Receptive Syringe Sharing Among Injection Drug Users in Harlem and the Bronx During the New York State Expanded Syringe Access Demonstration Program

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Background: Effective on January 1, 2001, New York State enacted the Expanded Syringe Access Demonstration Program (ESAP), which allows syringes to be sold in pharmacies without a prescription or dispensed through doctors, hospitals, and clinics to persons 18 years of age or older and permits the possession of those syringes for the purposes of injecting drugs.

Objective: To assess changes in receptive syringe sharing since the inception of the ESAP.

Methods: Sociodemographic characteristics and syringe use data regarding the last injection episode were combined from 3 projects (n = 1181) recruiting injection drug users in ongoing studies in Harlem and the Bronx in New York City from January 2001 through June 2003. These data were analyzed as serial cross sections by calendar quarter.

Results: Receptive sharing decreased significantly over time, from 13.4% in the first quarter to 3.6% in the last quarter. Obtaining the last injection syringe from an ESAP source (mostly pharmacies) increased significantly over time, from 7.5% in the first quarter to 25.0% in the last quarter. In multiple logistic regression analysis, variables that were significantly associated with less receptive sharing were syringe exchange and ESAP syringe source as well as time since ESAP inception. Female gender and white race/ethnicity were significantly associated with greater receptive sharing.

Conclusions: The increase in the use of pharmacies and other ESAP syringe sources in this sample has been accompanied by a decline in receptive sharing.

Key Words: injection drug use, pharmacy, syringe access, needle sharing

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The sharing of needles and syringes (hereafter "syringes") among injection drug users (IDUs) remains a significant route for the transmission of HIV[1] and hepatitis C virus.[2] To prevent the transmission of HIV, hepatitis B and C viruses, and other blood-borne infections, the Centers for Disease Control and Prevention and other government agencies have recommended that persons who inject drugs use a new sterile syringe for each injection.[3] For this recommendation to be implemented fully, access to sterile syringes by drug injectors must be increased.[4] Syringe exchange programs (SEPs) have been effective in reducing syringe sharing and reuse.[5–8] Pharmacies may hold several distinct advantages as supplemental sources of sterile syringes, however. Pharmacies are already in place in most neighborhoods, they provide greater potential anonymity for the user, and, perhaps most importantly, they are often open for long hours. SEPs, in contrast, are sometimes open for only 1 or a few days a week, and then only for a few hours each day. Pharmacies may also attract different types of IDUs,[9] suggesting that pharmacies may be an important supplemental source of syringes even in localities served by SEPs.

Laws restricting the sale of syringes at pharmacies hinder the public health goal of providing a sterile syringe for each injection. Regulations limiting or prohibiting the sale, distribution, and possession of syringes exist in many US states.[10] In response to the AIDS epidemic among IDUs, 11 states (as of 2003) have implemented legislation to permit pharmacy sales of syringes without a prescription (Connecticut, Hawaii, Maine, Minnesota, New Hampshire, New Mexico, New York, Oregon, Rhode Island, Washington, and Wisconsin).[10,11]

In Connecticut and Minnesota, the impact of these legislative changes on syringe sharing has been evaluated. In

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1992, Connecticut enacted legislation allowing the purchase of syringes from pharmacies without a prescription. In a comparison of cross-sectional data from a subgroup of IDUs who had ever shared syringes, there was a significant reduction in the proportion of IDUs who shared at least 1 syringe in the prior 30 days after the legislation was enacted, from 52% to 31%.[12] This change was accompanied by a significant increase in the use of pharmacies and SEPs as sources of syringes.

In 1998, Minnesota enacted legislation permitting the sale of syringes at pharmacies without a prescription. In a comparison of cross-sectional data sets before and after the legislation, receptive syringe sharing (ie, using a syringe after it was used by someone else) in the prior 30 days was reduced from 28% to 24%, although this difference did not reach statistical significance.[13] A pharmacy as a source of any syringe in the prior 30 days increased significantly, from 22% to 42%. Interestingly, the number SEPs as a source of any syringe in the prior 30 days was reduced over the study period from 32% to 27%, although this reduction did not reach statistical significance.

