

Evaluation of Naloxone Uptake Disparities Among Harm Reduction Clients in Rhode Island (2022–2023)

SARAH OGUNDARE, MPH; ERIN BROWN, MPH; NYA REICHLEY, MPA; SAMANTHA BINIENDA, CCHW, CPRS;
CHRISTA THOMAS-SOWERS, BA; ANNAJANE YOLKEN, MPH; RAYNALD JOSEPH; SARAH EDWARDS, CCHW, CPRS

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INTRODUCTION

In 2023, 403 Rhode Islanders lost their lives to fatal drug overdose, a public health concern across the United States.¹ Non-Hispanic, Black individuals experienced the highest rate of fatal overdoses in Rhode Island at 47.9 decedents per 100,000 population.¹ Between 2022 and 2023, the percentage of opioid-involved overdose deaths decreased and the percentage of stimulant-involved overdose deaths increased nationally.² In Rhode Island, fatal overdoses involving stimulants increased from 56% in 2022 to 62% in 2023.³ These outcomes suggested a need for innovative public health approaches that address stimulant use and reach Black, Indigenous, People of Color (BIPOC).

Parent Support Network of Rhode Island (PSNRI),⁴ AIDS Care Ocean State (ACOS),⁵ Project Weber/RENEW (PWR),⁶ and Community Care Alliance (CCA),⁷ with funding in part from the Rhode Island Department of Health (RIDOH), have done life-saving work in communities at risk for overdose as early as 1986. These organizations have provided harm reduction tools, basic needs, case management, education, and linkage to care services. Standardized safer smoking kits including straight pipes and bubble pipes were made available to Rhode Island harm reduction organizations through the Lifespan Preventing Overdose and Naloxone Intervention harm reduction hub in 2022. These supplies were made available to increase engagement with people who smoke substances.

Harm reduction supplies were offered to all clients through various access points, such as mobile outreach, fixed sites, and home-delivered services. The goal of this analysis was to 1) compare 2022 and 2023 naloxone uptake by client race and ethnicity category and harm reduction supply preference, and 2) explore disparities in naloxone uptake among harm reduction clients in Rhode Island.

METHODS

Outreach workers at PSNRI, ACOS, PWR, and CCA collected data during client encounters which was subsequently reported to RIDOH. During encounters, outreach team members recorded clients' identification codes, demographic data, and supplies received. This article builds upon prior work and discusses significant differences in naloxone distribution by race and ethnicity and type of supply received between 2022 and 2023.⁸

Clients were divided into three mutually exclusive groups based on the type of harm reduction supplies they received between 2022 and 2023: 1) those who received safer injection kits, 2) those who received safer smoking kits, and 3) those who received both kits (**Table 1; Table 2**). Safer injection kits included ten sterile needles and safer smoking kits included either one bubble pipe for methamphetamine use, or two straight pipes for crack cocaine use. Naloxone kits, which included two doses of intranasal naloxone, were offered separately from safer injection and safer smoking kits.

Client race and ethnicity data was occasionally discrepant or missing, as the provision of essential supplies and services was prioritized over demographic data collection when necessary. Demographic data were self-reported and clients might have identified themselves as various races and ethnicities at different encounters. Therefore, demographic data reported at the clients' last encounter in 2022 and last encounter in 2023 were used for this analysis. Race and ethnicity were combined to categorize clients into the following groups: non-Hispanic White (henceforth "White"), non-Hispanic Black (henceforth "Black"), Hispanic, and non-Hispanic clients who identified as another race (henceforth "additional race categories"). The additional race categories were aggregated due to small numbers; this group includes clients who identified as non-Hispanic and Native American or Alaskan Native, Native Hawaiian or Pacific Islander, Asian, more than one race, or not specified. We used the chi-square test of independence to determine if the distribution of naloxone observed in 2023 was significantly different from the distribution observed in 2022 (**Table 3**). We calculated odds ratios to unmask racial and ethnic disparities within the groups of clients who received the same type of supplies (**Table 4**).

