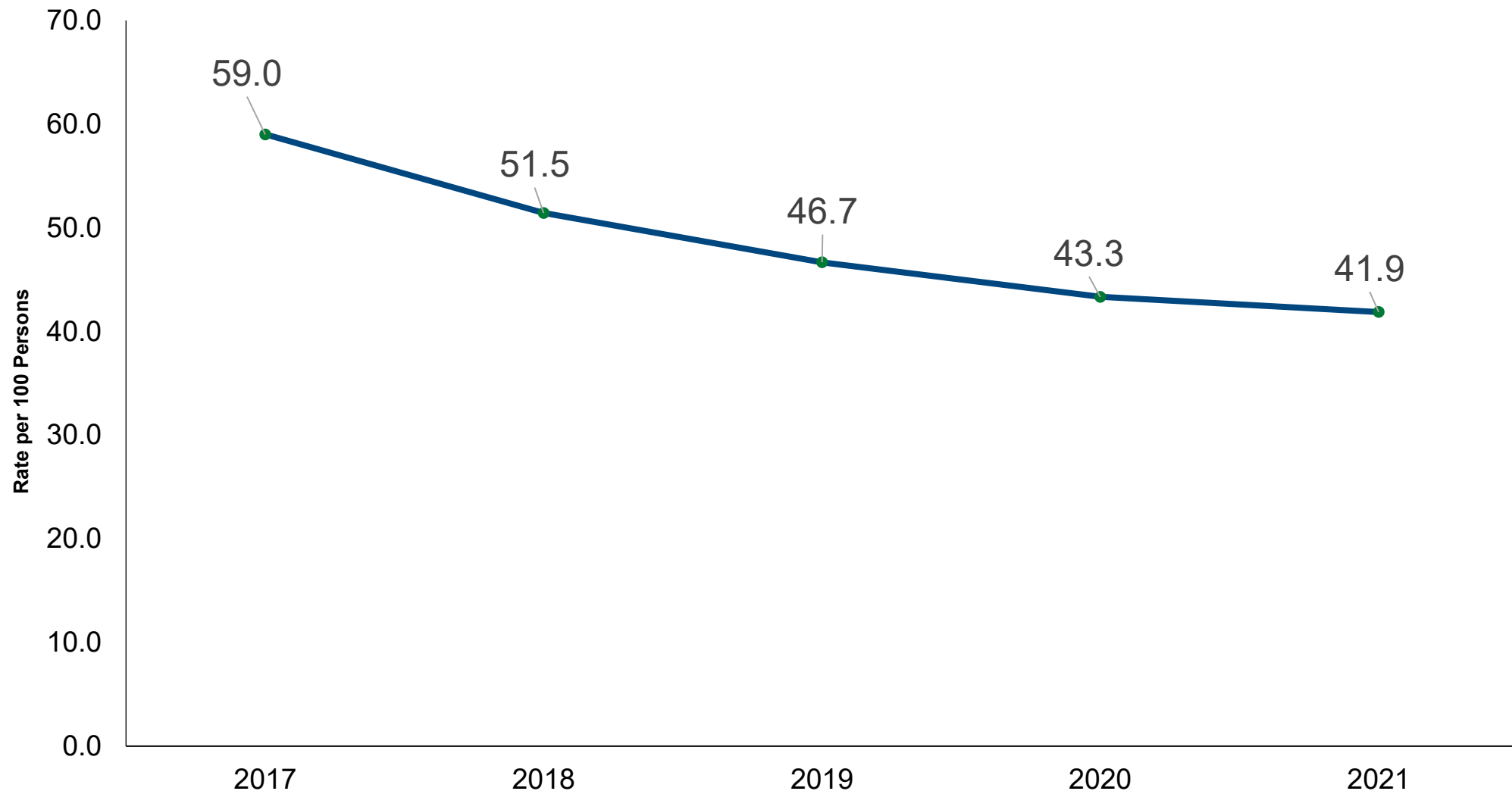
National Center for Injury Prevention and Control

Centers for Disease Control and Prevention

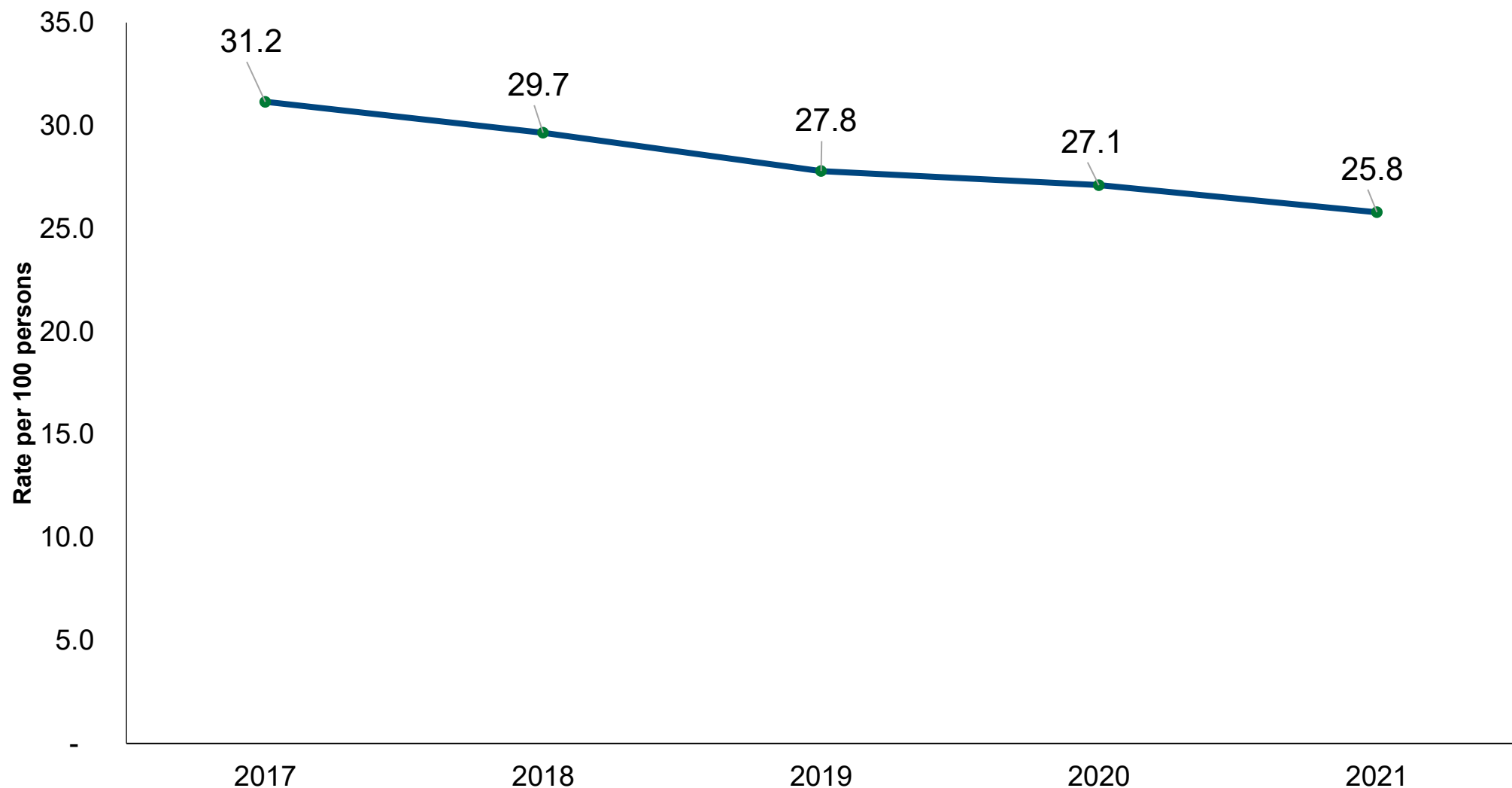


Prescribing Trends in the U.S.