Des Jarlais and colleagues[14] have described the HIV epidemic among IDUs in New York City as declining, characterized by reduced seroincidence since the early 1990s. Des Jarlais and colleagues[15] also provide evidence of increased counseling and testing and syringe exchange as well as reduced HIV risk behavior, including reduced receptive syringe sharing, which may constitute possible causal mechanisms for the decline. Expanding access to sterile syringes should contribute to reducing syringe sharing and the further reduction of HIV seroincidence. Reduced syringe sharing also has the potential to reduce incidence of hepatitis C.[16]

Effective on January 1, 2001, New York State enacted the Expanded Syringe Access Demonstration Program (ESAP), which allows up to 10 syringes at a time to be sold in pharmacies without a prescription or dispensed through private doctors, hospitals, and clinics to persons 18 years of age or older and permits the possession of those syringes for the purposes of injecting drugs.[17,18] The legislation required that participating providers register with the New York State Department of Health (NYSDOH) and also mandated an independent evaluation of the effects of the ESAP regarding a wide range of potential outcomes, including syringe sharing, substance use, accidental needle stick, and syringe disposal.[19] The law also required that a safe use and disposal informational insert be included with each purchase. Although advertising syringe sales was barred by the law, the NYSDOH disseminated information regarding the program to pharmacists and health care providers.

This study, based on data from IDUs in 2 communities in New York City that are served by SEPs, reports on receptive syringe sharing since the inception of the ESAP and the relation between sharing and sociodemographic characteristics and syringe-related practices. Other findings regarding ESAP implementation as well as the dissemination of information regarding the legislation, pharmacy sale practices, and syringe disposal are presented in articles by Des Jarlais and colleagues,[20] Deren and colleagues,[21] Finkelstein and colleagues,[22] and Fuller and colleagues.[23]

METHODS

Study Sample and Setting

As part of the ESAP evaluation, a general set of questions was developed and included in questionnaires in 3 ongoing studies in Harlem and the Bronx in New York City. Results are pooled to increase the stability in sample sizes for analyses across time. Items included the date of the last injection of illicit drugs, the source of the last injection syringe, and knowledge of the law regarding syringes. Sociodemographic data were available from the existing questionnaires. Fourteen potential syringe source categories were included; these are grouped into "SEP," "ESAP" and "other" categories for analysis. Nine potential syringe source subcategories were included within the "other" category, including friends, family, sex partners, and strangers. Five questions about the legality of obtaining and carrying syringes from ESAP sources were included, such as: "The last time you injected, was it legal to buy a needle from a pharmacy without a prescription?" All studies had been approved by their individual institutional review boards, and all study participants provided written informed consent. Those participants who reported injection drug use in the prior 30 days; had injected since January 1, 2001; and provided information on the last injection were included in this analysis. Study criteria for the individual studies pooled in this report are described below.

The Alliance for Research in El Barrio and Bayamon (ARIBBA; S. Deren, Principal investigator [n = 365]) project at National Development and Research Institutes (NDRI) investigates HIV-related risk and health behaviors of Puerto Rican injectors and crack smokers in East Harlem and Puerto Rico.[24] Locations for recruitment by outreach workers were developed based on ethnographic mapping of drug "copping" and using locations. Criteria for recruitment included the following: (1) 18 years of age or older, (2) self-reported Puerto Rican ethnicity, (3) injected drugs or smoked crack within the prior 30 days, and (4) recent use of heroin or cocaine confirmed by urinalysis. This project recruited 2 cohorts of participants, in 1989 through 1999 and in 2002 through 2003, for a longitudinal study. Data for the ESAP evaluation are based on interviews conducted since January 2001 with participants in the East Harlem location only. This consists of follow-up interviews with the earlier cohort and baseline interviews with the second cohort.

The Couples at Risk project (CAR; S. Tortu, Principal Investigator [n = 227]) at the NDRI is a study of HIV risk behaviors of female adult drug users in East Harlem and their main heterosexual partners.[25,26] Participants were recruited using targeted sampling and respondent-driven referrals. Criteria for women's participation included the following: (1) self-reported use of crack/cocaine or heroin (injected or noninjected) in the prior 30 days, (2) current male sex partner identified as primary partner for at least 1 year, (3) unprotected vaginal or anal sex with a current partner in the prior 6 months, and (4) able to enlist partner in study willingly. Female and male partners were required to be 18 years of age or older to participate.

The Center for Urban Epidemiologic Studies at the New York Academy of Medicine provided baseline data from their Urban Research Center (URC [n = 581]) Cross-Sectional Survey and from the Hepatitis C Cohort Study (Hep C; D. Vlahov, Principal Investigator [n = 8]).[23] The cross-sectional study targeted drug users injecting for more than 3 years, and the cohort study targeted young (15–35 years of age) IDUs who reported injecting for 3 or fewer years. Both studies collected injection and sexual behavior data from street-recruited IDUs in East/Central Harlem and the South Bronx. Because the Hep C study contributed only 8 cases for this analysis, data from these 2 sources were combined for presentation.

