NEW YORK CITY PHARMACISTS' ATTITUDES TOWARD SALE OF NEEDLES/SYRINGES TO INJECTION DRUG USERS BEFORE IMPLEMENTATION OF LAW EXPANDING SYRINGE ACCESS

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ABSTRACT In May 2000, New York State passed legislation permitting the sale, purchase, and possession of up to 10 needles and syringes (hereafter "syringes") without a prescription, intended to reduce blood-borne pathogen transmission among injection drug users (IDUs). To obtain baseline data on pharmacists' attitudes and practices related to human immunodeficiency virus (HIV) prevention and IDUs, a telephone survey was administered to 130 pharmacists systematically selected in New York City. Less than half of pharmacists were aware of the new law; 49.6% were willing to or supported providing nonprescription sales of syringes to IDUs. Pharmacists in support tended to be less likely to consider customer appearance "very important." Managing and supervising pharmacists were more likely than staff pharmacists to support syringe sales to IDUs. Managing and supervising pharmacists who stocked packs of 10 syringes and personal sharps disposal containers, pharmacists who supported syringe exchange in the pharmacy, and pharmacists who were willing to sell syringes to diabetics without a prescription were more likely to support syringe sales to IDUs. Syringe disposal was a prominent concern among all pharmacists. Those not in support of syringe sales to IDUs tended to be more likely to believe the practice would increase drug use. These data suggest the need for initiatives to address concerns about syringe disposal and tailored continuing education classes for pharmacists on HIV and viral hepatitis prevention among IDUs.

As of December 1999, 35% of cumulative acquired immunodeficiency syndrome (AIDS) cases reported to the US Centers for Disease Control and Prevention were

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among injection drug users (IDUs), their sexual partners, and their children.[1] That figure approaches 50% in New York City.[2] At the end of 1999, about 18,000 adults in New York City were living with AIDS acquired through injection drug use.[3]

Multiperson use of needles and syringes (hereafter "syringes") is the major route of human immunodeficiency virus (HIV) transmission among IDUs in New York City[4] and is driven by lack of access to sterile syringes.[5] Syringe exchange has proven an effective intervention to reduce injection-related HIV risks. In 1996, an analysis of three studies in New York City (total N = 1,442) found that nonparticipation versus participation in syringe exchange was associated with a relative risk of 3.35 for HIV seroincidence.[4] Possibly due, at least in part, to syringe exchange, HIV incidence among IDUs dropped from 4.4/100 person-years in the early 1990s[6] to approximately 0.7/100 person-years in 1997.[7] However, syringe exchange only services certain populations of IDUs with access to one of the nine legal exchanges in New York City. Pharmacy sale of syringes may improve access by addressing NIMBY ("not in my backyard") issues and reaching those uncomfortable attending syringe exchange or unable to attend during limited exchange hours. An analysis of different modalities for improving syringe access estimated that subsidizing syringe exchange for 50% of all syringes used by IDUs would cost $0.97/syringe and would be cost neutral if HIV seroincidence exceeded 2.1%.[8] Subsidizing pharmacy sale would be cost neutral if HIV seroincidence was 0.3% or higher.[8] In addition, studies conducted in Louisiana,[9] England,[10] and Canada[11] suggest pharmacies can play a significant role in HIV prevention, but often are underused.

Studies for the US government conducted by the National Commission on AIDS,[12] the University of California,[13] the National Academy of Science,[5] and the Office for Technology Assessment[14] have concluded syringe prescription requirements and paraphernalia clauses should be revoked to increase access to sterile syringes among IDUs.[15] A law allowing the sale, by providers registered with the New York State Department of Health, of up to 10 syringes without a prescription to individuals 18 years of age and older was passed by the New York State legislature and signed by the governor in May 1999. The law, like those passed in Connecticut in 1992, Minnesota and Maine in 1997, and Rhode Island and New Hampshire in 2000, is intended to address blood-borne pathogen transmission among IDUs.

This survey, conducted in tandem with a written version administered statewide,[16] examined the attitudes and practices of pharmacists. It was hypothesized that pharmacists who provided and supported providing public health and HIV-

related services would be more likely to support nonprescription syringe sales to IDUs. The survey attempted to assess public health attitudes and practices of pharmacists in neighborhoods of each borough of New York City and to identify concerns among pharmacists about the nonprescription sale of syringes to IDUs.

