



NIMBYism and Harm Reduction Programs: Results from Baltimore City

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Introduction

The overdose crisis continues to escalate in the USA, with recent estimates signaling further surges in mortality since the onset of the COVID-19 pandemic. Recent data from the Centers for Disease Control and Prevention estimate drug overdose deaths exceed 100,000 annually [1]. Beyond fatalities, changes to the drug supply, amplification of social and structural risk factors, and compromised access to health and harm reduction services have implications for the incidence of non-fatal overdose and other substance use-related sequelae such as HIV and hepatitis C transmission.

The potential for harm reduction interventions, such as overdose prevention sites (OPS) and drug checking programs, to help prevent these sequelae by promoting safer drug use and supply and use is well characterized. OPS offer a safe setting for people who use drugs (PWUD) to consume pre-purchased substances with the supervision of trained staff who can

facilitate risk reduction behaviors and reverse incident overdoses. Many OPS offer drop-in services in addition to drug use stations, including harm reduction supplies (e.g., condoms, take-home naloxone, sterile syringes), hygiene supplies, legal or employment counselors, and referrals to mental health and substance use treatment. These facilities have been associated with reductions in overdose mortality[2, 3], infectious disease incidence[4–6], and cost savings[7]. Drug checking programs allow PWUD to test the contents of their drugs, many of which have been purchased illegally and are therefore subject to the volatility of the illicit drug market. These tools may be particularly valuable amid the recent penetration of the drug supply with fentanyl and other highly potent synthetic opioids[8], which accounted for 73% of opioid overdose deaths in 2019[9].

Despite evidence of these interventions' effectiveness in reducing drug-related harms, resistance to their implementation in the USA persists. Barriers include legal and political resistance and public opposition. Legal challenges to statutes prohibiting OPS and drug checking from launching or being scaled up are ongoing[10]. As advocacy efforts target the legislative and political process, addressing community stigma towards PWUD and the public's perception of harm reduction remains a key challenge to establishing such overdose prevention programs[11]. While some groups outright oppose harm reduction services, in part due to the perception that they enable drug use, others see the need for these programs

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but ascribe to “not in my backyard” (NIMBY), often citing concerns that substance use or mental health services will attract undesirable or dangerous people and behaviors into their community.[12–14] Understanding anticipated sentiments of NIMBY targeted at proposed or hypothetical harm reduction programs is crucial to designing informational messaging to garner local support. In this paper, we describe NIMBYism among business owners and employees working in areas of high-drug activity in Baltimore City towards OPS and drug checking, neither of which are currently available, compared to substance use treatment facilities, which are established and operational throughout the city.

Methods

Data were collected as a part of the CONNECT Study, a cross-sectional study designed to assess attitudes towards PWUD, harm reduction, and drug treatment among owners and employees of businesses in areas of high-drug activity in Baltimore City, Maryland. Quantitative surveys were administered in-person from December 2019 to March 2020 and by telephone from April to July 2020 due to the COVID-19 pandemic. Recruitment zones were identified using targeted sampling[15] to identify zones of high-drug activity based on Baltimore Police Department drug arrest data. Businesses in these areas were targeted for recruitment using a random number generator. After a minimum of eight businesses were successfully recruited per zone, the remaining businesses were selected at random (irrespective of zone). Study inclusion criteria required participants to (1) be at least 18 years old; (2) an employee, manager, or owner at the business; and (3) working onsite for at least 10 h a week for 6 months. Eligible participants gave informed consent before completing a 25-min, self-administered audio computer-assisted personal interview (ACASI) for which they were compensated (with a \$15-dollar gift card). During COVID-19 pandemic closures, study staff administered the survey by phone and eligible participants completed the 60-min interview for which they were compensated (with a \$40 gift card). In total, 149 respondents participated in the survey; the final analytic sample ($N=142$) included those who had information about NIMBYism for at least one service. All study procedures were

approved by the Johns Hopkins Bloomberg School of Public Health Institutional Review Board.

Survey items were informed by people with lived experience and members of the business community. During the survey, participants reported if they would be comfortable with OPS, drug checking, and drug treatment services (including methadone) in their neighborhood or in a different neighborhood. Responses were indicated on a four-point Likert Scale (“strongly/somewhat agree”; “strongly/somewhat disagree”) and then analyzed as a binary (“yes/no”) outcome. Individuals responding that they would be comfortable with services in a different neighborhood but not their own were classified as NIMBY; those who were uncomfortable with either were classified as in opposition. The survey also measured sociodemographic characteristics, perceptions of PWUD, and anticipated impacts of proposed interventions. Attitudes towards PWUD and support of programs were measured on a Likert Scale (“strongly agree,” “somewhat agree,” “somewhat disagree,” “strongly disagree”) and then analyzed as binary variables denoting agreement/disagreement.

We described the prevalence and correlates of support, NIMBYism, and outright opposition to OPS, drug checking, and treatment services. Bivariate p -values were calculated using Fishers’ exact tests for categorical and binary variables and t -tests for continuous variables. We explored consistency of support across interventions using a Sankey diagram. All analyses were conducted in Stata SE/15.1 (College Station, TX).

