THE HEALTH BENEFITS OF SECONDARY SYRINGE EXCHANGE

Sheigla Murphy, Margaret S. Kelley, Howard Lune

From a process evaluation, participants in San Francisco's syringe exchange program (SEP) are described. Three groups, primary, secondary, and nonexchangers, were interviewed for a total of 244 study participants recruited from eight needle exchange sessions. Fifty percent of all primary exchangers exchanged for one or more injecting drug user(s) (IDUs). Three general routes of syringe distribution were identified between primary and secondary exchangers: between close friends and lovers; for people who lived in close proximity to them; and with customers who bought drugs from them. Focusing on why some go to SEPs and why some rely on others to go for them, findings are summarized primarily as the barriers for not attending SEPs, including exposure, legal status, illness, drug lifestyle, and conflicts with service provision. The secondary exchangers had similar risk reduction profiles to the SEP users that overall were better than the nonexchangers. For example, they shared syringes and cookers significantly fewer times than nonexchangers. The results demonstrate that these client-provided exchanges enable the SEP to overcome injection drug users’ obstacles to program attendance, thereby reaching even hard to access members of IDU populations. We found the effects of these client-provided services to be positive for the larger IDU population.

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**The Health Benefits of Secondary Syringe Exchange**

Findings from numerous studies suggest American syringe exchange programs (SEPs) provide necessary services to large numbers of injecting drug users (IDUs) and, to a lesser extent, to crack cocaine users who live in their immediate vicinities. SEP evaluations that focus on behavioral modification have consistently found that SEP services decrease the potential for the spread of HIV and hepatitis B and C via contaminated syringes by reducing drug use, syringe reuse, and the time syringes remain in circulation (Bluthenthal, Kral, Gee, Erringer, & Edlin, 2000; Bluthenthal, Kral, Gee, Erringer, & Edlin, 1998; Coffin, 2000; Des Jarlais et al., 1998; Drucker, Lurie, Wodak, & Alcabes, 1998; Guydish et al., 1991; Hagan, Des Jarlais, Friedman, Purchase, & Alter, 1995; Hagan et al., 2000; Heimer, Kaplan, Khoshnood, Jariwala, & Cadman, 1993; Kaplan & Heimer, 1992; Kaplan & Heimer, 1994; Lurie & Reingold, 1993; Murphy, Wenger, & Kelley, 1996; Needle, Coyle, Norman, Lambert, & Cesar, 1998; Normand, Vlahov, & Moses, 1995; Schechter et al., 1999; Sears, Weltzien, & Guydish, 2001; Singer, Romero-Daza, Weeks, & Pelia, 1995; Vlahov et al., 1997; Watters, Estilo, Clark, & Lorvick, 1994; Yoast, Williams, Deitchman, & Champion, 2001). There is also evidence that other drug users (e.g., crack cocaine smokers) come to the exchanges for condoms and health and social service referrals (Heimer, Kaplan, Khoshnood, Jariwala, & Cadman, 1993; Murphy, Murphy, Sales, Duterte, & McKearin, 2001; Normand, et al., 1995) and that HIV-positive clients receive valuable support (Brogly, Bruneau, Lamotho, Vincelette, & Franco, 2002). The question remains, however, what is the impact of SEPs on the members of the larger IDU community that do not directly access services?

IDUs may benefit from the existence of SEPs in their cities and neighborhoods even when they do not make face-to-face contact with SEP personnel. SEPs increase the number of clean syringes in circulation, relative to the number of potentially infectious ones, which reduces the likelihood of new HIV or hepatitis infections throughout the community. Since each time they visit an SEP, IDUs can exchange any number of used syringes for clean ones the incentive to protectively hoard syringes is removed. In addition, IDUs who participate in SEPs can trade syringes on behalf of others, providing sterile syringes for more people than actually visit the program. This process is known as secondary, satellite, or collective exchange. SEP participants have also proven invaluable for recruitment into peer-driven interventions (Friedman et al., 1999; Heckathorn, Broadhead, Anthony, & Weakliem, 1999) and are promising bridges to other populations for HIV prevention materials (Valente, Foreman, Junge, & Vlahov, 1998).

Previous research on satellite exchangers have collapsed those who exchange and those who receive syringes exchanged for them into a single category for analysis (Tyndall et al., 2002). The ways in which participants in San Francisco’s
SATELLITE NEEDLE DISTRIBUTION

SEP have extended the net of its service provision through both satellite and secondary exchanges are described. These client-provided exchanges enable IDUs to overcome obstacles to program attendance, thereby allowing the SEP to reach the least accessible members of the IDU population.

SYRINGE EXCHANGE AND HIV PREVENTION

SEPs have been shown, both in Europe and the United States, to play a crucial role in accessing large numbers of "hard to reach" IDUs not previously caught in public health and social services’ nets. SEPs' successes in contacting active IDUs become even more important when we consider the small proportion of the total number of IDUs who receive drug treatment. SEPs' access to this out-of-treatment population highlights the important role played by SEPs, as well as their potential within a comprehensive health care system. SEP staffs have the ability to refer drug users to other much-needed services. Thus, SEPs have the capability to become pivotal links in comprehensive and community-wide health care systems by acting as bridges to other public health and social services (Joseph, 1989; Kelley, Murphy, & Lune, 2001; Lart & Stimson, 1990).

