

Syringe Exchange in the United States, 1996: A National Profile

ABSTRACT

Objectives. This paper provides 1996 information on the status of US syringe exchange programs and compares these findings with data from our 1994 survey.

Methods. In November 1996, questionnaires were mailed to 101 syringe exchange programs. Program directors were contacted to conduct telephone interviews based on the mailed questionnaires. Data collected included number of syringes exchanged, syringe exchange program operations, legal status, and services offered.

Results. Eighty-seven programs participated in the survey. A total of 46 (53%) were legal, 20 (23%) were illegal but tolerated, and 21 (24%) were illegal-underground. Since 1994, there has been a 54% increase in the number of cities and a 38% increase in the number of states with syringe exchange programs. Eighty-four programs reported exchanging approximately 14 million syringes, a 75% increase from 1994. Syringe exchange programs also provided a variety of other services and supplies, and legal programs were more likely than illegal ones to provide these services.

Conclusion. Despite continued lack of federal funding, syringe exchange programs expanded in terms of the number of syringes exchanged, the geographic distribution of programs, and the range of services offered. (*Am J Public Health.* 1999; 89:43-46)

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The primary goal of syringe exchange programs is to reduce HIV transmission associated with drug injection by providing sterile syringes in exchange for used, potentially contaminated syringes. Data from the Centers for Disease Control and Prevention indicate that approximately one-third (36%) of AIDS cases in the United States are directly or indirectly associated with injecting drug use.¹ Moreover, 50% of new HIV infections are occurring among injection drug users.² Despite these numbers and the data documenting the efficacy of syringe exchange programs, no federal funding is available for syringe exchange.³⁻⁵ Even without federal support, however, syringe exchange programs in the United States continue to expand both in number and in terms of geographic area.

This report summarizes a survey of US syringe exchange programs' activities during 1996 and compares the findings with those from a similar 1994 survey.

Methods

In November 1996, the Beth Israel Medical Center in New York City, in collaboration with the North American Syringe Exchange Network (NASEN), mailed questionnaires to the directors of 101 syringe exchange programs in the United States that were known to NASEN. The survey instrument included a series of open-ended and closed-ended questions. Subsequently, program directors were contacted by Beth Israel Medical Center research staff to conduct structured telephone interviews based on the mailed questionnaires. Directors were given the option to keep their program's data confidential. Affiliation with NASEN provides several advantages: (1) no cost for membership, (2) provision of operating supplies, (3) informal network of support, (4) important

national information, and (5) a yearly national convention that offers scholarships for syringe exchange programs that cannot afford the costs of sending representatives. NASEN maintains strict confidentiality for its members, and we have assumed that the vast majority of syringe exchange programs in the United States are affiliated with NASEN and were therefore included on our mailing list. Although some small programs, or those administered by private individuals, may have gone unnoticed, it is very unlikely that any programs exchanging large numbers of syringes per year would not be known to NASEN.

The survey data we have collected include the number of syringes exchanged during 1996 and information about the syringe exchange programs' operations, legal status, and services offered. A shorter and much more limited analysis of these data was reported in June 1997 in *Morbidity and Mortality Weekly Report (MMWR)*.⁶ We now present a more detailed analysis that includes the associations between program size and services provided, program costs, geographic location, and funding sources.

Programs were categorized according to their legal status. "Legal" programs operated in states that did not have a prescription law (a law requiring a prescription to purchase a hypodermic syringe) or that had an exemption to the state law allowing the program to

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operate. "Illegal but tolerated" programs operated in states that had a prescription law but had received a formal vote of support or approval from a local elected body. "Illegal-underground" programs operated in states that had a prescription law and no formal support from local officials.

For programs that operated multiple sites and/or satellite programs, only the parent program was surveyed and provided data for all of its dependent subsidiaries. All programs considered new in 1995 or 1996 were distinct programs, not simply new sites for already established programs.

Programs were also categorized according to their size. Small programs exchanged fewer than 10 000 syringes per year, medium programs exchanged between 10 000 and 55 000 syringes per year, large programs exchanged between 55 001 and 499 999 syringes per year, and extra large programs exchanged 500 000 or more syringes per year.

We examined the data to determine the relation between program size and number of syringes exchanged. Eighty-four programs reported exchanging nearly 14 million syringes (3 programs did not provide data). Of these 84 programs, 73 were open for more than 12 months, 3 were open for between 9 and 12 months, and 8 were open for less than 9 months. Thus, 11 programs were in a start-up phase of operations, which is an atypical period in any organization, and the number of syringes they exchanged in the calendar year may be underestimated.

Programs were questioned about "secondary exchange," which was defined as participants' providing syringes to people who do not attend syringe exchange programs themselves and which includes participants' exchanging used syringes for new ones, giving syringes away, bartering with syringes, and/or selling syringes to other users. For some programs, secondary exchange accounts for a large proportion of the total number of syringes exchanged. Ethnographic data indicate that many people do not go to an exchange because they fear the stigma associated with using a syringe exchange program. Programs were also questioned about funding for "syringe disposal." This question was designed to determine whether the programs had funding specifically designated in their budget for collecting and disposing of syringes according to designated methods for the disposal of biohazardous waste. Finally, programs were questioned about operational difficulties experienced during the past year. Responses included "lack of resources" (insufficient funds for the operation of syringe exchange) and "staff shortages" (not mutually exclusive categories).