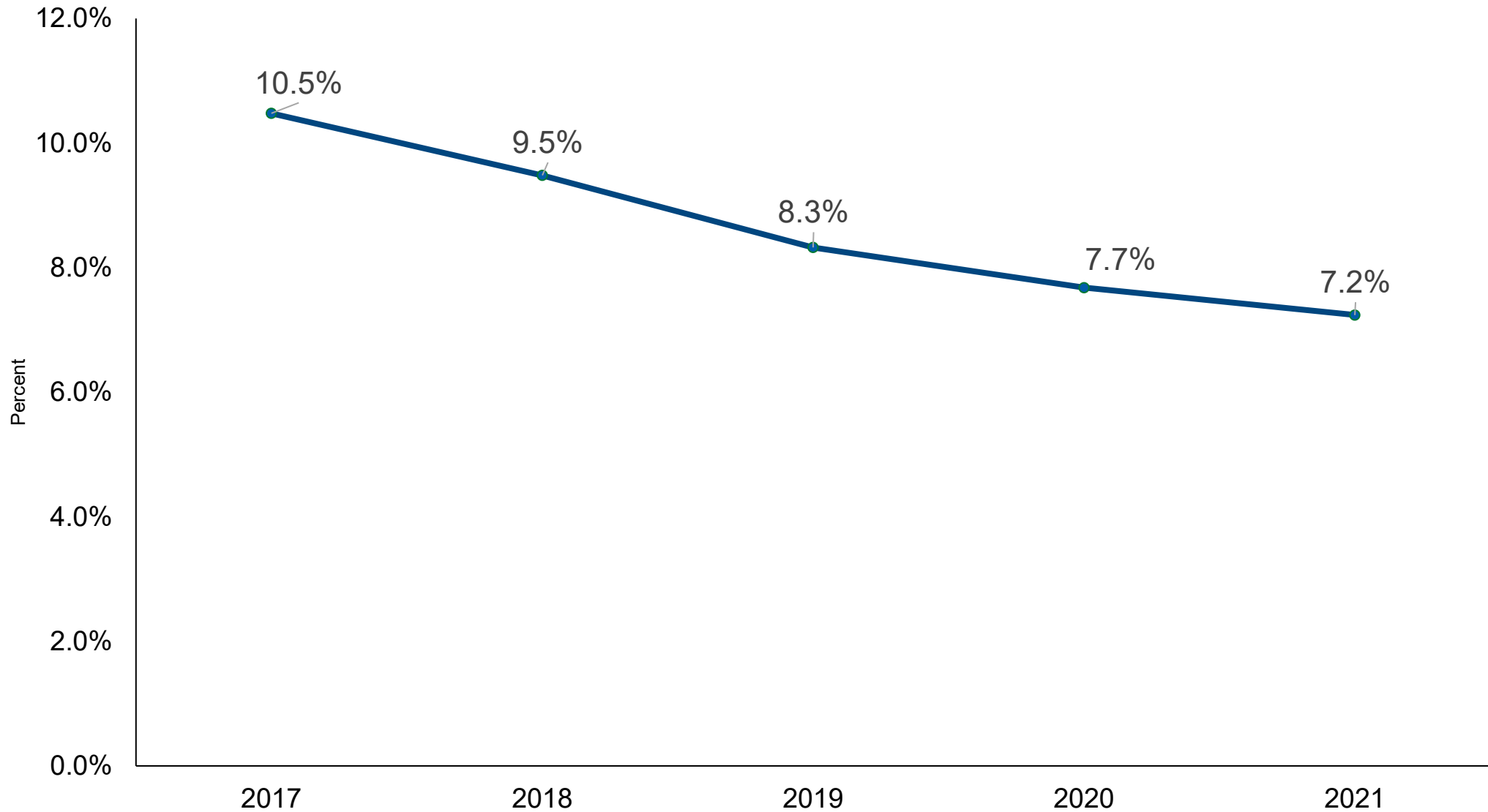
Opioid Dispensing Rates per 100 Persons, US, 2017-2021



Benzodiazepine Dispensing Rates per 100 Persons, US, 2017-2021

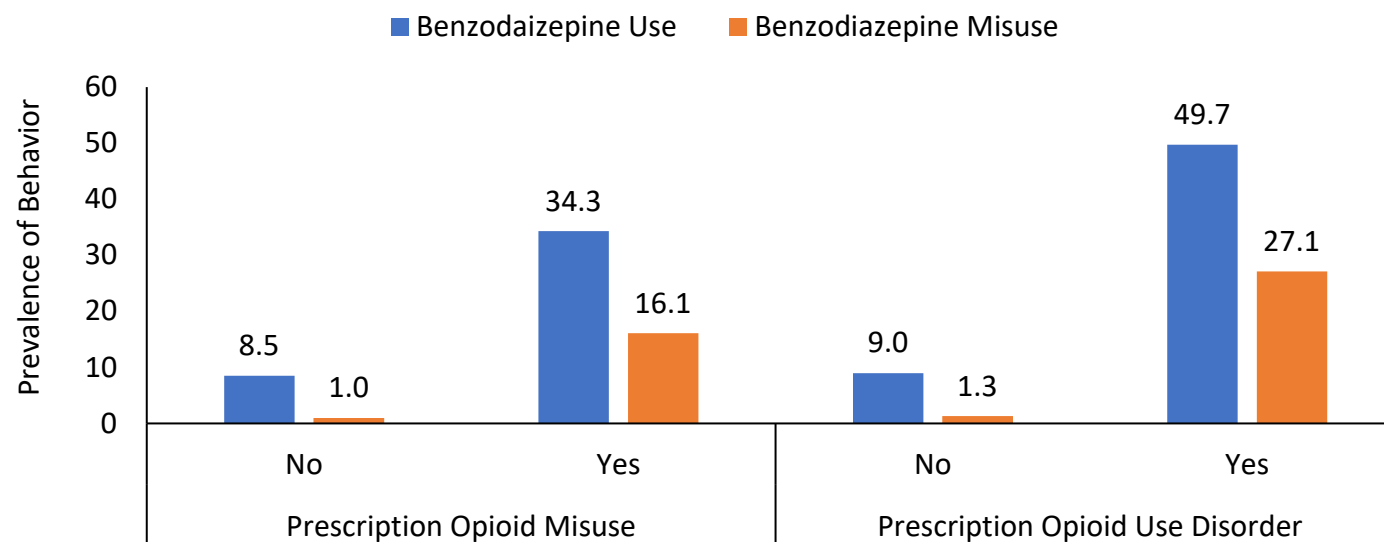
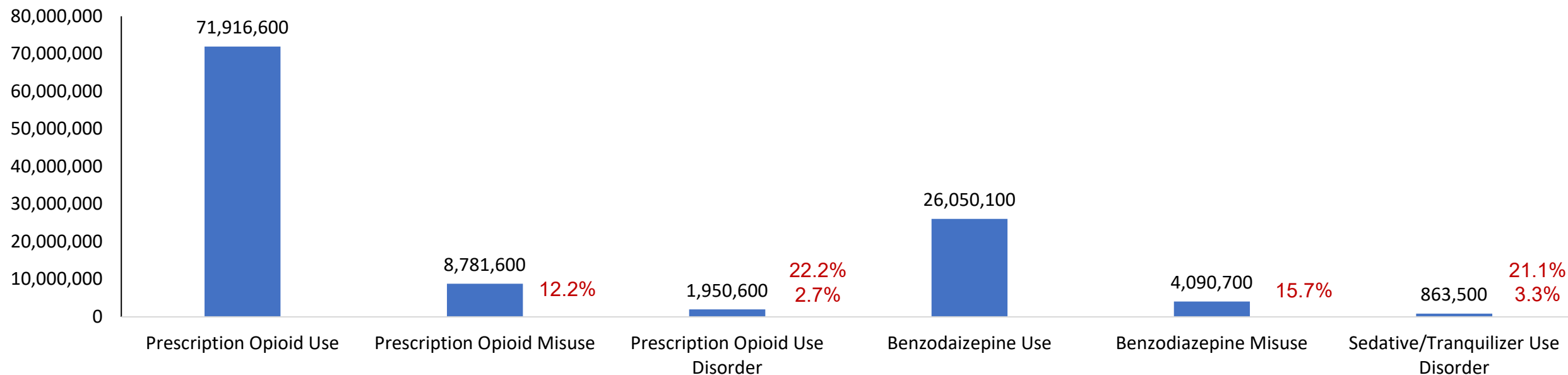


Percent of individuals with an opioid prescription that had a concurrent benzodiazepine prescription, US, 2017-2021



