New needle and syringe use, and use of needle exchange programmes by street recruited injection drug users in 1993

Robin J MacGowan, a Claire E Sterk, b Anna Long, c Rose Cheney, d Matt Seeman a and John E Anderson a

Background Needle exchange programmes (NEP) provide injection drug users (IDU) with sterile injection equipment and receive used needles in exchange. In this paper we describe the use of new syringes and NEP by IDU and characteristics associated with using NEP in 1993.

Methods Street-recruited IDU were interviewed in five US locations: Atlanta, Philadelphia, Chicago, New York City, and Los Angeles (LA) county.

Results Most (75-95%) reported it was easy to get a new syringe and for their last injection, 45-77% used a new syringe and 2-18% used a syringe previously used by another IDU. Use of NEP ranged from 8% to 16% in Chicago, Philadelphia, and LA County. In LA County not having injected ‘speedball’ in the last 30 days, last injection with a new syringe, and reporting it was very easy to get a new syringe were associated with NEP use. In Philadelphia, NEP use was associated with ‘speedball’ injection in the last 30 days, and in Chicago, not injecting with ‘speedball’ and injecting with cocaine were associated with NEP use.

Conclusions In 1993, most street-recruited IDU in Chicago, Philadelphia, and LA County had not used NEP. Factors associated with NEP use were not consistent across sites. Dispersion of NEP and removal of legal barriers restricting access to sterile syringes may be more important in increasing the use of sterile syringes and NEP than client characteristics.

Keywords Syringe, needle exchange programmes, injection drug users

Accepted 29 July 1997

The human immunodeficiency virus (HIV) can be spread from an HIV-infected injection drug user (IDU) to an uninfected IDU through the sharing of HIV-contaminated needles and syringes (hereafter referred to as syringes) and other injection paraphernalia (‘works’). To prevent the transmission of HIV via sharing of syringes and ‘works’, several behavioural options are available to IDU, including not using illicit drugs, not injecting drugs, using a new sterile syringe for every injection, not sharing ‘works’, and disinfecting shared injection equipment. For drug users who continue to inject drugs, a new sterile syringe should be used for each injection. In an effort to provide IDU with access to sterile syringes, two risk-reduction approaches have been supported by public health departments in many countries. One is to allow syringes to be sold in pharmacies without requiring a prescription. The second is to establish needle exchange programmes (NEP) in communities where drug users are known to congregate.

The goal of NEP is to prevent transmission of HIV and other blood-borne infections. The primary objectives of NEP are to provide IDU with sterile injection equipment and to remove potentially HIV-contaminated syringes from circulation among IDU by exchanging used syringes for new ones. Secondary objectives are to provide IDU with referrals for health care services and drug treatment, and to provide IDU with HIV prevention information, condoms, and bleach kits. To be successful in accomplishing these objectives, IDU must utilize the NEP.

The first NEP was started in Amsterdam, The Netherlands, in 1984 as part of a national approach to harm reduction for IDU. The first NEP in the US was established in Tacoma, Washington, in 1986. By 1995, there were about 75 NEP in the US, many of which were illegal programmes. Until the US Surgeon General...
has determined that NEP are effective in reducing HIV transmission and does not promote drug use, federal monies cannot be used to finance NEP. Currently, only State, local and private funds may be used to purchase syringes distributed through NEP.

To determine the effectiveness of NEP in reducing HIV transmission, a longitudinal study design with a large number of IDU being randomly assigned to use an NEP or no intervention, and a sufficiently high seroconversion rate over time would be necessary. The National Institute of Health has funded a randomized control trial of NEP users to be conducted in Alaska, however, the control group would receive an intervention consisting of information on obtaining syringes from pharmacies.

Current research on NEP has shown that they are not associated with increasing drug injection or sharing of syringes, encouraging youth to inject, or increasing discarded syringes in the community. Additionally, a study in New Haven, Connecticut found a reduction in the prevalence of HIV. One study reported a protective effect with using NEP, and one study found consistent NEP use associated with a lower incidence of drug injection and needle sharing, and one study found no association.

In Tacoma, Washington, hepatitis B and hepatitis C risk was significantly lower among IDU who used the NEP, and in Amsterdam, The Netherlands, the incidence of acute hepatitis B has decreased since the establishment of an NEP. Given that hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV can all be transmitted through sharing of contaminated syringes, the use of NEP may also have reduced HIV transmission among IDU who use the programmes.

