Pharmacy Access to Sterile Syringes for Injection Drug Users: Attitudes of Participants in a Syringe Exchange Program

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Objective: To examine attitudes of participants of a van-based syringe exchange program (SEP) toward the hypothetical prospect of pharmacy-based syringe access. ***Design:*** One-time, cross-sectional survey. ***Setting:*** Baltimore, Maryland. ***Participants:*** 206 injection drug users who participate in the Baltimore SEP. ***Interventions:*** Face-to-face interviews. ***Main Outcome Measures:*** Location preferred for obtaining syringes, drug and syringe use, past experience with pharmacies, and willingness to pay. ***Results:*** The sample was 67% men, 95% African American, and 95% unemployed; mean age was 39.8 years. A total of 19% of respondents had bought syringes at a pharmacy during the prior six months. Some 37% reported having been turned down when asking for syringes at a pharmacy, most commonly due to lack of identification to prove diabetic status (50%). If legal restrictions were lifted, 92% of respondents would obtain syringes from pharmacies, and would be willing to pay a mean price of $0.80 (median = $1.00) per syringe. Women were more likely than men to report the intention to switch from van-based SEP to pharmacy (57% versus 38%, $p = .045$). ***Conclusion:*** If current legal restrictions were lifted, pharmacies would be a viable syringe source appealing particularly to women, suggesting gender-specific access issues that should be addressed. The per-syringe price that study participants would be willing to pay exceeds typical retail prices, suggesting that pharmacists could charge enough per syringe to recoup operational costs.

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See related articles on pages 8 and 23.

In response to the epidemic of human immunodeficiency virus (HIV) among injection drug users (IDUs), syringe exchange programs (SEPs) have been established in at least 134 communities in the United States (North American Syringe Exchange Network, written communication, 1998). Although these programs have been shown to reduce HIV transmission without increasing levels of drug use,[1-4] they are limited in size and scope, such that optimal coverage for HIV prevention has not been attained.

In response to this concern, a National Academy of Sciences panel noted that the infrastructure for more widespread access to sterile syringes already exists in the form of local community pharmacies.[4] Pharmacies, for example, already have staff and supplies available for this service, as well as extended hours and many locations. While syringes at SEPs are typically provided free to IDUs, pharmacies, as businesses, would likely need to charge a fee to recoup operational expenses. This raises the question of IDUs' willingness to pay for sterile syringes. Another question is whether pharmacy access would be more attractive than SEPs to certain subgroups. Going to the local community pharmacy, for example, might feel safer for buying syringes than going illegally to a stranger in a public location—and more private than standing in line at a van on a public sidewalk. Were this the case, it would be important to target services to interested subgroups appropriately.[5]

Data from Connecticut indicate that IDUs will use pharmacies to obtain syringes if legal barriers are removed.[6,7] Following the 1992 decriminalization of sale and possession of up to 10 syringes at a time, over-the-counter (OTC) sales of syringes increased.[8] A 40% decrease in use of a New Haven syringe exchange soon after decriminalization suggests that many IDUs prefer pharmacies over an SEP van as a syringe source.[9] Outside of the United States, particularly in the United Kingdom, syringe exchange schemes set up in pharmacies have become increasingly common and are deemed satisfactory by the drug injectors who patronize these programs.[10,11] In a 1990 study of Miami IDUs' attitudes toward various syringe acquisition sources, 90% of a sample of current and former injectors indicated approval of OTC purchase, of whom 87% said they would purchase syringes in this way if it were legal.[12] To date, however, no study has systematically examined IDUs' attitudes toward OTC syringe purchase in comparison with other syringe access service delivery models.

In Maryland, OTC sale of syringes is legal. However, the prevailing drug paraphernalia law makes possession of injection equipment by people who do not have diabetes a misdemeanor, rendering pharmacies a limited acquisition modality. Additionally, the state pharmacy board requires that syringe purchasers show identification and a good faith indication of legitimate need.[13] Before the 1994 implementation of a van-based SEP in Baltimore, the majority of IDUs in a community-based cohort study reported public locations (the illegal "street market," which includes streets, alleys, and parks) as their primary syringe sources; one-third of this cohort, however, reported the pharmacy as a source of syringes,[14] indicating that some IDUs have depended on pharmacies despite legal barriers. Subsequent to the start of the Baltimore SEP, a cohort of 204 exchangers were asked about their use of pharmacies upon enrollment into the exchange, and then again 6 and 12 months later. Over these three intervals, the proportion of syringes these IDUs obtained from pharmacies remained at approximately 10%.[15] Thus, despite enrollment in the SEP, these exchangers continued to rely on pharmacies over time. In another Baltimore SEP study, 30 exchangers were asked to rank eight syringe sources in order of appeal (that is, their perceived desirability); the pharmacy was consistently ranked as having a high level of appeal, slightly lower than that of the SEP van itself.[16] Taken together, these studies raise the question as to what factors influence pharmacy preference and use and, given the beneficial aspects of pharmacies discussed earlier, what might make pharmacies more appealing to at-risk IDUs.

