

Preliminary findings from the Rhode Island Harm Reduction Surveillance System: January 2021–December 2022

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In 2020, Rhode Island (RI) had the 12th highest death rate of drug-involved overdoses in the United States.¹ To better understand the overdose epidemic, the Rhode Island Department of Health (RIDOH) partnered with The Miriam Hospital in 2020 to survey people who use illicit drugs in RI through the RI Harm Reduction Surveillance System (HRSS). This article summarizes findings from the HRSS, which can be used to inform prevention and outreach activities to better address RI’s overdose epidemic.

METHODS

The HRSS is operated by RIDOH in partnership with The Miriam Hospital and was developed in collaboration with various RI harm reduction (HR) organizations, including Parent Support Network, Project Weber Renew, AIDS Care Ocean State, and Community Care Alliance. The HRSS collects information on demographics, substance use behaviors, access to health services and treatment, experience with overdose, and HR behaviors. Additionally, questions are periodically evaluated, added, or removed to aid in RIDOH’s effort to address the overdose epidemic.

The HRSS was launched in January 2021 and is ongoing. Data used in this analysis were collected between January 1, 2021, and December 31, 2022. To be eligible, individuals had to be a current RI resident, aged 18 or older, able to provide verbal consent, and self-reported use of illicit drugs or unprescribed medications in the past 30 days (excluding individuals who only reported marijuana use). Survey administration occurred over the phone or in-person. Participants were recruited through targeted canvassing at local needle exchange and HR outreach programs, encampments, bars, college campuses, and other overdose hotspots throughout the state. Individuals who consented to the anonymous survey were compensated \$25 cash upon completion. Survey data were collected through the Research Electronic Data Capture (REDCap) tool. This work is considered public health surveillance and was reviewed and deemed exempt by the RIDOH Institutional Review Board.

Data cleaning was performed in SAS [Version 9.4] and analysis took place in Stata 17. Summary descriptive statistics were generated for variables of interest.

RESULTS

A total of 393 people completed the survey between January 1, 2021 and December 31, 2022. Most participants identified as male (62.1%), non-Hispanic White (41.2%), age 25–44 years (57.5%), and experiencing housing instability (69.5%) (Table 1). Most reported having Medicaid (78.3%) and few were uninsured (4.3%).

Table 1. Demographic characteristics of respondents in the Rhode Island Harm Reduction Surveillance System, 1/1/2021–12/31/2022 (n=393)

	N (%)
Age (years)	
18–24	19 (4.8%)
25–34	111 (28.2%)
35–44	115 (29.3%)
45–54	91 (23.2%)
55–64	47 (12.0%)
65+	10 (2.5%)
Gender identity^a	
Female	141 (33.8%)
Male	244 (61.9%)
Non-binary, other ^b	8 (2.0%)
Race/ethnicity	
Non-Hispanic Black	73 (18.6%)
Non-Hispanic White	162 (41.2%)
Hispanic (any race)	96 (24.4%)
Other ^c	62 (15.8%)
Housing status	
Housing instable	273 (69.5%)
Housing stable	120 (30.5%)
Insurance	
Medicaid	329 (78.3%)
Medicare	34 (8.1%)
Other ^d	39 (9.3%)
None	18 (4.3%)

^a Transgender people were grouped with their identified binary identity measure.

^b Non-binary, other gender includes other, non-binary, or preferred not to answer.

^c Other race/ethnicity includes American Indian/Alaska Native, Asian, Pacific Islander, or other.

^d Other insurance includes Rite Care, Veterans Affairs, Indian Health Services, State Sponsored, or other option.

Table 2. Non-prescribed drug use among respondents in the Rhode Island Harm Reduction Surveillance System, 1/1/2021–12/31/2022 (n=393)

	N	%
Alcohol use		
4–7 times/week	53	13.6%
1–3 times/week	166	42.6%
2 or less per month	108	27.7%
None in the past 12 months	99	25.4%
Non-prescribed drug		
Marijuana	271	69.0%
Cocaine	173	44.0%
Crack	280	71.2%
Methamphetamine	106	27.0%
Benzodiazepines	105	26.7%
Stimulants	51	13.0%
Heroin/fentanyl	161	41.0%
Opioid pain medications	72	18.3%
Gabapentin	53	13.5%
Polysubstance use	347	88.3%
Have naloxone		
Yes	303	77.1%
No	90	22.9%

Overall, crack cocaine (71.2%), marijuana (69.0%), cocaine (44.0%), and heroin/fentanyl (41.0%) were the most frequently reported drugs used in the past 30 days (Table 2). Polysubstance use in the last 30 days was reported by 88.3% of respondents. Comparing all reported routes of substance administration, 90.1% of respondents reported smoking, 52.4% oral use, 46.3% nasal use, and 31.8% used intravenously. Approximately 77% of respondents reported having naloxone, and among the 168 individuals who reported using naloxone in the last 12 months, and at least 540 overdoses were reversed. Overall, 32.5% of respondents reported personally experiencing an overdose during the past 12 months (Table 3). Of respondents who reported using a substance that unexpectedly contained fentanyl (56.7%), the most reported contaminated substance was crack cocaine (25.7%). Of the 67.4% who witnessed an overdose during the past 12 months, when asked about the most recent overdose they observed, 59.2% reported that someone called 911.

Most respondents reported engaging in some type of substance use treatment over the past 12 months (58.0%), with 41.7% reporting use of medication, 18.6% using detox, and 18.8% reporting a hospitalization related to substance use treatment. Additionally, 46.5% of respondents reported being interested in treatment/recovery supports.