Use, Misuse, Use Disorder

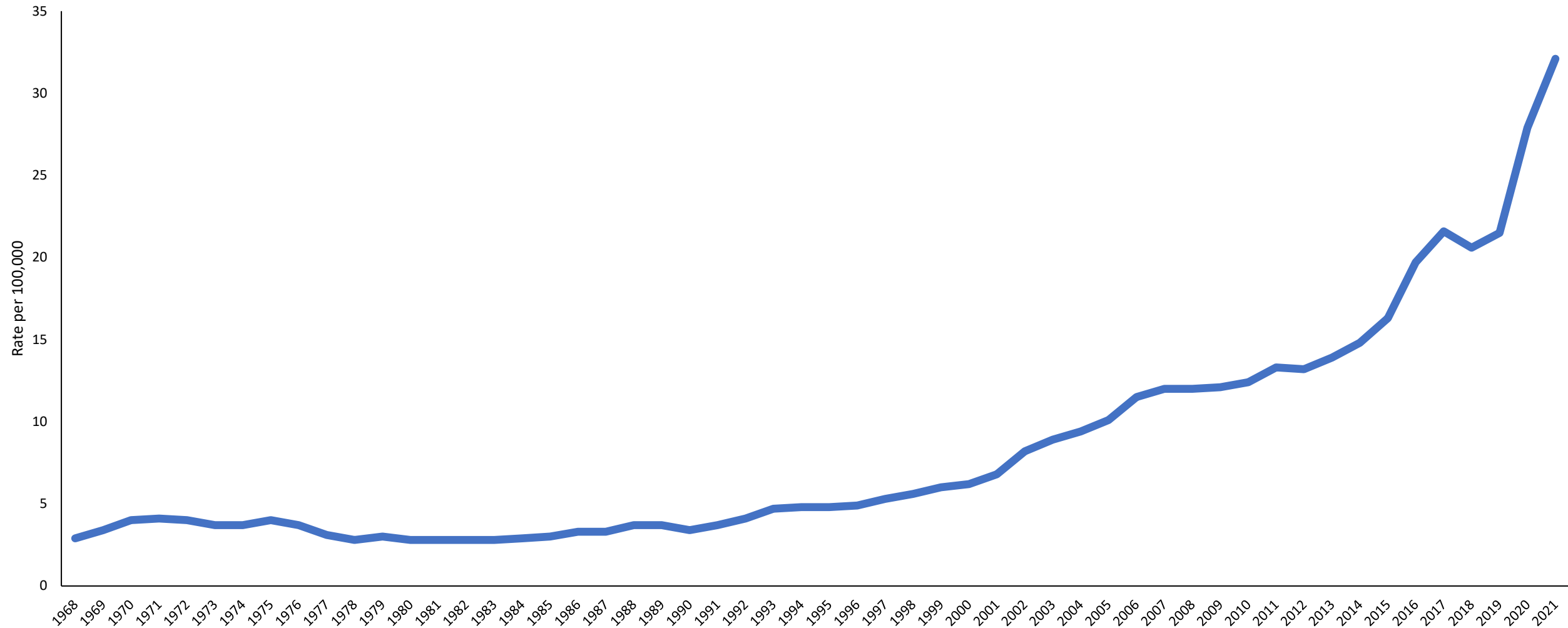
Use, Misuse, and Use Disorder among those 12 or older, US, 2021