Objectives

We examined the attitudes and behavioral intentions of participants in the van-based Baltimore SEP about the hypothetical prospect of pharmacy-based syringe access. Two research questions guided this study: (1) If current restrictions on obtaining syringes from pharmacies were lifted, would a subset of exchangers shift their primary source from van to pharmacy? (2) Would these exchangers be willing to buy syringes at pharmacies for as much as the current price of syringes on the illegal street market?

Methods

Program Operations

The Baltimore SEP was initiated in August 1994, operated by the local health department out of one mobile van serving fixed sites in high-drug-use neighborhoods. Exchange services at each site were conducted in two-hour shifts (twice daily), four days per week. In the more than three years of its operation, the SEP staff has grown from three to six full-time employees, supervised by a program director who reports directly to the city's chief health official.

Any individual reporting active drug injection was eligible to enroll in the SEP. First-time exchangers underwent a short enrollment interview covering demographics and drug-use practices. Participants could exchange an unlimited quantity of used syringes for sterile replacements on a one-for-one basis; first-time enrollees were dispensed two syringes even if they had none to turn in. In addition to syringe exchange, voluntary HIV testing and referrals to prepaid drug-treatment programs were available to SEP participants. All enrollment, exchange, testing, and referral data were referenced anonymously using a unique identification number. An ongoing evaluation of the SEP was carried out by a research team at The Johns Hopkins School of Hygiene & Public Health.[15–18]

Data Collection

Data collection took place at SEP van locations during October and November 1997. On each interview day, 10 exchangers (the maximum number of interviews the research team could accommodate during one shift) were offered the opportunity to participate in a brief (10-minute) interview in exchange for confections and soft drinks. Participants were invited to join regardless of whether they were new or returning exchangers. Those who accepted the offer were directed to a separate research van, parked nearby, where trained staff administered a quantitative, structured questionnaire. Before the interview, participants signed an informed consent form approved by the Johns Hopkins Committee on Human Research.

Interview topics included recent drug- and syringe-use behaviors, syringe acquisition practices and influencing factors, and attitudes toward and past experiences with pharmacies. Willingness to pay (WTP) for syringes was addressed using one question: "If buying and carrying tools from a pharmacy/drug store became completely legal and no identification were required, how much would you be willing to pay for each syringe?" Participants were also asked to rank six considerations an IDU might entertain when deciding where to obtain syringes. The considerations were:

- Time required to obtain syringes.
- Familiarity with the person from whom the syringes are obtained.
- Familiarity with the neighborhood where the syringes are obtained.
- Whether one must go to a high-drug-use neighborhood to obtain the syringes.
- Whether one might be seen by acquaintances while obtaining syringes.
- Being in a hurry to inject drugs to relieve withdrawal symptoms.

The categorical rating scale contained five possible responses, ranging from "very important" to "not important at all."

The interview was cross-sectional, with no follow-up visits. Demographic information collected on study participants at the time of their enrollment in the SEP was linked to the interview data set using the participant's unique identification number. All data collection activities were anonymous. Frequency distributions were developed for demographic and interview variables, with subgroup comparisons performed using χ^2 tests.

Results

Demographics

For the 270 individuals invited to join the study, the refusal rate was 23.8%, leaving a sample of 206 study participants with a mean age of 39.8 years (range, 21.4 to 63.6; standard deviation [SD] = 7.6); 67.0% were men, 95.1% were African American, and 64.6% were single or never married. Of the sample, 29.6% reported living in their own house or apartment, 94.7% were currently unemployed, and 59.2% had never graduated from high school. Individuals had been enrolled in the SEP for an average of 19.2 months. A comparison of the demographic characteristics of the 206 study participants with the 804 remaining IDUs exchanging at study sites during the study period revealed no significant differences with respect to age, sex, race/ethnicity, living situation, employment status, or education (data not shown).