The extent to which SEPs refer clients to other services is difficult to measure, partly because of unclear and imprecise definitions of what constitutes a referral (Lurie & Reingold, 1993). In spite of these difficulties, even in the early years of syringe exchange, the available data suggest that significant numbers of SEP participants receive referrals. For example, Carvell and Hart (1990), in their study of a London SEP, noted of the 510 referrals made, 60% were to drug treatment agencies and 37% to medical services. Thirty-three percent of New Haven program clients requested drug treatment (Khoshnood, Kaplan, & Heimer, 1995). SEP staff in Hawaii reported that of 395 clients seen, 40% were referred to drug abuse treatment services and 19% to other social welfare programs (Lurie & Reingold, 1993). In their evaluation of Hartford's SEP, Singer and colleagues observed clients being offered HIV testing and counseling, drug treatment, and referrals to drug, medical, and other social services (Singer et al., 1995). In a study of New York City IDUs, it was concluded that more intensive and extensive prevention services were needed in addition to SEPs (Paone, Des Jarlais, Caloio, Clark, & Jose, 1995). And in an examination of San Francisco's SEP and the ancillary services that the various SEP sites provided, researchers found that of 400 clients surveyed, 24% received referrals to drug treatment, 21% for mental health care, 13% for social services, and 6% for legal assistance (Murphy et al., 1996). Further analyses indicate that the provision of onsite medical services facilitated referrals to medical as well as other social services. SEP participation has been associated with entering detox for IDUs (Strathdee et al., 1999), although access to insurance to cover health care
referrals has been found to mediate SEP participation (Riley et al., 2002), and subsequent utilization of services (Cronquist, Edwards, Galea, Latka, & Vlahov, 2001). Despite the positive benefits, there are not enough programs and syringes to meet the demand (Remis, Bruneau, & Hankins, 1998).

Although SEPs have shown themselves to be adept at both attracting IDUs unwilling to access services and acting as a bridge to other public health services, there are still identifiable subgroups of injectors who routinely avoid the programs. Data from early evaluations of SEP participants highlights the tendency for SEPs to attract injectors who are male, long-term injection drug users between the ages of 33 and 41 (Lurie & Reingold, 1993). A study of the exchange in Vancouver, Canada reports those most likely to attend are frequent injectors, especially men using cocaine (Archibald et al., 1998). Hagan and Thiede (2000) examined the impact of bias in volunteering for participation in SEPs. They found that those IDUs with life circumstances that put them at greatest risk for HIV transmission are the ones most likely to participate in SEPs. Others have confirmed the finding of bias and noted that the participants are those respondents who used the most drugs (Bastos & Strathdee, 2000; Fisher, Reynolds, & Harbke, 2002). Younger injectors, women, and new drug users have tended to remain underserved by SEPs. The failure to attract other types of drug users points to the need for SEPs to target these subgroups more effectively. Moreover, it emphasizes the need for more research on the factors that act as barriers to drug injectors’ use of SEPs. The available research on barriers to SEP participation has enumerated a range of factors inversely correlated with SEP usage, including problems with SEP locations and hours of operation, negative attitudes toward SEPs, legal issues, and alternative sources for sterile syringes (Lurie & Reingold, 1993; Murphy, et al. 1996; Rich, Strong, Towe, & McKenzie, 1999). In response, some programs have extended hours. Evening programs have been found to attract new and more ethnically diverse IDUs (Brahmbhatt, Biggs, & Strathdee, 2000). Participants tend to patronize programs that are in close geographic proximity (Rockwell, Des Jarlais, Friedman, Perlis, & Paone, 1999). Recent research has shown that innovative methods of syringe collection, such as using drop boxes (Riley et al., 1998), vending machines (Moatti, Vlahov, Feroni, Perrin, & Obadia, 2001), and a variety of venues for exchange, including pharmacy access, are supported both by IDUs and the community (Coffin, 2000; Coffin, Linas, Factor, & Vlahov, 2000; Junge et al., 1999; Riley et al., 2000).

Like other services for drug users, SEPs tend to have low client retention levels. For example, Stimson found only 33% of SEP clients completed five visits (Stimson, 1989) and American investigators estimated 34% made only a single visit (Khoshnood et al., 1995). These high client attrition rates raise important questions regarding the overall efficacy of SEPs, which are designed to reach habitual as well as intermittent
**Satellite Needle Distribution**

IDUs who are generally isolated from other public health interventions. Programs are open to anyone, but they are not widely visible or available. SEPs operate in only a few locations, for limited hours, and sometimes only through street-corner services. They can be effectively worked into the routine of neighborhood IDUs, who learn the hours and locations that suit them. But SEPs are not necessarily convenient or available for occasional or spontaneous use. For those whom the SEPs do not reach or do not retain, greater innovation and flexibility are required.