TABLE 1—Number of US Syringe Exchange Programs and Syringes Exchanged, by Size of Program, 1996 (n = 84^a)

Size of Program	Programs		Syringes Exchanged	
	No.	(%)	No.	(%)
<10 000	23	(27)	64 737	(<1)
10 000–55 000	27	(32)	810 247	(6)
55 001–499 999	24	(29)	3 658 060	(26)
≥500 000	10	(12 ^b)	9 407 628	(67)
Total	84	(100)	13 940 672	(100)

^aThree programs did not report the number of syringes exchanged.

^bThese 10 programs were located in New York City (2), Seattle, Tacoma, Philadelphia, Chicago, Bridgeport, Oakland, San Francisco, and Los Angeles.

Descriptive statistics (frequencies, mean, standard deviation, median, and range) were generated for all study variables. Bivariate analyses were conducted by using the χ^2 test, Fisher exact test, and student *t* test. Significance was reported at $P < .05$.

Results

Of the 101 programs contacted, 87 participated in this survey, providing an 86% response rate, slightly lower than the 88% response rate in 1994.⁷ Almost all of the programs that did not participate were small and/or underground. Of those that did participate, 51 began operating before 1995, 22 in 1995, and 14 in 1996. These 87 syringe exchange programs reported operating in 71 cities in 28 states and 1 territory; 44 of the programs were located in 4 states (California, 17; Washington, 11; New York, 10; and Connecticut, 6). In 8 cities, at least 2 programs reported operating. In comparison, in 1994, 60 syringe exchange programs reported operating in 46 cities and in 21 states.

The 10 programs in New York represent 3 of the 5 boroughs—Manhattan, Brooklyn, and the Bronx. To date, there are no known syringe exchange programs in either Staten Island or Queens.

Of the 87 programs that participated in this study, 3 did not provide information about the number of syringes exchanged. The remaining 84 reported exchanging approximately 14 million syringes (median: 36 017 syringes per syringe exchange program). In comparison, approximately 8 million syringes were exchanged by 55 programs in 1994 (median: 39 014). Although the overall number of syringes exchanged increased from 1994 to 1996, the median decreased because of an increased number of small programs in 1996.

The 10 most active programs—those that exchanged 500 000 or more syringes—

accounted for approximately 9.4 million (67%) of all syringes exchanged. As in 1994, the San Francisco syringe exchange program reported exchanging the largest number of syringes (approximately 1.5 million) in 1996. In comparison, the 23 small programs—those exchanging fewer than 10 000 syringes—exchanged fewer than 1% of the total number of syringes (Table 1). These small programs exchanged a mean of 2815 syringes in 1996 and operated on a mean annual budget of \$19 643 (median: \$5000) compared with a mean budget of \$245 334 (median: \$255 000) for all programs.

In addition to exchanging syringes, the programs provided other risk reduction supplies and services. All 87 (100%) provided IDUs with information about safer injection techniques and/or use of bleach to disinfect injection equipment. All but 3 (97%) reported referring clients to substance-abuse treatment programs and providing instruction in the use of condoms and dental dams to prevent sexual transmission of HIV and other sexually transmitted diseases, and 70 (80%) reported offering education on sexually transmitted disease prevention. The 3 programs that did not refer participants to drug treatment were illegal-underground programs and may have been limited by budgetary or staffing constraints. Various health services were also offered by many programs (Table 2).

A direct association was found between program size and the provision of services other than syringe exchange. The 10 extra-large programs reported offering, on average, 4.70 services; the 24 large programs offered an average of 3.29 services; the 27 medium programs offered an average of 1.93 services; and the 23 smallest programs reported offering an average of 1.91 services.

In 1996, 46 (53%) syringe exchange programs were legal, 20 (23%) were illegal but tolerated, and 21 (24%) were illegal-underground. Legal status was further examined to assess association with delivery of services (Table 3). Legal programs were

more likely to offer on-site HIV counseling and testing and tuberculosis skin testing than were illegal programs. Operations also differed with regard to legal status. Legal programs were less likely than illegal ones to conduct secondary exchange and more likely to have formal agreements with drug treatment providers. Finally, legal programs were less likely than illegal programs to report lack of resources or staff shortages as problems encountered over the last year.

The primary source of funding reported by 45% of programs was their state government, whereas 33% reported their local government, and 15% reported private foundations. No programs received federal funding for exchange operations, reflecting current federal law restrictions.⁸

Programs reported their annual syringe exchange budget, and the cost per syringe for each program was calculated. Program size was correlated with cost per syringe exchanged, and larger programs showed a lower cost per syringe. The average cost per syringe exchanged for extra-large programs was \$0.25; for large programs, \$0.98; and for medium programs, \$1.43. The mean cost for all 3 categories was \$1.07. This relationship remained stable when programs were stratified by legal status. We did not calculate the cost for the small programs because nearly all of these programs reported being open for less than a year, which is likely to be an atypical period.