Injection History

The average duration of active drug injection was 17.3 years (range, 1.0 to 39.0; SD = 9.4). Study participants reported an average of 4.3 injections per day (range, 0.3 to 28.0; SD = 3.6) and 4.8 injections per syringe (range, 1.0 to 50.0; SD = 6.7) during the prior six months. Heroin and cocaine, used separately or in combination (a "speedball"), were the drugs of choice. For a subsample questioned about past enrollment in drug treatment programs (n = 92), 49.0% had been in a treatment program sometime in the past.

Syringe Acquisition Characteristics

All of the 206 study participants had exchanged syringes at an SEP van site during the prior six months, exchanging an average of 17.6 syringes per visit and residing an average of 9.8 blocks from the nearest exchange site (range, 1 to 60; SD = 9.6). Among the sample, 139 (67.5%) reported at least weekly visits to the SEP van. Illegal purchase of syringes in public locations (street market) was common, with 162 (78.6%) reporting this practice. Those who did purchase syringes on the street bought an average of 2.5 syringes each time they made a purchase, and resided an average of 4.9 blocks away from the street purchase location (range, 1 to 60; SD = 6.4). Of the 162 who used the street market, 82 (50.6%) reported at least weekly street purchases. Finally, of the 206 study participants, 40 (19.4%) had purchased syringes at a pharmacy during the prior six months, buying an average of 17.1 syringes per visit and residing an average of 10.7 blocks away (range, 1 to 60; SD = 10.5). Of the 40, 8 (20.0%) reported at least weekly syringe purchase from a pharmacy.

Attitudes About Syringe Acquisition Sources

When asked to rate acquisition considerations with respect to their importance when deciding where to obtain syringes, the following were rated "very important" by at least half of the respondents: being in a hurry to inject drugs to relieve withdrawal symptoms (66.0%), how long it takes to obtain the syringes (53.9%), and how familiar (that is, well-acquainted) one is with the neighborhood where the syringes are obtained (51.5%).

Pharmacy as an Option

Table 1 shows attitudes toward and past experience at pharmacies. When asked what would make pharmacies a more appealing place to obtain syringes, 58 (28.2%) offered concrete suggestions (as open-ended responses). The three most common suggestions were to remove the requirement for identification (24.1%), make pharmacy syringe purchase legal (22.4%), and have a greater variety of syringes available (20.7%), with different brand names, needle gauges, and barrel sizes.

When asked how difficult it is for a person without diabetes to purchase syringes at a pharmacy in Baltimore, 108 (52.4%) of the sample responded either "very difficult" or "difficult." When asked whether they had ever been refused when trying to buy syringes at a pharmacy, 76 respondents (36.9%) said they had. Among those who had been refused, the two most commonly stated reasons were nondiabetic status (50.0%) and lack of identification (48.7%). When asked how often they had gone to a pharmacy to purchase items other than syringes during the past six months, 89 (43.2%) of respondents said they had been to pharmacy either "very often" or "often."

Source Comparison

Respondents were asked to rate three syringe sources (syringe exchange, pharmacy, and street market) in terms of their order of preference, given two distinct scenarios described during the

Table 1. Attitudes of IDUs Toward and Past Experiences at Pharmacies (n = 206)

Question	No. (%)
1. What, if anything, would make pharmacies better for you as a source of syringes?	
Suggestions (n = 58):	
Remove identification requirement	14 (24.1)
Make it legal	13 (22.4)
Have more variety of syringes	12 (20.7)
Make locations more convenient	7 (12.1)
Lower the cost of syringes	5 (8.6)
Make it confidential	4 (6.9)
Improve operating hours	3 (5.2)
2. How easy is it for a person who does not have diabetes to buy syringes at a pharmacy or drug store in Baltimore?	
Difficult	55 (26.7)
Very difficult	53 (25.7)
Not too difficult	37 (18.0)
Easy	24 (11.7)
Very easy	19 (9.2)
Don't know	18 (8.7)
3) Have you ever tried to purchase syringes at a pharmacy or drug store, but were turned down by the pharmacist?	
No	130 (63.1)
Yes	76 (36.9)
For those who had been turned down (n = 76), reasons mentioned:	
I'm not a diabetic	38 (50.0)
I didn't have the right ID	37 (48.7)
I didn't have a prescription	5 (6.6)
The pharmacist didn't want me in the store	3 (3.9)
They thought I would use it for illegal purposes	3 (3.9)
They didn't have the syringes I wanted	2 (2.6)
They didn't sell syringes	1 (1.3)
They were sold out	1 (1.3)
4. During the past six months, how often did you purchase items at a pharmacy or drug store other than syringes (like toiletry items, over-the-counter medications, food, etc.)	
Sometimes	61 (29.6)
Often	46 (22.3)
Very often	43 (20.9)
Never	30 (14.6)
Rarely	26 (12.6)

