NOVEMBER/DECEMBER 2002 ■ VOL. 42 , NO. 6 SUPPL. 2

JAPhA

Journal of the American Pharmaceutical Association
Supplement to the Journal of the American Pharmaceutical Association November/December 2002 Issue

Preventing Blood-Borne Infections Through Pharmacy Syringe Sales and Safe Community Syringe Disposal

Overview

Syringe Laws and Deregulation

Interpreting Pharmacy Regulations

Promoting Pharmacy Syringe Sales

Pharmacist Attitudes About Selling Syringes to IDUs

Evaluating Pharmacy Syringe Sales Without Prescriptions

Safe Community Syringe Disposal

APhA
American Pharmaceutical Association
The National Professional Society of Pharmacists

Acknowledgment

Publication of this Supplement to the
Journal of the American Pharmaceutical Association
was supported, in part, by an
unrestricted educational grant from the
U.S. Centers for Disease Control and Prevention.

The American Pharmaceutical Association wishes to thank the following individuals for their assistance in the development of this supplement:

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The views presented in this supplement are those of the authors and do not necessarily represent the policies of the Centers for Disease Control and Prevention, Department of Health and Human Services, or the United States government.

NOVEMBER/DECEMBER 2002 ▪ VOL. 42 , NO. 6, SUPPL. 2

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In This Issue…

[Drug users are] people like us. They're our brothers, our sisters, our mothers, our fathers, our friends, our lovers. They are people like you and people like me.

Synopsis: In the Overview section of this supplement, recovering drug user Harry L. Simpson delivers a moving call to pharmacists for compassion, cooperation, and care for injection drug users (IDUs). Describing his years of addiction following service in the Vietnam War, Simpson puts a human face on the real challenges and dilemmas faced each day by the hundreds of thousands of IDUs in cities and towns across America.

Analysis: *Pharmacists can be key players in reducing epidemics of HIV and hepatitis B and C among IDUs, supplement guest editors T. Stephen Jones and Phillip O. Coffin explain in their overview. To help pharmacists, several obstacles must be addressed, including pharmacists' attitudes, state laws and regulations, and education of IDUs.*

See pages S6 and S10.

Legality of Sale of Syringes by a Person Who Knows the Syringes Will Be Used to Inject Illegal Drugs, 2002

Clearly Legal (n = 20)	Reasonable Claim to Legality (n = 22)	Clearly Illegal (n = 11)
AK, CT,[a] HI,[a] IN,[a] LA,[a] ME,[a] MN,[a] MT,[a] NH,[a] NM,[a] NY,[a] OH,[a] OR, PR, RI,[a] SC,[a] TN,[a] WV,[a] WA,[a] WI	AL,[a] AR, AZ, CO, FL, ID, IA, KY, MD,[a] MI, MO, MS, NE, NV,[a] NC, ND, OK, SD, TX, UT, VA,[a] WY	CA, DE, DC, GA, IL, KS, MA, NJ, PA, VT, VI

[a]Sale clearly legal or has a reasonable claim to legality in pharmacy only.

Synopsis: If pharmacists are to sell sterile syringes and needles to IDUs, a primary concern is legality. This survey of laws and regulations shows that such sales are clearly legal in 20 states and can be reasonably interpreted as legal in 22 other states. Such sales are clearly illegal in 11 states, including three states where such sales are illegal even with a prescription.

Analysis: *A comprehensive public policy of ensuring syringe access for IDUs who cannot or will not abstain from drug use requires eliminating legal barriers to the sale, possession, and disposal of syringes. Equally important, however, is educating pharmacists and law enforcement officials about the value of sterile syringe access in the effort to reduce the transmission of HIV and other blood-borne diseases.*

See page S13.

A 1999 Maine pharmacy board ruling affirmed that selling sterile syringes to IDUs is a legitimate medical and pharmacy practice.

Synopsis: Two state boards of pharmacy have dealt directly with the issue of pharmacists' sales of sterile syringes and needles to IDUs. The Washington State and Maine boards took the position that selling syringes to IDUs to help prevent blood-borne infections was a legitimate medical and pharmacy practice and worked with the state legislatures to pass new laws.

Analysis: *Cooperation among the boards, pharmacy professional associations, and schools of pharmacy was essential in these efforts. Similar board of pharmacy activities in other states may help increase syringe availability and reduce transmission of blood-borne infections.*

See pages S23 and S24.

[Patients with diabetes] can now purchase up to 10 syringes at a time, without a prescription, and they benefit from new, improved options for safe syringe disposal.

Synopsis: In addition to improving options for IDUs, expanded pharmacy access to syringes benefits patients with other health care needs. New York State's Expanded Syringe Access Demonstration Program (ESAP) has worked with patients with diabetes in its outreach efforts, including educational programs and promotional materials.

Analysis: *ESAP offers a model for other states seeking to reduce the transmission of blood-borne diseases among IDUs and increase access for patients of all types who need sterile syringes and needles. With ESAP and improved access programs in Seattle and New Mexico, pharmacists' awareness of this public health need and their own participation in making sterile syringes available increased following education and outreach efforts.*

See pages S26, S28, S29, and S32.

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Mission

The *Journal of the American Pharmaceutical Association* is a peer-reviewed forum for original research, review, experience, and opinion articles that link science with contemporary pharmacy practice to improve patient care.

JAPhA

Journal of the American Pharmaceutical Association

November/December 2002

Vol. 42, No. 6

ISSN 1086-5802

American Pharmaceutical Association
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Statistically Significant Changes in Law Supporters' Opinions Before and After Implementation of ESAP in New York City

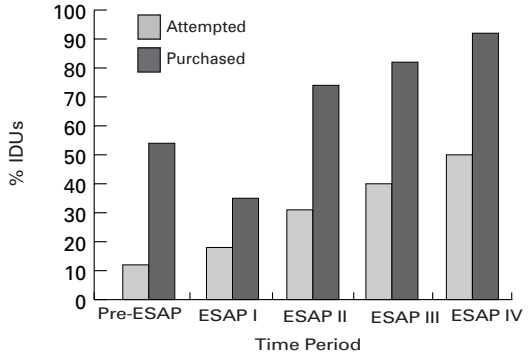
Opinion Topic	Baseline % Respondents (n = 27)	After Law Change % Respondents (n = 50)
Benefits		
Important part of HIV prevention	63.0	91.7
Decrease HIV transmission	51.9	77.5
Detriments		
Increase other customers' discomfort	40.7	23.3
Increase drug use	40.7	24.1

Synopsis: As ESAP was implemented, support for the program increased among pharmacists in high-drug-use neighborhoods of New York City. Compared with opinions just after the enabling law was passed, larger proportions of supporters of the law viewed benefits more positively and indicated that potential problems were not as important as previously believed.

Analysis: *The full spectrum of pharmacists' and pharmacy students' opinions about IDUs and syringe access and disposal are illustrated in the articles in the Pharmacists' Attitudes section of the* Journal. *Written surveys, focus groups, and interviews were conducted in a pharmacy school and among pharmacists in Atlanta, Denver, Colorado, Connecticut, Kentucky, Missouri, and Rhode Island.*

See pages S34, S40, S46, S52, S58, and S62.

IDUs' Attempts and Purchases of Syringes from Pharmacies, New York City, 2001-2002



Synopsis: ESAP began on January 1, 2001, and IDUs quickly recognized participating pharmacies as important sources of sterile syringes and needles. In the research shown here, more IDUs attempted to purchase syringes in pharmacies after ESAP was implemented, and more of those attempting purchases were successful. In another study designed to measure syringe access, 69% of purchase attempts at participating pharmacies were successful, although not all ESAP elements were provided routinely. No differences in success of syringe purchases were observed based on the customer's age, gender, or race/ethnicity.

Analysis: *The studies in this section show that pharmacies can and do serve as HIV-prevention service providers and sources of sterile syringes for IDUs.*

See pages S68, S73, S77, S83, S88, and S92.

Brown County (Wisconsin) Household Sharps Program

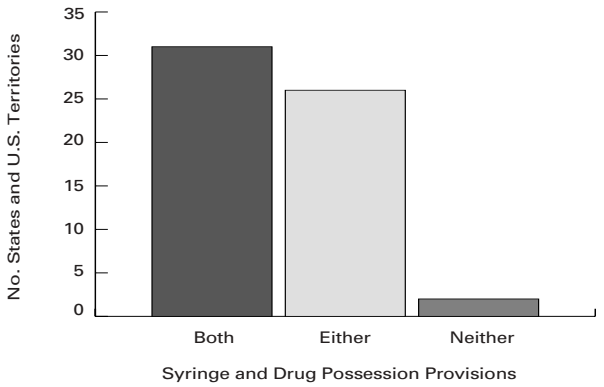
Year	Pounds of Sharps and Sharps Containers Collected
June–December 1996	815
1997	8,655
1998	8,519
1999	7,121
2000	5,063
2001	6,276

Synopsis: Going hand in hand with improved syringe access are better systems of sharps disposal. As illustrated by the quantity of sharps that were diverted from household waste in Brown County, Wisconsin, large amounts of used syringes and needles are generated in the community. Green Bay-area pharmacies have provided convenient locations where sharps can be collected for pick-up. In fact, 19 of 31 (61%) collection stations are pharmacies.

Analysis: *Their number and convenience make pharmacies prime sites for sharps disposal. Patients with diabetes and other conditions that require injections—who frequent pharmacies—use this disposal option in those areas where programs have been established. IDUs need to have access to these disposal options as well, if public health benefits of safe disposal are to be realized.*

See pages S113 as well as S108, S109, S111, S114, S116, and S117.

Legal Disincentives to Safe Disposal of Sharps Used by IDUs



Synopsis: For IDUs, a key disincentive to the use of safe disposal options are the laws of many states and U.S. territories, which make possession of drug paraphernalia illegal. As shown here, most jurisdictions have laws making it illegal to possess syringes for injecting illegal drugs and laws forbidding possession of the residual drug in used syringes. Only two states, Hawaii and Rhode Island, have no legal barriers that deter IDUs from safely disposing of used syringes.