Results

Respondents had a mean age of 41 years, and the majority were male (55%), Black (50%), and had completed some college education (61%). Most were employees (40%) or managers (35%), while fewer owned the surveyed businesses (25%). Approximately one-third (35%) lived in the same area as their place of business. Participants recruited during the COVID-19 by telephone pandemic were more likely to be white vs other races; business owners vs employees or managers; and to live in the neighborhood where they worked relative to those recruited before, in person ($p < 0.05$). No differences in support, NIMBY,

or opposition to any program were observed by recruitment.

Overall, 65% of participants supported OPS anywhere, 18% reported OPS NIMBYism, and 17% opposed OPS implementation. Similarly, 67% of participants supported drug checking, regardless of neighborhood, 19% reported NIMBYism and 14% outright opposed it. When asked about treatment facilities, a non-hypothetical intervention, 64% of participants supported drug treatment programs anywhere, 25% reported NIMBYism, and 11% opposed them. We observed consistency of support with largely the same individuals expressing support for all three services (Supplementary Fig. 1).

Correlates of support, NIMBYism, and opposition to each program are shown in Table 1. Respondents who were younger were less likely to report NIMBY or opposition to drug checking and treatment, but not OPS. Reduced support for OPS and drug checking, but not treatment, was noted among white respondents. Most participants (86%) believed that more services were needed for overdose prevention, and this was positively associated with support for both hypothetical (OPS, drug checking) and existing (treatment) interventions.

NIMBYism and opposition to OPS were associated with the belief that PWUD are dangerous and that OPS attract crime to the neighborhood. Neither of these concerns were reported for drug checking or treatment programs. There was a marginal relationship between anticipated drug dealing and accompanying drug-checking programs, but this was not significant at that 95% confidence threshold. The concern that treatment would attract PWUD themselves, but not drug dealing or crime, was significantly associated with expressing NIMBY and opposition to treatment programs.

Discussion

The business sector is an important stakeholder to engage in understanding public perceptions and garnering support for harm reduction interventions. To characterize possible barriers to implementation in Baltimore, we examined NIMBYism in three evidence-based harm reduction interventions among people working in businesses in areas with drug activity. We observed high support for OPS and

drug checking services comparable to support for drug treatment, despite the former being hypothetical, legally unsanctioned, and viewed as controversial. Participants largely held consistent beliefs across programs, indicating that a strong contingent of individuals working in high overdose risk areas would support a range of evidence-based harm reduction services.

Nonetheless, participants reported distinct concerns about each intervention. Concerns about crime were associated with increased NIMBYism and opposition toward OPS but not the other two interventions. This concern has been repeatedly refuted by evidence from other countries[16–18] where OPS have been implemented, as well as recently in an evaluation of an unsanctioned OPS in the USA[19]. While the association was only marginal, our data further suggest that participant concerns about increased drug transactions were specific to drug-checking programs. Campaigns to garner support for harm reduction programs need to understand nuances in community concerns and tailor messaging accordingly. This is particularly relevant in the case of NIMBYism, a noted barrier to support in the business community specifically.[20] Scientific evidence should be utilized in conjunction with other forms of messaging to quell inaccurate community beliefs about the potential harms programs will bring to their communities.

Results should be viewed considering study limitations. Data collection was interrupted by COVID-19-related closures, resulting in altered recruitment skewed towards white business owners and limiting our sample size.

Overall, the results indicate robust support for harm reduction programs among business personnel in communities highly impacted by drug overdose. The modest amount of outright opposition to these initiatives is promising and suggests advocacy targeting those individuals in the NIMBY group may be sufficient to achieve high overall support in the business community. As specific concerns associated with NIMBYism vary by program type, distinct messaging campaigns dispelling myths about community harms are needed to ensure the successful implementation of such programs, particularly given past attempts which were directly thwarted by NIMBY activism. [21] Galvanizing the support of the business community may be an important avenue to scaling up access to harm reduction programs essential for curbing the

Table 1 Sample characteristics and correlates of service support among business owners and employees in Baltimore, Maryland

