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Knowledge of a Drug-Related Good Samaritan Law Among People Who Use Drugs, Vancouver, Canada

Soroush Moallem, MSc^{1,2}, Kora DeBeck, PhD^{1,2}, M. J. Milloy, PhD^{1,3}, Julian Somers, PhD², Thomas Kerr, PhD^{1,3}, Kanna Hayashi, PhD^{1,2}

¹British Columbia Centre on Substance Use, St. Paul's Hospital, Vancouver, British Columbia, Canada

²Simon Fraser University, Burnaby, British Columbia, Canada

³University of British Columbia, Vancouver, British Columbia, Canada

Abstract

Background.—Across the United States and Canada drug-related Good Samaritan laws (GSLs) have been enacted to encourage observers of acute drug overdose events to contact emergency medical services (EMS) without fear of legal repercussions. However, little is known about the working knowledge of GSLs among people who use illicit drugs (PWUD). We sought to evaluate the prevalence and factors associated with accurate knowledge of a GSL among PWUD in Vancouver, Canada, 1 year after the GSL was enacted.

Method.—We used data from participants in three community-recruited prospective cohort studies of PWUD interviewed between June and November 2018. Multivariable logistic regression was used to identify factors associated with accurate knowledge of the GSL.

Results.—Among 1,258 participants, including 760 males (60%), 358 (28%) had accurate knowledge of the GSL. In multivariable analyses, participants who reported ever having a negative police encounter (defined as being stopped, searched, or detained by the police) were less likely to have accurate knowledge of the GSL (adjusted odds ratio [AOR] = 0.70; 95% CI [0.54, 0.90]), while those involved in drug dealing were more likely to have accurate knowledge of the GSL (AOR = 1.50; 95% CI [1.06, 2.06]).

Discussion.—Despite having been enacted for a full year, approximately three quarters of participants did not have accurate GSL knowledge, warranting urgent educational efforts among PWUD. Additional research is needed to understand whether GSLs can mitigate the fears of legal repercussions among those engaged in drug dealing and with past negative experiences with the police.

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Corresponding Author: Kanna Hayashi, British Columbia Centre on Substance Use, St. Paul's Hospital, 400-1045 Howe Street, Vancouver, British Columbia V6Z 2A9, Canada. bccsu-kh@bccsu.ubc.ca.

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Keywords

drug overdose; emergency medical services; Good Samaritan law; illicit drugs

In recent years, Canada and the United States have been contending with an ongoing overdose crisis, largely driven by the use of illicit drugs involving synthetic opioids (British Columbia Coroners Service, 2018a; Centers for Disease Control and Prevention, 2018; Government of Canada, 2019). In response, in 2017, Canada enacted a law to encourage calls to emergency medical services (EMS) in overdose situations (Government of Canada, 2017a). By 2018, 46 states in the United States had enacted similar legislation, commonly referred to as drug-related Good Samaritan laws (GSLs). These laws are similar to other medically oriented GSLs in which bystanders are afforded protection from potential liabilities related to intervening in a medical emergency (Adusumalli et al., 2018). In general, GSLs provide immunity from arrest, charges, or prosecution related to drugs possessed for personal use (simple possession) and breach of conditions (e.g., probation orders, parole) related to simple possession among those involved at a drug-related emergency where EMS is called (Government of Canada, 2017a; National Conference of State Legislatures, 2019). Although this definition applies to Canada nationally, protections vary state by state in the United States (Government of Canada, 2017a; National Conference of State Legislatures, 2019).

These laws arose as a result of consistent reports of EMS not being called to overdose situations (Clark et al., 2014; Klassen & Buxton, 2016; Koester et al., 2017; Latimore & Bergstein, 2017). Indeed, a majority of people who use illicit drugs (PWUD) report being reticent to call EMS due to concerns about police involvement (Hawk et al., 2015; Klassen & Buxton, 2016; Koester et al., 2017; Tracy et al., 2005). Through qualitative research, some PWUD also report an ability to respond to overdose situations alone using naloxone, a medication to reverse an opioid overdose (Boyer, 2012; British Columbia Centre for Disease Control, 2012). This, however, is against the advice of overdose response programming (British Columbia Centre for Disease Control, 2017; Clark et al., 2014; Hawk et al., 2015), as medical complications can arise during an overdose that require the attention of EMS; specifically, even after receiving naloxone the patient can revert back into a state of respiratory depression if highly potent opioids were consumed (Boyer, 2012), such as fentanyl, a highly potent synthetic opioid prevalent during the current overdose crisis (Centers for Disease Control and Prevention, 2016; Government of Canada, 2018; Tupper et al., 2018). Given the importance of having EMS attend overdose events and given that PWUD are commonly witnesses to drug-related poisonings (Baca & Grant, 2007; Bohnert et al., 2012; Darke et al., 1996), assessing working knowledge of GSL among PWUD is of public health relevance.