METHODS

A telephone survey of pharmacists in New York City neighborhoods with high IDU-related AIDS prevalence was conducted to assess pharmacists' current attitudes and practices toward pharmacy sale of syringes to IDUs.

The sample was drawn from pharmacists employed at pharmacies in the three "neighborhoods" (as delineated by postal code by the New York City Hospital Fund[2]; see Fig. 1) with the highest number of AIDS cases among IDUs in each borough.[2] Listings of pharmacies were obtained from www.yellowpages.com, a no-charge, on-line directory collected from phone books and new business listings.

There were 40 pharmacies selected from each alphabetized list of pharmacies in a borough by selecting every N/40th pharmacy. If any selected pharmacy did not provide over-the-counter service, telephone was disconnected, or the pharmacist was on vacation through the time of the study, the next pharmacy on the list was selected. If a respondent refused to participate or five attempts to administer the survey were unsuccessful (respondent busy) and the respondent

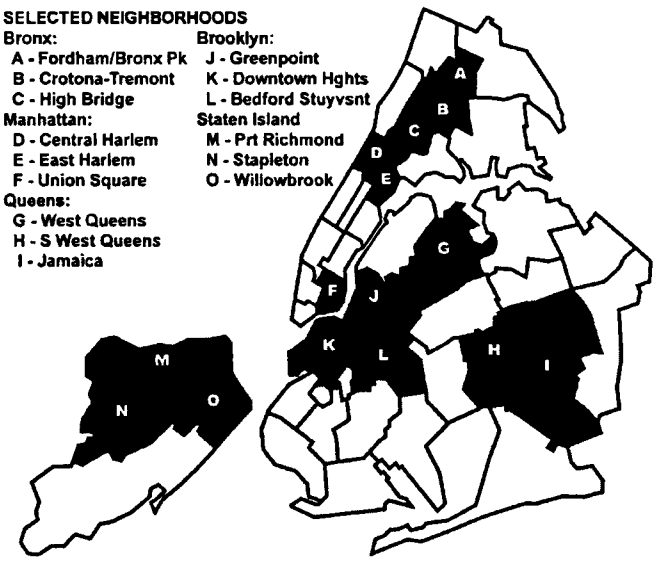

FIGURE 1 Study population: pharmacists working in any of three neighborhoods with highest AIDS prevalence among injection drug users in each borough (prior to law change telephone survey, New York City, July–August 2000).

was unwilling to complete the survey by fax, the next unselected pharmacy on the list was selected. Data collection continued until 130 pharmacists had completed the survey. Pharmacies were called during regular store hours, at times when, based on piloting, customer volume was expected to be low.

Following procedures used in the Connecticut phone survey,[17] the interviewer asked to speak to the managing pharmacist, briefly explained the new law and the purpose and the confidentiality of the study and requested consent. If the pharmacist was busy or unavailable, the interviewer arranged to call at another time or to fax the survey. Unless the pharmacist refused to participate, contact was attempted a minimum of five times. After five unsuccessful attempts, the pharmacist was coded "unavailable." Respondents completed a telephone interview that typically lasted 10 minutes; call length varied as the interviewer complied with requests to hold while the pharmacists attended to customers.

The instrument was developed in consultation with staff from New York and Connecticut Departments of Health, the Centers for Disease Control and Prevention, the Pharmacists Society of the State of New York (PSSNY), and the New York Academy of Medicine. The instrument was modeled closely on prior studies in Baltimore, Maryland,[18] and Connecticut[17,19] and was piloted to a total of 24 pharmacists in New York City, whose pharmacies then were excluded from the study population. Questions included personal demographics, characteristics of the pharmacy, and perceived level of illegal drug activity in the pharmacy neighborhood. Respondents were then given a brief description of the new law. Then, they were queried as to awareness of the new law, as well as their willingness to sell syringes without a prescription in different situations, the influence of several factors in syringe transactions, their personal support for a variety of services in the pharmacy related to public health, and agreement with a series of statements about the effects of syringe sales to IDUs. Respondents were not offered "don't know" or "undecided" choices, but those answers were recorded.