Analysis: *Pharmacists can be effective advocates for removal of legal barriers so that workers and others are not exposed to used syringes in household garbage and in public places. In states with either or both types of these laws, IDUs understandably fear arrest, and this leads to unsafe disposal habits, endangering the public and sanitation workers in particular.*

See pages S94 and S99.

Preventing Blood-Borne Infections Through Pharmacy Syringe Sales and Safe Community Syringe Disposal

This supplement to the November–December 2002 issue of JAPhA *highlights pharmacy and public health cooperation to increase pharmacy syringe sales to injection drug users and to promote safe community syringe disposal.*

T. Stephen Jones and Phillip O. Coffin

Pharmacists can play a key role in preventing the major blood-borne infections caused by human immunodeficiency virus (HIV), hepatitis C virus, and hepatitis B virus. Specifically, pharmacists are able to contribute to community-level disease prevention initiatives by providing patient counseling (including information on safe needle disposal and substance abuse treatment) and by selling condoms, sterile syringes, and HIV treatment medications. Pharmacists, by increasing access to sterile syringes, can also help reduce the risk for transmission of blood-borne infections among injection drug users (IDUs) and, by participating in community needle disposal programs, decrease the chance that others will be infected through needle-stick injuries.

Stopping drug use and entering substance abuse treatment are recommended for all IDUs.[1] For IDUs who continue to inject, the use of new, sterile syringes is recommended to help prevent blood-borne infections.[1,2] Pharmacies can be reliable sources of sterile syringes for IDUs, particularly compared with "street" syringe sellers who, at times, sell repackaged, previously used syringes.[3,4] However, laws and regulations limit access to sterile syringes.[5] For example, Georgia state pharmacy board regulations prohibit selling syringes for an "illegal purpose,"[6] making Georgia 1 of 10 states in which it is clearly illegal for a pharmacist to sell syringes to an IDU.[5] This regulation affects pharmacists' decisions about selling syringes to persons who may be IDUs.[6,7]

In New Hampshire, New York, Rhode Island, and Washington, attempts to pass syringe deregulation bills were defeated in several sessions of the legislatures before being passed and becoming law.[8,9] The ultimately successful passage of deregulation legislation in these states can be attributed to broad cooperation and active support from professional organizations (particularly pharmacists and physicians), boards of pharmacy, HIV prevention groups, health departments, schools of public health, and substance abuse treatment programs. These collaborations have continued with the new goal of promoting widespread acceptance of the new laws.

Pharmacists' Attitudes and Practices Differ

Surveys and in-depth studies of the attitudes of pharmacists and pharmacy students about selling syringes without a prescription to IDUs have repeatedly found pharmacists to be divided into three groups: one that strongly favors such sales, a second that vigorously opposes such sales, and a third that is unsure.[6,10–13] These positions result from an interaction of individual factors (e.g., beliefs that selling syringes conflicts with efforts to reduce drug use) and structural issues (e.g., regulations that limit syringe sales).[6]

To increase pharmacy syringe sales to IDUs, the Maine and Washington state boards of pharmacy clearly stated that prevention of blood-borne infections was a legitimate medical purpose for such sales.[9,14] In four states that deregulated syringe sales (Minnesota, New Mexico, New York, and Washington), departments of public health led multipronged, multiyear efforts to promote pharmacy sales of syringes without a prescription.[12,15–17] The partners in the successful deregulation efforts joined in the sustained efforts to promote acceptance of the new laws. Parallel outreach efforts informed IDUs about the new laws and about which pharmacies were selling syringes without a prescription.[15–17] Such

sustained promotional efforts may be needed for pharmacists and IDUs because the reluctance to sell syringes to IDUs and to buy them from pharmacies is deeply ingrained from decades of restrictive laws and regulations.

IDUs would prefer to obtain syringes from pharmacies and, at least in some locations, do so.[18,19] Removing legal and regulatory barriers to IDUs purchasing and possessing syringes has helped change the attitudes and practices of pharmacists and IDUs in several states. When syringe laws and regulations were deregulated in New York, Minnesota, and New Hampshire, pharmacists' willingness to sell syringes and the number of pharmacy syringe sales without prescriptions increased, and IDUs purchased more syringes from pharmacies.[8,15,20,21] Minnesota researchers documented a reduction in HIV risk behaviors among IDUs 1 year after the law change.[22]

In Minnesota, New Hampshire, and New York, the deregulation bills included provisions mandating evaluation of the impact of the legal changes. Systematic evaluation of these syringe deregulation "natural experiments" will substantially expand our understanding of the effects of changing syringe laws. The extensive evaluation of the New York Expanded Syringe Access Demonstration Program (ESAP), supported by the National Institutes of Health and the Centers for Disease Control and Prevention, will be particularly valuable. Four papers in this supplement examine the effects of ESAP.[20,21,23,24]

People with Diabetes Benefit From Syringe Deregulation and Safer Syringe Disposal

The primary goal of syringe deregulation is to prevent blood-borne infections by increasing the number of sterile syringes available to IDUs. Brochures provided by pharmacists to persons purchasing syringes without a prescription are usually written with IDUs in mind, providing information about substance abuse treatment and safer injecting practices.[15,17,25] In New York, however, HIV prevention program staff realized that ESAP also benefited people who used insulin to treat their diabetes (e.g., they may not have easy access to a physician to obtain prescriptions for syringes[26]). The New York health department programs for HIV prevention and diabetes brought in diabetes educators and diabetes groups to help adapt ESAP options for people using insulin.[27] People with diabetes made it clear that they saw ESAP as useful for themselves but found the ESAP materials written for IDUs to be offensive. Therefore, the health department designed new materials and promotional matter to address the issues of people who use insulin. The New York experience demonstrates that syringe deregulation can benefit people who are not IDUs and that adapting the messages and outreach may increase use of deregulated syringe access and broaden public support.

Syringe Deregulation Catalyzes Safe Community Syringe Disposal

IDUs and people who use insulin account for several billion injections a year in the United States.[28,29] Most of these needles and syringes presumably end up in household trash. Concern about unsafe syringe disposal by IDUs was often raised during legislative consideration of syringe deregulation bills.[8,15,30] The concern was that increasing the number of syringes in the hands of IDUs could lead to increases in unsafely discarded syringes, raising the specter of children picking up these discarded syringes. That concern led to including syringe disposal elements in the deregulation bills.[15,30] As a result, public health departments and HIV prevention organizations became actively involved in improving disposal options.[17,30] In addition to the states where syringe deregulation efforts helped stimulate syringe disposal programs,[8,12,15,17,30] interest in community-level safe syringe disposal has been heightened by concerns about worker (particularly those working with trash) safety[31–34] and changes in state laws affecting syringe disposal.[35,36]

Expanded Community-Generated Syringe Disposal Programs are Needed

While disposal of syringes from medical care facilities is extensively regulated, disposal of community-generated syringes has generally been exempted from regulation and not given a high public health priority. Disposal of syringes in household trash is recommended by the Environmental Protection Agency.[37] This option, however, puts solid waste workers, workers who hand pick recyclable materials out of trash, and custodial workers (e.g., those who collect trash from public restrooms)[34] at risk for needle-stick injuries and, potentially, blood-borne infections.[38] To ensure safety for these workers, the public health goal is no syringes and other sharps in trash.

Disposal programs described in this supplement typically involve collaborations of multiple community sectors, including local government, pharmacists, environmental health agencies, solid waste authorities, diabetes groups, health care facilities, infectious waste haulers, and fire departments.[30–33,36] The environmental health or solid waste public agencies often organize the efforts. Donations and contributions from involved agencies[33,36] and funding from the local solid waste management budget finance them.[32,33,36]

Because pharmacists sell many of the syringes used outside of health care settings, they are well positioned to help their patients by (1) providing advice and information on safe disposal, (2) providing sharps containers for sale or free, (3) accepting used syringes for safe disposal, or (4) referring patients to sites for safe syringe disposal. Pharmacists have proven to be central players in designing and maintaining most community disposal programs.[15,30,32,33,36] More importantly, pharmacy-based "take back"

programs can recover substantial numbers of used syringes (e.g., an estimated 900,000 syringes per year in Brown County, Wisconsin and 2 million per year in San Francisco).[32,36]

However, most programs appear to recover only a relatively small proportion of all syringes used outside health care facilities. To reach the goal of no syringes and other sharps in trash and unsafely discarded in the community, major changes in both public attitudes and the scale of safe disposal options are needed. New personal and social norms must be promoted so that placing used syringes in residential trash or other unsafe locations becomes socially unacceptable. Easy-to-use, inexpensive, inconspicuous disposal options must be readily available. Placing syringe disposal units in public places (e.g., in pharmacies[30,31] and in airport bathrooms[34]) is likely to increase public consciousness of safe syringe disposal. In addition, greater consistency of syringe disposal regulations among the states could substantially reduce confusion about how to safely dispose of syringes.[38]

IDUs Risk Arrest If They Safely Dispose of Syringes

Because syringe exchange programs (SEPs) usually have some legal or informally agreed-upon protection for clients, IDUs use SEPs to obtain new syringes. Since SEPs usually require that used syringes be turned in to receive new ones, these programs capture millions of used syringes a year (e.g., 19 million in 1998).[40] However, IDUs may face substantial legal threats if they attempt safe syringe disposal in other ways. Because of the nearly ubiquitous drug paraphernalia and drug possession laws, an IDU can be at risk for arrest for possession of a syringe, particularly one that might contain even minute quantities of drug residue.[41] These penalties make IDUs cautious, if not fearful, about collecting and then transporting their used syringes to a safe disposal site.[42] For community syringe disposal efforts to be successful and to gain full participation by IDUs, disposal programs must be available and accessible to IDUs and the legal obstacles must ultimately be addressed.

Conclusion

Several conclusions emerge from the reports in this supplement. First, the efforts to change laws to deregulate syringes, promote acceptance of the new laws, and develop systems to keep sharps out of solid waste appear to have been most successful when they involved wide community coalitions. Second, pharmacists usually play important roles in these coalition efforts. Third, these efforts must be available to IDUs. Finally, we must continue to evaluate these efforts to ensure that they are achieving the intended public health outcomes.