The current body of evidence on the effectiveness of GSLs is limited (Moallem & Hayashi, 2020). A first step to assess the effectiveness of these laws is to measure the prevalence of working knowledge of these laws. However, most studies that have evaluated knowledge of these laws have used PWUD's awareness of these laws as proxy measurements for knowledge about their implications (Evans et al., 2016; Watson et al., 2018). There is

an important distinction between awareness and knowledge (Trevethan, 2017), whereby awareness may simply signify knowing that a law exists, while knowledge of the practical importance of the law requires a deeper understanding (Trevethan, 2017). Nevertheless, among those studies that have reported awareness of a GSL among PWUD, the percentages of those reporting awareness were 45.5% ($n = 90$) in Indiana, United States (Watson et al., 2018), and 77.4% ($n = 168$) in Rhode Island, United States (Evans et al., 2016). Only one of these studies examined factors associated with awareness of Rhode Island's GSL and found that older age, White ethnicity, and experiencing a nonfatal overdose were associated with awareness of the GSL (Evans et al., 2016). We are also only aware of two studies that have evaluated the accuracy of GSL knowledge among PWUD in Baltimore and New York (Jakubowski et al., 2018; Schneider et al., 2020). However, Jakubowski et al. (2018) assessed the GSL knowledge among individuals who had received overdose prevention training (which included education about a GSL), not among PWUD in community settings. Schneider et al. (2020) did sample people who inject drugs in communities; however, their study focused on engagement in harm reduction services as a potential predictor of the GSL knowledge and did not explore a wider range of individual factors and social-structural exposures that may be associated with the GSL knowledge. As such, these studies are limited in scope and generalizability to other groups of PWUD. Even so, both studies reported low levels of working knowledge among PWUD (Jakubowski et al., 2018; Schneider et al., 2020).

To address the limited research on GSL knowledge among PWUD, we sought to investigate the prevalence of and a range of individual and social-structural environmental factors associated with accurate knowledge of the law among a large sample of community-recruited PWUD. We drew on Rhodes's risk environment framework to guide our exploratory analyses (Rhodes, 2009). Specifically, according to the framework, individual's knowledge about GSL could be shaped by not only their educational attainment but also by physical, social, economic, and political environmental factors that could interact at macro- and microenvironmental levels and also with individual-level factors (e.g., drug use patterns). For instance, criminalization of PWUD (macropolicy environment) and the resultant aggressive drug law enforcement on the streets (microsocial environment) has been demonstrated to be a barrier for PWUD to accessing harm reduction services (Collins et al., 2019; Wood et al., 2003); thus, the potential for PWUD to receive GSL knowledge from these public health services could be limited (Rhodes, 2009). This study represents a novel opportunity to evaluate knowledge of Canada's GSA (titled the Good Samaritan Drug Overdose Act) among PWUD in Vancouver, British Columbia, a setting with an ongoing community-wide opioid overdose crisis and where the GSA had been enacted a full year prior.

Method

Data were drawn from three ongoing prospective cohort studies of PWUD in Vancouver: the Vancouver Injection Drug Users Study (VIDUS), the AIDS Care Cohort to evaluate Exposure to Survival Services (ACCESS), and the At-Risk Youth Study (ARYS). VIDUS enrolls HIV-seronegative adults (> 18 years) who injected illicit drugs in the month prior to enrollment. ACCESS enrolls HIV-seropositive adults who used an illicit drug other than

or in addition to cannabis in the month prior to enrollment. ARYS enrolls street-involved youth aged 14 to 26 years who used an illicit drug other than or in addition to cannabis in the month prior to enrolment. The studies use harmonized data collection and follow-up procedures to allow for merged data analyses. All three cohorts administer questionnaires by trained interviewers and HIV serologic tests at equal follow-up frequency (i.e., every 6 months). At each study visit, participants receive a \$40 CAD honorarium. Further details of the three cohorts are available elsewhere (Strathdee et al., 1998; Wood et al., 2006; Wood et al., 2009).