When asked about HR behaviors, 8.2% of individuals reported always using fentanyl tests strips, 38.8% of

Table 3. Overdose experience among respondents in the Rhode Island Harm Reduction Surveillance System, 1/1/2021–12/31/2022 (n=393)

	N	%
Witnessed an overdose in the past 12 months?		
Yes	265	67.4%
No	128	32.6%
What happened after overdose		
Someone (not EMT/police) gave naloxone	187	47.6%
Someone called 911	154	59.2%
Police administered naloxone	20	8.5%
EMT administered naloxone	86	35.5%
Someone gave rescue breaths	95	37.0%
Someone administered chest compression	103	39.8%
Ambulance arrived	122	48.8%
Someone took them to hospital	7	3.3%
Person came to on their own	9	3.8%
Person died	16	7.6%
Left area	21	5.7%
In the past 12 months, how many times have you used naloxone to reverse an overdose?		
No times	90	34.9%
1 time	37	14.3%
2 times	31	12.0%
3 times	24	9.3%
4 times	11	4.3%
5 or more times	65	25.2%
Overdosed in the past 12 months?		
Yes	126	32.5%
No	262	67.5%
Unexpected fentanyl past 12 months		
Yes	223	56.7%
No	170	43.3%
Substance used believed to be contaminated with fentanyl		
Crack	101	25.7%
Cocaine	36	9.2%
Benzodiazepines/tranquilizers	34	8.7%
Marijuana	32	8.1%
Heroin	28	7.1%
Methamphetamine	20	6.2%
Opioid pain medication non-prescribed	25	6.4%
Stimulants	5	1.3%

individuals reported always using with others, and 23.2% reported always starting with a low dose (Table 4). Among those who used with others, 18.6% reported taking turns. When asked about openness to using a HR center, 61.7% of individuals were likely or very likely.

Table 4. Harm reduction behaviors among respondents in the Rhode Island Harm Reduction Surveillance System, 1/1/2021-12/31/2022 (n=393)

	N	%
Use fentanyl test strip		
Always	32	8.2%
Most/sometimes	92	23.6%
Never	266	68.2%
Use with other people		
Always	150	38.8%
Most/sometimes	196	50.7%
Never	41	10.6%
If using with others, how often take turns?		
Always	64	18.6%
Most/sometimes	145	42.2%
Never	135	39.2%
Start with low dose		
Always	89	23.2%
Most/sometimes	119	31.1%
Never	175	45.7%
How often: share needles?		
Always	<5	1.7%
Most/sometimes	24	20.7%
Never	90	77.6%
How often: share a pipe?		
Always	32	10.4%
Most/sometimes	142	46.0%
Never	135	44.7%
How often: share works?		
Always	13	11.1%
Most/sometimes	38	32.5%
Never	66	56.4%
How likely to use harm reduction center		
Very likely	144	40.2%
Likely	77	21.5%
Neutral/don't know	22	6.2%
Unlikely	32	8.9%
Very unlikely	83	23.2%

Note: Measures with counts less than five observations are reported as <5

DISCUSSION

Data from the HRSS show that among marginalized, non-prescribed substance users in RI, many individuals have witnessed (67.4%) or personally experienced (32.5%) an overdose in the past 12 months. This is concerning as many individuals (22.9%) report not having naloxone, and 40.8% reported that 911 was not called during their most recent overdose experience. Encouragingly, among this

relatively small sample, participants reported reversing over 540 overdoses in the prior 12 months. These data highlight the continued need for naloxone distribution to individuals at high risk of observing an overdose, given the high proportion of overdose events that are not attended by a medical professional and the high utilization of naloxone by peers to reverse an overdose. These data also demonstrate that RIDOH's non-fatal overdose surveillance systems are likely not capturing a large portion of overdoses due to lack of interaction with the healthcare system. This aligns with prior data that roughly 50% of overdose events are not attended by a medical professional.²

Despite the high percentage of individuals who experienced or witnessed an overdose, HR practices in this population remained underutilized. Additionally, polysubstance use, which increases the risk of overdose,³ was common in respondents. Education on risks associated with polysubstance use and the benefits of utilizing HR methods is needed.

Fentanyl contamination of non-opioid substances was highly reported by participants, with the most frequently contaminated substance being crack cocaine. This is of high concern as stimulant users are often unprepared to respond to an overdose and would need minimal exposure to experience an overdose given the lack of tolerance.⁴ While fentanyl test strips could help prevent these unintentional exposures, this HR approach is underutilized among participants. Overall, the most commonly reported drugs with unexpected fentanyl were not opioids, aligning with data collected by testRI, which tests donated samples of drugs from individuals in RI which has found fentanyl contamination in methamphetamines, crack cocaine, and pressed pills,⁵ suggesting additional public health messaging and outreach is needed to help people who use non-opioid drugs understand the risk of fentanyl contamination in the drug supply and ways to reduce their risk of overdose.

While many individuals were interested in treatment, access to health insurance does not appear to be a barrier for respondents. In addition to having health insurance, most respondents reported receiving a prescribed medication in the last 30 days, demonstrating their regular interaction with the healthcare system. This stresses the need for healthcare professionals to ask about substance use, provide information on HR techniques and treatment/recovery support when appropriate, and work to make treatment more accessible for those who are interested.

The largest limitation of this data is that it was collected through convenience sampling and heavily recruited from high-risk populations; therefore, results are not representative of drug use behaviors among all Rhode Islanders. As the survey is interviewer administered, data could be impacted by social desirability bias and/or recall bias. More research is needed to understand associations between demographic characteristics (such as race, age, sex) and substance use and HR behaviors.

With overdose fatalities increasing in RI since late 2019,⁶ it has become important to better target prevention and outreach efforts. The findings from this descriptive analysis can help inform prevention, program, and policy efforts to promote HR practices and prevent fatal overdoses in RI.

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