**Methods**

We report findings from our National Institute on Drug Abuse process evaluation of Prevention Point Needle Exchange Program, renamed San Francisco AIDS Foundation's HIV Prevention Project. Data collection was completed in September 1995 and included participant observation, in-depth life-history interviews, and closed-ended questionnaires. When we designed our research project in the spring of 1992, Prevention Point was operating eight sites at five locations. During the course of our research, Prevention Point expanded to 12 sites at eight locations. As of this writing, Prevention Point is the highest volume SEP in the United States. In 2000, Prevention Point exchanged approximately two million sterile syringes from 12 locations at 13 sessions (Murphy et al., 2001). Our research objectives were to produce a thorough understanding of the ways in which Prevention Point was implemented, utilized, and experienced. A total of 244 study participants were recruited from eight SEP sessions, varied by time of day, day of week, and time of year. We selected our study participants using maximum variation sampling, which aims at capturing the central themes shared throughout the study population. The logic of maximum variation sampling presumes any common patterns emerging from great variation are of value in understanding the core experiences of program participants. Our sampling strategy was informed by intensive field work at all participating SEP sites, with the aim that “by including in the sample individuals the evaluator determines have had quite different experiences, it is possible to describe more thoroughly the variation in the group and to understand variations in experiences” (Patton, 1987, p. 85).

In order to be interviewed, primary exchangers had to be recruited by our staff from the various SEP sites. We then asked our primary exchanger interviewees to refer to our study the people for whom they had exchanged syringes. In order to qualify as a secondary exchanger, in the six months prior to the interview, a potential interviewee must not have exchanged syringes at any of the SEP sites 10 or more times. Also, they must have given used syringes to someone else to exchange for them five or more times. Our category of secondaries consists of those who get syringes from another exchanger, not one who gives them away (what others have referred to as satellite exchangers). In this way, we are able to examine the benefits
of receiving syringes from a satellite exchanger. Those who had purchased, traded, or received syringes from sources other than the exchange or purchased SEP syringes but did not give used syringes to be exchanged five times or more were enrolled into the study as nonexchangers. Unlike secondary exchangers, nonexchangers lacked routine access to clean syringes and did not have even the indirect access to the SEP that the secondary exchangers did through their contacts with primary exchangers. Nonexchangers were referred by primary and secondary study respondents and recruited directly by interviewers working the streets in areas known to have regular street drug use. Our primary rationale for these criteria was to capture the six-month status of SEP use at the time of data collection.

Respondents were approached by project staff and, after informed consent, were screened for participation in the study. Most interviews were conducted at a later appointment in the field office, although when necessary for the convenience of the respondents, some were conducted in cars or other locations. Respondents were given a small incentive when the interview was completed. We conducted in-depth interviews with four subsamples: 82 primary exchangers (IDUs who exchanged at program sites, some of which were also satellite exchangers), 82 secondary exchangers (IDUs who exchanged syringes/syringes through primary exchangers), and 80 nonexchangers (IDUs who did not exchange). The sample size was designed according to power analysis calculations intended to find differences between the groups. We believe, based on extensive research with the IDU population in the San Francisco Bay Area, that these respondents are generally representative of SEP and non-SEP IDUs in the area. Those likely to be underrepresented in SEPs are those most likely to fall into our nonexchangers category. For these analyses, in-depth interview and questionnaire data from the secondary exchangers were the focal points. However, both primary and nonexchangers’ information, where noted, were also included. Although distinctions have been made based on their status at the time of the interview, in fact IDUs move into and out of these classifications. So while an individual’s activities may fit into a secondary exchanger classification at recruitment, in the year prior to interview they may have been a primary exchanger. In the following, quantitative information is used to summarize the risk behaviors for the subsample. Since the focus is on the qualitative nature of these relationships, it is necessary to weave into the discussion of findings the qualitative results to provide the context and meaning of these behaviors.