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The views presented in this supplement are those of the authors and do not necessarily represent the policies of the Centers for Disease Control and Prevention, Department of Health and Human Services, or the United States government.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

The authors acknowledge and thank Jennifer Taussig for her efforts in the concept and planning of this supplement; Michael Posey, Kathy Solomon, Ron Teeter, Scott Palmer, and the Art and Production staff of the Journal of the American Pharmaceutical Association *for their patience and skill during the work of preparing this issue; P. Lynne Stockton for excellent editing; Georgia Fontana for her help; David Vlahov for moral support; and the peer reviewers (Deborah Boatwright, Tom Farley, Sam Friedman, Frank Romanelli, Susan Sherman, and several anonymous individuals) for their extensive contributions to improving the articles in this supplement.*

The Centers for Disease Control and Prevention has generously supported the publication of this supplement.

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POLICY STATEMENT

American Pharmaceutical Association Policies on Syringe Access and Syringe Disposal

1999 APhA encourages state legislatures and boards of pharmacy to revise laws and regulations to permit the unrestricted sale or distribution of syringes and needles by or with the knowledge of a pharmacist in an effort to decrease the transmission of blood-borne diseases.

2001 APhA supports collaboration with other interested health care organizations, public health and environmental health groups, waste management groups, syringe manufacturers, health insurers and patient advocacy groups to develop and promote safer systems and procedures for the disposal of used needles and syringes by patients outside of healthcare facilities.

Injection Drug Users and Pharmacists: A Call for Compassion, Cooperation, and Care

A recovering injection drug user calls on pharmacists to help.

Harry L. Simpson

Based on a talk delivered to a meeting co-sponsored by the American Pharmaceutical Association, the Centers for Disease Control and Prevention, and the National Association of Boards of Pharmacy on HIV Prevention and the Role of Pharmacists in the Sale of Sterile Syringes, *San Antonio, Texas, March 3–4, 1999.*

As the executive director of the largest minority-operated acquired immunodeficiency syndrome (AIDS) service organization in Michigan and a person who has wrestled with the issue of access to sterile syringes from both personal and professional perspectives, I will attempt to represent both active drug injectors and the community-based providers who work with them. In doing so, I hope to (1) provide a better understanding of what it's like to be in the grip of addiction, (2) describe what it's like for a drug injector to try to buy syringes from a pharmacist, and (3) enlist your assistance in preventing further spread of human immunodeficiency virus (HIV).

Syringe Access: A Legal Framework

Michigan law allows an individual to purchase syringes and needles (referred to hereafter as "syringes") from pharmacies without a prescription. Under Michigan law, pharmacists make the final decision about selling syringes, and often refuse to sell to persons who do not appear to have a "legitimate medical need." State law also criminalizes syringe possession and possession of "drug paraphernalia" for the injection of any illegal substance.

Each county in Michigan has the option of regulating the sale of drug paraphernalia. Some have enacted restrictions that specify that individuals cannot purchase syringes without a prescription. Others have no enforced restrictions. Since the 1960s, a local paraphernalia ordinance in Detroit, which makes drug paraphernalia possession a crime, has been rigorously enforced. This restriction on syringe access was estimated to have contributed to as many as 3,000 AIDS cases in Detroit between 1986 and 1996 (George Gaines, MPH, written communication, July 1997).

Because pharmacy syringe sales without a prescription are legal in Michigan, people often assume that drug users in the state have adequate access to sterile injection equipment. In 1997 colleagues and I surveyed pharmacy syringe sale practices in Detroit. We sought to verify information from drug injectors stating that one must convince a pharmacist that one is not an injection drug user to purchase a syringe. We randomly selected 60 Detroit pharmacies. Study staff made two attempts to purchase syringes at each pharmacy. The study staff included African American and white men and African American and white women. At each pharmacy, the study staff making the two buy attempts were either an African American man and a white woman or an African American woman and a white man. Fifty-eight percent of the attempts were successful (Peter Lurie, MD, written communication, September 1998). Our study demonstrated that, despite state law, syringes are difficult to purchase from Detroit pharmacies.

Even if users are able to purchase them in pharmacies, syringes become "drug paraphernalia" the instant they leave the store, and users can then be arrested for possessing these legally purchased syringes. Thus drug users, fearing prosecution under Michigan's paraphernalia law, often turn to easier methods of acquiring syringes—easier, but riskier from a health standpoint.

If not from pharmacies, where else do drug users get syringes? They rent them from "shooting galleries" where many users go to inject drugs. They get them from drug houses when they purchase drugs. They get them from illegal, unlicensed stores in homes located near known drug-selling areas. These stores sell syringes, pipes for smoking crack, stems, and other drug paraphernalia. Drug users may purchase them from "street sellers," often users themselves, who are able to obtain large quantities of syringes. There's no guarantee that these rented or purchased syringes are new; in fact, they have likely been used.[1]

Obtaining syringes from pharmacies is difficult because many

Detroit pharmacists—while rightfully exercising their discretion about selling syringes—require proof of illness, ask intrusive questions, require photo identification, or deny sales to persons who do not appear to have a "legitimate medical need." These barriers may appear small to the pharmacist but are significant for users and are likely to limit substantially the number of drug users who attempt to buy syringes from pharmacies.

"Drug Users Are People Like Us"

What about the drug users whose lives we are trying to save? Who are these "addicts"? What are their lives like? Why do they do what they do?

They are people like us. They're our brothers, our sisters, our mothers, our fathers, our friends, our lovers. They are people like you and people like me.

I began using drugs during the summer of 1968 as an 18-year-old tank crewman serving my country in the Republic of Vietnam. When I returned from that country a year later, I had a Purple Heart for wounds received in battle, an Army Commendation Medal for Valor, and a heroin addiction that controlled my life for the next 14 years.

Every hour, every minute, every second of every day for those 14 years I was consumed with an overpowering need to feed the monkey that was on my back. It was no longer a matter of getting "high"—it was about survival. Every ounce of me wanted to avoid the horrible pain of withdrawal. I felt like I would die if I didn't get that next fix.

In the vernacular of the street, I was a "junkie." Not an addict, not a user—a junkie. According to the code of the streets, junkies, unlike users and addicts, couldn't hold down jobs, had little or no family support, and would kill for heroin. I was a junkie. I had no job, no support, no home, nowhere to go, no hope, no future, nothing but this huge habit that had to be fed at least three times each day.

I shot dope each and every day, several times a day. Some days were better than others. On those days, I would shoot up maybe seven or eight times. The more drugs I could get my hands on, the more drugs I would shoot. Most days I would cop (purchase drugs) and then go to the shooting gallery to inject. It was on the same block where I bought my dope, so it was convenient. The needles and syringes that they rented were never new. They sat on a table in the middle of the room in a glass of pink-tinted water. They weren't in very good shape either. You had to look to find a set that wasn't clogged. The needles were always dull and, more often than not, had burrs on them from being used so many times.

I was busted once for carrying syringes, so after that, I never carried them. The time I was busted, the police beat me pretty badly. After they stopped me, they asked if I was carrying syringes and I, of course, said "no." I was afraid to say "yes" because they would have taken me to jail. After I said "no," they searched me, found the syringes, beat me, and then took me to jail. So I stopped carrying syringes, and I got them from wherever I could: shooting galleries, another user, whatever. Most of the time the syringes I used to inject were shared with someone else or had been used before by someone else. I knew this was dangerous; I had heard about hepatitis and abscesses, but these were not high on my list of things to worry about.

Recovery from addiction was something that other people did. I wanted to kick this habit but didn't know how. My first treatment experience was in a 16-week residential program that specialized in treating alcoholism. I had to say I was an alcoholic to get in, even though I didn't think I was, because they wouldn't treat you if you were only a heroin addict. I relapsed in the 16th week and, of course, they threw me out because it was an abstinence-based program. If you couldn't abstain, you were out, period.

There were many more treatment experiences after that—methadone maintenance, outpatient, inpatient, therapeutic communities, hospitals, medical detoxification, and psych wards. You name it, I tried it. None of them worked for me—at least not then.

I entered treatment the final time on September 8, 1984, and I became the Executive Director of Community Health Awareness Group in Detroit, one of Michigan's oldest and largest HIV-prevention agencies. I led a staff of 26 people, nearly one-half of them recovering drug users themselves, and managed an annual operating budget of more than $1 million.

Curbing Blood-Borne Diseases Among Injection Drug Users

I tell you this story—my story—so that you can put a face on the suffering users we are trying to help. Although it is a face that truly only a mother could love, it is the face of drug users all over this country: users whose lives are in grave danger because they are injecting heroin or cocaine with used and possibly HIV- or hepatitis-contaminated syringes. Those are the lives that I am asking pharmacists to help save.

We must recognize and accept that the dual epidemics of HIV/AIDS and substance abuse call for an approach much broader than making absolute abstinence the only measure of success. Abstinence from drugs is a life-long commitment that is fraught with both successes and failures. Treatment seldom works the first time, and success varies from individual to individual. We must also recognize that drug addiction is a chronic, relapsing, but treatable disorder. Most drug addicts relapse or "slip" after they try to stop using drugs, start recovery, and attempt to remain abstinent for the rest of their lives. Many users will go through multiple treatment experiences and multiple relapses. Thus, access to sterile syringes will always be necessary, even if drug treatment programs are universally available, because relapses are common among drug users and because many people in drug treatment continue to inject drugs.

Particularly damaging to our efforts to curb the spread of injection-related AIDS and hepatitis B and C is the perception that providing sterile needles to active drug users undermines efforts to

prevent the use of illegal drugs in our communities. Some insist that providing sterile syringes promotes drug use, drug-related violence, gang wars, and chaos. Others suggest that funds for clean needle programs might be better spent on drug treatment, as though a choice must be made between stopping AIDS and treating addiction. These perceptions have never been supported by science: no studies have ever demonstrated that access to sterile syringes promotes the use of illegal drugs. But the fears raised by these perceptions have prevented many of us from implementing strategies that, according to exhaustive research, will save tens of thousands of lives.[2] Clearly, more funding needs to be directed to drug treatment efforts, and the availability of drug treatment needs to be expanded greatly. But the current restrictions on syringe access seriously hamper our efforts to stop the spread of HIV, and expose far too many injection drug users, their sexual partners, and their children, to AIDS.

