Accidental Drug Overdose Deaths: Rhode Island – January 1, 2022–December 31, 2024

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INTRODUCTION

In 2022, 436 individuals lost their lives to an accidental drug overdose in Rhode Island (RI), the highest annual number of fatal overdoses ever recorded in RI.[1] In response to the state- and nation-wide increases in overdose fatalities, RI created a goal to reduce overdose deaths by 30% by 2030 through a series of state and community level initiatives.[2] This work aims to describe the current state of the overdose epidemic in RI, how overdose trends have changed since the implementation of the RI 2030 goals, and how overdose prevention and intervention efforts may need to shift to address these changes.

METHODS

We analyzed data from the Office of State Medical Examiners (OSME) for deaths that occurred in RI from January 1, 2022 to December 31, 2024 that were determined to be accidental drug overdoses by the state medical examiners.

To comply with the RI Department of Health Small Numbers Policy, we combined sex categories, with transgender males captured as male and transgender females captured as female. We combined race and ethnicity to create mutually exclusive categories; Hispanic or Latino of any race, non-Hispanic White, non-Hispanic Black, and non-Hispanic other/unknown race. Any counts fewer than five are suppressed.

To obtain rates of overdose by decedent demographics, counts were restricted to RI residents. Population estimates were obtained from CDC Wonder, with 2023 estimates used to calculate 2024 rates.[3]

Substances contributing to the cause of death are those identified by the medical examiner as a contributing cause, and do not just reflect the presence of a particular substance. These categories are not mutually exclusive, as more than one substance may contribute to the cause of death in a single overdose.

We used chi-square to compare categories by year and Fisher's exact tests when cell counts were fewer than five. All analyses were conducted using SAS [Version 9.4].

RESULTS

From January 1, 2022 to December 31, 2024 there were 1,169 accidental overdose fatalities that occurred in RI. Overall, most overdose decedents were male (71%), aged 35–64 (70%), and non-Hispanic White (72%; **Table 1**). Overdoses typically occurred in a home or apartment (69%). Most overdoses involved only illicit substances (60%) or involved a combination of illicit substances and prescription medications (28%; **Table 2**). Opioids, including fentanyl, were involved in 80% of overdose fatalities, with fentanyl specifically involved in 71%. Outside of opioids, the most common substances contributing to cause of death were cocaine (56%), alcohol (24%), antidepressants (13%), and benzodiazepines (12%).

From 2022 to 2024, overdose fatalities decreased 24.5% from 436 to 329. The distribution of decedents sex, race and ethnicity, and overdose location were similar from 2022 to 2024. The number of overdose fatalities increased among individuals aged 55–64, from 78 deaths in 2023 to 90 in

Table 1. Demographic characteristics of individuals who died of an accidental overdose in Rhode Island: January 1, 2022–December 31, 2024.

Decedent Demographic	Overall N=1,169 n (%)	2022 N=436 n (%)	2023 N=404 n (%)	2024 N=329 n (%)	p-value[1]
Sex[2]					
Male	825 (71)	314 (72)	280 (69)	231 (70)	0.6801
Female	344 (29)	122 (28)	124 (31)	98 (30)	
Age Category					
Less than 25	46 (4)	23 (5)	16 (4)	7 (2)	0.0326
25–34	205 (18)	92 (21)	68 (17)	45 (14)	
35–44	298 (25)	106 (24)	113 (28)	79 (24)	
45–54	273 (23)	95 (22)	96 (24)	82 (25)	
55–64	259 (22)	91 (21)	78 (19)	90 (27)	
65+	88 (8)	29 (7)	33 (8)	26 (8)	
Race/Ethnicity					
Non-Hispanic, Black	110 (9)	41 (9)	36 (9)	33 (10)	0.6899
Hispanic or Latino	198 (17)	79 (18)	66 (16)	53 (16)	
Non-Hispanic, White	841 (72)	305 (70)	297 (74)	239 (73)	
Non-Hispanic, Other/ Unknown Race	20 (2)	11 (3)	5 (1)	<5	

Source: Office of State Medical Examiners. [1]Chi-square test. [2]Transgender males are categorized as male. Transgender females are categorized as female.

Table 2. Substances that contributed to cause of death for individuals who died of an accidental overdose in Rhode Island: January 1, 2022–December 31, 2024.