**Demographic Characteristics of the Exchangers**

We found few significant differences in demographic characteristics between the subsamples, including no differences in sex, race, age, and level of education. As noted in Table 1, 61.4% of the respondents were men. The majority of the
exchangers and nonexchangers were White, followed by African American, Latino, and then other ethnicities. The mean age for the sample as 38, and few had completed a college education.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Primary n=82</th>
<th>Secondary n=82</th>
<th>Non n=80</th>
<th>Total n=244</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52.5</td>
<td>65.4</td>
<td>66.3</td>
<td>61.4</td>
</tr>
<tr>
<td>Female</td>
<td>47.5</td>
<td>34.6</td>
<td>33.8</td>
<td>38.6</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latino</td>
<td>11.1</td>
<td>6.1</td>
<td>18.8</td>
<td>11.9</td>
</tr>
<tr>
<td>Native American</td>
<td>3.7</td>
<td>4.9</td>
<td>1.3</td>
<td>3.3</td>
</tr>
<tr>
<td>African American</td>
<td>32.1</td>
<td>32.9</td>
<td>28.8</td>
<td>31.3</td>
</tr>
<tr>
<td>Asian</td>
<td>7.4</td>
<td>0.0</td>
<td>1.3</td>
<td>2.9</td>
</tr>
<tr>
<td>White</td>
<td>45.7</td>
<td>56.1</td>
<td>50.0</td>
<td>50.6</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 or younger</td>
<td>8.5</td>
<td>12.2</td>
<td>8.8</td>
<td>9.8</td>
</tr>
<tr>
<td>25-29</td>
<td>18.3</td>
<td>12.2</td>
<td>8.8</td>
<td>13.1</td>
</tr>
<tr>
<td>30-34</td>
<td>13.4</td>
<td>12.2</td>
<td>12.5</td>
<td>12.7</td>
</tr>
<tr>
<td>35-39</td>
<td>12.2</td>
<td>13.4</td>
<td>27.5</td>
<td>17.6</td>
</tr>
<tr>
<td>40-44</td>
<td>26.8</td>
<td>19.5</td>
<td>23.8</td>
<td>23.4</td>
</tr>
<tr>
<td>45 or older</td>
<td>20.7</td>
<td>30.5</td>
<td>18.8</td>
<td>23.4</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; High school</td>
<td>32.9</td>
<td>26.8</td>
<td>31.3</td>
<td>30.3</td>
</tr>
<tr>
<td>High school</td>
<td>32.9</td>
<td>47.6</td>
<td>38.8</td>
<td>39.8</td>
</tr>
<tr>
<td>Some college</td>
<td>26.8</td>
<td>18.3</td>
<td>22.5</td>
<td>22.5</td>
</tr>
<tr>
<td>College or more</td>
<td>7.1</td>
<td>7.3</td>
<td>7.5</td>
<td>7.4</td>
</tr>
</tbody>
</table>

**Findings**
In this study, the ability of an SEP to meet the HIV prevention needs of IDUs, barriers to program use, and the potential for participants to overcome these barriers for themselves and others were examined. The study begins with a comparison of
key lifestyle characteristics of all the study participants. Then the distribution networks as identified by the primary satellite exchangers in which study participants engaged are described. The findings focus on the identification and description of the barriers to participation for the secondaries, which include concerns about exposure, illness, drug lifestyle, and conflicts with service provision. These barriers are contextualized by examining how participants negotiated them and managed to reduce drug-related harm. Finally, whether secondary exchange can be used to overcome these barriers is considered.

Table 2 reports additional drug lifestyle characteristics important for understanding risk behaviors. Only a third of the sample reported having a current partner. While the three categories of respondents did not differ significantly by ever having been in jail, primary exchangers were less likely to have prison records or outstanding warrants. When considering barriers to treatment, the impact of a criminal justice history might contribute to concerns about public exposure. HIV status for those who were tested did not significantly vary between groups. For all exchange categories, heroin was the majority drug of choice. However, more secondaries (20.7%) than primaries (17.5%) or nonexchangers (16.3%) claimed speed (methamphetamine) as their drug of choice. As only two secondary exchangers reported cocaine as their primary drug of injection, the use categories were collapsed into heroin, speed, and other (e.g., cocaine, speedballs, or cocaine and heroin) for the rest of this analysis. In the six months prior to the interview, secondaries injected an average of 139.3 days, compared to 144.8 days for the primaries. Nonexchangers injected even fewer days at 120.9. The main intragroup differences were that speed users were overwhelmingly White (81.8%) and were less likely to have a current partner (77.3% with no partner). Also, none of the secondary exchangers using speed had a spouse or relative exchange for them. Instead, they relied on friends or acquaintances. Of the secondaries who reported heroin as their drug of choice, 26.5% relied on a spouse or lover to exchange, 53.1% a friend, and 10.2% a relative. The majority of those who named a spouse or lover (92.9%) as their primary exchanger cited heroin as their drug of choice.

**Primary Distribution Networks**

In 1995, 50% of all primary exchangers at Prevention Point exchanged for one or more IDUs. They reported exchanging anywhere from three to 700 syringes at a time (the mean number of syringes exchanged at each visit was 53, with a median of 30, and an interquartile range of 19 to 61). From our analysis of primary exchangers' interviews, we learned that there were three general routes of syringe distribution between primary and secondary exchangers. Exchanges occurred between close friends and lovers, for people who lived in close proximity to them.
### Table 2
Lifestyle Characteristics by Exchange Status (Percent)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Primary n=82</th>
<th>Secondary n=82</th>
<th>Non n=80</th>
<th>Total n=244</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently with a Partner</td>
<td>39.0</td>
<td>32.9</td>
<td>30.0</td>
<td>34.0</td>
</tr>
<tr>
<td>Time in Jail Ever</td>
<td>72.0</td>
<td>76.8</td>
<td>86.3</td>
<td>78.3</td>
</tr>
<tr>
<td>HIV Positive</td>
<td>13.2</td>
<td>17.2</td>
<td>10.4</td>
<td>13.5</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesbian/Gay</td>
<td>10.0</td>
<td>19.5</td>
<td>12.5</td>
<td>14.0</td>
</tr>
<tr>
<td>Bisexual</td>
<td>13.8</td>
<td>9.8</td>
<td>11.3</td>
<td>11.6</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>76.3</td>
<td>70.7</td>
<td>76.3</td>
<td>74.4</td>
</tr>
<tr>
<td>Drug of Choice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td>53.7</td>
<td>61.0</td>
<td>63.1</td>
<td>59.4</td>
</tr>
<tr>
<td>Speed</td>
<td>17.1</td>
<td>20.7</td>
<td>16.3</td>
<td>18.0</td>
</tr>
<tr>
<td>Other</td>
<td>29.3</td>
<td>18.3</td>
<td>20.0</td>
<td>22.5</td>
</tr>
<tr>
<td>Mean Days Injecting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 Days</td>
<td>26.0</td>
<td>23.4</td>
<td>21.0</td>
<td>23.5***</td>
</tr>
<tr>
<td>6 Months</td>
<td>144.8</td>
<td>139.3</td>
<td>120.9</td>
<td>135.0*</td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01