IDU = injection drug user.

interviews (Table 2). First, respondents were asked about their order of preference given the current situation in Baltimore (i.e., where OTC syringe purchase requires identification). Given the current scenario, 165 (80.1%) named the SEP as their first choice, 10 (4.9%) said the pharmacy, and 31 (15.0%) said the street. When posed a hypothetical scenario in which OTC syringe purchase would be legal and possible without a requirement for identification, the proportion who considered the SEP to be their first choice dropped to 48.5%, the proportion considering the pharmacy their first choice rose to 48.5%, and the proportion favoring street purchase fell to 2.9%. In the event of such a switch, 190 (92.2%) said they would "not have a problem" with getting syringes at a pharmacy. Given the same scenario, respondents said they would be willing to pay a mean of $0.80 (range, $0.10 to $4.00; SD = $0.48; median = $1.00) per syringe at a pharmacy. This figure is based on responses from the entire sample (n = 206); no one said they would refuse to pay anything for syringes at a pharmacy.

To refine the above analysis, we focused on the 165 respondents who named the SEP van as their preferred source of syringes. Of these, 73 (44.2%) said their first-choice preference would switch from SEP van to pharmacy if OTC syringe purchase were legal and possible without a requirement for identification. Only women were significantly associated with anticipated switching from SEP van to pharmacy (proportion of van-to-pharmacy switchers was 57.4% women versus 37.8% men, $p = .045$; $\chi^2 = 6.22$). Compared with the men, these women were more likely to consider "how well you know the person selling the syringes" to be a very important factor when deciding where to obtain syringes (61.1% versus 36.0%, $p = .002$). They were also more likely to consider "how well you know the neighborhood" a very important factor (64.8% versus 44.1%, $p = .010$). These women, moreover, were less likely to report having been rebuffed in past attempts to buy syringes at a pharmacy (22.2% versus 45.0%, $p = .003$). Age, race, education, employment status, drug type, injection frequency, and duration of drug use were not significant discriminators of preference for purchase site.

Discussion

A major finding of this study is the expressed interest overall, but by women injectors in particular, in switching from an SEP van to a pharmacy as the primary syringe source in the event that current legal barriers and identification requirements were lifted. Given this hypothetical scenario, our finding that 44.2% of van exchangers would switch to pharmacy purchases is similar to the trend that actually occurred in New Haven, Connecticut, where there was a 40% decrease in SEP use in the previously discussed study.[9] Reliance on the illegal street market would decrease if pharmacy access to OTC sterile syringes was made more feasible.

This study also illuminates factors that influence IDUs' decisions as to where to obtain syringes. Two highly rated considerations (desire to relieve withdrawal symptoms and time required to get syringes) were viewed as very important by more than one-half of respondents, underscoring the significance of expediency in the process of procuring syringes. The programmatic implications of this finding are that conveniently located syringe sources where one can complete one's transaction promptly will be used more heavily. With respect to syringe exchange, this raises questions about how to maximize efficiency without compromising the rapport between exchangers and SEP staff—a rapport considered to be a major factor in the appeal of SEPs over alternative sources.[3]

Concern has been expressed as to the ability of IDUs, who may be unemployed, to pay for OTC syringes in the event that access

Table 2. Preference for OTC Syringe Purchase Site in Two Scenarios (n = 206)

Preferred Syringe Source	Current Situation: OTC Syringe Purchase Difficult/Illegal Without ID No. (%)	Hypothetical Situation: OTC Syringe Purchase Easy/Legal Without ID No. (%)	Change (%)
SEP	165 (80.1)	100 (48.5)	−31.6
Pharmacy	10 (4.9)	100 (48.5)	+43.6
Street	31 (15.0)	6 (2.9)	−12.1

OTC = over-the-counter; SEP = syringe exchange program.

barriers were lifted; however, study participants freely expressed a willingness to pay a mean of $0.80 per syringe. Given that the median response to this interview question was $1—the typical price of one syringe purchased on the street market[14]—and that wholesale cost of a sterile syringe is approximately $0.10, substantial middle ground would allow affordable syringes in a pharmacy setting. Respondents are willing to pay an average of 10 times the wholesale cost, suggesting that pharmacies could charge enough per syringe to recoup operational costs. While previous studies have addressed pharmacy customers' willingness to pay for services other than medications (e.g., counseling, medication reminders),[19,20] we believe this is the first study to apply WTP methodology to IDUs and the prospect of pharmacy-based syringe purchase. To gauge the extent to which this expressed willingness would translate into actual behavior in the event that access barriers were lifted, additional research must examine the level and dynamics of dispensable income within this population.