The current study used data from the study questionnaire administered from June to November 2018 when a set of questions about the GSA knowledge were added to the questionnaire. All participants who completed these questionnaires were included in this analysis. All three cohorts have received ethics approval from the affiliated university research ethics board.

In the present analyses, our outcome of interest was knowledge of the GSA, defined as accurate versus inaccurate. To create this variable, we asked participants

Imagine you witness an overdose in a public place. 911 is called and the police come to the scene. Do you think the police can legally arrest you if: you have a small amount of drugs on you (Scenario A), you have a larger amount of drugs on you or items (scale, etc.) that may look like you are involved in drug dealing (Scenario B), and you are in a red/no-go zone (a legal area restriction) you received for a previous charge that was not simple drug possession (Scenario C).

This question was created in consultation with a local lawyer who has expert knowledge about the GSA and informed by public educational material on the GSA that was created and disseminated by the local lawyer's group (Pivot Legal Society, 2017). This public educational material also includes other possible and relevant scenarios that were not covered in our assessment, such as having an outstanding warrant for arrest or violating a condition of parole, pretrial release, probation order, or conditional sentence not related to simple drug possession (Pivot Legal Society, 2017). The language used in our assessment is in line with the language used on the Government of Canada's GSA website (Government of Canada, 2017a). Based on our experiences working with this population, we included the most relevant scenarios for our study population. Participants were categorized as having accurate knowledge of the GSA if they correctly identified that Scenario A was the only instance where the police could not legally arrest at the event of an overdose when EMS is called, owing to protections provided by the GSA (Government of Canada, 2017a). We also explored the prevalence of those who "underestimated protections," defined as reporting a belief that the police could arrest for all of the three scenarios (including Scenario A). Also, the prevalence of those who "overestimated protections" was explored, defined as reporting a belief that the police could not arrest during (1) all the three scenarios, (2) Scenarios A and B, (3) Scenarios A and C, or (4) Scenario C. Individuals who reported a belief that the police could not arrest during Scenario B but could arrest during Scenarios A and C were categorized as having incorrect knowledge and not included in the under- and overestimations of knowledge.

Covariates were selected based on prior literature (Evans et al., 2016; Schneider et al., 2020), as well as the hypothesized relationships between the explanatory variables and working knowledge of the GSA according to the risk environment framework (Rhodes, 2009). Specifically, the explanatory variables of interest included the following sociodemographic characteristics: age (per year older, continuous); ethnicity/ancestry (White vs. non-White); gender (male vs. nonmale); education (< secondary school education vs. secondary school education); residence in the Downtown Eastside neighborhood of Vancouver (DTES), an area with prevalent illicit drug use, overdose, and marginalization (Linden et al., 2013); and place of residence (homeless vs. single room occupancy accommodations [SRO], a low-cost single room occupancy hotel, known to be in a state of disrepair; Linden et al., 2013; Wood & Kerr, 2006; and where a high number of fatal overdoses have occurred [British Columbia Coroners Service, 2020] vs. other [e.g., apartment, house, no fixed address]). Drug use-related variables included daily injection drug use (daily vs. <daily); daily use of heroin (daily vs. <daily); daily use of stimulants (daily vs. <daily), defined as powder/crack cocaine or crystal methamphetamine; daily use of cannabis (daily vs. <daily); involvement in drug dealing; nonfatal overdose; and witnessed an overdose event. Additional variables of interest included in our model were as follows: ever being incarcerated; ever had a negative police encounter (defined as stopped, searched or detained by the police); engagement in any addiction treatment; reporting inability to access addiction treatment; and currently own a take-home naloxone (THN) kit, defined as receiving a THN kit containing the equipment necessary to administer naloxone from the THN program in British Columbia (British Columbia Centre for Disease Control, 2012). All variables except for age, gender, education, ethnicity/ancestry, incarceration, and negative police encounter, referred to the past 6 months. All variables were coded as yes versus no unless otherwise stated.