Table 1. Percent of Unique Clients Who Received Naloxone by Type of Supplies Received and Race and Ethnicity (RI, 2022)

Race and Ethnicity	Unique Clients N	Unique Clients who Received Injection Kits		Unique Clients who Received Smoking Kits		Unique Clients who Received Injection Kits and Smoking Kits	
		Received Injection Kits n	Received Injection Kits and Naloxone n (%)	Received Smoking Kits n	Received Smoking Kits and Naloxone n (%)	Received Injection Kits and Smoking Kits n	Received Injection Kits, Smoking Kits, and Naloxone n (%)
Non-Hispanic White	2,616	1,037	539 (52.0%)	696	270 (38.8%)	883	531 (60.1%)
Non-Hispanic Black	495	115	67 (58.3%)	251	59 (23.5%)	129	73 (56.6%)
Non-Hispanic additional race categories	282	86	42 (48.8%)	109	28 (25.7%)	87	47 (54.0%)
Hispanic	735	254	117 (46.1%)	260	61 (23.5%)	221	97 (43.9%)
All Unique Clients	4,128	1,492	765 (51.3%)	1,316	418 (31.8%)	1,320	748 (56.7%)

Table 2. Percent of Unique Clients Who Received Naloxone by Type of Supplies Received and Race and Ethnicity (RI, 2023)

Race and Ethnicity	Unique Clients N	Unique Clients who Received Injection Kits		Unique Clients who Received Smoking Kits		Unique Clients who Received Injection Kits and Smoking Kits	
		Received Injection Kits n	Received Injection Kits and Naloxone n (%)	Received Smoking Kits n	Received Smoking Kits and Naloxone n (%)	Received Injection Kits and Smoking Kits n	Received Injection Kits, Smoking Kits, and Naloxone n (%)
Non-Hispanic White	3,379	835	491 (58.8%)	1,261	561 (44.5%)	1,283	848 (66.1%)
Non-Hispanic Black	870	100	60 (60.0%)	559	138 (24.7%)	211	136 (64.5%)
Non-Hispanic additional race categories	564	113	45 (39.8%)	308	53 (17.2%)	143	62 (43.4%)
Hispanic	925	196	91 (46.4%)	449	142 (31.6%)	280	172 (61.4%)
All Unique Clients	5,738	1,244	687 (55.2%)	2,577	894 (34.7%)	1,917	1,218 (63.6%)

RESULTS

In 2023, there was a general increase in naloxone uptake across all clients of harm reduction services, although not all increases were statistically significant and there was variation by race and ethnicity within each group. Among clients who received injection kits, 55.2% also received naloxone, representing a non-significant increase from 2022 (Table 3). Within this group, White clients experienced a significant increase in receipt of naloxone from 2022, Black and Hispanic clients experienced non-significant increases in receipt of naloxone, and additional race category clients experienced a non-significant decrease. Among clients who received smoking kits, 34.7% also received naloxone in 2023, representing a statistically significant increase from 31.8% in 2022. Within this group, White and Hispanic clients experienced significant increases in receipt of naloxone, Black clients experienced a non-significant increase, and additional race category clients experienced a significant decrease in receipt of naloxone compared to 2022. Lastly, 63.6% of clients who received both injection kits and smoking kits also received naloxone, representing a significant increase since 2022 (Table 3). Within this group, White and Hispanic clients experienced significant increases in receipt

of naloxone, Black clients experienced a non-significant increase, and additional race category clients experienced a non-significant decrease.

Further analyses were conducted to determine if there were racial and ethnic disparities in naloxone uptake among clients who received safer injection kits, safer smoking kits, or both types of kits (Table 4). Among clients who received injection kits in 2022, the odds of receiving naloxone were lower for Hispanic and additional race category clients compared to their White counterparts, although this was not significant. In 2023, however, both Hispanic and additional race category clients had significantly lower odds of receiving naloxone compared to their White counterparts. Among clients who received smoking kits, non-White clients had significantly lower odds of receiving naloxone compared to their White counterparts in both 2022 and 2023. Among clients who received both injection kits and smoking kits in 2022, Hispanic clients had significantly lower odds of receiving naloxone. In 2023, additional race category clients had significantly lower odds of receiving naloxone compared to their White counterparts.

Table 3. Comparison of Percent of Unique Clients Who Received Naloxone by Type of Supplies Received and Race and Ethnicity (RI, 2022–2023)

Race and Ethnicity	Percent of Unique Clients who Received Naloxone with Injection Kits			Percent of Unique Clients who Received Naloxone with Smoking Kits			Percent of Unique Clients who Received Naloxone with Injection Kits and Smoking Kits		
	2022 %	2023 %	α	2022 %	2023 %	α	2022 %	2023 %	α
Non-Hispanic White	52.0%	58.8%	<0.01	38.8%	44.5%	<0.01	60.1%	66.1%	<0.01
Non-Hispanic Black	58.3%	60.0%	0.82	23.5%	24.7%	0.57	56.6%	64.5%	0.13
Non-Hispanic additional race categories	48.8%	39.8%	0.17	25.7%	17.2%	<0.01	54.0%	43.4%	0.08
Hispanic	46.1%	46.4%	0.94	23.5%	31.6%	<0.01	43.9%	61.4%	<0.01
All Unique Clients	51.3%	55.2%	0.05	31.8%	34.7%	<0.01	56.7%	63.6%	<0.01