	N (%)				Overdose prevention sites (OPS)				Drug checking (DC)				Treatment (Tx)			
	Support		Oppose		Support		Oppose		Support		Oppose		Support		Oppose	
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Overall	-	83 (64.8)	23 (18.0)	22 (17.2)	-	86 (66.7)	25 (19.4)	18 (14.0)	-	83 (63.9)	33 (25.4)	14 (10.8)	-			
Age, M (SD)	40.6 (13.0)	38.9 (12.2)	43.2 (13.0)	39.3 (12.5)	0.339	37.5 (12.0)	44.4 (13.6)	46.5 (12.1)	0.004	38.2 (11.8)	46.2 (15.0)	38.6 (14.4)	0.012			
Gender																
Male/man	79 (55.6)	44 (61.1)	12 (16.7)	16 (22.2)	0.236	50 (67.6)	11 (14.9)	13 (17.6)	0.188	46 (63.0)	20 (27.4)	7 (9.6)	0.746			
Female/woman	63 (44.4)	39 (69.6)	11 (19.6)	6 (10.7)		36 (65.5)	14 (25.5)	5 (9.1)		37 (64.9)	13 (22.8)	7 (12.3)				
Race																
White	25 (27.6)	15 (62.5)	8 (33.3)	1 (4.2)	0.051	15 (60.0)	9 (36.0)	1 (4.0)	0.107	15 (65.2)	6 (26.1)	2 (8.7)	0.805			
Black	71 (50.0)	42 (68.9)	10 (16.4)	9 (14.8)		39 (63.9)	11 (18.0)	11 (18.0)		42 (62.7)	19 (28.4)	6 (9.0)				
Other	46 (32.4)	26 (60.5)	5 (11.6)	12 (27.9)		32 (74.4)	5 (11.6)	6 (14.0)		26 (65.0)	8 (20.0)	6 (15.0)				
Education																
Less than HS	15 (10.6)	10 (71.4)	2 (14.3)	2 (14.3)	0.262	9 (69.2)	2 (15.4)	2 (15.4)	0.548	9 (60.0)	3 (20.0)	3 (20.0)	0.111			
HS equivalent	41 (28.9)	26 (68.4)	3 (7.9)	9 (23.7)		27 (73.0)	4 (10.8)	6 (16.2)		27 (65.8)	7 (17.1)	7 (17.1)				
Some college+	86 (60.6)	47 (61.8)	18 (23.7)	11 (14.5)		50 (63.3)	19 (24.1)	10 (12.7)		47 (63.5)	23 (31.1)	4 (5.4)				
Role in business																
Owner	35 (24.7)	18 (56.2)	11 (43.4)	4 (9.4)	0.053	19 (59.4)	11 (34.4)	2 (6.2)	0.150	19 (59.4)	11 (34.4)	2 (6.2)	0.119			
Manager	50 (35.2)	30 (66.7)	4 (8.9)	11 (24.4)		32 (69.6)	6 (13.0)	8 (17.4)		34 (77.3)	6 (13.6)	4 (9.1)				
Employee	57 (40.1)	35 (68.6)	8 (15.7)	8 (15.7)		35 (68.6)	8 (15.7)	8 (15.7)		30 (55.6)	16 (29.6)	8 (14.8)				
Live in neighborhood	50 (35.2)	35 (75.1)	4 (8.7)	7 (15.2)	0.084	35 (71.4)	9 (18.4)	5 (10.2)	0.631	30 (66.7)	9 (20.0)	6 (13.3)	0.508			
Believes more services needed for OD	117 (86.0)	77 (72.0)	15 (14.0)	15 (14.0)	0.001	80 (74.1)	19 (17.6)	9 (8.3)	<0.001	78 (72.9)	22 (20.6)	7 (6.5)	<0.001			
Believes PWUD are dangerous	82 (59.0)	38 (52.1)	16 (21.9)	19 (26.0)	0.001	45 (60.8)	17 (23.0)	12 (16.2)	0.253	47 (63.5)	19 (25.7)	8 (10.8)	0.963			
Believes OPS will attract...																
PWUD	107 (79.3)	63 (63.6)	20 (20.2)	16 (16.2)	0.623	-	-	-	-	-	-	-	-			
Drug dealing	86 (66.1)	50 (61.7)	13 (16.1)	18 (22.2)	0.13	-	-	-	-	-	-	-	-			
Crime	77 (59.7)	39 (54.2)	16 (22.2)	17 (23.6)	0.010	-	-	-	-	-	-	-	-			
Believes DC will attract...																
PWUD	95 (73.6)	-	-	-	-	60 (67.4)	18 (20.2)	11 (12.4)	0.776	-	-	-	-			

Table 1 (continued)

	N (%)	Overdose prevention sites (OPS)				Drug checking (DC)				Treatment (Tx)			
		Support		Oppose		Support		Oppose		Support		Oppose	
		N (%)	N (%)	N (%)	p-value	N (%)	N (%)	N (%)	p-value	N (%)	N (%)	N (%)	p-value
Drug dealing	64 (48.9)	-	-	-	-	37 (58.7)	14 (22.2)	12 (19.1)	0.068	-	-	-	-
Crime	65 (50.0)	-	-	-	-	36 (59.0)	15 (24.6)	10 (16.4)	0.252	-	-	-	-
Believes Tx will attract...													
PWUD	113 (81.9)	-	-	-	-	-	-	-	-	62 (60.8)	31 (30.4)	9 (8.8)	0.027
Drug dealing	87 (65.4)	-	-	-	-	-	-	-	-	49 (59.8)	26 (31.7)	7 (8.5)	0.199
Crime	80 (60.1)	-	-	-	-	-	-	-	-	44 (58.7)	24 (32.0)	7 (9.3)	0.257

OPS: N = 128, DC N = 129, Tx N = 130. Fisher's exact p-values significant at the P < 0.05 level shown in bold. Treatment was inclusive of methadone programs

ever-rising burden of overdose fatalities in the USA, and the data presented here can help guide these efforts.

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