In May 1997, the U.S. Public Health Service published the *HIV Prevention Bulletin: Medical Advice for Persons Who Inject Illicit Drugs.*[3] The bulletin, a joint effort of several federal agencies, summarized the latest information on preventing the transmission of HIV and other blood-borne infections among injection drug users. According to the bulletin, "Drug injectors who are unable or unwilling to stop or enter a drug treatment program…can reduce their risks of blood-borne transmission and other serious health problems by never reusing or 'sharing' syringes."[3] This text makes clear one very important fact: for active drug injectors, sterile syringes are indeed a legitimate medical need.

Increased access to sterile syringes is not the total solution, but rather a critical part of a comprehensive approach that includes repeal of restrictive paraphernalia laws, federal funding of harm-reduction programs, and increased access to, and expansion of, substance abuse treatment. Nonetheless, if we're going to stop the spread of these diseases, we've got to be open to new ideas and new solutions, even if they run counter to our beliefs. For active injection drug users, preventing HIV and other blood-borne pathogen transmission is a legitimate medical purpose for pharmacy sale of syringes. It is not a political issue…it is not a moral issue…it is not a criminal justice issue…it is a public health issue. I implore each of you to make a strong statement that the American Pharmaceutical Association (APhA) and pharmacists everywhere have decided to support selling syringes to drug users as a legitimate medical practice to prevent disease transmission.

Editor's note: *At its March 1999 Annual Meeting, APhA adopted the following policy:*

> APhA encourages state legislatures and boards of pharmacy to revise laws and regulations to permit the unrestricted sale or distribution of syringes and needles by or with the knowledge of a pharmacist in an effort to decrease the transmission of blood-borne diseases.

Harry L. Simpson is a consultant in Detroit. At the time of this talk, Mr. Simpson was Executive Director, Community Health Awareness Group, Detroit. He was National Community Relations Manager, Agouron Pharmaceuticals, Inc., 2000–2002.

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POLICY STATEMENT

American Medical Association Policy on Syringe Access

That the AMA encourage the extensive application of needle and syringe exchange and distribution programs and the modification of restrictive laws and regulations concerning the sale and possession of needles and syringes to maximize the availability of sterile syringes and needles, while ensuring continued reimbursement for medically necessary needles and syringes. The need for such programs and modification of laws and regulations is urgent, considering the contribution of injection drug use to the epidemic of HIV infection.

Policy approved by the American Medical Association House of Delegates in June 1997.

Lundberg GD. New winds blowing for American drug policies [editorial]. *JAMA.* 1997;278:946–7.

The Legality of Selling or Giving Syringes to Injection Drug Users

Scott Burris, Jon S. Vernick, Alyssa Ditzler, and Steffanie Strathdee

Objectives: Laws limiting access to sterile syringes impede the public health goal that injection drug users (IDUs) use a new, sterile syringe for every injection to reduce blood-borne disease transmission. We sought to determine the legality of selling or giving syringes to IDUs to prevent disease. ***Design:*** We used standard legal research methods to identify and analyze laws and regulations influencing the distribution of syringes in the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. ***Results:*** A total of 51 jurisdictions had drug paraphernalia laws; 14 had syringe prescription laws or regulations; 11 required purchasers to show identification; 13 had legislation authorizing syringe exchange programs (SEPs). Since the beginning of the human immunodeficiency virus epidemic, 11 states have fully or partially deregulated syringe sales. Nonprescription retail syringe sales to IDUs for disease prevention purposes are clearly legal in 20 states, and have a reasonable claim to legality in 22 more. Sales to IDUs with a prescription are clearly illegal in only 3 jurisdictions. SEPs can operate legally in at least 21 states. ***Conclusion:*** Syringe access laws in most states may reasonably be interpreted to allow pharmacists to sell syringes to IDUs to prevent disease. In practice, however, unclear laws and pharmacist uncertainty as to their interpretation may constitute continuing barriers to syringe access for IDUs. A comprehensive public policy of ensuring syringe access for IDUs requires eliminating legal barriers to the sale, possession, and disposal of syringes, and educating pharmacists and law enforcement officials about the legality and public health importance of sterile syringe access.

J Am Pharm Assoc. 2002;42(suppl 2):S13–8.

Public health authorities recommend that injection drug users (IDUs) who continue to inject use a new, sterile syringe for every injection[1] as an important part of a comprehensive approach to reducing the transmission of viral and bacterial infections.[2] Laws and regulations prohibiting the sale or distribution of syringes to IDUs have proven to be a significant obstacle to this public health goal.[3–8]

Although the legality of providing syringes to IDUs has been frequently assessed,[8–15] a new analysis is helpful for two reasons. First, the law continues to change. Since 1987, 11 states have deregulated the sale or possession of at least some number of syringes.[13,16–18] Second, previous analyses have usually used as their main outcome measure whether or not a state had certain general types of syringe access regulation.[8,10,11,15,19,20] They have not addressed significant differences in the precise wording of these laws from state to state, nor analyzed how these laws differ in their application to specific classes of sellers (most notably pharmacists), modes of delivery (sale or free distribution), or distribution outlets (such as pharmacies or syringe exchange programs [SEPs]).

Received June 21, 2002, and in revised form August 7, 2002. Accepted for publication August 20, 2002.

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Objectives

This study sought to determine the legality under state law of three basic modes of syringe distribution to IDUs: retail sale without a prescription, retail sale with a prescription, and free syringe exchange or distribution.

Design

Earlier studies identified syringe prescription laws, drug paraphernalia laws, and pharmacy regulations governing the sale of syringes to IDUs in the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands.[13,21] The research was updated in

2001 using standard legal research methods, and results were cross-checked against the most recent survey of pharmacy law conducted by the National Association of Boards of Pharmacy.[22] Laws whose applicability was not clear were interpreted using conventional methods of statutory and case law analysis.

Results

Current Status of Drug Paraphernalia Laws, Syringe Prescription Laws, and Other Pharmacy Regulations

All jurisdictions studied except Alaska and Puerto Rico currently have a drug paraphernalia law. Most of these laws were passed in the 1970s and 1980s to regulate an increasing retail trade in drug-use equipment, and closely followed a model paraphernalia law drafted by the U.S. Department of Justice.[10] The typical statute defines drug paraphernalia to include all equipment, products, and materials of any kind, which are used, intended for use, or designed for use to "manufacture, inject, ingest, inhale, or otherwise introduce into the human body a controlled substance" in violation of law.[23] It then provides a list of items that could be considered drug paraphernalia in some intended uses. In the majority of states, this list includes "[h]ypodermic syringes, needles, and other objects used…in parenterally injecting controlled substances into the human body."[23] Paraphernalia laws usually create two basic offenses: "manufacturing or distributing" and "possessing" paraphernalia. Not every state has created both offenses. Although the definition of paraphernalia is broad enough to cover many common items that have legal uses, there is no violation unless the person selling or possessing the item knows of its intended use with illegal drugs. For both sellers and possessors, the crime is typically a misdemeanor.[24]

A significant minority of states currently have paraphernalia laws that, at least on paper, make it legal under some circumstances for a seller knowingly to dispense a syringe to an IDU. These exemptions, set out in Table 1, take several forms: exclusion of syringes in at least some quantity; exemption of pharmacists and other health care providers; and omission of references to injection or syringes in the text of the law, suggesting syringes may not be covered. In states that have both paraphernalia and prescription laws, the interaction of the two must be assessed to determine which laws apply to syringe sale and possession.

Thirteen states and the Virgin Islands currently impose some form of syringe prescription requirement by statute or regulation. The requirement stands as a substantial barrier to syringe access in only seven of these jurisdictions (CA, DE, IL, MA, NJ, PA, VI). Some states require prescriptions only for minors (FL, VA), or waive the prescription requirement for syringes used in the treatment of asthma or diabetes, which practically vitiates the requirement (NV). The remaining four prescription-law states, shown in Table 1, have partially deregulated syringes and now allow nonprescription sale and possession of syringes in limited numbers.

Five other types of restriction on the sale of syringes, called here "subprescription" limits, appear in state law, usually but not always as regulations within the pharmacy code. These include rules confining syringe sales to pharmacies, requiring sellers to get information concerning the intended use of the syringe from the buyer, requiring sellers to maintain various records, requiring purchasers to present identification, and limiting the locations or manner in which syringes may be displayed in the store. These are also listed in Table 1.

Analysis: Legality of Selling or Giving Syringes to IDUs

The determination of the legality of a mode of syringe access in a particular state is ultimately a matter of professional legal judgment taking into consideration statutory language, legislative intent, case decisions, and social factors. Although generally similar, the various types of laws set out in Table 1 often differ from state to state in their wording. Moreover, with the exception of syringe exchange and deregulation laws, syringe and drug paraphernalia laws were not written with disease prevention in mind, nor always intended to apply to pharmacists or others who are distributing syringes to IDUs for public health reasons. Even laws that unambiguously prohibit some forms of syringe access may authorize others: syringe prescription laws generally prohibit sales without a prescription, but do not in most instances prohibit physicians from prescribing syringes to IDUs or pharmacists from filling those prescriptions. The legality of syringe distribution to IDUs to prevent disease therefore differs depending on the wording of the law, the legal status of the person providing the syringe (e.g., pharmacist or unlicensed person), the location of distribution (e.g., SEP or pharmacy), and whether the syringe is being sold or given away. The conclusions below should be understood as professionally defensible predictions about how a judge—the legal official ultimately empowered to say what the law is—would interpret the law in a state. This is reflected by our use of three categories of legality: "clearly legal" and "clearly illegal," both indicating that the plain text of laws or case decisions would be deemed by most lawyers to authorize or bar the activity, and "reasonable claim to legality," indicating that an attorney could ethically advise a client that the law, while unclear, could be interpreted to allow the conduct at issue. This legal uncertainty is a characteristic and important aspect of syringe access policy and practice.