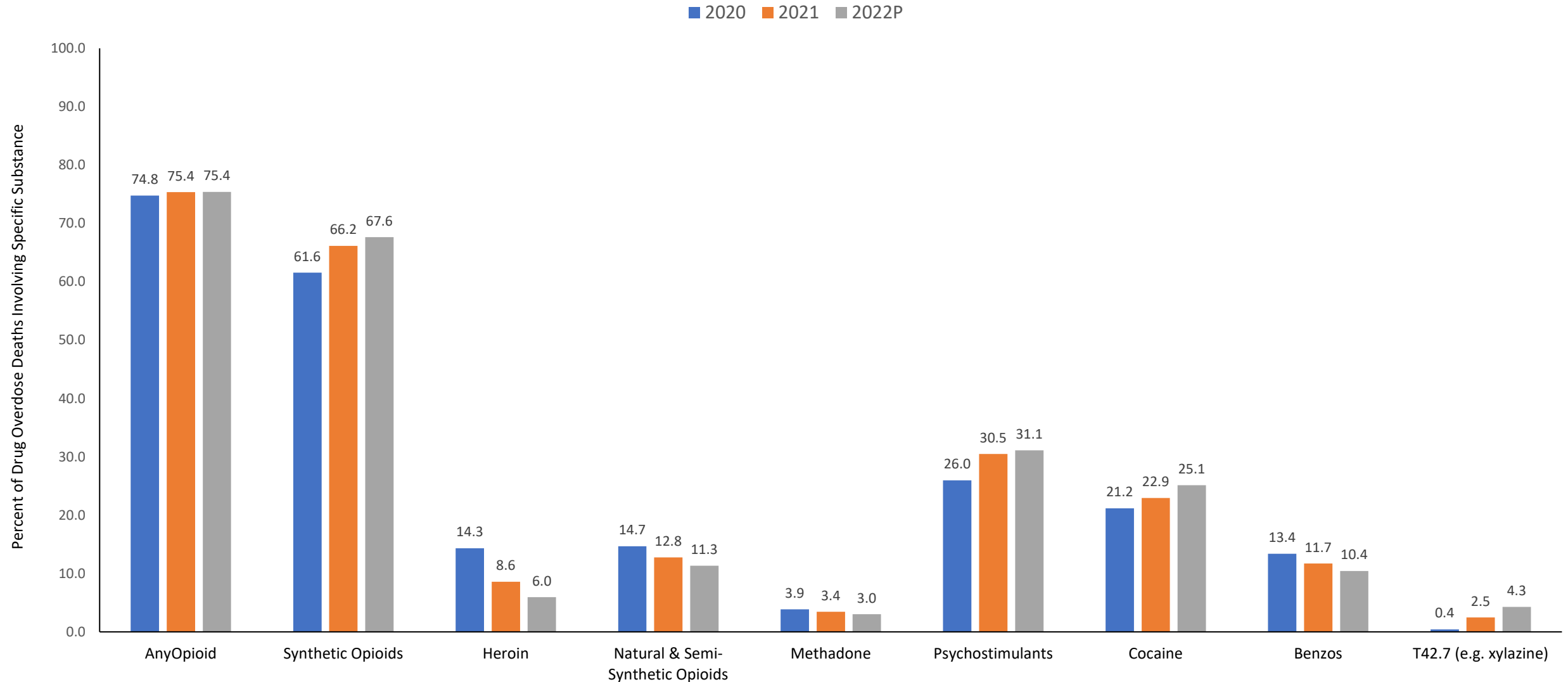
Overdose Trends

Current State of the Overdose Crisis – 1968 to 2021

Drug Overdose Death Rates in the U.S. from 1968 to 2021



Substances Involved in Overdose Deaths, 2020-2022P

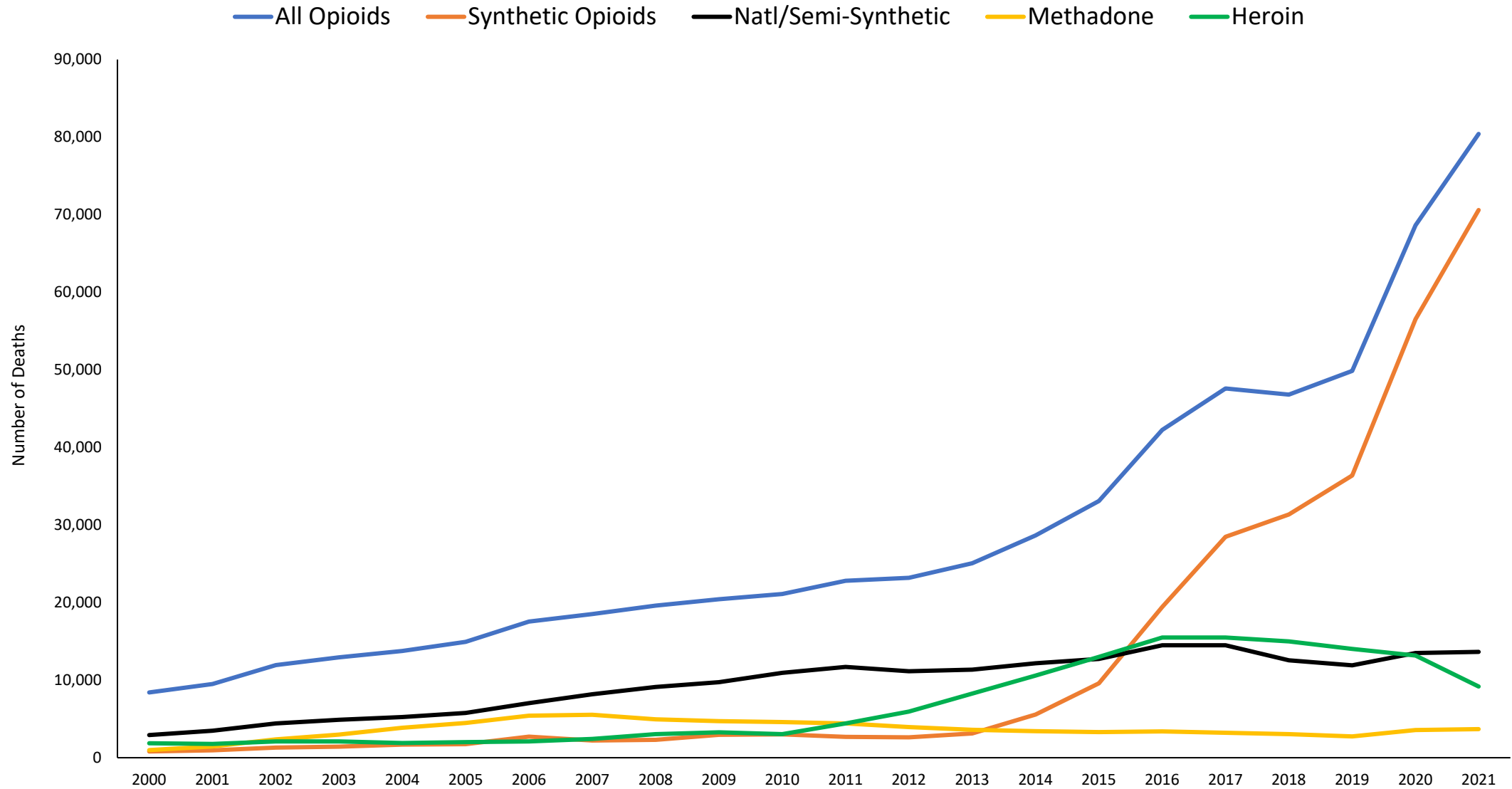


2022 data are provisional

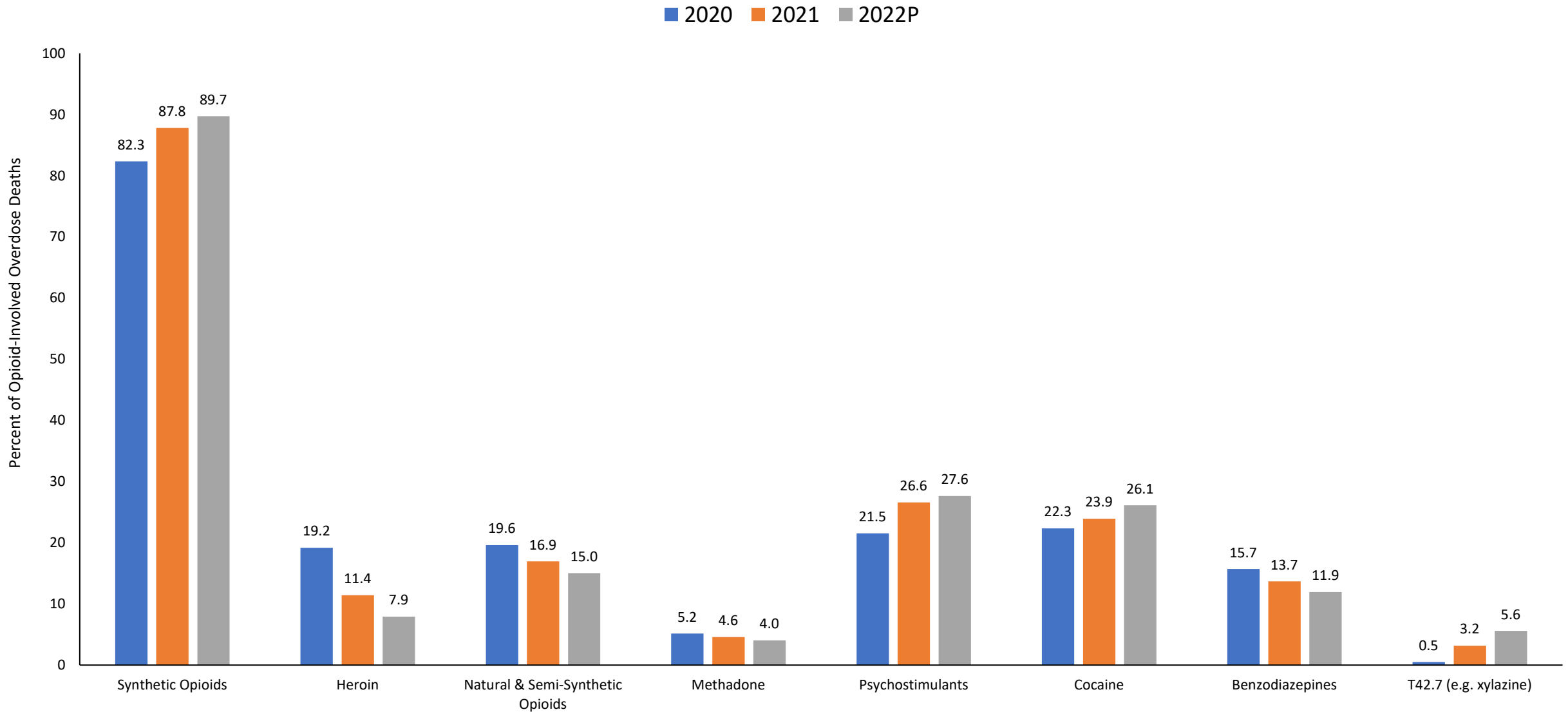
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Opioid-Involved Overdose Death Trends

Opioid-Involved Overdose Deaths by Type of Opioid, US, 2000-2021



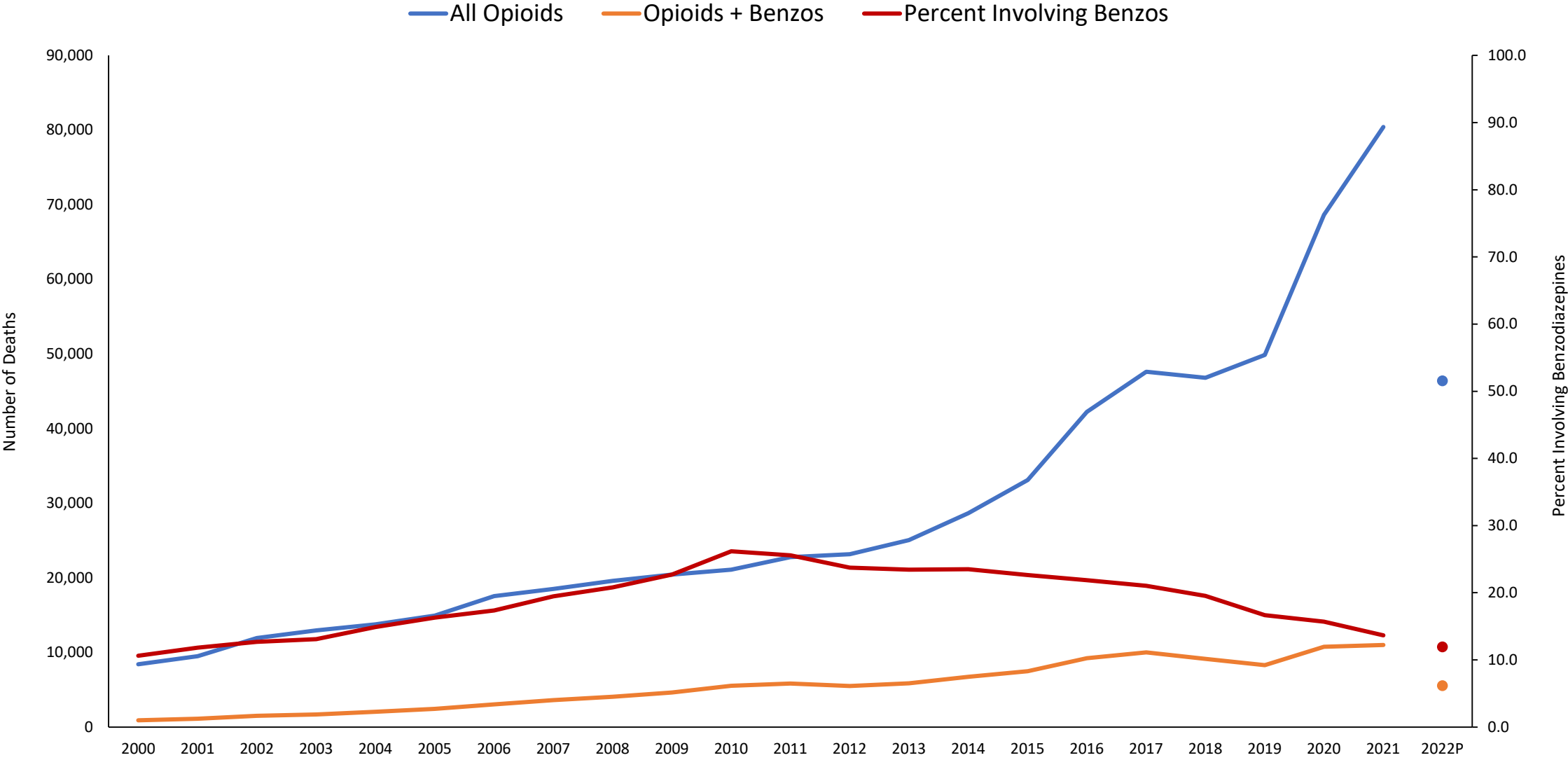
Drugs & Drug Classes Involved in Opioid-Involved Overdose Deaths