Data analysis is descriptive and correlational based on frequency distributions, Pearson chi-square and Fisher exact tests, as well as confidence intervals (CIs) and Chronbach reliability coefficient, with the Statistical Package for Social Sciences (SPSS) 9.0.1 (SPSS, Inc., Chicago, IL).

RESULTS

Of the sample contacted, 20 had disconnected or incorrect telephones, the pharmacist was unavailable in 13, and 23 refused to participate; 126 completed the survey by telephone, and 4 completed the survey by fax. Of those who refused to participate, 10 were "too busy," 4 were not interested, and 4 told the interviewer

to contact the "home office" of the chain. Only 1 reported distaste for the law as a reason not to participate; 2 said the law is a "great idea," but were too busy to participate. Refusal rates did not differ by borough.

Of those surveyed, 37.7% were owners, 40.8% were managers or supervisors, and 20.0% were staff pharmacists; 74.4% were male; 39.8% were white, and 30.9% were Asian or Pacific Islander. The median year in which pharmacists had received their license was 1985, reflecting a median of 15 years in practice. Of the pharmacies, 71.5% were independently owned; 28.5% were chains or franchises. Pharmacies were open a mean of 68 ± 20 hours/week; 46.9% were open on Sundays. By pharmacists' report, most pharmacies were located in neighborhoods of low-to-moderate illegal drug activity; only 18.0% were located in neighborhoods of high or very high levels. Among 68 pharmacists (55.7%) that reported forged or unnecessary prescriptions from suspected illegal drug users in the past 4 weeks, a median 5.0 prescriptions were reported; among 18 pharmacists (13.8%) reporting thefts by suspected illegal drug users in the past 4 weeks, a median of 2.5 thefts were reported.

Pharmacists were asked about the availability of several products and services. Of the pharmacies, 98.5% carried male condoms; 71.5% carried female condoms; 85.4% dispensed syringes in packs of 10; 55.8% dispensed individual syringes; and 66.2% carried personal sharps containers for retail sale. Asked if any pharmacist in the pharmacy had spoken with customers about several topics in the past year, 80.6% reported speaking about sexual transmission of HIV, 61.9% spoke about proper condom use, 53.8% spoke about safer drug injection practices (including insulin injection), 78.5% spoke about safe syringe disposal practices, and 51.5% spoke about drug treatment services. Overall, 9.2% of pharmacists reported accepting used syringes in personal sharps containers for disposal; 3.1% accepted loose syringes for disposal.

Less than half (47.7%) of pharmacists were aware of the new law. Nearly all (94.6%) were personally "somewhat" or "very willing" to provide nonprescription sale of syringes to a "known diabetic" (see Fig. 2). However, only 40.5% were willing to sell to an IDU; 11.5% were very willing. In contrast, 72.4% were willing to sell to an IDU "with a referral card from an agency or clinic." These data were grouped as "somewhat/very willing" and "not willing" for further analysis; "undecided" responses ($n < 6$) were excluded.

Of the pharmacists, 37% personally supported having their pharmacy provide "nonprescription sale of needles and syringes to injection drug users"; 6.9% were undecided; 56.2% were not supportive. Willingness to sell syringes to IDUs and support for syringe sales to IDUs were consistent internally (Chronbach

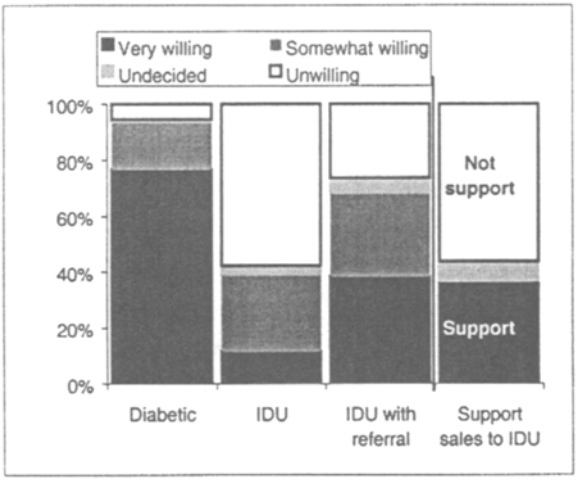

FIGURE 2 Pharmacists' willingness to sell needles/syringes without a prescription to diabetics and injection drug users (IDUs) and personal support for nonprescription sales to IDUs (prior to law change telephone survey, New York City, July–August 2000).

alpha = .72). A total of 49.6% of pharmacists was either willing to sell syringes to IDUs or personally supported providing that service. About half (53.6%) of pharmacists that did not support syringe sales to IDUs were willing to sell to IDUs with a referral card. There were no differences associated with awareness of the new law.