Analysis

Data from these studies were combined (N = 1214) and analyzed by the 10 calendar quarters (based on the date of the last injection) from January 2001 through June 30, 2003. The quarters were defined as follows: (1) January 1 through April 9, 2001 (this quarter is extended through April 9 because the NYSDOH began distributing information regarding registered pharmacies on April 10, the date that implementation was considered to be in effect for the purposes of this evaluation); (2) April 10 through June 30, 2001; (3) July 1 through September 30, 2001; (4) October 1 through December 31, 2001; (5) January 1 through March 31, 2002; (6) April 1 through June 30, 2002; (7) July 1 through September 30, 2002; (8) October 1 through December 31, 2002; (9) January 1 through March 31, 2003; and (10) April 1 through June 30, 2003. Cochran-Armitage z-statistics with 2-sided asymptotic P value tests were used to assess changes in sharing and syringe source over time. This statistic tests for linear trend in proportions across levels of a single ordinal variable[27–29] and is appropriate for stratified or chronologically ordered contingency tables. The sharing data were coded so that a positive value represents an increase in sharing and a negative value represents a decrease in sharing.

The relations between selected sociodemographic characteristics and syringe sharing were tested by χ^2 tests and t tests. To facilitate presentation and analysis, participants self-identifying as white or other race/ethnicity were combined. Education was coded using 3 categories: less than high school graduate, high school graduate or General Educational Development (GED) equivalent, and more than high school/GED education. Syringe sources were grouped into 3 categories: SEP, ESAP (pharmacies, hospitals, doctor's offices, and free-standing clinics), and other.

Variables significant at $P < 0.05$ in bivariate analyses were entered into a multiple logistic regression model predicting syringe sharing. In the multiple logistic regression model, race/ethnicity and syringe source categories were dummy coded. Data were missing from 18 participants for syringe sharing, from 1 participant for syringe source, and from 14 participants for gender, leaving a final sample of 1181 participants for analysis.

RESULTS

Sociodemographic characteristics of participants from each of the contributing projects reflect the criteria of the projects (Table 1). Male participants constitute approximately one half of the CAR sample; they represent approximately three quarters of the sample in the ARIBBA and URC. The ARIBBA sample is 100% Hispanic, whereas Hispanics represent a majority of participants in the other 2 samples. Among the 120 participants in the white/other category, 97 self-identified as white, whereas 23 self-identified as other. Approximately half of all participants were 37 years of age or older. The average number of years injecting was between 15 and 17 for each project. The number of days since the last injection averaged less than 6 for each project.

Overall, 6.4% of participants reported receptively sharing their last syringe. The relation between sociodemographic and injection-related behaviors and syringe sharing can be seen in Table 2. Women were significantly more likely

TABLE 1. Sociodemographic Characteristics and Drug Use Behaviors by Project

Characteristic	ARIBBA (n = 365)	CAR (n = 227)	URC/Hep C (n = 589)	Total (n = 1181)
Gender (% male)	81.6	48.5	74.2	71.5
Ethnicity (%)				
African American		22.9	19.7	14.2
Hispanic	100.0	50.7	70.1	75.6
White, other		26.4	10.2	10.2
Age, mean (SD)	37.6 (8.68)	39.0 (8.40)	36.6 (8.54)	37.4 (8.60)
Education (%)				
Less than high school graduate	56.4	46.3	54.0	53.3
High school graduate or GED	12.1	28.6	14.8	16.6
More than high school	31.5	25.1	31.2	30.1
Currently employed (%)	11.8	8.4	14.6	12.5
Years injecting, mean (SD)	16.8 (10.51)	16.5 (11.19)	15.6 (9.64)	16.2 (10.24)
Days since last injection, mean (SD)	2.0 (3.19)	4.1 (5.73)	5.9 (8.71)	4.3 (7.08)

Data were missing for 2 participants for education, 9 participants for years injecting, and 11 participants for employment status.