(e.g., neighbors in residence hotels), and with customers who bought drugs from them. The networks ranged from small to large. For example, Jeremy, a 35-year-old White man, lived in an apartment in the city. He usually exchanged for his roommate, and his roommate sometimes exchanged for Jeremy when he was sick. In addition, this primary exchanger would sometimes make a trip to pick up syringes for another friend who was agoraphobic and could not leave the house. A large network looked like Cara’s, a 24-year-old White woman. Cara lived in a small town several miles away from San Francisco. There was no SEP in her town. She came to San Francisco to buy drugs and then sold them when she returned home. Stopping by the SEP was an easy additional service she provided for her customers. In this way, she was able to distribute clean syringes and dispose of dirty syringes at the

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same time that she maintained her drug selling business. Networks reflected the complexity of the relationships between primary and secondary exchangers, and the variety of motivations for primary satellite exchangers to take on responsibility for secondary exchangers.

**Barriers to Syringe Exchange**

We examined responses by subsample to the open-ended question from the questionnaire: “What is your primary barrier to attending needle exchange?” The secondaries were quite similar to the nonexchangers in terms of barriers to SEP participation. During the qualitative depth interviews, we were able to probe for thicker descriptions of how specific factors acted as barriers to SEP participation. After recoding the questionnaire data to correspond to the results of the qualitative analyses, the primary barriers for secondaries remained those related to fear of exposure, either to social stigma or to the police. These results are shown in Table 3.

The most frequently mentioned barrier to attending the SEP for the secondary subsample was fear of public exposure. Specifically, this consisted of fear of identification by police, coworkers and, for IDUs who lived near exchange sites, by their children. Physical and mental illnesses were also mentioned as barriers to SEP participation. Agoraphobics, IDUs with physical challenges (e.g., wheelchairs) and mental health problems either relied on others to exchange for them or did not

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Primary n=82</th>
<th>Secondary n=82</th>
<th>Non n=80</th>
<th>Total n=244</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Exposure</td>
<td>2.7</td>
<td>42.7</td>
<td>44.2</td>
<td>30.3</td>
</tr>
<tr>
<td>Illness</td>
<td>6.7</td>
<td>12.2</td>
<td>0.0</td>
<td>6.4</td>
</tr>
<tr>
<td>Drug Lifestyle</td>
<td>20.0</td>
<td>30.5</td>
<td>22.1</td>
<td>24.4</td>
</tr>
<tr>
<td>Service Provision</td>
<td>14.7</td>
<td>14.6</td>
<td>33.8</td>
<td>20.9</td>
</tr>
<tr>
<td>Nothing</td>
<td>56.0</td>
<td>0.0</td>
<td>0.0</td>
<td>17.9</td>
</tr>
</tbody>
</table>
receive any benefits from the SEP. Other barriers were related to drug use and lifestyle issues, usually involving secondaries with alternative access to supplies through their drug dealers. And finally, the service provision issues such as location and time of day were cited as barriers. Unsafe neighborhoods frightened some IDUs, and work schedules conflicted with available exchange sessions.

**Exposure**

The fear of being seen by the police, coworkers, neighbors, family members, and even strangers and the subsequent stigma was enough to keep 42.7% of the secondaries from utilizing SEPs in person. In general, public exposure was the biggest barrier for both secondaries and nonexchangers. The following statement by Michael, a 33-year-old White man, reflects the concern of running into other people while exchanging:

> My use is really private, and I’d rather it stay that way. So, yeah, it’s not just potential employers or, you know, anything like that. It’s I don’t want other people that use all the time to know that I use it.

Although Michael supported the exchange in general, he had other concerns as well:

> I think it’s excellent but I worry about it. I worry about it because I think it’s an excellent service, and I worry about police ruining it for people, like just standing there waiting to see who uses and things like that and then busting people.

Yet another study participant, Jolynn, a 23-year-old Native American woman, did not go the exchange because the nearest location was, in her opinion, too out in the open:

> Where they have it, it’s kind of like putting it in, I don’t know, under a spotlight. Like right in front of somewhere, like really crowded? I just don’t like people to really know how many drugs I do.