2022 data are provisional

Opioids and Benzodiazepines

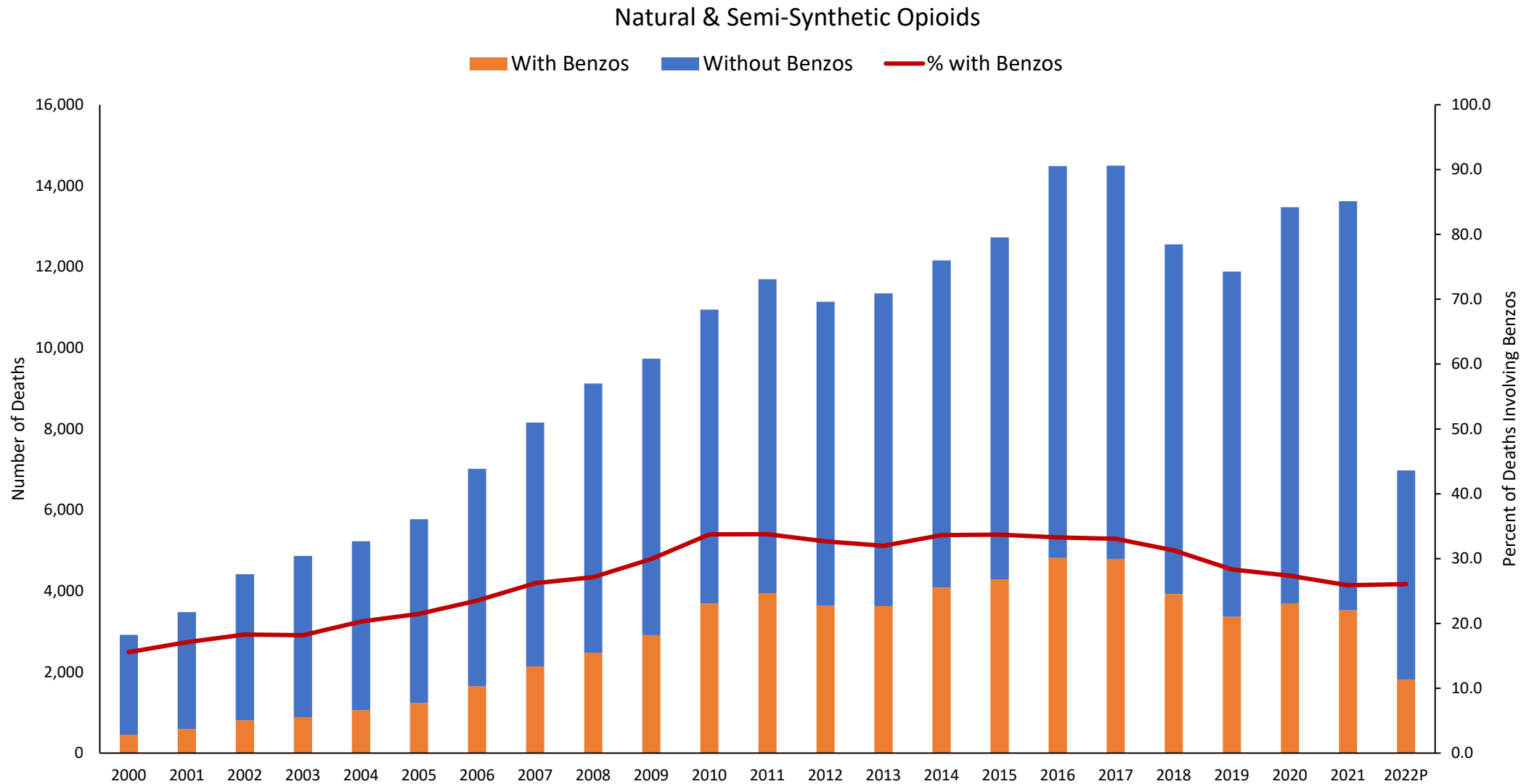
Benzodiazepine-Involvement in All Opioid-Involved Overdose Deaths



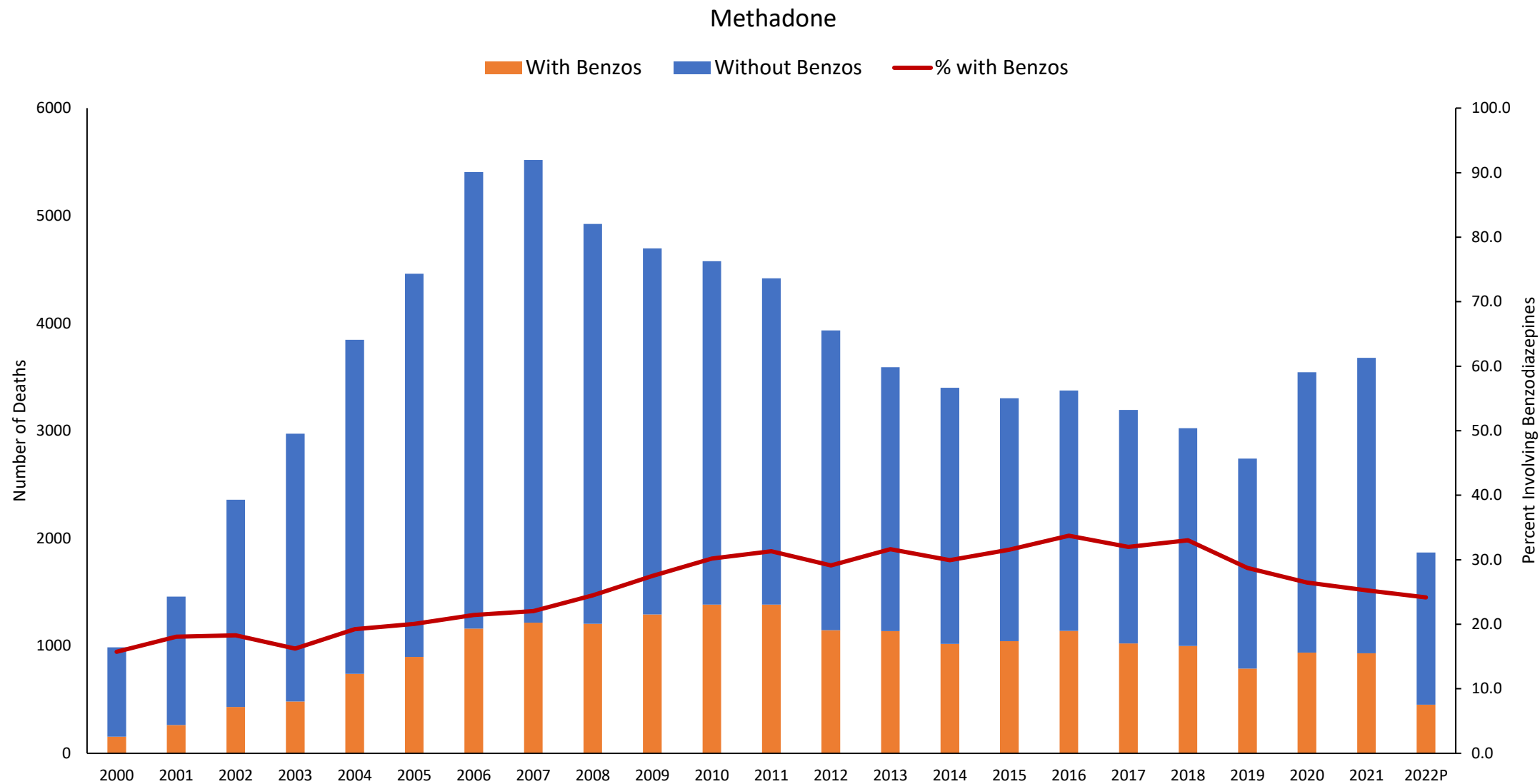
Source: [CDCD NVSS 2023](#)

2022 data are provisional

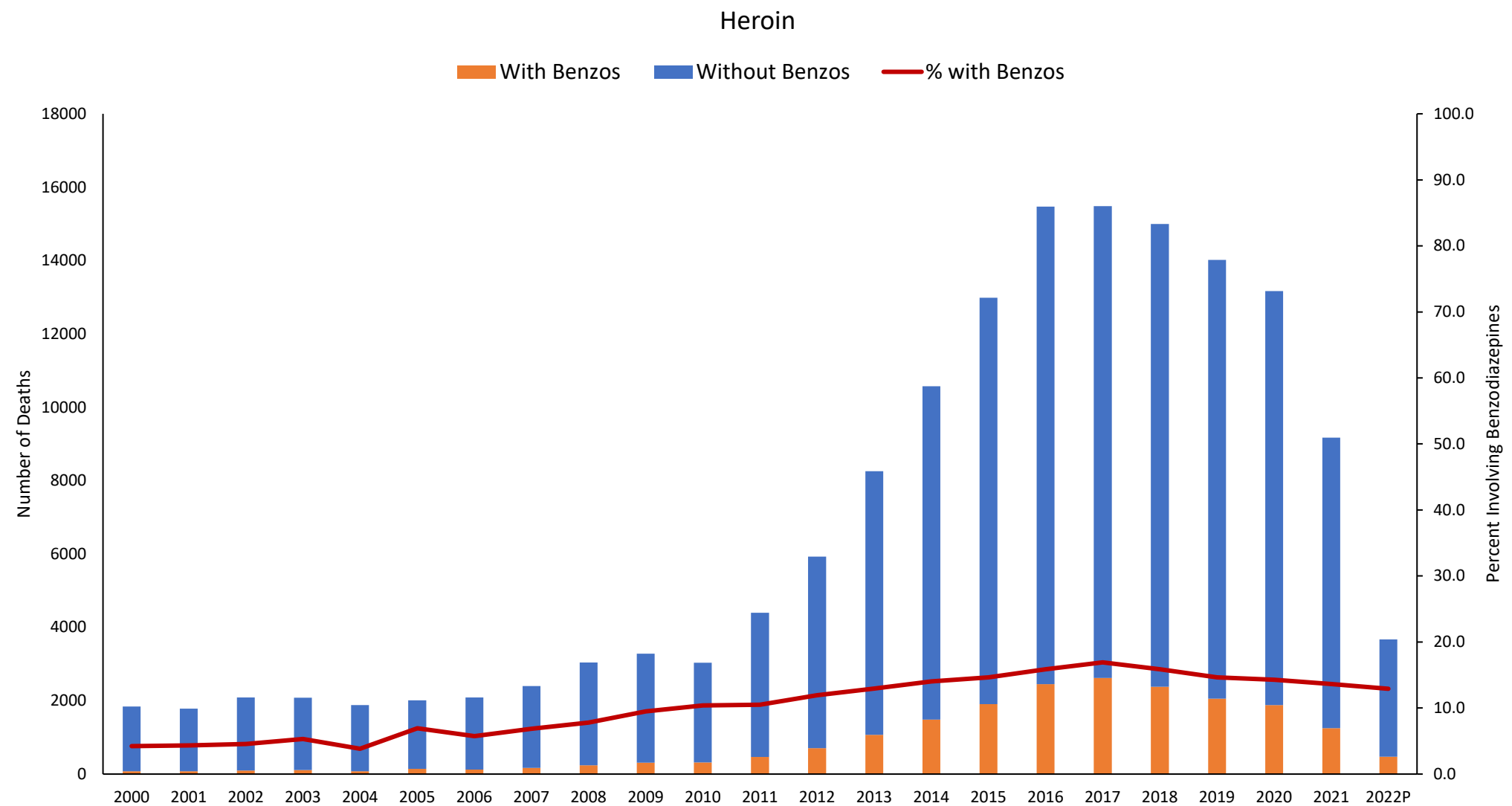
Benzodiazepine-Involvement in Natural and Semi-Synthetic Opioid-Involved Overdose Deaths