TABLE 2. Bivariate Associations With Receptive Sharing of the Last Injection Syringe

Characteristic	% (no. shared/ total no.)/ Mean (SD)	Test Statistic (χ^2/t)
Gender (χ^2)		10.6†
Male	5.0 (42/845)	
Female	10.1 (34/336)	
Race/ethnicity (χ^2)		8.1*
African American	8.3 (14/168)	
Hispanic	5.4 (48/893)	
White, other	11.7 (14/120)	
Age (t test)		−0.2
Shared, (n = 76), mean (SD)	37.6 (7.53)	
Nonshared, (n = 1105), mean (SD)	37.4 (8.67)	
Education (χ^2)		1.7
Less than high school graduate	7.2 (45/628)	
High school graduate or GED	6.6 (13/196)	
More than high school	5.1 (18/355)	
Employment status (χ^2)		0.0
Currently employed	6.1 (9/147)	
Not currently employed	6.4 (66/1026)	
Years injecting (t test)		0.3
Shared, (n = 74) mean (SD)	15.9 (8.33)	
Nonshared, (n = 1098), mean (SD)	16.2 (10.35)	
Syringe source (χ^2)		42.1‡
SEP	2.8 (17/600)	
ESAP (pharmacy, health care facility)	3.7 (6/163)	
Other	12.7 (53/418)	

*$P < 0.05$; †$P < 0.01$; ‡$P < 0.001$.

Significance tests were based on χ^2 or t tests, as noted. Data were missing for 2 participants for education, 8 participants for employment status, and 9 participations for years injecting. "Other" syringe source represents 9 subcategories, including a needle dealer, a friend, a spouse or sex partner, and a stranger.

than men to have shared the last injection syringe. A χ^2 test shows a significant racial/ethnic difference in sharing. Participants who self-identified as white/other race/ethnicity reported the highest rate of sharing. Other sociodemographic characteristics that were not significantly associated with syringe sharing included age, education, employment status, and years injecting.

The proportion reporting sharing was significantly different across syringe sources (see Table 2), with the "other" category representing the highest level of sharing. Within this category, the subcategories with the highest reported sharing included the following: wife, husband, lover, or sex partner (37% [17 of 46 respondents]); a stranger or someone unknown to the respondent (29% [4 of 14 respondents]); and a friend (14% [19 of 132 respondents]). The subcategories with the lowest reported sharing included the following: a diabetic friend or diabetic family member (0% [0 of 55 respondents]) and a needle dealer (7% [9 of 137 respondents]).

Table 3 presents data on receptive syringe sharing and source of syringe over time. Receptive syringe sharing was reduced significantly from 13.4% to 3.6% over the study period (Cochran-Armitage trend test: $z = -2.9$, $P < 0.01$). The test remains significant if the period tested excludes the first quarter (with a relatively high level of sharing) or the last quarter (with relatively a low level of sharing). The use of ESAP sources increased significantly over the study period from 7.5% to 25.0% ($z = 5.7$, $P < 0.001$). SEPs remained the most frequent sources of the last syringe used during all quarters (approximately 50%) but showed a significant decline over the course of the study ($z = -4.3$, $P < 0.001$).

To assess their independent contribution to sharing, variables significant in bivariate analyses were entered into a multiple logistic regression model. These variables were gender, the ordinal variable representing the time in calendar quarters since inception of the ESAP (ie, 1–10), syringe source, and race/ethnicity. Table 4 presents the results of the multiple logistic regression analysis. ESAP and SEP syringe source were significantly associated with less sharing. Time was also significantly associated with less sharing. Female gender and white/other race/ethnicity were significantly associated with more sharing. African-American race/ethnicity was not significantly associated with syringe sharing.

DISCUSSION

The major finding in this study was a decline in receptive syringe sharing since inception of the ESAP, consistent with other studies showing a decline in sharing in New York City since the early 1990s.[14,15] ESAP sources (primarily pharmacies but also hospitals, clinics, and private doctors) seem to have begun to supplement SEP sources of sterile syringes for some IDUs in these communities. Syringes obtained from ESAP sources were shared at rates similar to those obtained from SEPs. Increased access to sterile syringes provided by the ESAP did not result in increased sharing. Other potentially harmful effects, such as increased unsafe syringe disposal, also seem to have been avoided (see the report by Fuller and colleagues[23]).

This study also found that women reported more receptive sharing than men. Dissemination efforts regarding the ESAP and safe syringe use in general should take gender into account. In addition, although men and women shared syringes with their spouses or sex partners at approximately the same relatively high rate (37%), women may be at increased risk because their male partners may be more likely to be HIV-positive.[1] Spittal and colleagues[30] found women in Vancouver to be at greater risk for HIV seroconversion. Women in that study who seroconverted were more likely to require help in injecting, to have unsafe sex with a regular partner, and to inject more frequently. These findings highlight the importance of social context in injecting behavior and reveal potential mechanisms of increased risk. More research is needed to determine how social contexts contribute to greater receptive sharing among women.