Pharmacists undecided about support for syringe sales to IDUs were somewhat less likely than decided pharmacists to be concerned about legal liability for syringe sales to IDUs ($P = .08$), to believe that selling syringes to IDUs would increase discarded syringes in the neighborhood ($P = .008$) or drug use ($P = .08$), and to believe that the community would respond negatively to the policy ($P = .08$). Undecided pharmacists also appeared more willing than decided pharmacists to sell syringes to IDUs with a referral card ($P = .186$). For these reasons and due to limited sample size, undecided cases (N = 9) were grouped with pharmacists that supported syringe sales to IDUs in further analysis.

Most characteristics of pharmacists (see Table I) and pharmacies (see Table II) were not associated with support for syringe sales to IDUs. Managers and supervisors tended to be more likely than staff pharmacists to support syringe sales to IDUs ($P = .076$). Support for syringe sales to IDUs differed somewhat by borough ($P = .078$) due to the difference between the proportion of pharmacists in support of syringe sales to IDUs in Queens (27%, 95% CI 14–44%) and Brooklyn (62%, 95% CI 46–81%).

Factors most often rated very important in influencing whether a pharmacist

TABLE I Characteristics of Pharmacists by Support for Needle/Syringe Sales to Injection Drug Users (Prior to Law Change Telephone Survey, New York City, July/August 2000)

	Support (N = 57), %	Not Support (N = 73), %
Male	78.9	70.8
Race/ethnicity		
White	47.2	34.3
Asian/Pacific Islander	24.5	35.7
Other	28.3	30.0
Position		
Manager/supervisor	87.5	73.6
Staff	12.5	26.4
Mean years in practice	17	14
Mean years at current pharmacy	11	9

would sell syringes without a prescription were the risk of discarded syringes in or around the pharmacy (78.9%), safety of self and staff (75.6%), and concern for HIV prevention among IDUs (74.4%). Factors least often rated very important were potential income (7.9%) and presence of other customers (16.2%). Factors were grouped as concerns about safety, the context of sale, and customer-related issues and compared to support for syringe sales to IDUs (see Table III). Safety factors, including risk of theft and legal liability, were not predictive of support, although concern about the risk of discarded needles ($P = .19$) and drug use on premises ($P = .20$) were somewhat associated with nonsupport. Most context-of-sale factors, including customer sobriety, customer knowledge about syringes, insulin and diabetes, customer familiarity and potential income from the nonprescription sale of syringes, were not associated with support. Appearance of customers ($P = .07$) and presence of other customers ($P = .15$) were somewhat associated with nonsupport. Willingness to provide nonprescription sales of packs of 10 syringes ($P < .001$) and, to a lesser extent, sale of single syringes ($P = .017$) were associated significantly with support for syringe sales to IDUs. Of customer-related factors, concern for HIV prevention among IDUs was not associated with support for syringe sales to IDUs. Willingness to sell to a diabetic ($P = .019$), IDU ($P < .001$), and IDU with a referral card ($P < .001$) were associated strongly with support for syringe sales to IDUs.

TABLE II Characteristics of Pharmacies by Pharmacists' Support for Needle/Syringe Sales to Injection Drug Users (Prior to Law Change Telephone Survey, New York City, July/August 2000)

	Support (N = 57), %	Not Support (N = 73), %
Borough		
Bronx	14.0	19.2
Brooklyn	31.6	15.1
Manhattan	17.5	15.1
Queens	15.8	32.9
Staten Island	21.1	17.8
Ownership		
Independent	70.2	72.6
Chain/franchise	29.8	27.4
Setting		
Free-standing	70.2	74.0
Larger retail store or shopping plaza	24.5	24.7
Other	5.3	1.4
Open Sunday	54.4	52.1
Very high/high perceived drug activity	22.8	13.7
Mean total hours of operation/week	66	71
Mean number of pharmacists	2	3
Median number of forged/unnecessary prescriptions from illegal drug users	2	2
Median number of thefts by illegal drug users	0	0