Retail Syringe Sale Without a Prescription

In states without a prescription requirement, the main legal influences on the retail sale of syringes are statutes or regulations requiring the buyer to demonstrate a legitimate medical purpose for the purchase and drug paraphernalia laws. Legitimate-purpose rules place a duty on the seller (usually a pharmacist) to require the buyer to state the proper purpose; the seller is not obliged to independently verify its truth. Under a paraphernalia law, a seller who does not know of the intended use, and is not being willfully blind

Table 1. Requirements of State Syringe Statutes (S) and Regulations (R), and Drug Paraphernalia Laws (P), 2002

	Syringe Prescription and Other Syringe-Specific Statutes and Regulations						Paraphernalia Law Exemptions			
State or Territory	Sale from Pharmacy Only (n = 22)	Prescription Required[a] (n = 14)	Information on Buyer's Purpose Required (n = 9)	Record Keeping by Pharmacists Required[b] (n = 15)	ID of Purchaser Required (n = 11)	Limits on Syringe Display (n = 11)	Exempts Some or all Syringes[c] (n = 9)	Exempts Some Types of Sellers[d] (n = 9)	Omits Reference to Syringes or Injection (n = 5)	Other Significant Exemption[e] (n = 3)
AL	S									
AK							No paraphernalia law			
AZ										
AR										
CA	S	S 3		S 1,2,3	S: non-Rx only	S		P 1,2		
CO									P	
CT	S	S 1		S 4,7		S	P 1			
DE		S		S 1,2,4	S	S				
FL		S 2								
GA	R		R			R		P2		
HI								P 1,2,3		
ID										
IL	S	S		S1,2	S					
IN	R			R 1,2,3	R		P2			
IA										P 1
KS										
KY			S	S1,2,5,6	S	S				
LA	R		R	R 1,2,3	R	R				P 2
ME	S	S 1,5			S		P			
MD	R		R	R 1,2,3	R					
MA	S	S		S 1,2,3	S	S				
MI									P	
MN	S						P			
MS										
MO										
MT								P 1,2		
NE										
NV	S	S 4							P	
NH	S	S 1,2		S 1,2,7			P			
NJ	S	S		S 1						
NM								P 2		
NY	S	S 1,2		S & R 1,3,7			P 3			
NC										
ND										
OH	S		S			S		P 1,2		
OK										
OR							P			
PA		R								
PR							No paraphernalia law			
RI	S					S	P			

Table 1 continued on next page

Table 1. Requirements of State Syringe Statutes (S) and Regulations (R), and Drug Paraphernalia Laws (P), 2002 (continued)

	Syringe Prescription and Other Syringe-Specific Statutes and Regulations						Paraphernalia Law Exemptions			
State or Territory	Sale from Pharmacy Only (n = 22)	Prescription Required[a] (n = 14)	Information on Buyer's Purpose Required (n = 9)	Record Keeping by Pharmacists Required[b] (n = 15)	ID of Purchaser Required (n = 11)	Limits on Syringe Display (n = 11)	Exempts Some or all Syringes[c] (n = 9)	Exempts Some Types of Sellers[d] (n = 9)	Omits Reference to Syringes or Injection (n = 5)	Other Significant Exemption[e] (n = 3)
SC	S		R	R 2	R				P	P 3
SD										
TN	R		R			R		P 1,2		
TX										
UT										
VT										
VA	S	S 2	S	S 1,2	S	R				
VI	S	S		S1						
WA			S					P 2		
WV	R							P 2,3		
WI							P			
WY									P	

SEP = Syringe exchange program.
[a]1 = for >10; 2 = <18 years old; 3 = except for use with insulin/adrenaline; 4 = except for asthma/diabetes; 5 = no sales to <18 years old.
[b]1= date of sale; 2 = type, price, and/or quantity of syringe; 3 = signature or name of seller; 4 = prescription on file; 5 = purchaser name/address; 6 = purpose of purchase; 7 = for prescription sales only.
[c]1 = < 31; 2 = items customarily used to inject lawful substances; 3 = legally obtained from pharmacy or SEP.
[d]1= physicians; 2 = pharmacists; 3 = other licensed providers.
[e]1 = does not include items for medical use; 2 = does not include syringes sold for "lawful purposes"; 3 = does not cover items for heroin use.

to clear indications of the user's intention, does not violate the law. It is likely that many IDUs obtain syringes from sellers who are not aware of the intended use.

Table 2 addresses the harder legal question of whether it is legal to sell when the seller knows the purchaser will use the syringe for injecting illegal drugs. Paraphernalia laws in some states explicitly exempt pharmacists or contain other exemptions that would allow at least some retail sales where the seller was aware that the syringes would be used for injecting illegal drugs. Moreover, nearly all state paraphernalia laws were passed before the human immunodeficiency virus (HIV) epidemic, and were aimed at the sale of nonmedical equipment in stores catering to recreational drug users (e.g., "head shops"). In many of these states, it is reasonable to conclude that paraphernalia laws were not intended to prohibit sales of a medical device such as a syringe in retail establishments not primarily catering to drug users, as part of an effort to reduce HIV transmission. This argument is generally *not* reasonable, however, where legislatures have subsequently amended paraphernalia laws to allow SEPs. Amending a paraphernalia law to allow SEPs would not be necessary unless the legislature believed that syringe sales were generally limited by the paraphernalia law.

Retail Syringe Sale with Prescription

Physicians generally have broad discretion to prescribe drugs and devices that they believe will be medically beneficial for patients.[25–27] For their part, pharmacists are authorized to dispense medications ordered by a valid prescription and are ordinarily expected to do so in the absence of good reason to refuse. An earlier study examined the legality of physician prescription of injection equipment to patients as a means of preventing disease transmission as a consequence of injection drug use.[21,28] The findings were updated for this article. The practice is clearly legal in 49 jurisdictions, while dispensing the prescribed syringes in pharmacies is clearly legal in 28 (see Table 3). The legal difference between prescribing and dispensing lies chiefly in the fact that writing a prescription does not entail the actual transfer of possession of a syringe—the act the law most commonly regulates. In many states, therefore, physicians and pharmacists, by virtue of their professional status, have the discretion to make syringes available to IDUs that is not afforded lay people, such as needle exchange operators.

Syringe Distribution Through Syringe Exchange Programs

SEPs continue to increase their role as important providers of syringe access. Twelve states and the District of Columbia have affirmatively authorized SEPs (see Table 4). Nine jurisdictions (CT, DC, HI, ME, MD, NH, NM, RI, VT) have done so by passing laws establishing programs. In Maryland, SEPs are authorized in Baltimore only. In New Hampshire, one program is authorized. In Vermont, no SEP has actually been approved to operate by the health department. Two states—California and Massachusetts—

Table 2. Legality of Sale of Syringes by a Person Who Knows the Syringes Will Be Used to Inject Illegal Drugs, 2002

Clearly Legal (n = 20)	Reasonable Claim to Legality (n = 22)	Clearly Illegal (n = 11)
AK, CT,[a] HI,[a] IN,[a] LA,[a] ME,[a] MN,[a] MT,[a] NH,[a] NM,[a] NY,[a] OH,[a] OR, PR, RI,[a] SC,[a] TN,[a] WV,[a] WA,[a] WI	AL,[a] AR, AZ, CO, FL, ID, IA, KY, MD,[a] MI, MO, MS, NE, NV,[a] NC, ND, OK, SD, TX, UT, VA,[a] WY	CA, DE, DC, GA, IL, KS, MA, NJ, PA, VT, VI

[a]Sale clearly legal or has a reasonable claim to legality in pharmacy only.

have delegated the decision to allow SEPs by passing legislation authorizing local governments to approve them. In New York, SEPs are authorized by the commissioner of health exercising power granted in the paraphernalia law to waive its application.[29] In Washington State, local health officials secured a declaratory judgment from the state supreme court holding that the paraphernalia law did not prohibit them from authorizing SEPs,[30] a ruling that was later codified by the legislature.

SEPs in three states presently operate by authority of local government alone. In Philadelphia, Pittsburgh, and Cleveland, local officials determined that their public health authority extended to authorizing SEPs, despite the existence of state laws otherwise limiting syringe access to IDUs. In Chicago, local law enforcement and health officials interpreted a "research" exemption from the paraphernalia law to encompass SEPs. While these interpretations are legally debatable, they are also legally reasonable and have proven a politically expedient way to operate SEPs in states unlikely to change their law. In five states, the law does not regulate the free distribution of syringes, and therefore does not prohibit SEPs.

As of 1998, SEPs were operating without a specific claim to legality in 19 states (including states where other SEPs are legally authorized). The law in these states may or may not clearly forbid SEPs, but these SEPs nevertheless are able to operate through more or less tacit arrangements with law enforcement authorities. The fact that a given SEP operates without a clear legal basis does not necessarily mean that such a basis could not be identified. In Colorado, for example, local governments have substantial authority to deal with local health threats, and so a city would have a reasonable basis for authorizing a SEP under its own authority. No research has been published on the legal authority of most cities to authorize syringe exchange.

Limitations

This study analyzed syringe and paraphernalia laws as they apply to *distribution* of syringes by a pharmacist, SEP, or other legitimate source. The effect of these laws on the legality of syringe *possession* by an IDU is addressed elsewhere in this issue.[24] "Law on the books" may differ from law as it is actually applied by police officers, prosecutors, and judges. A study of statutes and regulations as written cannot therefore replace research on the actual implementation of law in specific jurisdictions.