While this information is important, data regarding IDU who do not use NEP is lacking. Many IDU may not use the NEP in their community because of distrust of those operating the programme, inconvenient times or locations of the NEP, fear of arrest from police, or group norms among IDU that do not reinforce the use of a sterile syringe for each injection. The IDU may also already have access to syringes from other sources. Research efforts should include comparisons of characteristics and behaviours of IDU who use NEP, as well as IDU who do not use NEP. To obtain this information, data should be collected from cross-sectional samples of IDU from a variety of locations within IDU communities, including both IDU who are located in the vicinity of NEP and those who are not.

To address these issues, we describe access to new syringes, type of syringe used for the most recent injection, and use of NEP by IDU recruited in street settings in 1993. We also identify the characteristics of IDU who reported ever having used an NEP to determine if NEP users are significantly different from non-users with respect to demographic characteristics or drug use behaviours.

**Methods**

The US Centers for Disease Control and Prevention provided funds to eight agencies to evaluate street outreach programmes to prevent HIV transmission in five IDU sites and three youth sites. These agencies successfully competed for cooperative agreements monies. Cross-sectional samples of drug users in Atlanta Georgia, Chicago Illinois, New York City, New York, Philadelphia Pennsylvania, and Los Angeles County (LA County) California were interviewed as part of the AIDS Evaluation of Street Outreach Project (AESOP). The IDU were predominately recruited from street settings; a small proportion were recruited from soup kitchens and drop-in centres. To select settings for recruiting IDU, a community assessment was conducted during the first year of this multisite project. Each project site identified 'catchment areas' that were associated with heavy drug use and were not already being used as research sites. Catchment areas were not selected based on proximity to NEP. To reduce bias and obtain comparable repeat samples, each site trained the interviewers to systematically select IDU in the community for interviewing. In each site, two waves of recruitment and survey data collection occurred in 1993 to provide baseline data on the drug-using population in the selected catchment areas. Interviewers selected every nth person in the catchment area. Quarterly report data from project sites indicated that 85–98% of eligible respondents participated. These rates should be regarded as approximate because it is likely that not all potential IDU were approached due to unsafe circumstances.

To be eligible for participation in the study, people had to be >18 years and to have injected illicit drugs in the last 3 years. Atlanta, LA County, and Philadelphia also included drug users who had used crack cocaine in the past month but had not injected in the last 3 years; such people comprised a maximum of 30% of the sample in each of these cities.

All interviews were conducted by project staff who had previously conducted interviews or provided services to IDU populations. The interviewers received extensive training and daily debriefing. The training included role-playing on the purpose of the interview, interviewer effects, bias, safety, approach skills and protocols. A standardized questionnaire with a core set of questions was used in all project sites. Each site added questions to address local issues of interest. In addition to demographic information, data were obtained from the participants regarding their history of drug use, including recent injection and non-injection use of heroin, cocaine, crack cocaine, and a mixture of heroin and cocaine known as 'speedball'. Participants were asked whether they had shared or reused the last syringe for injecting illicit drugs, how easy it was to get a new syringe, and whether they had ever used an NEP. For the following analyses, we used data from participants who reported having injected illicit drugs during the 6 months before the interview. These analyses excluded crack cocaine users who had not injected drugs and IDU who had only injected before an NEP was established in the community.

Because study populations and outreach interventions differed across sites, data were not aggregated for analyses, and mainframe SAS version 6.08 was used for all analyses. Chi-square tests with a probability of $P < 0.05$ were used to determine statistical significance for bivariate analyses.

As IDU with a longer history of injection may be less willing to modify behaviours, or they may already have established sources of sterile syringes, they may be significantly different in their use of NEP. To address this issue, we included in these analyses the number of years a person had injected illicit drugs. This number was calculated based on the IDU's current age, age at first injection, and the date of the last illicit drug injection.

The purpose of NEP is to make it very easy for IDU to obtain a sterile syringe. Therefore, we dichotomized the self-report of
ease of obtaining a new syringe into two categories: very easy to obtain a new syringe versus somewhat easy/somewhat difficult/difficult. Given that NEP provide new syringes, the type of syringe used for last injection was dichotomized: a new syringe versus one used by oneself, a partner, or another IDU.