Overdose Circumstances	Overall N=1,169 n (%)	2022 N=436 n (%)	2023 N=404 n (%)	2024 N=329 n (%)	p-value[1]
Drug Type					
Illicit Only	704 (60)	282 (65)	257 (64)	165 (51)	<0.0001[‡]
Prescription Only	125 (11)	43 (10)	33 (8)	49 (15)	
Combination	333 (28)	109 (25)	112 (28)	112 (34)	
Unknown/ Missing	7 (1)	<5	<5	<5	
Substances Contributing to Death					
Any Opioid	931 (80)	358 (82)	345 (85)	228 (69)	<0.0001
Fentanyl	826 (71)	323 (74)	314 (78)	189 (57)	<0.0001
Alcohol	276 (24)	110 (25)	77 (19)	89 (27)	0.0243
Any Stimulant	711 (61)	242 (56)	252 (62)	217 (66)	0.0099
Cocaine	652 (56)	219 (50)	234 (58)	199 (61)	0.0103
Amphetamines	128 (11)	42 (10)	47 (12)	39 (12)	0.5366
Antidepressants	147 (13)	42 (10)	49 (12)	56 (17)	0.0090
Antipsychotics	58 (5)	18 (4)	15 (4)	25 (8)	0.0329
Over the Counter	48 (4)	18 (4)	13 (3)	17 (5)	0.4167
Buprenorphine	31 (3)	11 (3)	10 (2)	10 (3)	0.8744
Methadone	113 (10)	37 (8)	37 (9)	39 (12)	0.2701
Benzodiazepines	144 (12)	47 (11)	49 (12)	48 (15)	0.2808
Overdose Location[2]					
Private	812 (69)	302 (69)	284 (70)	226 (69)	0.8843
Semi-Private	61 (5)	23 (5)	23 (6)	15 (5)	
Public	101 (9)	37 (8)	30 (7)	34 (10)	
Unknown/ Missing	195 (17)	74 (17)	67 (17)	54 (16)	

Source: Office of State Medical Examiners. [1]Chi-square test. [2]Private included apartment or residence, semi-public included hotel, motel, shelter, nursing home, hospital, prison, group home, assisted living, or treatment facility, while public included theater, concert, show, office, park, school, bar/restaurant, roadway, or cemetery. [‡]Fishers exact test.

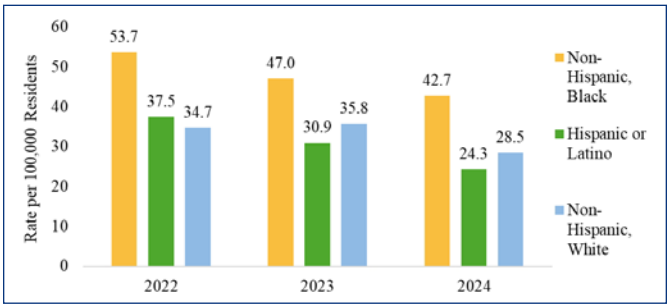
2024, and now represents the age group with the highest proportion of overdose fatalities (27%) in RI and the only age group to show an increase in deaths over this time frame. The proportion of deaths involving opioids dramatically declined from 85% in 2023 to 69% in 2024, while the proportion of deaths involving cocaine continued to increase from 58% to 61%. In 2024, 49% of overdose deaths had at least one prescription medication contributing to the cause of death, with 15% solely attributed to prescription medication, and 34% involving a combination of prescribed and illicit substances.

When looking at substances contributing to cause of death by age for 2024, opioid-involved deaths exhibited a near linear relationship with 100% of deaths among individuals <25 involving opioids, dropping to 84% among individuals 25–34, 77% among 35-44, 68% among 45–54, 61% among 55–64, and 42% among 65+. In contrast, stimulant-involved deaths occurred in ~65% of deaths among all age groups. Of note, 74% of cocaine-involved deaths also involved fentanyl in 2022, which dropped to 59% in 2024.

When stratifying substances contributing to cause of death by race and ethnicity for 2024, cocaine-involved fatal overdoses were more common among non-Hispanic Black individuals (85%), when compared to Hispanic or Latino (53%) or Non-Hispanic White (58%) decedents. All other substances contributing to death showed relatively similar distributions by race and ethnicity.

When adjusting for the underlying population and looking at trends over time, overdose fatalities decreased among all racial and ethnic groups from 2022 to 2024, with the highest fatal overdose rate in 2024 among non-Hispanic Black (42.7 per 100,000) followed by non-Hispanic White (28.5 per 100,000) and Hispanic or Latino individuals (24.3 per 100,000; **Figure 1**).