Conclusion

Syringe access laws in most states may reasonably be interpreted to allow pharmacists to sell syringes under at least some circumstances to IDUs to prevent disease. A state-by-state analysis shows that nonprescription retail syringe sales in pharmacies or other authorized outlets are clearly legal in 20 states and have a reasonable claim to legality in 22 more. Sale with a prescription is clearly illegal in only 3 jurisdictions. SEPs can operate legally in

Table 3. Legality of Prescription and Sale by Prescription of Syringes with Knowledge of Intention to Use for Illegal Drug Injection, 2002

Physician Prescription of Sterile Syringes			Pharmacy Sale of Prescribed Syringes		
Clearly Legal (n = 49)	Reasonable Claim to Legality (n = 2)	Clearly Illegal (n = 2)	Clearly Legal (n = 28)	Reasonable Claim to Legality (n = 22)	Clearly Illegal (n = 3)
AL, AK, AR, AZ, CA, CO, CT, DC, FL, GA, HI, ID, IL, IN, IA, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, NC, ND, OR, PA, PR, RI, SC, SD, TN, TX, UT, VT, VA, VI, WA, WV, WI, WY	OH, OK	DE, KS	AK, CA, CO, CT, HI, IL, IN, LA, ME, MA, MI, MN, MT, NV, NH, NJ, NM, NY, OR, PA, PR, RI, SC, TN, VA, WA, WV, WI	AL, AR, AZ, DC, FL, ID, IA, KY, MD, MS, MO, NE, NC, ND, OH, OK, SD, TX, UT, VT, VI, WY	DE, GA, KS

Table 4. Legal Status of Syringe Exchange Programs in the United States, 2002

SEP Authorized by State Law (n = 13)	SEP Authorized by Local Government Based on its Interpretation of State Law (n = 3)	Free Distribution of Syringes Not Restricted by State Law (n = 5)	SEP(s) Operating Without Specific Claim to Legality in 1998 (n = 19)
CA, CT, DC, HI, ME, MA, MD, NH, NM, NY, RI,[a] VT, WA	IL, OH, PA	AK, LA, OR, RI, WI	AZ, CO, GA, IN, KS, MA, MI, MN, MT, NJ, NY, NC, OK, PA, PR, TN, TX, UT, WA

SEP = Syringe exchange program.
[a]State law no longer restricts free distribution.
Source: Reference 31.

at least 21 states. Since the beginning of the HIV epidemic, more than a fifth of the states—11—have fully or partially deregulated syringe sales as a measure to reduce blood-borne disease.

These laws are only part of the story. Actual practice may differ from what legal theory might allow. Pharmacists exercise considerable discretion to sell or not to sell, and their willingness to do so may be influenced by uncertainty or misinformation about the law. Moreover, the purchaser may remain in legal jeopardy for possessing the syringe even if the seller is not at legal risk.[24] A comprehensive public policy of ensuring syringe access for IDUs who cannot or will not abstain from drug use requires eliminating legal barriers to the sale, possession, and disposal of syringes. Equally important, however, is educating pharmacists and law enforcement officials about the value of sterile syringe access in the effort to reduce the transmission of HIV and other blood-borne diseases.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article. This article is based on a review of syringe access poilicy commissioned by the Substance Abuse Policy Research Program of the Robert Wood Johnson Foundation.The data and conclusions presented here are solely those of the authors.

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Deregulation of Syringe Sale and Possession in New Hampshire, 1991–2000

William Kassler and David Ayotte

On April 20, 2000, two decades into the human immunodeficiency virus (HIV) epidemic and nearly a decade after it was first introduced, the New Hampshire senate passed a bill allowing drug users to buy and possess syringes without a prescription. This legislation had been repeatedly introduced since 1991 and on two occasions was passed by the house and senate but vetoed by previous governors. In 2000 Governor Jeanne Shaheen signed the bill.

HIV/AIDS Among IDUs

Injection drug users (IDUs) accounted for 19% (128/657) of all adult acquired immunodeficiency virus (AIDS) cases in New Hampshire from 1991 to 1999. New Hampshire's geographic location in the northeastern United States suggested substantial risk of introduction of HIV from the neighboring states that have much higher rates of HIV among IDUs.

Although there are only an estimated 6,000 IDUs in the state, HIV, hepatitis B, and hepatitis C are passed to sexual partners and children who then can spread these infectious diseases in the community. Reducing the risk of disease transmission among IDUs, and thus the broader community, was a legitimate public health rationale for increasing access to sterile syringes.

Showing the toll of HIV on individuals and families made the problems more compelling. When individuals who worked in community-based organizations testified about their experiences, legislators paid attention. The most compelling testimony came from individuals in recovery who talked about their past drug use and who did not conform to stereotypes of "street addicts."

One of the most effective voices in focusing the legislature's attention on the problem was an octogenarian member of the house, Representative Cecilia Kane, who introduced her deregulation bill year after year. She is a retired nurse whose son was 34 years old when he died of AIDS. The eventual success of the bill can be attributed to her commitment.

Deregulating Sale and Possession of Syringes

The deregulation bill that was introduced in 1991 and was ultimately enacted permits persons 18 years of age and older to purchase up to 10 syringes per transaction, without a prescription, at pharmacies that voluntarily participate in the initiative. The bill also modified the existing drug paraphernalia laws, decriminalizing possession, and initiated a program to educate syringe users on safe disposal.

Opponents argued that there was no evidence that the bill would reduce HIV transmission, that drug users from large neighboring states like Massachusetts would travel to New Hampshire to escape strict regulations and buy syringes for illegal drug use, and that increased syringe availability in New Hampshire would bring in more IDUs.

As the scientific evidence in support of deregulation grew, the political dialogue shifted. Studies cited in well-respected sources such as the *Journal of the American Medical Association* and National Academy of Sciences publications lent credibility to the argument that increasing access to sterile syringes would reduce HIV transmission and would not lead to increases in the number of IDUs.[1–5] It thus became difficult to oppose syringe deregulation based on arguments of harm or ineffectiveness.

Local police and emergency medical technicians (EMTs) initially argued that increased access to syringes would attract more drug users and result in more crime. When those concerns were defused by research in other localities, their arguments shifted to safety concerns: decriminalizing possession could lead to an increased risk of needle sticks for police, firefighters, and EMTs. Findings in Connecticut that needle-stick injuries to police officers were lower after that state legalized selling syringes without a prescription deflected some of this concern.[6] However, law enforcement never fully supported the policy.

Syringe Disposal

Additional concerns focused on how IDUs would dispose of their syringes. Lawmakers debated how people with diabetes currently dispose of their syringes and if drug users would do so safely. The hospital association polled its members and several health facilities indicated that they provide sharps disposal for the public. People with diabetes explained how they place their used syringes in plastic bottles and dispose of them in household trash. Legislators thus determined that, with effective community education on disposal and disposal sites in hospitals, safe syringe disposal was feasible.

For some legislators, it did not matter what the evidence showed; the idea of government establishing a program that was perceived to facilitate or enable drug use amounted to tacit legitimization of illegal and unethical behavior. This conflict was best illustrated by one senator, who, as a former registered nurse, valued the scientific evidence, yet felt that syringe access enabled drug use. During a critical vote, this legislator left the room, thus allowing the bill to pass without having to violate her own ethics.

SEP Authorized but Not Implemented

Throughout the decade, proponents debated the relative merits of deregulation versus syringe exchange programs (SEPs). Some opponents of increased access viewed SEPs as less objectionable. In 1997, legislation was enacted allowing a 2-year pilot SEP in one community in the state, but only after a compromise sponsors of deregulation withdrew their legislation. The legislation required local political and local police endorsement before a SEP could be established. Since the law was passed, no community has established a SEP.

In October 1999, the month the deregulation bill was heard in the statehouse, five leading national health organizations released a joint policy statement urging states to remove legal barriers to obtaining sterile syringes through pharmacies. These joint and individual statements by the American Medical Association, American Pharmaceutical Association, Association of State and Territorial Health Officials, National Association of State and Territorial AIDS Directors, and National Association of Boards of Pharmacy clearly supported deregulation and influenced the legislature.[7]

By 1999 a broad coalition of state health officials, the medical society, the pharmacy association, the hospital association, and AIDS service organizations gave sufficient political support to reassure lawmakers. Pharmacists supported HIV prevention, but were concerned that this law would be implemented as an unfunded mandate, resulting in new administrative burdens and increased costs. Thus pharmacists supported a voluntary program in which they could choose to participate.

Finally, the legislature felt quite strongly that if enacted, the law must be evaluated and the health department agreed to conduct such an evaluation. Preliminary results show that the program has raised very little controversy. There have been no complaints from law enforcement or local officials, and the network of participating pharmacists is extensive.

Conclusion

New Hampshire's history of political conservatism made it difficult for decision makers to support any policy that appeared to be "soft on drugs." However, the state also has a strong tradition of libertarian political thought, which facilitated acceptance of a policy that consisted of voluntary efforts on the part of pharmacists and pharmacy owners, and that did not involve implementation of a new government program. The policy ultimately prevailed when three dynamics converged: the persistence of a legislator who kept the issue alive; the emergence of a clear scientific consensus that deregulation was effective and did not promote increased drug use; and a political alliance of advocates, pharmacists, physicians, elected officials, and the boards of pharmacy, nursing, and medicine that demonstrated broad political support.

J Am Pharm Assoc. 2002;42(suppl 2):S19–20.

Received July 1, 2002, and in revised form September 9, 2002. Accepted for publication September 23, 2002.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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The Minnesota Pharmacy Syringe Access Initiative: A Successful Statewide Program to Increase Injection Drug User Access to Sterile Syringes

Gary A. Novotny, Niki U. Cotton-Oldenburg, Bill Bond, and Bob Tracy

As of December 2001, injection drug use and sex with injection drug users (IDUs) accounted for 14% of cumulative non–acquired immunodeficiency syndrome (AIDS) cases of human immunodeficiency syndrome (HIV) infection in Minnesota.[1] On July 1, 1998, new Minnesota laws went into effect legalizing pharmacy sale without a prescription and individual possession of as many as 10 syringes. These new laws were intended to reduce HIV transmission among IDUs and their sex partners by increasing access to sterile syringes. The legislation required the Minnesota Department of Health (MDH) to develop, implement, promote, and evaluate a new public health program called the Minnesota Pharmacy Syringe Access Initiative (SAI).