The surveys in Chicago, Philadelphia, and LA County included site-specific questions about use of NEP. In Chicago, the NEP was legal, had four sites, operated 8 hours per week and had a one-for-one exchange policy. The Philadelphia NEP was illegal but tolerated, operated for 4 hours per week out of two sites and provided a starter syringe to new clients. The LA County NEP was illegal and underground, operated in ten sites for 10.75 hours per week, and had a one-for-one exchange and provided a starter syringe to new clients. Although NEP were operating in New York City in 1993, questions on NEP use in New York City were not asked, and Atlanta had no NEP. Multiple logistic regression analyses were performed to determine characteristics associated with ever having used NEP in these three sites. Separate logistic regression models were created using the variables ‘age of respondent’ and ‘years of injection’ for each site. Because these two variables were highly correlated (Pearson correlation coefficient $P > 0.75$), the logistic regression models for each site included only ‘years of injection’. In the initial models, gender, years of injection, needle and drug related variables and variables that were significant at $P < 0.05$ in Table 2 were included. The final models included variables that were of common interest. In an additional analysis, the data were analysed from the three sites combined with site included as an independent variable.

Results
Access to and use of new syringes
In each site, data were obtained from more than 400 respondents who had injected illicit drugs in the previous 6 months:

<table>
<thead>
<tr>
<th></th>
<th>Atlanta (n = 571)</th>
<th>Chicago (n = 704)</th>
<th>Los Angeles County (n = 831)</th>
<th>New York City (n = 712)</th>
<th>Philadelphia (n = 430)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>73%</td>
<td>72%</td>
<td>76%</td>
<td>70%</td>
<td>85%</td>
</tr>
<tr>
<td>Female</td>
<td>27%</td>
<td>28%</td>
<td>24%</td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>White</td>
<td>6%</td>
<td>&lt;1%</td>
<td>9%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Black</td>
<td>92%</td>
<td>99%</td>
<td>43%</td>
<td>31%</td>
<td>92%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1%</td>
<td>&lt;1%</td>
<td>43%</td>
<td>63%</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>0%</td>
<td>4%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>&lt;30</td>
<td>8%</td>
<td>8%</td>
<td>13%</td>
<td>20%</td>
<td>4%</td>
</tr>
<tr>
<td>30–39</td>
<td>45%</td>
<td>38%</td>
<td>35%</td>
<td>54%</td>
<td>33%</td>
</tr>
<tr>
<td>≥40</td>
<td>47%</td>
<td>54%</td>
<td>52%</td>
<td>25%</td>
<td>63%</td>
</tr>
<tr>
<td>Ever used heroin</td>
<td>87%</td>
<td>98%</td>
<td>99%</td>
<td>59%</td>
<td>88%</td>
</tr>
<tr>
<td>Ever used cocaine</td>
<td>98%</td>
<td>94%</td>
<td>81%</td>
<td>83%</td>
<td>92%</td>
</tr>
<tr>
<td>Ever used ‘speedball’</td>
<td>80%</td>
<td>78%</td>
<td>47%</td>
<td>52%</td>
<td>74%</td>
</tr>
<tr>
<td>Injected heroin in last 30 days</td>
<td>68%</td>
<td>92%</td>
<td>95%</td>
<td>92%</td>
<td>79%</td>
</tr>
<tr>
<td>Injected cocaine in last 30 days</td>
<td>80%</td>
<td>78%</td>
<td>47%</td>
<td>52%</td>
<td>74%</td>
</tr>
<tr>
<td>Injected ‘speedball’ in last 30 days</td>
<td>61%</td>
<td>72%</td>
<td>58%</td>
<td>46%</td>
<td>62%</td>
</tr>
<tr>
<td>Ever used crack</td>
<td>64%</td>
<td>72%</td>
<td>80%</td>
<td>54%</td>
<td>53%</td>
</tr>
</tbody>
</table>

Table 1 Selected demographic characteristics and drug use of street-recruited injection drug users in five sites in US, 1993

AIDS Evaluation of Street Outreach Project (AESOP) survey data

Atlanta (n = 571), Chicago (n = 704), LA County (n = 831), New York City (n = 712), and Philadelphia (n = 430). The majority of the IDU interviewed were men (Table 1). The New York City and LA County sites had large percentages of Hispanic participants in their sample population, while the other three sites had predominately Black participants (Table 1). New York City had the greatest percentage of its sample aged 30–39 years; in all other sites, the majority of participants were ≥40 years (Table 1).