White/other IDUs reported not only a greater proportion of receptive sharing but a greater proportion of ESAP syringe source (29%) as compared with African-American (10%) and Hispanic (12%) IDUs. Although Finkelstein and colleagues[22] reported no significant differences among racial/ethnic groups in the ability to purchase syringes at pharmacies, white IDUs have been reported to be the most likely and African-American

TABLE 3. Proportion of Receptive Sharing, and Source of the Last Injection Syringe by Calendar Quarter

	2001				2002				2003	
	1Q (n = 67)	2Q (n = 132)	3Q (n = 103)	4Q (n = 79)	1Q (n = 119)	2Q (n = 151)	3Q (n = 147)	4Q (n = 136)	1Q (n = 163)	2Q (n = 84)
Receptive sharing*	13.4	8.3	8.7	11.4	2.5	4.6	6.8	7.4	3.1	3.6
Syringe source										
SEP†	56.7	65.2	56.3	44.3	60.5	49.0	44.2	50.0	43.6	39.3
ESAP†	7.5	3.0	7.8	10.1	7.6	21.2	16.3	15.4	19.0	25.0
Other	35.8	31.8	35.9	45.6	31.9	29.8	39.5	34.6	37.4	35.7

*$P < 0.01$; †$P < 0.001$, Cochran-Armitage trend tests.
"Other" syringe source represents 9 subcategories, including a needle dealer, a friend, a spouse or sex partner, and a stranger.

IDUs have been reported to be the least likely to attempt to purchase[20] and to make purchases of syringes at pharmacies in New York City.[21] There may be interactions between race/ethnicity and other characteristics, such as gender, income, frequency of injection, or experience of discrimination, that partially account for these differences. Sufficient power to test interactions with race/ethnicity would have required a larger sample or stratified sampling methods. Future studies should consider methods that would allow a more complete white/other subgroup analysis.

Confusion about the law or fear of recrimination may have had a disproportionate impact on the syringe acquisition behavior or self-report reliability of syringe sharing among racial/ethnic subgroups, based on perceptions or previous experiences of discrimination. African Americans and Hispanics have been stopped and searched by the New York City Police Department more frequently than whites, even after controlling for race/ethnicity-specific estimates of crime participation.[31] In addition, the law regarding the legal possession of syringes obtained from SEP or from ESAP sources has only recently been clarified,[32] and many IDUs may still be reluctant to purchase and carry syringes from pharmacies for this reason. Deren and colleagues[21] reported recently that most IDUs (in a similar New York City population) were unaware of the law regarding the ESAP. The legal status of possession of syringes from SEP or ESAP sources in contrast with the legal status of syringes obtained from other sources and the difficulty in distinguishing among syringes obtained from various sources constitute a mixed message for IDUs in New York. Although a growing majority of pharmacists in New York support the sale of syringes to IDUs,[33,34] many New York pharmacies are not registered with the ESAP, and not all pharmacists or salespersons working at registered pharmacies are aware of store policies regarding nonprescription syringe sales. Even though participants in this study admitted to illegal drug use, different levels of perceived potential recrimination may have resulted in decreased levels of reported syringe sharing among African Americans and Hispanics. This potential reporting bias limits the generalizability of this study. Future studies should assess the perception of discrimination among IDUs and analyze the impact of discrimination on behavior and on reliability of self-reports of illicit behavior. Further dissemination of information regarding the ESAP legislation is needed, particularly dissemination targeted to African-American and Hispanic IDUs.

TABLE 4. Multiple Logistic Regression Results: Differences in the Likelihood of Receptive Syringe Sharing Based on Gender, Race/Ethnicity, Syringe Source, and Time

Independent Variable	Adjusted Odds Ratio	95% Confidence Interval
Female gender	2.01†	1.20–3.34
Race/ethnicity		
Hispanic	Reference	
African American	0.92	0.48–1.80
White, other	2.19*	1.09–4.41
Syringe source		
Other	Reference	
SEP	0.17‡	0.10–0.30
ESAP	0.26†	0.10–0.63
Time (calendar quarter)	0.88†	0.78–0.96

*$P < 0.05$; †$P < 0.01$; ‡$P < 0.001$.
"Other" syringe source represents 9 subcategories, including a needle dealer, a friend a spouse or sex partner, and a stranger.