Table 4. Odds Ratios of Clients Receiving Naloxone by Race and Ethnicity for Clients who Received Injection Kits, Smoking Kits, and Both Types of Kits (RI, 2022–2023)

Race and Ethnicity	Odds Ratio of Receiving Naloxone for Clients who Received Injection Kits				Odds Ratio of Receiving Naloxone for Clients who Received Smoking Kits				Odds Ratio of Receiving Naloxone for Clients who Received Injection Kits and Smoking Kits			
	2022		2023		2022		2023		2022		2023	
	OR (95% CI)	α	OR (95% CI)	α	OR (95% CI)	α	OR (95% CI)	α	OR (95% CI)	α	OR (95% CI)	α
Non-Hispanic White	1.00		1.00		1.00		1.00		1.00		1.00	
Non-Hispanic Black	1.28 (0.87, 1.91)	0.10	1.05 (0.69, 1.60)	0.41	0.48 (0.35, 0.67)	<0.01	0.41 (0.33, 0.51)	<0.01	0.86 (0.59, 1.26)	0.22	0.93 (0.67, 1.26)	0.32
Non-Hispanic additional race categories	0.88 (0.57, 1.37)	0.29	0.46 (0.31, 0.69)	<0.01	0.55 (0.35, 0.86)	<0.01	0.26 (0.19, 0.36)	<0.01	0.78 (0.50, 1.21)	0.13	0.39 (0.28, 0.56)	<0.01
Hispanic	0.79 (0.60, 1.04)	0.05	0.61 (0.44, 0.83)	<0.01	0.48 (0.35, 0.67)	<0.01	0.58 (0.46, 0.72)	<0.01	0.51 (0.39, 0.70)	<0.01	0.82 (0.63, 1.07)	0.07

DISCUSSION

This report summarizes the efforts of harm reduction organizations to increase naloxone uptake. However, disparities in naloxone uptake persist based on the type of harm reduction supply used and clients' race and ethnicity. Naloxone distribution increased among most race and ethnicity groups and among each of the three mutually exclusive harm reduction supply groups, although not all increases were statistically significant. Additional race category clients had a statistically significant decrease in naloxone uptake between 2022 and 2023. Although the uptake of naloxone among clients identifying as Black increased between 2022 and 2023, this increase was not statistically significant. Black, Hispanic, and additional race category clients who received safer smoking kits had significantly lower odds of receiving naloxone compared to White clients in this analysis.⁹

The data in this analysis only represented the efforts of RIDOH-funded harm reduction agencies. Although distribution of safer smoking kits began in February 2022, contents were not standardized until September 2022; 2023 was the

first full year of standardized safer smoking kit distribution. A significantly higher percentage of clients received naloxone with smoking kits in 2023 compared to 2022, but this might be attributed to the increase in the distribution of standardized smoking kits. CCA began receiving RIDOH funding for harm reduction activities in December 2022 and was not included in the 2022 analysis.⁸ The addition of CCA data in the 2023 analysis may have contributed to increases in naloxone uptake between 2022 and 2023.⁸ Client counts were approximate due to client code data entry errors, and clients might have used various codes to preserve their anonymity.

In conclusion, increasing safer smoking kit distribution can address disparities by creating more opportunities to engage stimulant users and expand naloxone uptake. Continued effort should be made to increase the perceived susceptibility and severity of opioid overdose and the perceived benefit of carrying naloxone, especially among individuals who smoke substances and individuals who identify as BIPOC.

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Authors

- Sarah Ogundare, MPH, Program Evaluator, Center for Health Promotion, RIDOH.
- Erin Brown, MPH, Program Evaluator, Center for HIV, Hepatitis, Sexually Transmitted Diseases, and Tuberculosis Epidemiology, RIDOH.
- Nya Reichley, MPH, Community Outreach Coordinator, Center for Health Promotion, RIDOH.
- Samantha Binienda, CPRS, CCHW, PSNRI, Hope Recovery Statewide CORE Team Manager.
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- Raynald Joseph, Prevention Supervisor, AIDS Care Ocean State.
- Sarah Edwards, CCHW, CPRS, Community Outreach Coordinator, Center for Health Promotion, RIDOH.

Correspondence

Erin Brown
Prevention Program Evaluator
Center for HIV, Hepatitis, Sexually Transmitted Diseases,
and Tuberculosis Epidemiology
3 Capitol Hill
Suite 106
Providence, RI 02908
Erin.Brown@health.ri.gov