A few months before SAI went into effect, MDH conducted two surveys of pharmacy managers to identify possible barriers and incentives to participation in SAI. In the first survey, we interviewed a convenience sample of 29 chain pharmacists who generally supported SAI. In the second, we mailed a short questionnaire to 918 Minnesota retail pharmacy managers. Of the 648 (70%) managers who responded, 421 (65%) reported that they would participate in SAI, 130 (20%) reported that they would not participate, and 97 (15%) were undecided. Of the 227 pharmacy managers who were undecided or who would not participate, 111 (49%) had concerns about having IDUs in the pharmacy, and about possibly supporting an illegal activity, or felt that there was no need for SAI in their town. Only 15 of these 227 pharmacists reported factors that would increase their likelihood of participating, including availability of home needle disposal systems, referral of customers to substance abuse treatment, and educational materials for customers. More than 60% (265/421) of the pharmacists likely to participate in SAI were concerned about syringe disposal. They requested more syringe disposal options, such as state- or county-sponsored disposal systems or a $0.25 surcharge to syringe sales to help fund disposal. They indicated that the availability of educational materials on syringe disposal and HIV transmission would facilitate their participation in SAI.

Promoting Pharmacist Participation in SAI

The success of SAI depended on the active, voluntary participation of pharmacists and IDUs. In an effort to increase pharmacists' willingness to sell up to 10 new syringes to any customer requesting them, MDH solicited the support of the Minnesota Board of Pharmacy and Minnesota Pharmacists Association (MPhA), which had been involved in crafting the laws, as well as collaborations with chain and independent pharmacies. The Minnesota pharmacy board provided a list of community pharmacies that was used for outreach and to evaluate the program. MPhA, in conjunction with MDH, published articles supporting SAI in the January 1998 and April 1998 issues of the pharmacy board's newsletter. In August 1998, the Minnesota Society of Health-System Pharmacists issued a policy statement supporting SAI.

At MPhA's 1998 annual meeting, Minnesota AIDS Project (MAP) and MDH staff promoted pharmacist participation in SAI. MAP had provided leadership in the passage of the authorizing legislation. MDH made a similar presentation to MPhA in 2000. Between March 1998 and May 2000, MDH staff mailed three letters to all community pharmacy managers in Minnesota soliciting participation in SAI. In May 2000, 47% (430/918) of community pharmacies reported they were participating in SAI and, in May 2001, 49% (505/1,025) were participating.

MDH promoted use of pharmacies as a source of syringes among IDUs. In 1998 MDH staff held focus groups of IDUs and HIV educators from community-based organizations to identify ways to raise IDU awareness of SAI. Focus group findings aided MDH in developing and distributing: (1) pocket size "law cards" that stated the new statute language allowing the sale and possession of 10 or fewer new syringes without a prescription; (2) brochures on safer home disposal of used syringes; and (3) pocket-size cards with the MAP hotline (Minnesota AIDSLine) phone number for information on disposal sites and pharmacies participating in SAI.

Promoting Safe Syringe Disposal

Safe syringe disposal was a priority for the Legislature, MDH, IDUs, and pharmacists. To participate in SAI, pharmacies were required to certify their participation in one of the following syringe disposal activities: (1) distribution of educational materials about safe personal disposal of syringes: (2) participation in a sharps container distribution and collection program; (3) referring customers to a medical facility that accepts home-generated sharps; (4) referring customers to the Minnesota AIDSLine to identify syringe exchange programs they could use for safe syringe disposal; (5) collecting used syringes from customers; or (6) some other syringe disposal activity (with a description). Pharmacists signed and returned a form to MDH. The original name of the

form, "Syringe Disposal Certification" was changed to "Participation Form" because the word "certification" raised concerns about pharmacists being required to do something as part of this voluntary program. MDH entered the pharmacy's information from the completed form into a database used by the Minnesota AIDSLine and community-based organizations serving IDUs. Participating pharmacies were sent any MDH-generated HIV and disposal educational materials they requested.

We consulted the Minnesota Pollution Control Agency, the Minnesota Chapter of the American Diabetes Association, waste management companies, and Access Works (www.accessworks.org; formerly known as Women With A Point), an HIV/sexually transmitted disease prevention program serving IDUs in Minneapolis, about their approaches to promoting safe community syringe disposal. The Access Works approach, distributing a hand-carry, plastic container (FitPak) to IDUs, was considered appropriate for MDH involvement. FitPak has two compartments: one holds 10 new syringes and the other locks in 10 used syringes.[2] MDH provided funding to Access Works from April 1999 to March 2001 to conduct a needs assessment about syringe disposal and to pilot test FitPak distribution at four pharmacies in the Minneapolis and St. Paul metropolitan area. The results of this project are currently being analyzed.

Increased Syringe Sales and Fewer Risky Behaviors

In May 1999, after 1 year of SAI we telephoned a convenience sample of 19 participating pharmacies in areas with high levels of injection drug use in the Twin Cities. None reported incidents of unsafe syringe disposal in or around their pharmacies as a result of participating in SAI. Park police did not report any incident of syringes discarded in public areas. An MDH study showed that nearly all IDUs disposed of their syringes in a manner that did not pose a risk to the general public.[4]

MDH staff conducted two outcome evaluation studies to assess the impact of SAI on IDU syringe-related behaviors and pharmacy syringe sales. We recruited cross-sectional samples of IDUs over 3-month periods before (March through June, 1998) and 1 year after (March through June, 1999) SAI went into effect. We also conducted a 12-month prospective surveillance of monthly syringe sales by community pharmacies with a stratified random sample of chain and independent pharmacies.

The pharmacy evaluation found that pharmacies in the Twin Cities, which had a higher concentration of IDUs, experienced a significantly higher number of individual syringe sales made without a prescription for an accompanying drug than other pharmacies in the metropolitan area or greater Minnesota ($P < .01$). IDUs reported that (1) their pharmacy syringe purchases increased significantly within 1 year of when the laws went into effect; (2) pharmacies replaced street locations, friends, or pimps as their primary source of syringes; and (3) syringe sharing decreased by 17%.[3]

MDH has continued to enroll new pharmacies and to retain and express gratitude to enrolled pharmacies. Community pharmacy services in Minnesota have been expanding through new pharmacy services in grocery and department stores and construction of new branches of pharmacy chains, opening further opportunities for SAI expansion.

Conclusion

The Minnesota SAI partnership among the community groups, public health agencies, and the pharmacy profession may be a model for public programs to prevent blood-borne disease transmission among IDUs, their sex partners, and children by increasing IDU access to sterile syringes.

J Am Pharm Assoc. 2002;42 (suppl 2):S21–2.

Received June 3, 2002, and in revised form September 12, 2002. Accepted for publication September 20, 2002.

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Increasing Legal and Regulatory Support for Pharmacy Syringe Sales to Injection Drug Users, Washington State, 1999–2002

Donald H. Williams

In 1999 the Centers for Disease Control and Prevention (CDC), the American Pharmaceutical Association (APhA), and the National Association of Boards of Pharmacy co-sponsored a conference in San Antonio to examine blood-borne disease transmission and state policies on pharmacy syringe sales. The presenters provided convincing evidence of the need to modify laws, rules, and policies at the state level to allow the sale of sterile syringes to injection drug users (IDUs) to reduce blood-borne disease transmission. The evidence demonstrated that drug injection with previously used injecting equipment contributes substantially to human immunodeficiency virus (HIV) transmission among IDUs, their sex partners, and their children, and selling sterile syringes addresses a legitimate public health concern by decreasing the reuse of syringes.

Since 1991, the Washington State Board of Pharmacy ("Board") has supported syringe distribution through syringe exchange programs (SEPs). In a lawsuit about the legality of a proposed SEP, the Board filed an amicus brief supporting the local public health department proposal. A 1992 Washington court decision found that Washington public health officials had extraordinary power and broad authority to control the spread of infectious disease. The court stated, "Moreover, we are persuaded the broad powers given local health boards and officers under (Washington State) Const. Art 11, § 11 and RCW 70.05 authorize them to institute needle exchange programs in an effort to stop the spread of HIV and AIDS [acquired immunodeficiency syndrome]." [1] The Supreme Court ruling did not mention pharmacy involvement in IDU access to sterile syringes.

Since 1981, two state laws have governed the distribution (including sale) of syringes in Washington State. First, the Drug Injection Device Law, chap. 70.115.050 RCW,[2] required that when selling syringes "the retailer must satisfy himself or herself that the device will be used for the legal use intended." Second, the drug paraphernalia section of the Uniform Controlled Substances Act[3] listed various items that may be considered drug paraphernalia, including "hypodermic syringes, needles, and other objects used, intended for use, or designed for use in parenterally injecting controlled substances into the human body." Therefore, a syringe used to illegally inject a controlled substance clearly met the legal definition of drug paraphernalia.

In 1998 the legislature passed a new drug paraphernalia law, chap. 69.50.4121 RCW,[4] that provided civil penalties. Before approval, public health officials convinced legislators to add an amendment protecting the legal status of SEPs: "Nothing in subsection (1) of this section prohibits legal distribution of injection syringe equipment through public health and community-based HIV prevention programs."

Board Support for Pharmacy Sale of Syringes to IDUs

Based upon the information presented at the 1999 CDC/APhA conference, the 1992 Washington Supreme Court decision, and the 1998 amendment to the civil drug paraphernalia law, the Board determined that it would reinterpret the syringe laws. The Board reasoned that it would be legal for a pharmacy to distribute (sell) syringes to IDUs within the context of an HIV-prevention program.

The Board examined the laws affecting the sale of syringes: 70.115.050 RCW and 69.50.102 RCW.[1–4] In May 1999, the Board adopted the following resolution, declaring that the term "legal use" in 70.115.050 RCW included the sale of sterile syringes for the purpose of reducing blood-borne disease transmission.