Hispanics, the largest group in this sample, reported the lowest levels of sharing and the highest SEP participation. Fifty-three percent of Hispanics reported a SEP source, whereas 47% of whites/others and 41% of African Americans reported a SEP source. Reduced sharing may be a partial result of HIV risk reduction information received at SEPs.[14,15] This highlights the potential benefits of providing HIV risk reduction information at IDU syringe sources. Previous studies have shown that these risk reduction messages have not come consistently from pharmacies. Finkelstein and colleagues[22] reported that only 18 of 61 syringe purchases at ESAP-registered pharmacies included the mandated safety information insert. Enhanced efforts need to be continued to ensure that this information is provided, especially for IDUs who do not participate in SEPs.

Because comparable measures of income were not available in the studies included here, analysis related to income could not be undertaken. Nevertheless, different sources and amounts of income and syringe pricing may be related to ESAP participation. Syringes are typically sold in pharmacies in 10-packs for $2 to $8, or from $0.30 to $2.00 each when sold singly.[22,23] Finkelstein and colleagues[22] also reported lower rates of pharmacies providing sales of single

syringes compared with 10-packs. Thus, the amount required for an IDU to access a sterile syringe at a pharmacy might vary by up to $7.70. Higher amounts of legal income facilitate purchasing syringes legally. Illegal income may be associated negatively with legal purchasing because of a potential for greater contact with illegal sources, such as drug or needle dealers.

Although data on frequency of injection and type of drug injected were not available, those factors might mediate or moderate sharing behavior and ESAP use. Cocaine and speedball injectors often inject more frequently. In a study of IDUs in 2 different New York City neighborhoods, Des Jarlais and colleagues[20] found that more frequent injectors were more likely to have attempted pharmacy syringe purchases than persons injecting less frequently. Future studies should consider frequency of injection and potential differential effects among different types of injected drugs on the use of the various safe and unsafe syringe sources and sharing so that the impact of the ESAP on different subgroups of IDUs can be determined.

Some needle dealers and other sources of syringes in these data may be acting as "secondary exchangers," originally obtaining their syringes at SEPs and then selling them. The rate of sharing of syringes purchased from needle dealers was lower than that of many other categories (data not shown). The potential for targeting or recruiting needle dealers for innovative HIV prevention programs should be explored.

Limiting the sharing question to receptive sharing of the last injection syringe simplified the analysis and perhaps maximized recall among participants, enhancing reliability. Information about trends in utilization of all the sources of syringes used over time by IDUs would provide a more complete evaluation of the possible impact of the ESAP, however. It is likely that many of the participants obtain their syringes from more than 1 source. Thus, the increase in the proportion of ESAP sources reported may reflect the supplementation of existing syringe sources rather than a replacement.

The generalizability of these findings is limited by the nonrandom selection of our study sample. This convenience sample included participants from 4 ongoing studies with different entry criteria and designs. Nevertheless, the sample is similar in demographic characteristics and risk behaviors to other reported samples drawn from IDUs is these geographic areas.[14,23,24,35] A randomized study of pharmacy access of syringes is not possible, because syringe access laws vary at the state level and would be difficult to reconcile with ethical standards considering that limited access to sterile syringes is clearly related to syringe reuse and sharing.

The presence of several SEPs in Harlem and the Bronx distinguishes these communities from most communities in New York State and elsewhere, thus limiting the generalizability of our findings to other communities. Because the availability of syringes at no cost at SEPs diminishes the need to purchase syringes at pharmacies, these results may underestimate the impact of the ESAP on syringe purchases at pharmacies. Although the data may seem to indicate that an increase in pharmacy use may be associated with a decline in SEP use, an examination of the proportion from various sources of syringes over a longer period (not simply the last injection episode) can reveal changes in the frequency of use among the various sources. Additional research is needed to determine whether participants who normally use unsafe sources would begin using pharmacies or other safe ESAP sources.

SEPs remained the most frequent syringe source. This highlights the importance of SEP accessibility for IDUs in Harlem and the Bronx. Further research regarding the potential serious barrier that the cost of syringes may represent for many IDUs is suggested. Increasing SEP access and lowering the cost of syringes at pharmacies may lead to greater reductions in unsafe injecting practices, especially for IDUs with low incomes.

The ESAP has increased access to sterile syringes for IDUs in New York State. In these 2 New York City communities served by SEPs, the impact of the ESAP on syringe sharing may be difficult to distinguish from the overall continual reduction in risk behavior in the HIV epidemic among IDUs in New York City. Receptive syringe sharing continues to decrease in these communities since the implementation of ESAP, however, and is less than 4% in our sample in the first 2 quarters of 2003.

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