Women were disproportionately represented among van-exchangers who would switch their primary syringe source to pharmacies were access barriers lifted, suggesting that sex-specific access issues should be explored in future research (particularly ethnographic investigation) for use in program planning and implementation. The women in this analysis placed greater importance than did men on knowing the person selling the syringes and being familiar with the neighborhood, suggesting (1) a need for continuity of staffing at pharmacies offering OTC syringe access (i.e., a greater opportunity for rapport between customers and staff), and (2) the need for locations that support convenient access. It is also possible that women IDUs, who constitute less than one-quarter of Baltimore SEP enrollees to date,[18] may fear that standing in line in a public place (i.e., in front of the SEP van) exposes them as drug addicts, which may put them at risk of losing social service benefits and/or child custody. Additionally, women with young children might not want to expose them to an SEP van environment, but would feel comfortable in a pharmacy. A women-only SEP in San Francisco reports anecdotally that women exchangers can relate to each other due to similar life issues, which stimulates their enthusiasm for a single-sex SEP site.[21] Paone et al. [22] report that when a women-only SEP site was established in New York City, the number of women reporting SEPs as their primary source of syringes increased significantly. In New Haven, decriminalization of possession of injection equipment was followed by a decrease in the proportion of women participating in the SEP. In this study, Khoshnood and Stephens[23] speculated that this may have resulted in part from women switching reliance from an SEP to a pharmacy. Additional research is clearly warranted to better understand some women IDUs' preference for a pharmacy over a van as a primary syringe source in the event of increased access.

The lack of statistically significant demographic and behavioral differences between study respondents and other new and returning exchangers who visited the van during the study period argues for generalizing study findings to the SEP participant base as a whole. However, findings cannot be generalized to IDUs not enrolled in the SEP, nor can results be generalized to areas that impose different syringe access and possession restrictions.

Another limitation of this study is that it explores only one side of the equation of pharmacy-based syringe access, namely, the "consumers," without examination of the "providers," namely, pharmacists and their attitudes toward OTC syringe sales to patients without diabetes. Potential concerns of pharmacists about the prospect of patronization by IDUs might relate to their impact on business, namely, increasing shoplifting and causing negative perceptions among other customers.[24] More subtle factors may influence pharmacists' willingness to sell syringes to IDUs.[25,26] In St. Louis, an observational study found that African American customers were more likely to be turned down than white customers.[27] A converse phenomenon was reported in New Haven, where IDUs who were white were more likely than African American individuals to report a past refusal (70% versus 17%).[28] In Maine (a state with no prescription laws governing the sale of syringes), pharmacists indicated a nearly unanimous (94%) willingness to sell syringes without requiring a prescription. However, willingness to sell to known drug injectors was substantially lower (47%), underscoring the importance of understanding the variety of concerns pharmacists might have.[29]

We also note that our study does not investigate the possibility of syringe disposal at pharmacies and how willing IDUs would be to bring used syringes to pharmacies. Given the public health need to remove used (and potentially HIV-contaminated) syringes from circulation, this possibility merits investigation in future studies.

Another question concerns the community in which access to sterile syringes would occur, specifically whether neighborhood residents would support such an activity. Keyl and colleagues[30]

reported on a survey of community attitudes toward syringe access for IDUs in a white Baltimore neighborhood with no SEP sites. Of 138 randomly selected residents, 47% favored selling syringes in pharmacies without a prescription. At the level of state pharmacy boards and association executives, positive support has been reported for OTC syringe sale to IDUs in the interest of HIV prevention.[31]

Conclusion

In sum, our findings suggest that the lifting of legal barriers to syringe access and the removal of identification requirements for OTC syringe sales to patients without diabetes would lead to a lower SEP van-use rate among a subset of exchangers. Women, in particular, would be more likely to switch from an SEP van to a pharmacy as a primary syringe source. Taken together, these findings point to the need to better target services for women IDUs. More generally, our findings support the contention that maximum access to sterile syringes for IDUs at risk of infection by HIV and other blood-borne pathogens can be best achieved by offering a variety of service delivery models.

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