In all sites, at least 87% of the participants reported ever having used heroin, at least 81% had used cocaine, and at least 73% had used ‘speedball’. The percentage of people who reported having injected these three drugs in the 30 days before the interview varied among sites. Reported heroin injection was lowest in Atlanta, cocaine injection was lowest in LA County, and ‘speedball’ injection was lowest in New York City. Most of the respondents had previously used crack cocaine (Table 1).

Most of the IDU reported that they had not shared a syringe for their last injection: the percentage of respondents who had shared a syringe ranged from 2% in Philadelphia to 18% in LA County (Table 2). The percentage of IDU who reported having used a new syringe for their last injection ranged from 45% in LA County to 77% in Philadelphia. Reuse of a syringe previously used only by the respondent was common in all sites.

In all five sites, more than half of the IDU reported that it was very easy to get a new syringe, and from 75% to 95% reported that it was somewhat or very easy to get a new syringe (Table 2). Two per cent or fewer of IDU in four sites reported that it was difficult to obtain new syringes. Los Angeles County had the largest percentage of respondents who reported that it was difficult (11%) or somewhat difficult (14%) to obtain new syringes, and had the highest rate of use of non-sterile syringes (55%).

When participants were asked where they obtained the new syringe, the most common responses included bought on the street or in the park; from friends, diabetics, relatives, or drug dealers; and, to a lesser degree from pharmacies, hospitals, or NEP.
Use of needle exchange programmes

Needle exchange programmes began operating in 1991 in Chicago and Philadelphia, and in LA County in 1992. When asked if they had ever used an NEP, most of the respondents in these sites said they had not. Los Angeles County had the greatest percentage of respondents reporting ever having used an NEP (16%), followed by Philadelphia (12%) and Chicago (8%).

Table 3 shows bivariate associations between selected IDU characteristics and NEP use in Chicago, LA County, and Philadelphia. In Chicago, no variables were significantly associated with use of NEP. In LA County, we found seven variables associated with use of NEP: participants who were Black, did not inject cocaine, did not inject ‘speedball’, smoked crack, had used a new syringe for their last injection, reported that it was very easy to get a new syringe, and did not think they were likely to get HIV. In Philadelphia, participants who had injected heroin and ‘speedball’ in the last 30 days were more likely to have used NEP.

Separate logistic regression analyses were completed for each site using significant variables shown in Table 3 and the number of years of drug injection (Table 4). In Chicago, controlling for other factors, IDU cocaine injectors were more likely and IDU ‘speedball’ injectors were less likely to have ever used an NEP. In LA County, ever having used an NEP was independently associated with not having injected ‘speedball’ in the last 30 days, having used a new syringe for the last injection, and perceiving
had used a new syringe for their last injection, the proportion of IDU may have thought they were using sterile syringes. Therefore, while the IDU may have thought they obtained sterile syringes, only syringes that are obtained from pharmacies, hospitals, or NEP should be considered sterile. Only syringes that are obtained from sources other than pharmacies, hospitals, and NEP may not be sterile. Only syringes that are obtained in our surveys may be artificially high for two reasons. First, it is possible that respondents were providing the information that they had used a new syringe for their last injection and difficulty in obtaining syringes. Despite the fact that the LA County NEP had the most sites and hours of operation, the underground status of the programme may have made it difficult for IDU to use the programme on a regular basis. Law enforcement intervention at some exchanges forced closure, and movement of sites and other irregularities may have prevented regular use by IDU. In addition, there was a good deal of regional variation in LA County with respect to availability of syringes from which these estimates have been derived, the availability and proximity to the NEP of the IDU interviewed, the accuracy of estimates of IDU who use the programme and the total IDU population, and the drug treatment status of the sample could all influence the estimate of NEP coverage.

Although LA County had the highest reported use of the NEP, the proportion of IDU who reported sharing a syringe for their last injection was low in all sites. This would support previous research that suggests IDU have changed their injection behaviours to prevent becoming infected with HIV.25-30 While an IDU who reuses his/her own syringe is not the ideal injection practice, reusing but not sharing syringes will reduce an IDU's risk of acquiring HIV.