Discussion

Several limitations to this study must be noted. Because the definition of "legal" status did not include an account of local drug paraphernalia laws, legal barriers to syringe exchange programs may have been underestimated. Drug paraphernalia laws may affect a program's effectiveness, even in the presence of "waivers" or prescription laws, by making the carrying of syringes by participants an offense liable to prosecution.

Syringe exchange program activity, overall, may have been underestimated, because not all operational programs are known to NASEN and not all NASEN members participated in the survey. However, as discussed in the methods section, it is very unlikely that programs exchanging large numbers of syringes per year would go unknown to NASEN.

In addition, data presented in this report were self-reported by program directors, and our cost constraints precluded making site visits. Finally, although we report on referrals to various health services and to drug treatment, because of confidentiality laws

TABLE 2—On-Site Health Services at US Syringe Exchange Programs, 1996^a

Type of Service	Offering Service	
	No.	(%)
HIV counseling and testing	37	(43)
Primary health care	15	(17)
Tuberculosis skin testing	22	(25)
Sexually transmitted disease	16	(18)

^an = 87.

and funding limitations, very few programs tracked the proportion of clients who did in fact use the services to which they were referred.

Despite a lack of federal funding for the operation of syringe exchange in the United States, the number of syringes exchanged increased by 75% between 1994 and 1996, and the number of cities and states operating syringe exchange programs also increased. More than half the states (29) had at least one syringe exchange program in 1996, located in 71 cities, reflecting a 54% increase in the number of cities. The 36 new programs that began operating since 1994 were geographically dispersed (i.e., 3 opened in the Northwest, 3 in the Southwest, 10 in the Midwest, 7 in the Southeast, and 13 in the Northeast).

Although the data indicate that syringe exchange programs are complex service organizations that provide more than "clean needles," programs that have full legal status share several differing but important operational characteristics. Similar to the results of our 1994 survey, legal programs were more likely to offer certain on-site services and referrals, to have an age minimum for participants, to have formal agreements with drug treatment providers, and to receive funding for syringe disposal. The 3 programs that did not make referrals to drug treatment were illegal-underground. The illegal status of

programs suggests more difficulty in raising funds, resulting in a lack of resources and in staff shortages. More important, illegal status may hinder the ability of programs to exchange enough syringes to significantly affect the injection practices of a community with many injection drug users.

In a recent study, Des Jarlais et al.³ compared HIV incidence among injection drug users participating in legal syringe exchange programs in New York City with HIV incidence among nonparticipants (who did not have legal access to sterile syringes). The study found that use of legal syringe exchange programs provides a strong (adjusted odds ratio of 0.3) individual-level protective effect against HIV infection.

This survey provides important information on the state of syringe exchange in the United States. In addition to providing important public health services, syringe exchange programs clearly serve as centers for the dissemination of education and HIV-prevention supplies. Secondary exchange of syringes was widely reported and appears to be an important mechanism for the distribution of sterile injection equipment to those injection drug users unable to obtain syringes directly from an exchange. Interestingly, illegal programs were more likely to allow secondary exchange, which may be associated with being less regulated, than officially sanctioned programs. Despite the

TABLE 3—Services Offered and Operational Issues, by Legal Status, for US Syringe Exchange Programs, 1996

	Legal ^a		Illegal ^b	
	No.	(%)	No.	(%)
HIV counseling and testing	29	(63)	8	(20 ^{***})
Tuberculosis skin testing	19	(41)	3	(7 ^{***})
Secondary exchange	38	(83)	41	(100 ^{**})
Age minimum	23	(50)	10	(24 [*])
Formal agreements with drug treatment providers	29	(63)	14	(34 [*])
Specific funding for syringe disposal	18	(39)	8	(20 [*])
Lack of resources	19	(41)	29	(71 ^{**})
Staff shortage	17	(37)	29	(71 ^{**})

^an = 46.

^bn = 41.

P* < .05; *P* < .01; ****P* = .001.

current ban on the use of federal funds for syringe exchange, programs have grown in number, size, and scope. However, the ability to provide large numbers of sterile syringes, as well as referrals and access to services, is clearly associated with legal status. This finding suggests that changes in syringe distribution laws, changes in drug paraphernalia laws, and increased public support and funding for syringe exchange programs would have a significant positive effect on HIV risk behavior. □

Contributors

Dr Paone conceived and developed the idea for the article, wrote the first and subsequent drafts, and discussed the ideas at scientific meetings worldwide. Ms Clark coordinated the project and conducted interviews. Dr Des Jarlais coconceived and codeveloped the idea for the article. Dr Shi managed and analyzed the data and provided statistical expertise. Mr Purchase coordinated various aspects of data col-

lection nationwide through the North American Syringe Exchange Network. All authors codeveloped and corefined the intellectual content, contributed to early and final drafts, and provided historical, ethical, and editorial expertise as required.

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