Bivariable and multivariable logistic regression was used to identify factors associated with knowledge of the GSA. To merit inclusion into the multivariable model, explanatory variables had to be associated at the $p < .05$ level in bivariable analyses. We also tested for differences in sample characteristics among nonresponders and responders to the assessment of GSA knowledge among the three cohorts using Pearson's χ^2 test and Fisher's test for counts < 5 (for categorical variables) or the Mann-Whitney test (for continuous variables) as appropriate. All p values were two-sided, and all statistical analyses were conducted using R, Version 3.4.2 (RStudio Team, 2017).

Results

In total, 1,426 participants completed interviews during the study period. Of those, 168 participants (43 VIDUS, 31 ACCESS, and 91 ARYS participants) did not complete the assessment of GSA knowledge questions, while 1,258 participants did. We observed significant differences in the following variables (responders vs. non-responders): age ($Mdn = 33.5$ vs. 46.1), DTES residency (56.4% vs. 34.5%), place of residence (homeless: 14.5% vs. 20.2%; SRO: 42.6% vs. 27.4%; and other: 42.8% vs. 51.1%), engagement in addiction treatment (62.6% vs. 35.7%), ever incarcerated (83.5% vs. 69.0%), currently own a THN kit (66.4% vs. 39.3%), witnessed an overdose (56.8% vs. 31.0%), involved in drug dealing

(14.3% vs. 5.4%) and daily injection (32.7% vs. 19.0%), heroin (45.2% vs. 32.7%), and stimulant use (27.2% vs. 4.1%; all $p < .05$).

Among the analytic sample ($n = 1,258$ participants), 760 (60.4%) were male, 566 (45.3%) were White, and the median age was 46 years (interquartile range [IQR] 1–3: 32–56) years, while 715 (56.8%) had witnessed an overdose event in the past 6 months. As shown in Table 1, 358 (28.5%) individuals had accurate knowledge of the GSA, with Scenario A (“You have a small amount of drugs on you”) being most commonly answered incorrectly (515, 40.9%). Also, in total, 468 (37.2%) underestimated and 410 (32.6%) overestimated the protections provided by the GSA, as shown in Table 2. Among those who had overestimated the protections, 159 (38.8%) were living in a SRO, 45 (11.0%) were engaged in drug dealing and 220 (53.7%) had ever experienced a negative police encounter. Among those who had underestimated the protections, 204 (43.6%) were living in a SRO, 68 (14.5%) were engaged in drug dealing and 306 (65.4%) had ever experienced a negative police encounter.

The prevalence of accurate working knowledge of the GSA was similarly low among some key groups (Table 2), including 29.7% among those who had witnessed an overdose event, 30.7% among those who were homeless, and 28.3% among those living in a SRO in the past 6 months. A higher percentage of males reported inaccurate knowledge (62.3% males vs. 37.7% non-males), with a statistically significant relationship present ($p = .02$). In addition, a higher percentage of those with accurate knowledge reported living in the DTES (61.2% vs. 38.8%), with a statistically significant relationship present ($p = .03$).

In the multivariable results (Table 3), individuals who reported ever having a negative police encounter (adjusted odds ratio [AOR] = 0.70; 95% CI [0.55, 0.91]) were less likely to have accurate knowledge of the GSA, while those who reported involvement in drug dealing (AOR = 1.46; 95% CI [1.04, 2.06]) were more likely to have accurate knowledge of the GSA.

Discussion

Among our community-recruited sample of PWUD, the majority had witnessed a recent overdose event, but only approximately one quarter of participants had accurate knowledge of the GSA. Of concern, the prevalence of accurate knowledge of the GSA was similarly low among people who had recently witnessed an overdose and those who were living in SROs. This is concerning as private residences have consistently been shown to have reduced EMS-calling rates compared to public places (Jakubowski et al., 2018; Klassen & Buxton, 2016; Tracy et al., 2005). Furthermore, 32.6% had overestimated and 37.2% had underestimated the protections provided by the GSA. In the multivariable analysis, participants who reported ever having a negative police encounter were less likely to have accurate knowledge of the GSA, while those involved in drug dealing were more likely to have accurate knowledge of the GSA.

