

# Perceptions of syringe services programs and supervised use sites among a sample of registered voters in a U.S. state

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## Research

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# Abstract

## Background

The decision to initiate a syringe service program or expand to a supervised use site is often influenced by local public support or opposition. The purpose of this study was to better understand public attitudes to local syringe service programs to inform the possibility of expanding services.

## Methods.

We surveyed a sample of registered voters (n = 690) in the eight counties in the state of Colorado, United States, with existing syringe service programs about their awareness of and attitudes towards syringe service programs and supervised use sites.

## Results.

Over three-quarters of respondents reported they were familiar with syringe service programs but only quarter knew they were legal, despite all survey respondents living near an operating program. Nearly 1 in 3 respondents thought a syringe service program or a supervised use site makes a community better and a majority (57%) thought supervised use sites should be legal in their state. There were significant differences in attitudes towards the benefits and risks of syringe service programs by political party affiliation.

## Conclusion

Understanding the level of community knowledge and support for syringe service programs, as well as the reasons for opposition, can be helpful in addressing community concerns when seeking to initiate or expand services.

# Introduction

Syringe Service Programs (SSPs), also known as needle exchange programs, are community-based initiatives that aim to prevent the transmission of infectious diseases by providing clean needles and a range of other services to people who inject drugs (PWID). A large body of research shows that SSPs do not increase illegal drug use or crime, and can reduce the spread of infectious diseases like viral hepatitis and HIV (Aspinall et al., 2014; Bernard, Owens, Goldhaber-Fiebert, & Brandeau, 2017; Hagan et al., 2000). SSPs have been shown to be effective in reducing overdose deaths (DeBeck et al., 2011; Marshall, Milloy, Wood, Montaner, & Kerr, 2011; Milloy, Kerr, Tyndall, Montaner, & Wood, 2008; Potier, Laprévotte, Dubois-arber, Cottencin, & Rolland, 2014; van Beek, Dakin, Kimber, & Gilmour, 2004) and as a cost-effective harm reduction strategy (Irwin et al., 2017; Jozaghi, Reid, & Andresen, 2013).

Despite the evidence for harm reduction, SSPs continue to be controversial in the United States (U.S.). Some U.S. cities are exploring expanding SSPs to include supervised use sites (SUSs), also known as “safe injection sites” or “overdose prevention sites”, which are places where PWID can inject drugs under supervision of trained staff and with access to sterile injection supplies. Among the small number of U.S. cities to explore a SUS include Denver, Colorado (Staver, 2019), which legalized SSPs in 2010.

In the U.S., decisions about commencing SSPs or expanding to be a SUSs occur at the level of the state or local elected official such as city councils or county commissioners and are influenced by local public support. Few studies have systematically measured public support for SSPs or SUSs and the main areas of public concern. A recent study interviewed residents and businesses in a Philadelphia, Pennsylvania neighborhood and found wide support of a SUS (Roth et al., 2019). However, this study focused on one postal zip code, the likely location of a future site, which may not fully capture the public opinion that could influence local officials. A recent U.S. nationally representative survey found that 39.3% of people support SSPs and 28.9% support “safe consumption sites” (McGinty et al., 2018). Results from the same study which examined supporting and opposing arguments for SUSs found that the opposing arguments with the higher endorsement were that

public funds were better spent on addiction treatment, and that sites were allowing illegal activity and encouraging people to use drugs. The supporting argument with the highest endorsement for SUSs was that sites are a better alternative to arresting people, reduce infectious diseases and emergency room visits, and save on health care costs (Barry et al., 2019).

As part of a needs assessment to consider expanding the number of SSPs in Colorado, we conducted a survey of registered voters about their perceptions of SSPs and SUSs. The purpose of the survey was to assess the awareness of and attitudes about these programs.