Pharmacists were asked if they agreed or disagreed with several statements about the effects of selling syringes to IDUs. Most responded that selling syringes to IDUs would help prevent HIV (63.8–67.7%), but would also increase the number of improperly discarded syringes (50.0%). A minority believed their business would be harmed because IDUs would make other customers uncomfortable (36.2%) or the community would disapprove (43.1%), and 42.3% believed that drug use would increase. Pharmacists that did not believe drug use would increase ($P = .09$) and pharmacists who believed syringe sales to IDUs was an "important part of a comprehensive approach to HIV/AIDS prevention" ($P = .12$) appeared somewhat more likely to support syringe sales to IDUs; responses to other statements were not associated with support for syringe sales to IDUs (see Table IV).

Pharmacists were asked if they supported having their pharmacy offer a

TABLE III "Very Important" Influences on Pharmacists' Decision to Sell Syringes Without a Prescription by Support for Needle/Syringe Sales to Injection Drug Users (IDUs) (Prior to Law Change Telephone Survey, New York City, July/August 2000)

	Support (N = 57), %	Not Support (N = 73), %	*P*
Safety			
Safety of self/staff	72.2	78.1	.532
Risk of theft/robbery	67.3	64.4	.851
Risk of discarded needles	73.2	83.3	.193
Risk of use on premises	54.5	66.2	.201
Potential liability	57.1	66.7	.353
Context of sale			
Customer appearance	10.7	24.7	.066
Customer sobriety	67.9	65.3	.851
Customer knowledge about syringes, insulin, diabetes	63.2	63.9	.999
Customer familiarity	54.4	54.8	.999
Presence of other customers	10.7	21.1	.151
Potential income	8.8	7.2	.754
As 10 packs of syringes*	94.5	54.8	<.001
As individual syringes	52.7	30.6	.017
Customer related			
Concern for HIV prevention	76.4	72.9	.685
To a diabetic*	100.0	90.4	.019
To an IDU*	72.2	16.7	<.001
To an IDU w/referral*	96.3	53.6	<.001

*"Somewhat/very willing" to sell syringes without a prescription.

variety of public health services. The majority supported providing free sharps disposal containers (66.2%), pamphlets and counseling on safer sex practices (92.3%), pamphlets (85.4%) and counseling (80.0%) on safer intravenous drug injection, and referrals to drug treatment (93.1%). A significant minority of all pharmacists (24.6%) supported providing sharps containers in the store for customers to discard used syringes. Support for providing syringe exchange in the pharmacy was low among all pharmacists (12.3%), but significantly associated with support for syringe sales to IDUs ($P = .013$) (see Table V).

Among managing or supervising pharmacists (i.e., those with decision-making authority), the availability of syringes in packs of 10 ($P < .1$) and personal sharps containers for retail sale ($P = .06$) tended to be associated with support for syringe sales to IDUs (see Table VI). Results were not dependent on pharmacy characteristics.

TABLE IV Pharmacists Opinions About the Effect of Selling Needles/Syringes to Injection Drug Users by Support for Needle/Syringe Sales to Injection Drug Users (Prior to Law Change Telephone Survey, New York City, July/August 2000)

	Support (N = 57), %	Not Support (N = 73), %
Beneficial impact		
Important part of HIV prevention	73.7	56.2
Decrease HIV transmission among drug injectors	63.2	71.2
Detrimental impact		
Increase discarded syringes	50.9	49.3
Increase customer discomfort	33.3	38.9
Community will disapprove	36.8	48.6
Increase drug use	35.1	47.9

DISCUSSION

This prelaw change study of pharmacists' attitudes about expanded syringe access in New York City provided baseline data that are likely to change as pharmacists are informed of the law and lawmakers' intent. The level of support for nonprescription sales of syringes to IDUs found in this study (about 40%) is somewhat lower than levels found in previous studies conducted in states that already allowed nonprescription sales (64% in Connecticut cities; 67% in Baltimore, MD). Yet, nearly half were either willing to provide or supported providing

TABLE V Pharmacists Supportive of Services by Support for Needle/Syringe Sales to Injection Drug Users (Prior to Law Change Telephone Survey, New York City, July/August 2000)

	Support (N = 57), %	Not Support (N = 73), %
Free sharps containers	72.7	69.7*
Sharps in store	29.6	23.5*
Pamphlets on sex	94.6	95.7
Pamphlets on IV injection	89.5	83.3
Counseling on IV injection	83.9	80.3
Counseling on sex	96.4	94.3
Referrals to drug treatment	94.7	93.1
Syringe-exchange program in pharmacy†	21.8	5.6

*Results exclude 7 and 5 nonresponses, respectively.
†$P < .05$.