Of all the concerns about public disclosure, legal status issues took priority. Secondaries were like the nonexchangers regarding their legal status. Both secondaries and nonexchangers were more likely than primaries to have been arrested as juveniles, to have ever spent time in jail or prison, and to have spent time in jail or prison in the six months prior to the interview. Secondaries expressed the
most concerns about their legal status at the time of the interview. They were most likely to have outstanding warrants or to be wanted by the police, parole officers, or probation officers. This suggests that many nonusers of SEPs might be aware of the potential benefits and services offered by the exchanges, but they avoid direct contact with drug use-related agencies for fear of exposure, particularly to law enforcement. Neither improved outreach nor changes in service provision are likely to bring these users into contact with the SEP. Yet expansion of satellite exchange can reach them. As noted in the introduction, most of the literature suggests that SEPs attract the most risky and involved drug users. Here we find that among the most risky and experienced IDUs, there is a strata of legally involved individuals who do not want exposure to the law but do want protection from HIV.

**ILLNESS**

Over 12% of secondary exchangers reported that illness was the primary factor that kept them from attending the exchange. Nonexchangers did not cite this as a barrier. IDUs often do not have access to health care, and they regularly suffer from a wide variety of health problems. For example, Adam, a 45-year-old White man, worked out an arrangement with his doctor when he was seeking treatment for an injured leg:

I’ll try for it when I’m in seeing this doctor, because I got stitches in my leg. He says, “Probably you wouldn’t get those abscesses,” he said, “if you use a brand-new needle every time,” and asked me how many needles I had. And I told him, “Three.” And so he’ll give me four of them so I’d have one every day. He told me not to tell anybody, you know . . . He’s cool.³

Adam also knew a pharmacist who sold needles to some drug injectors.

Everybody knows it, you know, I mean, that he sells the hormones to the queens and he’ll sell them needles. He won’t sell me points, something like that, but he’ll sell them points. And, I must know at least half the queens down there. And so they can go buy a bag of points.

Susan, a 60-year-old African-American women, was occasionally unable to get around easily, including to get to the SEP. She said:
**Satellite Needle Distribution**

I usually go all the time. Only reason I didn’t go was because of my hip because I couldn’t walk. My hip just went out last week again. So, Martin exchanges for me if I don’t, you know. He’s a very good friend of mine, comes up and goes to the store for me, and anything else he can do for me, he does, you know, which is, it’s good, is what I’m saying. I have been around some good people and Martin is one of them...because he goes several times for me, yes, if I’m not feeling well. In fact, he always comes up and checks.

**Drug Lifestyle**

For some secondaries, the nature of their drug using lifestyles meant they did not need to or could not exchange. Reasons for not needing to exchange included having alternative access to syringes, injecting only intermittently or not often enough to justify regular exchange attendance, and intoxication and drug seeking. Three secondary exchangers explained they did not go to the exchange because they wanted to limit their access to syringes. They were attempting to reduce their injecting drug use. These secondary exchangers relied on primary exchanger friends when their use reduction strategies were unsuccessful. Some secondaries reported that they had alternate sources for sterile syringes, usually diabetics or from pharmacies, and they only relied on primary exchangers when such syringe sources fell through.

Hank, a 46-year-old White man, knew a diabetic who would return favors by giving him clean needles. Hank explained:

> Well, there’s a friend of mine that, who is an older Black gentleman, and he’s a diabetic. I do favors for him and he does favors for me. And I go to the store for him once in a while and so whenever I need those needles. He’s never denied me. I mean, he always has at least two hundred sitting in his closet. So, I mean, you know these things add up, but he’s always provided those, and I appreciate that. And then my neighbor upstairs, just a few months ago, I started, instead of just tossing them, I would break the needles off and I just stack them up and then I take them to him. I have never been to a needle exchange.

According to Cleo, a 50-year-old African-American woman, a lot of drug injectors do not go to the exchange “basically because every other person you meet nowadays is a diabetic, and ‘it’s easy to get ‘em without goin’.”
Finally, it was noted that intoxicification occasionally complicated travel to a SEP site. One memorable speed injector came to his neighborhood exchange site 24 hours early because he had been on a five-day drug binge and lost track of time. Had there been a daily exchange, he would have been able to secure clean syringes when he needed them.

**CONFLICTS WITH SERVICE PROVISION**

Although Prevention Point has made efforts to reach the widest number of potential exchangers, they were not able to please everyone. Prevention Points' sites were located in the places in which identifiable drug users tended to congregate, which were also some of the traditionally dangerous neighborhoods. Consequently, some IDUs did not feel safe visiting these neighborhoods. Other, less regular drug injectors did not like to identify themselves with the perceived "junkies." Further aspects of service provision that kept away potential exchangers included their hours of operation and the kinds of syringes supplied.

Patricia, a 57-year-old White woman, found that her work schedule conflicted with Prevention Point's hours of operation.

Well, I couldn't get down there for one thing. It was difficult for me to work all day and then get down there. Although, sometimes, the one in my neighborhood was all right, but it just - I just sometimes couldn't get down there. So, I would make sure that I had them all packaged and ready to go and, someone among my group would go.