## Methods And Materials

### Sample

We obtained a voter file from the Colorado Office of the Secretary of State (Colorado Secretary of State, 2019). We limited our sampling frame to voters registered in the most recent gubernatorial election (November 2018) with the rationale that this was the most recent statewide election likely to have highest turnout, second to a national presidential election. We further limited the frame to registered voters within the eight counties in Colorado with a SSP program (Alamosa, Arapahoe, Boulder, Denver, Jefferson, Larimer, Mesa, and Pueblo). Our focus on these counties was to inform a larger needs assessment of existing SSPs in consideration of expansion of services. We randomly selected 250 individuals based on their residential address (ages 18 and older) in each county for a total sample of 2,000 individuals.

### Data Collection

Sampled individuals were mailed a one page machine-scannable paper survey and postage-paid return envelope, with a cover letter explaining the purpose of the survey and information on how to complete the survey online if preferred, and a U.S.\$2 bill. The survey could be completed online by visiting the survey link and entering a unique access code. The survey was programmed into Qualtrics software (Provo, UT). The letter described the incentive for completing the survey, which was U.S.\$15 for completing the paper version and U.S.\$20 for completing online to encourage completion online. The first mailing was in June 2019, followed by a reminder postcard two weeks later. A third mailing was sent a month after the first, which included another copy of the paper survey and postage-paid return envelope. In an effort to increase response rate, the third mailing raised the incentive for completing the survey to U.S.\$30. The incentive was provided in the form of a gift card to a widely available retail store. The study procedures were approved by the Colorado Multiple Institutional Review Board as exempt research and by the Institutional Review Board at the Colorado Department of Public Health and Environment.

### Measures

*Familiarity with SSPs and SUSs.* After a brief description of SSPs, respondents were asked, “How much have you heard about syringe exchange programs?” with response options of a lot, a little, and I haven’t heard of this program until now. They were also asked, “To the best of your knowledge, are syringe exchange programs legal in Colorado?” with response options of yes, no, and don’t know. Later in the survey they were asked a similar set of questions about “supervised use sites” including, “How much have you heard about supervised use sites?” (a lot, a little, I haven’t hear of this before) and, “Do you think the law should allow or prohibit supervised injection sites in Colorado?” with the following response options: definitely allow, probably allow, probably prohibit, definitely prohibit, which we collapsed into allow and prohibit.

*Attitudes towards SSPs.* We asked about the likeliness of several positive or negative effects of a SSP operating in the neighborhood with positive statements including the following: less injection drug use, fewer overdose deaths, reduce the spread of infectious diseases such as HIV/AIDS or Hepatitis C, provide more resources about treatment to people who inject drugs, and fewer needles left on the street. We also asked likelihood of several negative consequences, including the following: threaten the safety of community members, promote continued drug use, and attract crime to the neighborhood. Response options were: very likely, likely, not very likely and not at all likely. We asked identical statements about SUSs with

the same response options. For ease of presentation, responses were collapsed into: likely/very likely and not very likely/not at all likely.

Finally, we asked, "In your opinion, considering the pros and cons, does a syringe exchange program make a community mostly better, mostly worse, or pretty much unchanged? with response options of mostly better, mostly worse, pretty much unchanged, and don't know/not sure. We asked a parallel question about supervised use sites.

*Known someone with addiction.* We asked about personal experience with addiction and overdose with two questions. The first was, "Have you or someone you know ever been addicted to a drug (other than tobacco or alcohol)?" and, "Have you or someone you know ever overdosed?" with response options of yes, no, and not sure.

*Other measures.* At the end of the survey respondents were invited to write additional comments if they would like. Participant demographics including date of birth, sex, and registered political party affiliation were merged in from the voter file.

## **Analysis**

Analyses were conducted using SAS v. 9.4 (Cary, NC). We conducted descriptive statistics and chi-square tests to examine attitudes and beliefs by demographic characteristics.

## **Results**

### **Description of participants**

After selecting the initial list of 2,000 individuals, we removed 28 for having a mailing address that was in an ineligible county, and a mailing address different from the permanent address. During data collection, 280 mailings were returned for wrong addresses, including some addresses that were out of state and were not eligible. Five people were determined to be deceased. Eleven individuals returned the survey but were determined not to be eligible because they noted they did not live in a county of interest. Thus, total number of potentially eligible individuals we contacted was 1,676. Six participants responded to say they refused and 690 responded and completed at least a portion of the survey for a response rate of 41%. As compared to the sampling frame of registered voters, survey respondents were more likely to be older and there were no difference by gender or party affiliation (data not shown).