Benzodiazepine-Involvement in Methadone-Involved Overdose Deaths

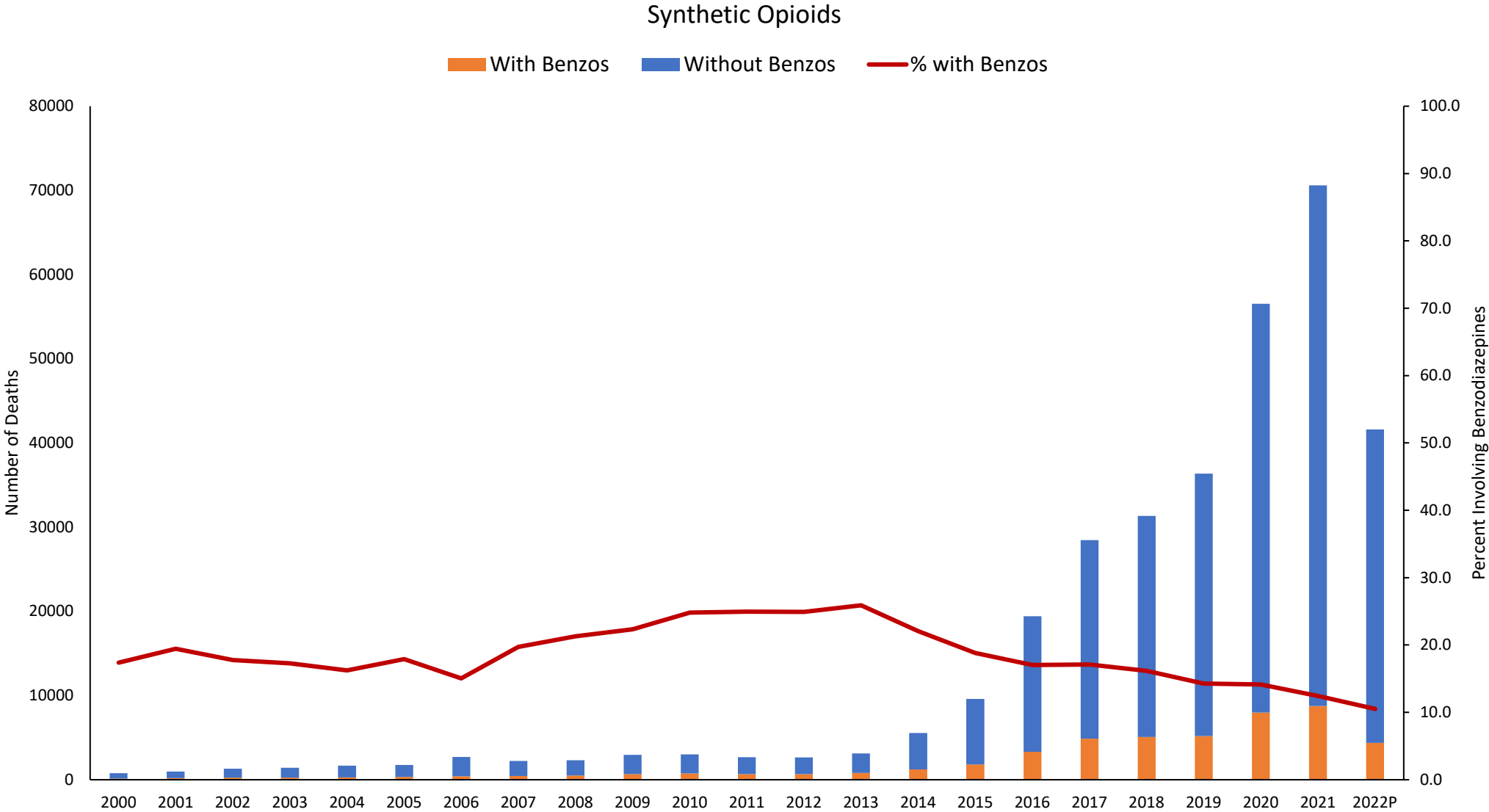


Benzodiazepine-Involvement in Heroin-Involved Overdose Deaths



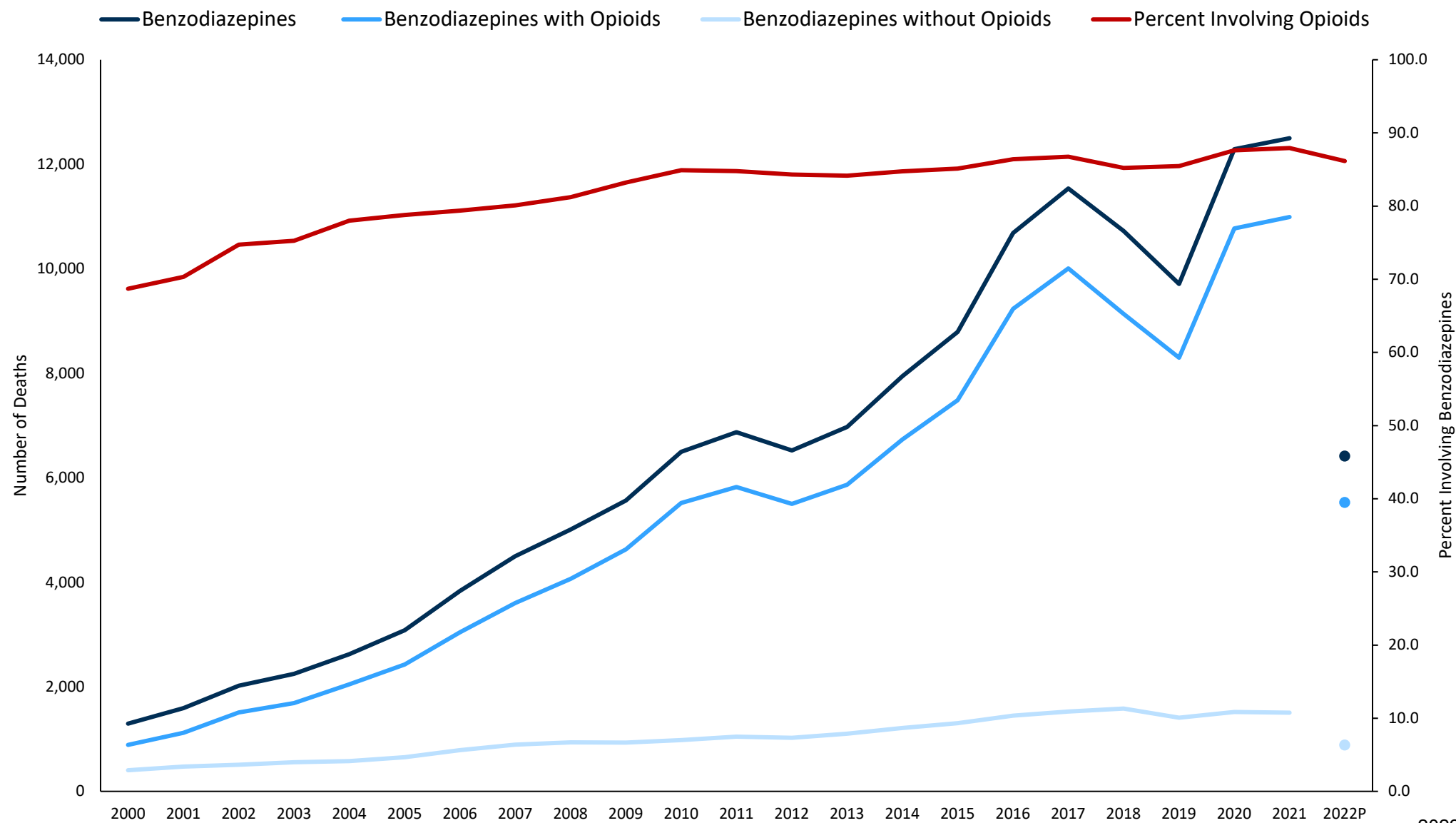
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Benzodiazepine-Involvement in Synthetic Opioid-Involved Overdose Deaths