To our knowledge, this is the first study from a Canadian setting to assess the accuracy of knowledge of the GSA among PWUD. We observed a low prevalence of accurate knowledge of the GSA among our sample of PWUD including those who recently witnessed

a drug overdose. Our study results are comparable to two previous studies (Jakubowski et al., 2018; Schneider et al., 2020). In the first study, investigators found that 56 (18.8%) of people who inject drugs in Baltimore had working knowledge of Maryland's GSL. While investigators in New York demonstrated that immediately following overdose prevention training (that includes education of a GSL) less than half of the sample (43%, $n = 55$) had working knowledge of these laws (Jakubowski et al., 2018). After reinforcement of the correct knowledge of the GSL at the 3-, 6- and 12-month follow-up points, correct knowledge of the GSL among study participants increased at each follow-up, reaching 78% ($n = 94$) of the total sample at the 12-month mark (Jakubowski et al., 2018). This may suggest that reinforced educational programming is needed for working knowledge to be achieved. Some scholars have suggested that targeted education about GSLs to PWUD and bystanders may be an effective strategy (Evans et al., 2016), as targeted training for bystanders in overdose education was shown to be effective in reducing overdose-related fatalities across 19 communities in Massachusetts, United States (Walley et al., 2013). Previous research in our setting has also shown that the most commonly reported method of receiving knowledge regarding the risks of fentanyl was word-of-mouth from other PWUD (60.3%), followed by news/media (47.1%) and public health education strategies (22.7%; Moallem et al., 2019). Taken together, targeted training for bystanders and PWUD as well as peer-based organizations or groups of PWUD may facilitate knowledge dissemination among PWUD social networks. However, further research is needed on the best practices to provide education of these laws to PWUD.

Working knowledge is also important to achieve as we found that about a third of the sample had overestimated the legal immunities provided at overdose events. This potentially places these individuals at risk for arrest, which could be harmful to the aims of the GSA and further perpetuate the ongoing fear of police involvement at overdose events (Follett et al., 2019; Jakubowski et al., 2018; Klassen & Buxton, 2016; Koester et al., 2017; Latimore & Bergstein, 2017). These findings may even suggest that the ongoing federally funded educational programming in our setting may not be effective in reaching members of marginalized populations, including PWUD (Government of Canada, 2017b, 2017c). Taken together with our findings, educational programming to increase the knowledge base of these laws among high-risk populations such as PWUD are strongly needed.

In addition, our finding that only about a quarter of those who lived in SROs had accurate knowledge of the GSA and that a considerable portion had overestimated the protections is concerning. More specifically, among SRO residents with inaccurate knowledge, 60.0% had underestimated the protections, while 46.8% had overestimated the protections. Between 2017 and 2019 in the province of British Columbia private settings were the most common places where fatal overdose cases occurred (British Columbia Coroners Service, 2020). For instance, in 2018, 372 (24.5%) fatal overdoses occurred in SROs and similar housing accommodations (British Columbia Coroners Service, 2020). This may be attributed to the lower likelihood of EMS being called to these settings compared to public settings (Jakubowski et al., 2018; Klassen & Buxton, 2016). Previous qualitative research results indicate that fears of losing government-funded housing are among commonly cited reasons not to alert EMS in private residences (Jakubowski et al., 2018; Koester et al., 2017), as well as a fear of endangering personal relations by involving the police (Koester et al., 2017;

Latimore & Bergstein, 2017). Therefore, educational resources are strongly warranted in areas that have a high prevalence of illicit drug use and SROs such as the DTES (British Columbia Coroners Service, 2018b; Linden et al., 2013; Neil et al., 2010). Furthermore, there is a need to make the places PWUD reside into spaces where PWUD feel comfortable to call for EMS in any medical situation. Some work has been done in this area, specifically a recent pilot study in the DTES has shown some success in a tenant-led overdose response team (Bardwell et al., 2019). In particular, this program was effective in acceptability, increasing knowledge of overdose response, and increasing access to naloxone among PWUD in privately owned SROs (Bardwell et al., 2019). Further support is needed to alleviate the fears associated with EMS calling at the places PWUD reside, as these fears reduce the chance for any resident to receive timely EMS for any medical concerns.