Slightly more than half of the respondents were female (52.8%; Table 1). The average age was 53 years old (not shown). Of respondents, 36.8% were registered as Democrat (known as the more liberal party), 26.4% as Republican (known as the more conservative party) and 35.2% had no party affiliation. A remaining 1.6% were registered with some other party and due to the small number were not included in further analyses involving party affiliation (see Table 1).

Table 1  
Demographics of survey respondents overall and by having known someone with addiction or who overdosed

	Total (N = 690) % (n)	Have known someone with addiction % (n)	Have known someone who overdosed % (n)
Total			
Gender	52.8 (364)	57.3 (208)	30.7 (111)
Female	46.1 (318)	51.6 (161)	28.1 (88)
Male	1.2 (8)	50.0 (4)	50.0 (4)
Unknown			
Age	24.5 (169)	63.3 (107)	40.2 (68)
18–35 years old	20.3 (140)	57.9 (81)	27.9 (39)
36 to 50 years old	23.3 (161)	54.4 (87)	31.9 (51)
51 to 65 years old	31.9 (220)	45.8 (98)	21.0 (45)
66 to 97 years old			
Party	36.8 (254)	57.6 (144)	29.4 (74)
Democrat	26.4 (182)	55.0 (99)	29.6 (53)
Republican	35.2 (243)	50.0 (121)	28.6 (69)
No affiliation	1.6 (11)	81.8 (9)	63.6 (7)
Other			

## Awareness of SSPs and SUSs

Survey respondents were asked about their knowledge of SSP, whether or not they thought they were legal in Colorado, and if they think SSPs make a community “mostly better” as compared to “mostly worse.” They were asked similar items about SUSs, including if they thought Colorado law should allow SUSs. Overall, 77.8% reported they heard a little or a lot about SSPs before the survey (Table 2). Overall 23.7% thought that SSPs were legal in Colorado, which they are. We asked respondents similar questions about SUSs, which do not exist in Colorado. Similar to SSP a majority of respondents said they have heard a little or a lot about SUSs (63.1%; Table 2). Approximately the same proportion said that SUSs makes a community better (30.3%), as the proportion who said that SSPs make a community better (31.9%). More than half, 56.9% answered that Colorado should probably or definitely allow SUSs. There were no significant differences in responses to these items by having known someone with addiction or who has overdosed.

Table 2  
Awareness and attitudes toward syringe service programs and supervised use sites

	Total (N = 690)  % (n)	Have known someone addicted  % (n)	Have known someone who overdose  % (n)
<b>Syringe Service Programs</b>			
Heard a little or a lot about SSPs	77.8 (532)	79.2 (293)	79.7 (161)
SSPs make a community mostly better	31.9 (217)	31.6 (117)	31.8 (64)
SSPs legal are legal in CO, to the best of your knowledge	23.7 (149)	26.2 (90)	26.8 (51)
<b>Supervised Use Sites</b>			
Heard a little or a lot about SUS	63.1 (431)	62.8 (233)	66.3 (134)
SUS make a community mostly better	30.3 (207)	31.2 (116)	34.0 (69)
CO should probably or definitely allow SUS	56.9 (386)	55.4 (205)	55.7 (112)
Note. SSP = syringe service program; SUS = supervised use site			

## Likelihood of SSP benefits and consequences

Respondents were asked about a range of possible positive and negative impacts of a SSPs or SUSs in their community. Table 3 presents the statements groups by positive and negative sentiment and in rank order of endorsement. The statement with highest proportion of respondents selecting likely or very likely was “reduce spread of infectious disease” with 79.1%. This was followed by 75.9% answered it was likely or very likely that SSPs provide resources for people who inject drugs and 67.7% answered SSPs mean fewer needles on the street (Table 3). The endorsement of positive impacts was reinforced by write-in comments from respondents such as the following:

*"In favor of needle exchange so that it will reduce HIV and HEPC. Also center should provide counseling."*

*"I do not know too much about this subject being a[n] older citizen and not too involved with younger generation or older persons who use drugs and these incidents however I agree that anything that helps any individual with drug problem or to help them straighten their lives by not doing drug[s] with counseling and medication to help save them is exactly what is needed."*

*"I walk recreationally a lot with my dogs and continuously find needles on my walks, I don't know if these proposals will cure the problem, but they are worth trying."*

Table 3  
Likelihood of positive and negative impacts from a syringe service programs or supervised use sites

<i>Likely” or “very likely”</i>	<b>Syringe Service Programs</b>	<b>Supervised Use Sites</b>
	<b>% (n)</b>	<b>% (n)</b>
Supporting Statements		
Reduce spread of infectious disease	79.1 (529)	75.5 (509)
Provide resources for PWIDs	75.9 (514)	80.0 (544)
Fewer needles on the street	67.7 (457)	70.8 (481)
Fewer overdose deaths	41.5 (280)	62.0 (417)
Less injection drug use	17.0 (115)	25.1 (170)
Opposing statements		
Promote continued drug use	59.1 (398)	64.2 (435)
Attract crime	50.2 (341)	54.9 (373)
Threaten the safety of the community	37.8 (256)	44.7 (302)
Note. PWID = people who inject drugs		

Less frequently endorsed as likely was the possibility that SSPs could lead to fewer overdose deaths (41.5%) or less injection drug use (17.0%).

Of the potential negative consequences, “promote continued drug use” was the statement with the highest percent (59.1%) rating it as likely or very likely. About half (50.2%) thought SSPs could attract crime and 37.8% thought SSPs could threaten the safety of the community. The negative attitudes were reinforced by write-in comments exemplified by the following:

*“It is unacceptable to reward and/or promote negative behavior”*

These kinds of programs will increase drug use and bring our communities down. The Participants will have a wider range of contacts.

In my local neighborhood I see drug use on the rise. I truly believe this would only heighten it.

## **Likelihood of SUS benefits and consequences**

Parallel to SSPs, the survey asked about likelihood of positive and negative impacts of SUSs in a community. The rank order of statements was nearly the same for SUSs as for SSPs. Eighty percent thought it was likely or very likely that SUSs would provide more resources for people who inject drugs (Table 3). The second most frequent statement was that supervised injection sites would reduce the spread of infectious diseases. Although a majority of respondents endorsed both of these statements for both SSPs and SUSs, the order was flipped. Third, 70.8% of respondents overall said that it was likely there would be fewer needles on the street with SUSs.

As with SSPs, the negative consequence of promoting drug use was the most frequent negative statement with 64.2% overall saying it was likely or very likely. Whereas with SSPs, the next most frequent statement was about attracting crime, for SUSs, the positive effect of fewer overdose deaths was chosen more frequently, reported as likely or very likely by 62.0% overall. However, there remain substantial concerns about attracting crime, which was answered as likely by 54.9%.

## **Associations with demographic and party affiliation**

Table 4 presents endorsement of the likelihood of positive and negative consequences of a SSP program by political party affiliation, gender and age categories. There were large and consistent differences by political party affiliation, with registered Democrats endorsing the positive statements at a greater frequency and endorsing the negative statements at a lower frequency than Republicans. Unaffiliated voters were in between. For example, 90% of Democrats said it was likely or very likely that SSPs would reduce the spread of infectious diseases, with 81.4% of unaffiliated voters and 61.1% of Republicans agreeing.