Figure 1. Rate of accidental overdose deaths among Rhode Island residents, by decedent race and ethnicity: January 1, 2022–December 31, 2024.



Source: Office of State Medical Examiners. Note: Population denominator based on CDC WONDER single-race population estimates for each year accessed June 2, 2025; 2023 estimate applied for 2024 rates.

DISCUSSION

In 2024, RI experienced its second consecutive annual decrease in overdose deaths, with a 24.5% overall reduction in overdose mortality from 2022 to 2024, and a 36.3% reduction in opioid overdose deaths specifically. Encouragingly, the rate of overdose deaths decreased among all race and ethnicity groups; however, disparities remain, and non-Hispanic Black individuals still experience the highest burden of overdose deaths. Despite these promising trends, some changes in the overdose epidemic are concerning and may warrant changes in the prevention response. First, deaths among individuals aged 55 to 64 increased from 2023 to 2024, the only age group to do so. Second, the proportion of fatal overdoses that do not involve opioids has grown from 15% in 2023 to 31% in 2024, and for the first time since 2013 cocaine is responsible for more overdose deaths than

fentanyl. Finally, prescribed medications now play a role in 49% in overdose deaths, an increase from 36% in 2023.

These trends in RI mirror observed changes nationally with a 26.8% decrease in overdose fatalities from 2022 to 2024, and a 34.2% decrease in opioid overdose deaths specifically.[4] Broader trends observed in RI, including a higher number of deaths among individuals 55–64 and an increased percentage of overdoses involving cocaine are seen in other neighboring states, including Connecticut.[5]

Considering the growing proportion of overdoses involving stimulants and prescription medications, and the increase among older individuals, prevention activities may need to be reassessed and shifted to address the changing epidemic. To prevent stimulant overdose fatalities, prevention activities might involve increasing: public education about the signs and symptoms of stimulant overamping (a stimulant overdose) [see **sidebar**], awareness of comorbid conditions that elevate an individual's risk of experiencing symptoms when using stimulants, knowledge on how to respond to someone overamping, and treatment opportunities available for individuals who use stimulants.[6] To reach older adults, future work could explore new ways of reaching this population with messages more tailored to prevent, recognize, and respond to overdoses that often do not involve opioids. Future work should further investigate the growing role of prescribed medication in fatal overdoses both to ensure patients are not recipients of high-risk prescribing and to potentially better identify intervention and screening touch points that may be available when individuals at high risk of overdose are interacting with the healthcare system.

Although we are unable to show the specific factors attributable to the decrease in Rhode Island's overdose deaths for the last two years, it is likely due to several data-driven initiatives including: the large scale, statewide distribution of naloxone, increased focus on addressing social determinants of health and health disparities among RI communities, ongoing efforts to link individuals to care, and extensive media campaigns to increase Rhode Islanders' awareness of the ever-changing drug supply, harm reduction practices, and de-stigmatization of substance use. Additionally, these reductions would likely not have occurred without the tireless work of RI's community-based organizations and their dedicated staff with lived experience, healthcare professionals, municipalities, and government organizations aligned in a commitment to meet individuals where they are and provide free treatment/recovery options, harm reduction supplies, education, and basic needs services to individuals at risk of an overdose.

Overamping: Signs & Symptoms

Overamping, or a stimulant overdose, occurs when someone is experiencing effects of a stimulant so severe that their health or safety may be at risk.

Because the effects stimulants have can vary based on the type of stimulant used, dose, how the stimulant was consumed, and any underlying physical or mental health issues, overamping can look different for different people.

Overamping can cause a variety of physical or psychological symptoms that can lead to overheating, stroke, seizure, heart attack, or a mental health crisis, including:

- Nausea or vomiting
- High temperature/sweating profusely
- Lots of sweating
- Headache
- Dizziness
- Confusion
- Fast heart rate
- Chest pain or discomfort
- Shortness of breath
- Feeling weak, light-headed, or faint
- Sudden numbness or weakness in arms or legs (especially on one side of the body)
- Sudden severe headache
- Sudden confusion, trouble speaking or difficulty understanding speech
- Shaking or convulsions
- Loss of consciousness
- Depression
- Agitation
- Paranoia
- Fear
- Anxiety
- Hallucinations

References

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