**OVERCOMING BARRIERS: A CULTURE OF HARM REDUCTION**

Overall, secondary exchangers more closely resembled the primaries than the nonexchangers in terms of their HIV/AIDS high-risk behaviors. As reported in Table 4, in the 30-day and six-month periods prior to interview, on almost all measures the secondaries were more like the primaries than the nonexchangers. For example, their rates for sharing cookers, cottons, and using an old (nonsterile) syringe to load another syringe were clearly lower, while percentage of time cleaning skin before injecting was higher. These patterns suggest that even though secondaries were not having face-to-face contact with the Prevention Point providers, they demonstrated an awareness of harm reduction practices. Secondary exchangers who take steps to use SEP services, if only indirectly, may be benefiting from the services and related community efforts to reduce HIV/AIDS risk behaviors, more so than nonexchangers. Although the secondaries and nonexchangers experience similar characteristics associated with low SEP utilization - drug of choice, family
and friendship relationships, and certain types of barriers to attendance – secondary exchangers were able to overcome these barriers by finding others to exchange for

<table>
<thead>
<tr>
<th>Risk Behavior</th>
<th>Primary n=82</th>
<th>Secondary n=82</th>
<th>Non n=80</th>
<th>Total N=244</th>
</tr>
</thead>
<tbody>
<tr>
<td>Went second with syringe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 days</td>
<td>20.7</td>
<td>25.6</td>
<td>45.0</td>
<td>30.3**</td>
</tr>
<tr>
<td>6 months</td>
<td>40.2</td>
<td>46.3</td>
<td>56.3</td>
<td>47.5</td>
</tr>
<tr>
<td>Shared cooker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 days</td>
<td>46.3</td>
<td>50.0</td>
<td>65.0</td>
<td>53.7*</td>
</tr>
<tr>
<td>6 months</td>
<td>62.2</td>
<td>57.3</td>
<td>72.5</td>
<td>63.9</td>
</tr>
<tr>
<td>Shared cotton</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 days</td>
<td>45.1</td>
<td>47.6</td>
<td>52.5</td>
<td>48.4</td>
</tr>
<tr>
<td>6 months</td>
<td>53.7</td>
<td>51.2</td>
<td>57.5</td>
<td>54.1</td>
</tr>
<tr>
<td>Used shooting gallery</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>30 days</td>
<td>4.9</td>
<td>12.2</td>
<td>13.8</td>
<td>10.2</td>
</tr>
<tr>
<td>6 months</td>
<td>6.1</td>
<td>13.4</td>
<td>15.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Used old syringe to load</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 days</td>
<td>18.9</td>
<td>18.0</td>
<td>40.6</td>
<td>24.4*</td>
</tr>
<tr>
<td>6 months</td>
<td>53.7</td>
<td>45.1</td>
<td>68.8</td>
<td>55.7**</td>
</tr>
<tr>
<td>Percent time cleaned skin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 days</td>
<td>85.2</td>
<td>76.8</td>
<td>49.4</td>
<td>70.8***</td>
</tr>
<tr>
<td>6 months</td>
<td>88.9</td>
<td>78.0</td>
<td>57.5</td>
<td>74.9***</td>
</tr>
</tbody>
</table>

* \( p < .05 \)
** \( p < .01 \)
*** \( p < .001 \)
them. These patterns of utilizing subcultural members to reduce drug-related harm point to the benefits of this type of client-provided public health service.

Of the four forms of barriers to SEP participation identified by our sample, secondary exchange directly addressed three of them. Only the issues grouped together as “drug lifestyle” (affecting 30.5% of secondaries) were not necessarily improved by secondary exchange. That is, for those dealers who had routine access to syringes already, the issue is irrelevant, while those who do not or cannot plan visits to the SEP in advance of need may not generally be in a position to arrange for secondary exchange on a regular basis either.

Issues surrounding “public exposure,” the most frequently cited set of barriers, are directly mitigated by the use of secondary exchange. The only qualification we would add is that individuals who are not regular IDUs, who do not have access to social networks of other injectors, may sometimes have difficulty finding others to exchange for them. This exposure was not measured in our study, nor could it have been with the design we utilized. The categories of “illness” and “service provision” indicate cases where the individual user cannot conveniently reach the exchange site on a regular basis. The adaptation of asking someone else to go for them is certainly the most direct solution for this subpopulation, as long as access to clean syringes remains underground. Barriers were overcome for this group if their source of drugs also secured SEP syringes for them.

On the other hand, as observed, none of the secondary exchangers are likely to directly benefit from the ancillary services provided by the SEPs. They do not receive counseling, referrals to health care, tests for exposure to infectious disease, or harm reduction education. At best, by entering into secondary exchange relations with others who are regular SEP participants, the secondary exchangers are associating with a group of users who are likely to be more educated in harm reduction practices. There is evidence that this association provides some health benefits (Kelley, Murphy, & Lune, 2001).