Table 4  
Likelihood of positive and negative consequences from a syringe service program by demographic characteristics and political affiliation

<i>Likely" or "very likely"</i>	Total (N = 690) % (N)	Democrat (n = 254) % (n)	Republican (n = 182) % (n)	Unaffiliated (n = 243) % (n)	Women (n = 364) % (n)	Men (n = 318) % (n)	18 to 35 (n = 100) % (n)	36 to 50 (n = 164) % (n)	51 to 65 (n = 141) % (n)	66 + (n = 285) % (n)
Supporting Statements										
Reduce spread of infectious disease	79.1 (529)	90.0 (224) <sup>a</sup>	61.1 (105) <sup>a</sup>	81.4 (193) <sup>a</sup>	81.4 (285)	76.2 (237)	82.0 (82)	81.1 (133)	76.6 (105)	78.0 (209)
Provide resources for PWIDs	75.9 (514)	87.2 (217) <sup>a</sup>	60.2 (106) <sup>a</sup>	76.0 (184) <sup>a</sup>	76.1 (270)	75.2 (236)	86.0 (86) <sup>b</sup>	75.5 (123) <sup>b</sup>	77.7 (108) <sup>b</sup>	71.6 (197) <sup>b</sup>
Fewer needles on the street	67.7 (457)	81.1 (201) <sup>a</sup>	45.5 (80) <sup>a</sup>	71.3 (171) <sup>a</sup>	70.3 (249)	64.2 (201)	68.0 (68)	70.1 (115)	63.8 (88)	68.1 (186)
Fewer overdose deaths	41.5 (280)	55.8 (139) <sup>a</sup>	23.3 (41) <sup>a</sup>	42.0 (100) <sup>a</sup>	38.1 (135)	44.9 (140)	50.5 (50)	42.7 (70)	29.3 (41)	43.4 (119)
Less injection drug use	17.0 (115)	23.7 (59) <sup>a</sup>	8.4 (15) <sup>a</sup>	16.8 (40) <sup>a</sup>	15.5 (55) <sup>c</sup>	18.0 (56) <sup>c</sup>	25.3 (25) <sup>b</sup>	15.4 (25) <sup>b</sup>	12.4 (17) <sup>b</sup>	17.3 (48) <sup>b</sup>
Opposing statements										
Promote continued drug use	59.1 (398)	47.8 (117) <sup>a</sup>	79.3 (142) <sup>a</sup>	55.5 (132) <sup>a</sup>	59.7 (212)	58.6 (181)	48.5 (48)	59.8 (98)	65.7 (90)	59.6 (162)
Attract crime	50.2 (341)	40.0 (100) <sup>a</sup>	68.9 (124) <sup>a</sup>	46.9 (112) <sup>a</sup>	51.5 (185)	48.7 (152)	34.7 (34)	51.2 (84)	55.5 (76)	52.5 (147)
Threaten the safety of the community	37.8 (256)	30.4 (76) <sup>a</sup>	52.8 (94) <sup>a</sup>	35.2 (84) <sup>a</sup>	37.6 (134)	38.7 (121)	24.2 (24) <sup>c</sup>	39.0 (64) <sup>c</sup>	38.4 (53) <sup>c</sup>	41.7 (115) <sup>c</sup>
Note. PWID = people who inject drugs										
<sup>a</sup> significant difference within category, p < .05										
<sup>b</sup> significant difference within category, p < .01										
<sup>c</sup> significant difference within category, p < .05										

There was only one significant difference by gender; women were less likely to say that SSPs would lead to less injection drug use. There were some differences by age, albeit smaller than those observed by political party. The younger age groups in general had greater frequency of endorsing positive statements than the older age groups. For example, the youngest age category of 18–35 years old were the most likely to say that SSPs provide resources for PWID, lead to less injection drug use, and the least likely to say that SSPs threaten the safety of the community.

## Discussion

Given that decisions about initiating SSPs are often made locally, it is important to understand the local public attitudes to SSPs in order to address the concerns. We surveyed registered voters in Colorado counties with existing SSPs and found limited familiarity with SSPs in that approximately a quarter of respondents thought SSPs were legal, despite residing in a county that had a legally operating SSPs. It is likely that familiarity with SSPs and accurate awareness of their legality in Colorado may be even lower in other Colorado counties without existing SSPs. This is not entirely surprising given that the majority of our respondents may not need information about knowledge of SSPs if they are not using their services.