While this study was not designed to evaluate the effectiveness of NEP, we were able to measure the level of NEP use in three sites from these cross-sectional surveys. In this study, the proportion of IDU who reported previously having obtained sterile syringes from NEP ranged from 8% in Chicago to 16% in LA County and is consistent with previous studies in the US.31 Previous research in the US has shown that between 0.1% and 58% of IDU in communities with NEP have accessed the NEP.5 This variation in NEP use rates may be a result of the methods from which these estimates have been derived, the availability and proximity to the NEP of the IDU interviewed, the accuracy of estimates of IDU who use the programme and the total IDU population, and the drug treatment status of the sample could all influence the estimate of NEP coverage.

Table 4 Logistic regression analyses for ever use of needle exchange programmes by street-recruited injection drug users in Chicago, Los Angeles County, Philadelphia, and Combined sites, 1993 AIDS Evaluation of Street Outreach Project (AESOP) survey data

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Chicago (n = 627)</th>
<th>Los Angeles County (n = 746)</th>
<th>Philadelphia (n = 364)</th>
<th>Combined Sites (n = 1735)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>AOR^a (95% CI)</td>
<td>AOR^a (95% CI)</td>
<td>AOR^a (95% CI)</td>
<td>AOR^a (95% CI)</td>
</tr>
<tr>
<td>Black^b</td>
<td>NA</td>
<td>1.67 (0.88-3.17)</td>
<td>NA</td>
<td>1.47 (0.82-2.62)</td>
</tr>
<tr>
<td>Hispanic^b</td>
<td>NA</td>
<td>0.55 (0.27-1.12)</td>
<td>NA</td>
<td>0.49 (0.26-0.95)</td>
</tr>
<tr>
<td>Last injection with new syringe</td>
<td>1.05 (0.54-2.02)</td>
<td>1.64 (1.05-2.55)</td>
<td>1.17 (0.54-2.53)</td>
<td>1.41 (1.01-1.98)</td>
</tr>
<tr>
<td>Very easy to get new syringe</td>
<td>0.78 (0.40-1.51)</td>
<td>1.93 (1.21-3.08)</td>
<td>1.16 (0.50-2.67)</td>
<td>1.42 (1.00-2.02)</td>
</tr>
<tr>
<td>Los Angeles County^c</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>4.00 (2.67-6.00)</td>
</tr>
<tr>
<td>Philadelphia^c</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>1.54 (1.00-2.38)</td>
</tr>
<tr>
<td>Years of injection</td>
<td>1.01 (0.98-1.04)</td>
<td>1.01 (0.99-1.03)</td>
<td>1.04 (1.00-1.07)</td>
<td>1.02 (1.00-1.03)</td>
</tr>
<tr>
<td>Injected cocaine last 30 days</td>
<td>3.36 (1.25-8.99)</td>
<td>0.93 (0.56-1.55)</td>
<td>-</td>
<td>1.06 (0.73-1.53)</td>
</tr>
<tr>
<td>Injected 'speedball' last 30 days</td>
<td>0.46 (0.22-0.94)</td>
<td>0.60 (0.36-0.99)</td>
<td>2.15 (1.01-4.56)</td>
<td>0.77 (0.54-1.11)</td>
</tr>
<tr>
<td>Likely to get HIV</td>
<td>0.46 (0.18-1.19)</td>
<td>0.60 (0.33-1.08)</td>
<td>1.89 (0.76-4.73)</td>
<td>0.69 (0.44-1.06)</td>
</tr>
</tbody>
</table>

^a Adjusted odds ratio. ^b White-reference. ^c Chicago-reference site.

Discussion

The current public health recommendation for people who inject illicit drugs is that they should be 'encouraged to always use sterile injection equipment and warned to never reuse or share needles, syringes, and other injection equipment'.1 To achieve this goal, IDU must have easy and convenient access to sterile syringes. Of IDU surveyed in these five sites, 45-77% had used a new syringe for their last injection and 75-95% reported that it was easy to get a new syringe.

The general perception among IDU is that syringes are in short supply. The rates for use and ease of obtaining new syringes we observed in our surveys may be artificially high for two reasons. First, it is possible that respondents were providing the information that they had used a new syringe for their last injection, the proportion of IDU who used a new sterile syringe may have been significantly lower than reported. Outreach workers should inform IDU that syringes from sources other than pharmacies, hospitals, and NEP may not be sterile.