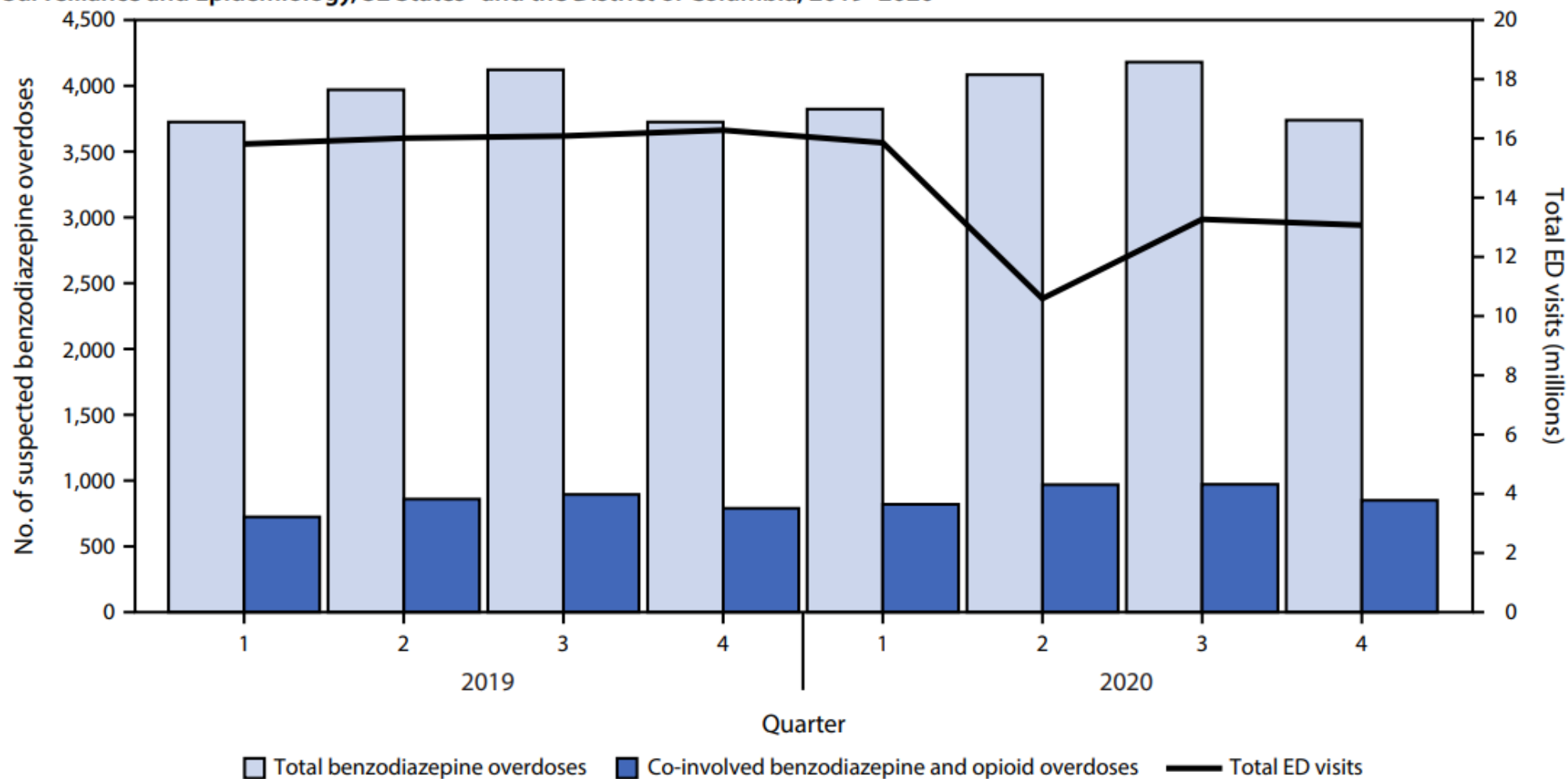
2022 data are provisional

Opioid Involvement in Benzodiazepine-Involved Overdose Deaths



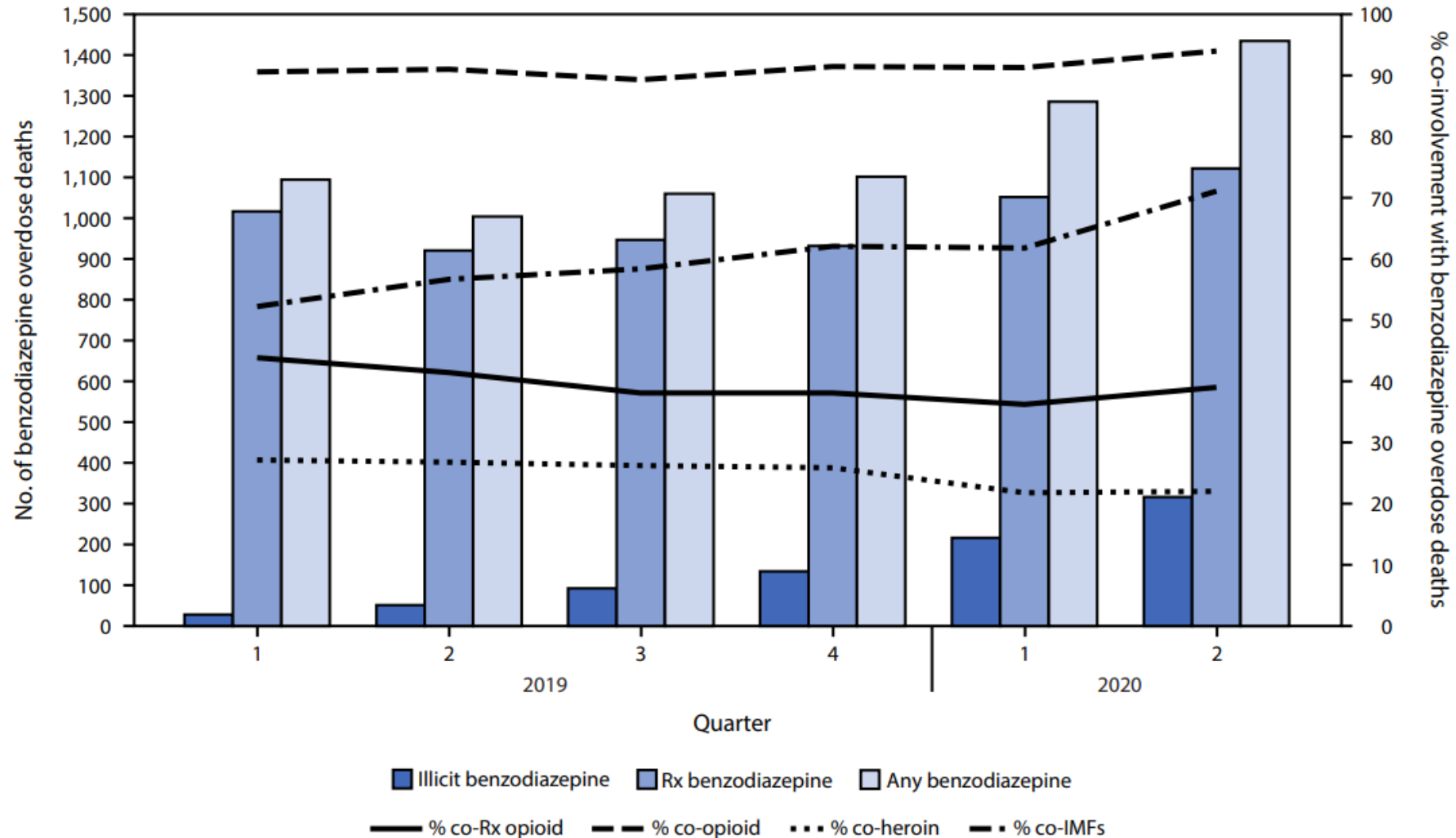
Benzodiazepine ED Visits, 2019-2020

FIGURE 1. Number of benzodiazepine overdose and co-involved opioid overdose emergency department visits, by quarter — Drug Overdose Surveillance and Epidemiology, 32 States* and the District of Columbia, 2019–2020†, §, ¶