Because of the controversy surrounding harm reduction programs like SSPs, program leaders may aim to avoid political attention that could threaten their ability to serve PWID. However, there may be benefits to the public knowing that SSPs are legal because it could lead to more accurate information about harm reduction being promoted in the community. Once SSPs are established in a community, information about their services may be shared through word-of-mouth among drug-using communities and not widely marketed to the larger community. If a program aims to strategically reduce its visibility it may limit community awareness and support of the program and constrain the reach of the program to potential clients who are unaware of the program's existence. Several studies in the U.S. have examined the acceptability of SUSs among PWID and found widespread endorsement that they would use those services if they existed in the community, among both urban (Park et al., 2019) and rural populations (O'Rourke et al., 2019). While our survey shows the general public is not aware of programs in their community, further research is needed on the extent to which PWID in these communities know about the programs.

Survey responses also illustrate the persistent stigma around substance use disorders and skepticism of harm reduction approaches. While SSPs aim to link PWID to treatment programs, the majority of respondents indicated they believe SSPs would not lead to less drug use, and SSPs promote continued drug use. Write-in respondents described these programs "enabling." Contrary to our expectations, we did not see significant differences in awareness and attitudes toward SSP and SUS by having known someone with addiction or someone who has overdosed. Perhaps these personal experiences are not enough on their own to reduce stigma or correct misinformation as it relates to these programs.

In terms of benefits of the program, survey respondents gave the highest endorsement for reducing infectious disease, but our results show the potential for overdose prevention is not yet well appreciated among the survey respondents. This suggests an opportunity for SSPs to develop more persuasive messaging about how their programs are integral to preventing drug overdose in the midst of the U.S. national opioid epidemic. A U.S. national survey found that such language labeling can substantially change public support, with greater public support of "overdose prevention sites" than alternatives terms for those sites (Barry, Sherman, & McGinty, 2018). Our findings are consistent with similar work that suggested stigma toward PWID is pervasive and support for SSPs and SUSs may be influenced by choice of messaging (Barry et al., 2018).

## Limitations

The demographic information for our respondents was merged in from the voter file. In the event that someone else at the same mailing address completed the survey, the demographic information may not be accurate. Despite repeated reminders and a gift card incentive the response rate was lower than we anticipated. This could be attributed to the sampling frame of the voter file which includes names and addresses of people who may have moved since registering to vote in the most recent election. However, the voter file remains a low cost way to identify contact information for participants. Although

registered voters may not generalize to the entire population, they may be among the most influential subset of the public for local political decisions.

Our study was limited to those counties in Colorado with an operating SSP. These counties are among the most urban in the state and the results may not generalize to more rural areas or to other states in the U.S.

## Conclusion

Initiation and continued operation of a syringe service program or supervised used site can be controversial within a local community. Understanding the level of community knowledge and support for such programs, as well as the reasons for opposition can be helpful in addressing community concerns. We surveyed a sample of registered voters in locales in Colorado, U.S. with currently operating SSPs and found a minority were aware of the program in their community but the majority had favorable attitudes to the positive impact of SSPs and SUSs for harm reduction.

## Abbreviations

SSP: Syringe Service Programs; PWID: people who inject drugs; HIV/AIDS: Human immunodeficiency virus/Acquired immunodeficiency syndrome; CO: Colorado; US: United States; SUS: Supervised use sites

## Declarations

**Ethics approval and consent to participate:** The study procedures were approved by the Colorado Multiple Institutional Review Board as exempt research and by the Institutional Review Board at the Colorado Department of Public Health and Environment.

**Consent for publication:** Not applicable

**Availability of data and material:** The datasets during and/or analysed during the current study available from the corresponding author on reasonable request.

**Competing interests:** None

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**Authors' contributions:** ABR conceptualized the study and led analysis and writing. SB, CYF, MLA, and AELW assisted in interpreting the findings, and edited the final draft. All authors have approved the final article.

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