Furthermore, the current legal immunities provided by the GSA may not be sufficient to encourage calling EMS when indicated. More specifically, our finding that those involved in drug dealing are more likely to have accurate knowledge of the GSA creates a strong uncertainty as to whether individuals engaged in drug dealing, an activity not protected by the GSA in Canada (Government of Canada, 2017a), and who have accurate knowledge of the GSA would engage in EMS calling. Numerous studies report PWUD's reluctance to call EMS due to the strong fear of arrest (Follett et al., 2019; Jakubowski et al., 2018; Klassen & Buxton, 2016; Koester et al., 2017; Latimore & Bergstein, 2017). In many settings, PWUD consistently report feeling compelled to manage overdose situations independently to avoid risking police involvement by recruiting EMS (Collins et al., 2019; Seal et al., 2003; Tracy et al., 2005). In this regard, there is a need to implement vigilant and harm reduction-based approaches to quell any uncertainties surrounding the effectiveness of these laws, especially as the fatalities continue to rise due to the ongoing overdose crisis. One possible approach could be the expansion of the legal immunities provided to individuals, specifically by including the immunity from drug trafficking charges in the GSA. This would likely increase the appeal to many PWUD as this activity is a part of the daily lives of many and is essential work for many PWUD's survival (DeBeck et al., 2007; Sherman & Latkin, 2002). However, further research is needed to support the expansion of the immunities provided, specifically research on how knowledge of these laws translates to actions, such as EMS calling.

The finding that those who have experienced a negative police encounter were less likely to have accurate knowledge of the GSA is novel. Given that socially marginalized PWUD commonly experience police violence (Koester et al., 2017; Latimore & Bergstein, 2017), this finding may reflect the mistrust that PWUD have against the police due to the past negative experiences. Specifically, individuals who have had negative police encounters in the past may be more likely to believe that police will still arrest individuals at the scene of an overdose despite the legal protections provided by the GSA. This belief would then cause participants to incorrectly answer our assessment of the GSA knowledge, which is consistent with the finding that almost half (45.8%) of those who reported having a negative police encounter underestimated the protections provided by the GSA. This hypothesis is further supported by another qualitative study (Koester et al., 2017), where the most frequent concern expressed by PWUD about a GSL is whether the police and courts will respect the promise of immunity provided by these laws. Therefore, it is unclear whether GSLs are able to mitigate the fears associated with calling EMS among PWUD (Hawk et al., 2015;

Latimore & Bergstein, 2017; Watson et al., 2018). However, it is important to highlight that those with past negative experiences with the police are among high-risk populations who warrant knowledge of these types of law. To meet this exigency, overdose response training that includes knowledge of a GSL is strongly needed. Having previous incarceration experience was not significantly associated with accurate knowledge of the GSA, although the direction of effect was the same as that observed among people who reported having a negative police encounter.

Our study has several limitations. The majority of our measures are self-reported, which could introduce response bias into our results. However, self-reported measures among PWUD have been shown to be generally reliable and valid among PWUD (Darke, 1998; Napper et al., 2010; Needle et al., 1995). In addition, the sample was not randomly recruited, which may reduce the external validity of our results. Due to this study design limitation, the level of working knowledge found in our study cannot be generalized to other parts of Canada or the United States. However, our findings are important as they demonstrate the level of working knowledge within one of the epicenters of the overdose crisis in Canada. In addition, the findings about negative experiences with law enforcement and engagement in drug dealing, both of which are common among PWUD, have important implications to inform policy and future investigations into the working knowledge of GSLs. The cross-sectional nature of this study also does not allow us to address the temporal sequence of associations found in our study. Last, we observed significant differences in some sample characteristics between nonresponders and responders, which may have introduced some nonresponse bias into our study. However, the direction of the bias was unknown.

Conclusion

This study adds to the current literature on GSLs by assessing the accuracy of knowledge of these laws among a large community-recruited sample of PWUD in the midst of an ongoing drug overdose crisis. Overall, our findings expand on past research by demonstrating a low prevalence of accurate knowledge of GSLs a full year after its enactment. Low levels of knowledge may undermine the potential effectiveness of this federal law in our setting, especially because we found that 32.6% of the sample had overestimated the protections provided by the GSA, potentially placing these individuals at risk for arrest. Participants engaged in drug dealing were more likely to have accurate knowledge of the GSA; however, they may also be reticent to call EMS given the absence of legal protections for drug dealing in the GSA. Participants who had experienced negative police encounters were less likely to have accurate knowledge of the GSA, and almost half (45.8%) had underestimated the protections. Therefore, these participants may be less likely to act under the protections provided. Our findings suggest areas for further investigation and potential intervention to further improve the effectiveness of GSLs in the context of the ongoing crisis. Implications include the need for further education among high-risk populations such as people living precariously and who have had negative police encounters.