We found that secondary exchangers do engage in some risky behaviors. However, they are able to somehow get more harm reduction messages than those who do not get syringes, directly or indirectly, from SEP. One explanation is that these IDUs are getting this information from primary exchangers. Of course, we do not know for sure that the secondaries are receiving the harm reduction benefits of SEP directly from the providers. The nonexchangers are possibly a more isolated group of people with slightly lowered risk behaviors, such as lower mean days injecting. Perhaps the nonexchangers are a group outside of the current extended network of HIV transmission, similar to findings by others that heroin-only users were at less risk than cocaine and polydrug users (Anthony et al., 1991). While the diffusion of harm reduction realized by the material exchange of syringes is very
important, it might also be helpful if primary exchangers are specifically trained to pass along information about other health referrals, similar to peer-driven network interventions (Broadhead et al., 2002; Broadhead et al., 1998).

CONCLUSION

SEPs in the United States are designed to operate as bridges to other services and as sources of HIV prevention education. However, some IDUs go to SEPs and some rely on others to go for them. Secondary exchangers are a potentially controversial population because they benefit from SEP services but do not have actual contact with the service providers. Most health and social service interventions require patients or clients to interact directly with the service providers in order to determine their eligibility to receive the help the agency has to offer and to monitor, regulate and evaluate their consumption. Publicly funded services rely on the number of clients served, usually through face-to-face contacts, to justify staffing, space allocation and, more generally, funding allocations. Secondary exchange undermines program planning and evaluation, while limiting the ability of the program to link participants to health and social services.

Nonetheless, secondary exchange appears to serve the health interests of the IDUs and, therefore, public health in general. Data suggest that participants in secondary exchange networks have an awareness of HIV prevention beyond the use of clean syringes, but prefer not to appear at the exchange site for personal reasons or fears. Since the program’s inception, San Francisco’s SEP staff has condoned secondary exchanges, reasoning that the primary public health goal was to get sterile syringes out into the community and to safely dispose of contaminated equipment. Through this route of exchange, some of the programs’ other goals, such as disease related risk reduction and referrals to offsite medical and social services, may also be having an impact on a wider population.

Even with these successes, there are noticeable barriers to service provision. American SEPs serve hard-to-reach populations, but most do not currently offer sufficient guarantees of anonymity and invisibility for all of those who could use their services. (One exception is CitiWide Harm Reduction in the Bronx, New York, which provides syringe exchange to residents of single room occupancy hotels, in the privacy of the participants’ rooms.) SEPs, operating in relative isolation among social service providers, cannot do effective outreach to IDUs with multiple needs, such as those with mental illness. This barrier is exacerbated by the fact that, at the time of data collection, few service agencies referred clients to the exchange sites. In San Francisco to date, these problems have been ameliorated somewhat by the gradual integration of SEP services with other existing health and social service agencies, thereby reducing the visible stigma of visiting an exchange, diversifying
and increasing hours and locations, and creating new channels of access to IDUs with multiple needs.

SEPs appeal less to IDUs with more resources, such as those who can purchase syringes through pharmacies without difficulty and those whose drug use is generally not known to others in their social circles or families. Fortunately, this subpopulation tends to have other options, whereas the most frequent users of exchange services tend to depend much more on publicly funded services. This may reflect the desire of those who initiated and designed the SEPs to serve the most disaffiliated IDUs who lacked other means of contact with health and social services. The focus here has been on the importance of indirect or mediated exchange of syringes and, more importantly, of the persons involved with the exchange. The secondaries were able to establish lines of service, referral, and information among themselves and others who directly access SEPs. This grassroots development of clients providing services to others in need is a unique response to public health service provision. This cultural diffusion along social network lines led to risk reduction for secondary users of SEPs. An additional key finding from this research is the identification of a group of risky and experienced IDUs that, because of legal involvement, do not want to risk exposure to law enforcement agents through direct contact with SEPs, but do want HIV protection and therefore arrange secondary exchange.

SEPs have been very successful in changing the social, political, and physical environment for procuring sterile injecting equipment, thus facilitating HIV prevention among IDUs. The satellite exchangers facilitated the growing culture of harm reduction by providing access to sterile injecting equipment for those either unable or unwilling to participate in the SEP. The material and cultural exchanges that exist between providers and exchangers, exchangers and secondaries, and SEPs and the larger community should continue to be sustained and nurtured in order to expand the spheres of SEPs’ influence. This could lead to expanded services for IDUs and communication between IDUs and other health and social service agencies and ultimately to decrease the incidence of HIV and other types of infectious diseases among IDUs. Finally, this type of program may be appropriately utilized in other areas of health promotion and disease prevention.

Notes
1 This research was supported for the National Institute on Drug Abuse, #R01 DA08322. Study participants have been given pseudonyms to protect their confidentiality.
2 We also conducted interviews with 56 service providers, the total population of providers over the period of data collection. Their experiences and views on
needle exchange are reported elsewhere (Kelley, Lune, & Murphy 2003 Unpublished Manuscript; Murphy et al., 1996).

Whether abscesses are due to needle reuse, skin flora, or adulterants in drug preparation remains unclear.

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