TABLE VI Product Availability by Managing/Supervising Pharmacists' Support for Neelde/Syringe Sales to Injection Drug Users (Prior to Law Change Telephone Survey, New York City, July/August 2000)

	Support (N = 49), %	Not Support (N = 53), %
Male condoms	98.0	98.1
Female condoms	77.6	66.0
Syringe 10 packs	91.8	79.2
Syringe singles	59.2	48.1
Personal sharps containers	77.6	58.5

syringe sales to IDUs. More intriguing, almost three-quarters were willing to sell syringes to an IDU with a referral card from an agency or clinic, including 56% of the pharmacists who did not support syringe sales to IDUs. These results are interesting in that details of a hypothetical referral card were not provided in the interview, yet the idea of a professional referral increased support.

In addition, those pharmacists who were undecided about selling syringes to IDUs expressed several opinions that, based on previous studies,[18,19] were expected to correspond with support, and a substantial proportion of pharmacists who did not support syringe sales to IDUs nonetheless believed that doing so would decrease HIV transmission. Thus, the level of support documented in this study may be a factor of current New York State laws and could be expected to change with implementation of the new law.

It is reasonable to expect that pharmacists' attitudes and practices regarding public health and HIV would influence their willingness to sell syringes to IDUs. In fact, managing or supervising pharmacists who stocked female condoms, packs of 10 syringes, and sharps disposal containers were somewhat more likely to support syringe sales to IDUs than those who did not stock these supplies; because staff pharmacists do not have control over stocking supplies, the observation of no such association found with staff pharmacists was not unexpected. Although concerns about safety and HIV transmission among IDUs were cited most frequently as influencing pharmacists' decisions to sell syringes without a prescription, only customer appearance was associated with nonsupport of syringe sale to IDUs, consistent with reports of pharmacists elsewhere.[20] Finally, pharmacists in support of syringe sales to IDUs tended to be less likely to believe drug use would increase and were significantly more likely to support syringe exchange in their pharmacy.

Disposal of syringes was a concern among all pharmacists, regardless of level

of support for syringe sales to IDUs. There were 59.1% who believed selling syringes to IDUs would increase the number of improperly discarded syringes in the community. Most pharmacists supported distribution of free sharps containers, and a quarter supported sharps containers in their pharmacy for customers to dispose used syringes. Future surveys should address pharmacists' perceptions of the adequacy of syringe disposal options for both IDUs and diabetics.

The modest difference between support for syringe sales to IDUs in Queens versus Brooklyn highlights issues of geography not clearly addressed by this survey. The lack of any association between support for syringe sales to IDUs and discussions with customers about HIV-related issues, concern for HIV infection among IDUs, importance of customer sobriety, and familiarity with the customer or belief that the practice would reduce HIV transmission differs from findings in the parallel written survey[16] and previous studies.[18,19] These differences may be due to the personal nature of the telephone interview medium. Due to limited sample size, several associations approached, but did not reach, significance.

In sum, these data suggest that close to half of pharmacists in New York City neighborhoods with relatively high rates of injection drug use would be willing to sell syringes without a prescription to IDUs in 2001. However, the law was passed just recently, less than half of pharmacists are aware of the law, and only a relatively small proportion appears to have considered the issue seriously. The overwhelming majority of pharmacists, including those who do not support syringe sales to IDUs, consider HIV prevention among IDUs to be very important. Health authorities should build on these concerns through tailored continuing education programs, informational campaigns with data on pharmacy sale of syringes and HIV prevention, and initiatives to address the likely perception of increased numbers of improperly disposed syringes. Pharmacist associations should also continue to express support for syringe sales to IDUs.

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