The proportion of IDU who reported sharing a syringe for their last injection was low in all sites. This would support previous research that suggests IDU have changed their injection behaviours to prevent becoming infected with HIV.25-30 While an IDU who reuses his/her own syringe is not the ideal injection practice, reusing but not sharing syringes will reduce an IDU's risk of acquiring HIV.
over 4000 square miles. Consequently, IDUs' reported difficulty may have reflected their perceptions of access to sterile syringes in their home communities rather than in the areas where NEP operate.

Possible reasons for the low utilization rates of NEP in these three sites in 1993 are that the NEP had limited sites and hours of operation, and two operated illegally. The IDU may have been reluctant to use the NEP because paraphernalia laws in these locations prohibit the possession and distribution of syringes without a medical purpose. Repealing the paraphernalia laws and removing the ban on federal funding for NEP would allow organizations wanting to implement an NEP to compete for the limited federal HIV prevention funds available.

Interestingly, we did not find a statistically significant association between the number of years a person had injected drugs and use of NEP. However, the findings across sites were similar and suggest that as IDU inject longer, they may be more inclined to use NEP. We had anticipated that younger, less experienced IDU would be more likely to use NEP for several reasons. First, they may not have established sources of syringes. Secondly, they may be more flexible in adopting new behaviours. Finally, they may have had fewer negative experiences with the legal system, and therefore, be more trusting of a public health programme. The relationship between age, years of drug injection and use of NEP should be explored further.

A study in Glasgow Scotland compared NEP users and non-users and found that NEP users injected fewer drugs, injected less with used equipment, and used condoms more often with casual sex partners. In our study, except for last injection with a new syringe, and years of injection, we did not find characteristics that would suggest a general trend across sites. These findings suggest that behaviours and characteristics of NEP users may be different in each site. Staff of NEP should examine the community IDU population to determine what proportion of IDU and which IDU are being reached by NEP and, those who are not being served. Organizations could use this information to develop strategies to provide services to IDU not accessing NEP.

Representative cross-sectional samples of IDU from street settings and other areas where they are known to congregate may be the most effective means of obtaining population estimates of behaviours of IDU, including their use of NEP. However, this method does have limitations. In each of the five sites in this study, the samples were restricted to specific locations (e.g. housing communities, parks, preselected city blocks). Consequently, IDU who did not frequent these areas in each city or county were not available for selection and certainly influences the analyses. This may explain why so few Hispanic IDU were interviewed in some sites. Second, NEP participants may have exchanged syringes for other IDU, thereby underestimating the true proportion of IDU who receive syringes from the programme. Another limitation of these analyses is that we do not have data on how far from the NEP the IDU 'hang out' or were interviewed. Ideally, we would prefer to have IDU from various distances to NEP, and thereby, have an unbiased sample based on respondents' proximity to NEP.

To increase use of new syringes by IDU, barriers that IDU have in obtaining sterile injection equipment need to be reduced. Modifying paraphernalia and prescription laws may be necessary in many locations. The State of Connecticut modified Connecticut's prescription and paraphernalia laws and made it legal for individuals to purchase up to 10 new syringes from pharmacies without a medical prescription and possess up to 10 syringes that do not contain drug residue. Following these changes in Connecticut's prescription and paraphernalia laws, the proportion of IDU who reported ever having used an NEP increased significantly, from 6% to 19%. In addition, the sale of non-prescription syringes in pharmacies increased, and sharing syringes in the previous 30 days decreased. Although most communities have not experienced an increase in discarded syringes as a result of making sterile syringes more available to IDU, the potential does exist. Injection drug users must have safe, discrete, and convenient disposal methods available to prevent the unacceptable discarding of used syringes in public places.

The norm for IDU who are unable or unwilling to stop injecting illicit drugs should be 'one set, one shot'. Eventually, this norm should decrease the incidence of HIV and other blood-borne infections such as hepatitis B virus and hepatitis C virus among IDU. The greatest hurdle may not be in encouraging IDU to use a sterile syringe for each injection, but may be in influencing public and political opinion in making sterile equipment available to IDU in sufficient quantity.

References