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Table 1.

Responses to the Good Samaritan Drug Overdose Act (GSA) Knowledge Assessment Question Among People Who Use Illicit Drugs in Vancouver, British Columbia, June 2018 to November 2018 ($n = 1,258$).

Question: Imagine you witness an overdose in a public place. 911 is called and the police come to the scene. Do you think the police can legally arrest you if	Yes, n (%)	No, n (%)
Scenario A: You have a small amount of drugs on you	515 (40.9)	743 (59.1)
Scenario B: You have a larger amount of drugs on you or items that may look like you are involved in drug dealing	914 (72.7)	344 (27.3)
Scenario C: You are in a red/no-go zone you received for a previous charge that was not simple drug possession	953 (75.8)	305 (24.2)
Accurate knowledge of the Canadian GSA	358 (28.5)	900 (71.5)

Note. The Canadian GSA provides protections from the arrest, charge or prosecution of drugs possessed for personal use (simple possession), and breach of conditions (e.g., probation orders, parole) related to simple possession to those involved at the overdose event when emergency medical services are called (Government of Canada, 2017a). Participants who correctly identified that police could not legally arrest an individual in Scenario A but could legally arrest individuals in Scenarios B and C were deemed to have accurate knowledge of the GSA.

Table 2.

Bivariable Logistic Regression Analyses of Factors Associated With Accurate Knowledge (vs. Inaccurate Knowledge) of the Good Samaritan Drug Overdose Act ($n = 1,258$) in Vancouver, British Columbia, June 2018 to November 2018.

Characteristic	Accurate knowledge (n , %)		Odds ratio [95% CI]	p	Estimated protections ^a (%)	
	Yes ($n = 358$, 28.5%)	No ($n = 900$, 71.5%)			Under ($n = 468$, 37.2%)	Over ($n = 410$, 32.6%)
Age (years)						
Median (IQR)	47 (34–55)	44 (32–56)	—		49 (39–56)	41 (29–53)
Per year older	—	—	0.99 [0.98, 1.00]	.24		
White (vs. non-White)	163 (45.5)	403 (44.8)	1.02 [0.80, 1.30]	.88	210 (44.9)	183 (44.6)
Non-White	194 (54.2)	489 (54.3)	Reference	—	256 (54.7)	221 (53.9)
Male (vs. non-male)	199 (55.6)	561 (62.3)	0.76 [0.59, 0.97]	.03	312 (66.7)	233 (56.8)
Non-male	154 (43.0)	324 (36.0)	Reference	—	149 (31.8)	170 (41.5)
<Secondary school education	189 (53.7)	453 (51.5)	1.09 [0.85, 1.40]	.49	249 (53.2)	197 (48.0)
>Secondary school	163 (45.5)	426 (47.3)	Reference	—	210 (44.9)	202 (49.3)
DTES residency ^b	219 (61.2)	490 (54.4)	1.32 [1.03, 1.69]	.03	254 (54.3)	225 (54.9)
Not living in DTES	139 (38.8)	410 (45.6)	Reference	—	214 (45.7)	185 (45.1)
Place of residence ^b :						
Homeless	75 (21.0)	169 (18.8)	1.16 [0.84, 1.62]	.37	57 (12.2)	76 (18.5)
Single room occupancy	134 (37.4)	340 (37.8)	1.03 [0.79, 1.36]	.81	204 (43.6)	159 (38.8)
Other (e.g., apartment, house, no fixed address)	149 (41.6)	391 (43.4)	Reference	—	207 (44.2)	174 (42.4)
Engaged in addiction treatment ^b	229 (64.0)	559 (62.2)	1.08 [0.84, 1.39]	.56	295 (63.0)	252 (61.5)
Not engaged in addiction treatment	129 (36.0)	340 (37.8)	Reference	—	174 (37.2)	158 (38.5)
Unable to access addiction treatment ^b	9 (2.5)	23 (2.6)	0.98 [0.43, 2.07]	.96	12 (2.6)	11 (2.7)
Able to access addiction treatment	349 (97.5)	876 (97.3)	Reference	—	455 (97.2)	399 (97.3)
Ever been incarcerated	290 (81.0)	761 (84.6)	0.78 [0.57, 1.08]	.13	412 (88.0)	330 (80.5)
Never been incarcerated	68 (19.0)	139 (15.4)	Reference	—	56 (12.0)	80 (19.5)
Ever had a negative police encounter ^c	182 (51.0)	537 (59.7)	0.70 [0.55, 0.90]	.01	306 (65.4)	220 (53.7)
Never had a negative police encounter	175 (48.9)	363 (40.3)	Reference	—	162 (34.6)	190 (46.3)
Currently own THIN kit ^b	244 (72.8)	591 (67.7)	1.28 [0.97, 1.70]	.08	302 (64.5)	274 (66.8)