Opioid Involvement in Benzodiazepine-Involved Overdose Deaths, SUDORS Data, 2019-2020

FIGURE 2. Benzodiazepine overdose deaths with opioid co-involvement — State Unintentional Drug Overdose Reporting System, 23 states,* January 2019–June 2020†



Demographics of Nonfatal and Fatal Benzodiazepine-Involved Overdoses, DOSE and SUDORS Data, 2020

TABLE. Demographics of persons experiencing nonfatal and fatal benzodiazepine overdoses and specific drug involvement in fatal benzodiazepine overdoses — 38 States and the District of Columbia, 2020*

Characteristic	No. (%)			
	DOSE data: nonfatal benzodiazepine ODs, Q1–Q4 2020	SUDORS data: fatal benzodiazepine ODs, Q1–Q2 2020		
	Any benzodiazepine	Prescription	Illicit	Any benzodiazepine [†]
	N = 15,830	N = 2,174	N = 532	N = 2,721
Sex				
Male	7,655 (48.4)	1,288 (59.2)	382 (71.8)	1,690 (62.1)
Female	8,144 (51.5)	886 (40.8)	150 (28.2)	1,031 (37.9)
Unknown	31 (0.2)	0 (—)	0 (—)	0 (—)
Age group, yrs				
Median (IQR), yrs	38 (26–56)	41 (32–53)	33 (26–46)	40 (31–52)
0–14	545 (3.4)	— [§]	0 (—)	— [§]
15–24	2,928 (18.5)	155 (7.1)	111 (20.9)	261 (9.6)
25–34	3,302 (20.9)	513 (23.6)	175 (32.9)	687 (25.2)
35–44	2,666 (16.8)	606 (27.9)	108 (20.3)	707 (26.0)
45–54	2,128 (13.4)	440 (20.2)	75 (14.1)	526 (19.3)
55–64	2,255 (14.2)	372 (17.1)	53 (10.0)	437 (16.1)
≥65	1,961 (12.4)	86 (4.0)	10 (1.9)	101 (3.7)
Unknown/Missing	45 (0.3)	— [§]	0 (—)	— [§]
Race/Ethnicity				
White, non-Hispanic	N/A	1,762 (81.0)	349 (65.6)	2,116 (77.8)
Black, non-Hispanic	N/A	202 (9.3)	110 (20.7)	319 (11.7)
Other, non-Hispanic	N/A	43 (2.0)	— [§]	58 (2.1)
Hispanic	N/A	148 (6.8)	52 (9.8)	204 (7.5)
Unknown/Missing	N/A	19 (0.9)	— [§]	24 (0.9)
Drug involvement				
Any opioid[‡]	3,612 (22.8)	2,025 (93.1)	493 (92.7)	2,523 (92.7)
Heroin	675 (4.3)	460 (21.2)	145 (27.3)	596 (21.9)
IMFs**	N/A	1,421 (65.4)	417 (78.4)	1,815 (66.7)
Illicit opioids ^{††}	N/A	1,542 (70.9)	459 (86.3)	1,973 (72.5)
Prescription opioids ^{§§}	N/A	922 (42.4)	117 (22.0)	1,026 (37.7)
Prescription and illicit opioids	N/A	452 (20.8)	83 (15.6)	518 (19.0)
Prescription benzodiazepines	N/A	2,174 (100)	79 (14.8)	2,174 (79.9)
Alprazolam	N/A	1,224 (56.3)	52 (9.8)	1,224 (45.0)
Other	N/A	1,166 (53.6)	32 (6.0)	1,166 (42.9)
Illicit benzodiazepines	N/A	79 (3.6)	532 (100)	532 (19.6)
Etizolam	N/A	35 (1.6)	151 (28.4)	151 (5.5)
Flualprazolam	N/A	41 (1.9)	376 (70.7)	376 (13.8)
Other	N/A	— [§]	20 (3.8)	20 (0.7)



Online Discussions Related to Benzodiazepines

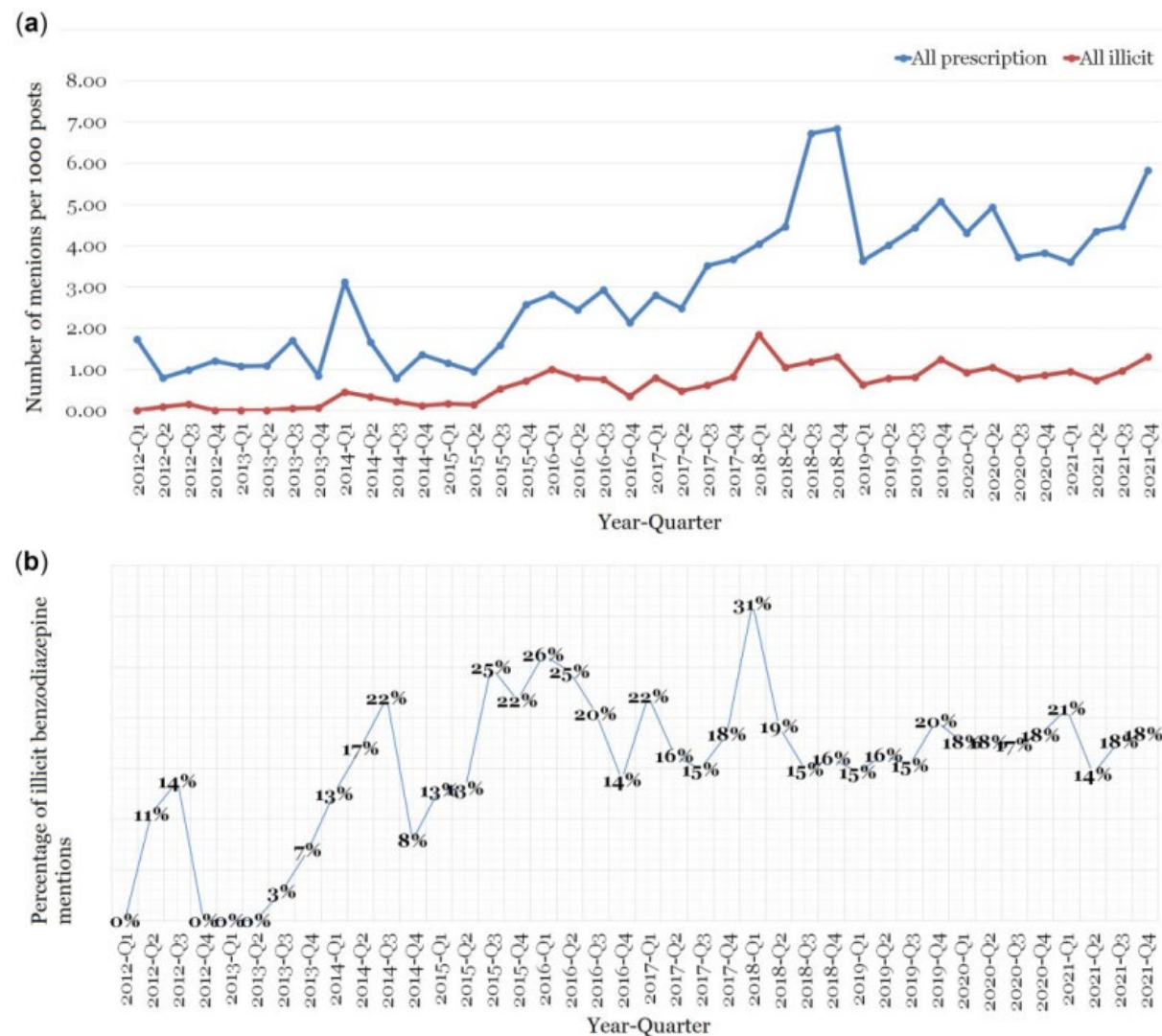


Figure 1 (a) Quarterly rates of mentions for prescription and illicit benzodiazepines. (b) Percentage of illicit benzodiazepines among all benzodiazepine mentions by quarter

Conclusions

- Overdose crisis continues to be dominated by illicit synthetic opioids such as illicitly made fentanyl (IMF) and fentanyl analogs, but most overdose deaths also involve other drugs
- The patterns of substances used and how they are being used is changing, with rising stimulant use and co-use of opioids and stimulants, especially injection use
- People who misuse prescription opioids or have prescription opioid use disorders have higher prevalence of benzodiazepine use and misuse
- Benzodiazepine involvement in opioid-involved overdose deaths has been declining overtime, but varies depending on the type of opioid involved in overdose deaths
- The percent of benzodiazepine-involved overdose deaths that involve opioids has generally been increasing over time.
- Most overdose deaths involving benzodiazepines also involve opioids
- While there has been an increase in illicit, designer benzodiazepines in illicit drug markets in recent years, prescription benzodiazepines remain more common in overdose deaths

A photograph of eight light-colored wooden blocks arranged in a single row on a wooden surface. The blocks are stacked to spell out the words 'thank you' in a lowercase, sans-serif font. The background is a soft-focus bokeh of warm, golden-yellow lights, creating a warm and appreciative atmosphere.

thank you



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The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.