Characteristic	Accurate knowledge (n, %)		Odds ratio [95% CI]	p	Estimated protections ^a (%)	
	Yes (n = 358, 28.5%)	No (n = 900, 71.5%)			Under (n = 468, 37.2%)	Over (n = 410, 32.6%)
Does not currently own THIN kit	91 (25.4)	282 (31.3)	Reference	—	158 (33.8)	118 (28.8)
Witnessed an overdose ^b	212 (59.2)	503 (56.0)	1.14 [0.89, 1.47]	.29	265 (56.6)	224 (54.6)
Have not witnessed an overdose	146 (40.8)	396 (44.0)	Reference	—	202 (43.2)	186 (45.4)
Experienced an overdose ^b	36 (10.1)	107 (11.9)	0.83 [0.55, 1.23]	.36	45 (9.6)	61 (14.9)
Have not experienced an overdose	321 (89.7)	793 (88.1)	Reference	—	423 (90.4)	349 (85.1)
Involved in drug dealing ^b	64 (17.9)	116 (12.9)	1.47 [1.05, 2.04]	.03	68 (14.5)	45 (11.0)
Not involved in drug dealing	294 (82.1)	781 (86.8)	Reference	—	398 (85.0)	364 (88.8)
Daily injection drug use ^b	118 (33.0)	293 (32.6)	1.13 [0.88, 1.46]	.89	156 (33.3)	280 (68.3)
<Daily use	240 (67.0)	607 (67.4)	Reference	—	312 (66.7)	177 (43.2)
Daily heroin use ^d	174 (48.6)	395 (43.9)	1.21 [0.95, 1.55]	.13	212 (45.3)	233 (56.8)
<Daily use	184 (51.4)	505 (56.1)	Reference	—	256 (54.7)	105 (25.6)
Daily stimulants, defined as powder or crack cocaine or crystal methamphetamine ^d	103 (28.8)	239 (26.6)	1.11 [0.85, 1.46]	.43	125 (26.7)	305 (74.4)
<Daily use	255 (71.2)	661 (73.4)	Reference	—	343 (73.3)	219 (53.4)
Daily cannabis use	207 (57.8)	491 (54.6)	1.14 [0.89, 1.46]	.29	259 (55.3)	191 (46.6)
<Daily use	151 (42.2)	409 (45.4)	Reference	—	209 (44.7)	45 (11.0)

Note. IQR = interquartile range; DTES = Downtown Eastside neighborhood of Vancouver; THIN = take home naloxone.

^aDenotes whether participants under- or overestimated the protections provided by the GSA.

^bDenotes behaviors and events in the past 6 months.

^cPolice encounter refers to being stopped, searched or detained by the police.

^dInjection or noninjection drug use.

Table 3.

Multivariable Logistic Regression Analyses of Factors Associated With Accurate Knowledge of the Good Samaritan Drug Overdose Act (GSA; $n = 1,258$) in Vancouver, British Columbia, June 2018 to November 2018.

Characteristic	Adjusted odds ratio [95% CI]	<i>p</i>
Male (vs. non-male)	0.82 [0.64, 1.06]	.13
DTEs residency ^a	1.25 [0.97, 1.62]	.09
Ever had a negative police encounter ^b	0.70 [0.55, 0.91]	.01
Involved in drug dealing ^a	1.46 [1.04, 2.06]	.03

Note. DTEs = Downtown Eastside neighborhood of Vancouver. Reference category = inaccurate knowledge of the GSA. To merit inclusion into the final multivariable model, factors must have been associated with the outcome in bivariable analyses at the $p < .05$ level.

^aDenotes behaviors and events in the past 6 months.

^bPolice encounter refers to being stopped, searched or detained by the police.