> ***Whereas:*** *Recent studies by the Centers for Disease Control and Prevention (CDC) and by various states have found that a large number of new cases of HIV/AIDS, hepatitis and other sexually transmitted diseases are found in persons who either are injection drug users (IDU's) or who have had sexual relationships with IDU's. A recent meeting co-sponsored by CDC, National Association of Boards of Pharmacy, and the American Pharmaceutical Association demonstrated that revisions in state laws and rules to permit the unrestricted sale or distribution of sterile needles and syringes would reduce the transmission of blood-borne diseases.*
>
> ***Now Therefore be it Resolved:*** *that the Washington State Board of Pharmacy has determined that the term, "legal use" as used in 70.115.050 RCW—Hypodermic Syringes includes, the distribution of sterile hypodermic syringes and needles for the purpose of reducing the transmission of blood-borne diseases. Such distribution shall be performed through public health and community based HIV prevention programs.*

The Board communicated this resolution to the state board of health, pharmacists, pharmacies, and county public health departments and is converting the resolution into a formal rule. The rule will be codified in the Pharmacy Law book. Based on this resolution, the Seattle/King County and Kitsap County Health Departments developed agreements with pharmacies that formally incorporated pharmacy-based syringe sales into the health

departments' disease prevention programs.[5]

During the 2001 and 2002 legislative sessions, the Washington State Legislature considered bills changing the legal status of syringe sales, distribution, and possession. During 2001, a state representative introduced a bill to allow the possession of syringes by persons over the age of 18 for the purpose of reducing blood-borne diseases. The bill included pharmacies in the sale of syringes for public health programs, and defined such sales and use as "legal use." The bill was controversial and was amended so that only single-use, difficult-to-reuse (DTR) syringes could be sold and possessed. Because of concerns that DTR syringes might increase blood-borne transmission risk among IDUs,[6,7] the sponsor withdrew the bill.

During the 2002 legislative session, the original 2001 bill was reintroduced, without the DTR requirement. The legislature approved the bill with amendments requiring pharmacists to sell syringes only in exchange for syringes turned in by the consumer, to provide printed materials about disease prevention, substance abuse treatment and safe needle disposal techniques at the point of sale and to handle "biomedical waste," presumably syringes, as defined in the legislation. These amendments were in a single section of the bill. At the request of public health agencies, the governor used line item veto authority to approve the bill while vetoing the amendments.[8] The new law went into effect on June 13, 2002.

Conclusion

Based on scientific research, local experiences, and statements from public health agencies, first the Board established that, under pharmacy regulations, pharmacy syringe sales to IDUs were legitimate because they could help prevent blood-borne disease transmission. Then, the state legislature passed new laws that such sales and carrying syringes were legal. The strong support of the Board, pharmacy professional associations, and schools of pharmacy were essential to making these changes.

J Am Pharm Assoc. 2002;42(suppl 2):S23–4.

Received June 10, 2002, and in revised form September 3, 2002. Accepted for publication September 18, 2002.

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The author declares no conflicts of interest or financial interests in any product or service mentioned in this article.

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Maine Board of Pharmacy Strongly Supports Unrestricted Sale of Sterile Syringes

Barbara Ginley, Sally-Lou Patterson, Nathan Nickerson, Joe Bruno, and John Grotton

The Portland Needle Exchange Program (PNE) is the only syringe exchange program (SEP) in Maine. Although Maine law allows anyone over 18 years of age to buy syringes without a prescription and without showing identification, during summer 1999, several PNE participants complained that they had not been able to purchase syringes from pharmacies. PNE participants reported that pharmacists had either refused to sell syringes or discouraged persons asking to purchase syringes by requiring photo identification and/or a signature.

The state of Maine has taken several steps to improve public access to sterile syringes to prevent the transmission of human immunodeficiency virus (HIV) and other blood-borne diseases. In 1993 Public Law 394 removed the prescription requirement for syringe sales.[1] In 1997 legislation was passed legalizing syringe exchange and amending the Maine drug paraphernalia law to legalize possession of as many as 10 syringes.[2,3] The Maine SEP law requires the SEP to receive one used syringe for every new syringe provided to a SEP participant ("one-for-one exchange").[4] To use a Maine SEP, a participant must obtain the initial syringes to turn in ("starter" syringes) from a source other than the SEP. Pharmacies are the only legal source of "starter" syringes.

Problem in Practice

In July 1999, the Portland Public Health Division (PPHD) staff met with central office staff of the chain pharmacies that had not sold syringes to PNE participants. PPHD staff provided the pharmacy chain staff with information about the Injection Drug User (IDU) HIV Prevention Program, reviewed the laws passed in 1997, and discussed the difficulties reported by consumers. The pharmacists believed that questions about pharmacy-based syringe sales had implications for all Maine pharmacists. At their request,

the Maine Pharmacy Association (MPA) requested an advisory ruling from the Maine Board of Pharmacy. MPA posed four questions for the board to consider at its September 1999 meeting:

1. Must a pharmacist sell a hypodermic apparatus without a prescription, or can a pharmacist exercise his/her own judgment or policy?

2. Should a pharmacist require identification when selling a hypodermic apparatus over the counter?

3. What is the pharmacy board's opinion regarding civil liability for selling a hypodermic apparatus over the counter?

4. Is the board aware of any "potential conflict" between 32 MRSA §13787-A (the 1997 legislative amendment) and regulations of the Drug Enforcement Administration?

Board of Pharmacy's Response

The board responded to the first two questions posed by the association. The board did not rule on question 3, because the liability issue was outside the board's jurisdiction, or on question 4, because the Drug Enforcement Administration was the authority on its policies.

The ruling on question 1 expressed definitive support for the intent of the state legislation to increase access to sterile syringes to prevent disease:

> *The Legislature enacted 32 MRSA §13787-A as a prophylactic against the spread of AIDS, hepatitis, and other blood-borne diseases. The Board unanimously endorses that effort and believes implementation … to be wholly consistent with the highest principles of pharmacy.*

The board stated that any pharmacist refusing to sell syringes must be ready to "justify that decision in light of both the statute's broad sweep and its salutary intent."

The ruling on question 2 outlined legitimate reasons for a pharmacist to request photo identification (e.g., if the pharmacist believed the purchaser was younger than 18 years old). The ruling stated, "arbitrary imposition of other criteria including an unjustified request for identification, would clearly run contrary to Legislative intent."

The 1999 pharmacy board ruling affirmed that selling sterile syringes to IDUs is legitimate medical and pharmacy practice. This ruling clearly affirmed the legitimacy of public and individual health reasons for the recommendation that IDUs use sterile syringes and board support for unrestricted syringe sales to persons over 18.

We hoped that the unanimous board ruling would prompt all pharmacists to sell syringes. However, after the ruling, the PNE continued to receive reports of pharmacists refusing to sell syringes to IDUs. In response, PNE began giving SEP participants copies of the board ruling confirming their legal right to purchase syringes. If a consumer adequately documented a pharmacist's refusal to sell syringes and filed a complaint with the board, the pharmacist involved could face disciplinary action. No formal complaints have been filed against pharmacists. The isolated reports of pharmacists' refusals to sell syringes appear to be individual pharmacists' interpretations of state law and professional obligation rather than the policies of pharmacy chains. PPHD has contacted a small number of pharmacists who reportedly refused to sell syringes and given them copies of the board's 1999 ruling.

Conclusion

The 1999 Maine pharmacy board ruling clarified an important public policy issue for consumers, public health professionals, and pharmacists. The ruling assured pharmacists that the board regulating their professional practice strongly supports selling syringes to IDUs. It also affirmed that drug users over 18 years old can purchase sterile syringes from Maine pharmacies. Similar board of pharmacy rulings in other states may help increase the availability of sterile syringes and help prevent transmission of blood-borne infections.

J Am Pharm Assoc. 2002;42(suppl 2):S24–5

Received June 3, 2002, and in revised form September 12, 2002. Accepted for publication September 20, 2002.

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Encouraging Pharmacy Sale and Safe Disposal of Syringes in Seattle, Washington

Robert W. Marks, Michael Hanrahan, Donald H. Williams, Gary Goldbaum, Hanne Thiede, and Robert W. Wood

In Seattle and King County, Washington, human immunodeficiency virus (HIV) seroprevalence among injection drug users (IDUs) has remained at 2% to 3% for more than 8 years.[1] More than 80% of King County IDUs, however, are infected with the hepatitis C virus, and more than 20% of the uninfected become infected each year.[1,2] These blood-borne infections mostly result from the reuse and shared use of drug injection equipment, including needles and syringes, drug cookers, water, and cotton filters.[3]

Access to sterile injection equipment is associated with lower frequency of unsafe injection practices and reduced risk of infection[4–6] and does not appear to increase drug use by increasing injection frequency or the number of injectors.[7–9] In 2001, King County syringe exchange programs (SEPs) exchanged more than 2 million syringes. Even with extensive SEP operations, some King County IDUs continue to share syringes. Approximately 62% of recently arrested IDUs revealed that they had injected with a syringe used by someone else in the previous 6 months,[10] in part because of the limited hours, limited locations, and the lack of confidentiality of SEPs. Moreover, based on an estimated 15,000 IDUs in King County injecting 3 times per day, SEPs alone cannot provide the approximately 17 million syringes needed countywide per year so that IDUs would have access to a sterile syringe for every injection.[1]

Washington State syringe access laws and regulations were amended in the years 1999–2002.[11] In 1999 the Washington State Board of Pharmacy determined that *legal use* "includes the distribution of sterile hypodermic syringes and needles for the purpose of reducing the transmission of blood-borne diseases." Based on the Washington Supreme Court's interpretation of the State's drug paraphernalia law, the pharmacy board specified that pharmacy syringe sales should "be performed through public health and community-based HIV prevention programs."[12] In 2002, Washington State amended its drug paraphernalia law to further clarify legal restrictions regarding syringes (RCW 69.50.4121 and 1998 c 317 s 1 and RCW 69.50.412 and 1981 c 48 s 2). The revised statute specifically exempts pharmacies from any penalties associated with syringe sale and allows individuals over the age of 18 to possess hypodermic syringes for the purpose of reducing blood-borne infections. Although pharmacists may now legally sell syringes, the pharmacy board continues to recommend that pharmacies enter into a programmatic relationship with public health agencies for this activity.

Public Health and Pharmacy Collaboration

In March 2001, Public Health–Seattle & King County (Public Health) began collaborating with community pharmacists to increase voluntary syringe sales to help prevent blood-borne infections. For each pharmacy, a pharmacy representative and the public health director sign a memorandum of understanding (MOU). The MOU recognizes the pharmacy as Public Health's "community partner" providing access to sterile syringes for disease prevention. Public Health agrees to provide (1) written materials for free distribution to customers, (2) free anonymous/confidential HIV and hepatitis counseling and testing at nearby sites, and (3) free training for pharmacy staff on blood-borne disease prevention. Participating pharmacies agree to (1) offer retail sale of sterile syringes to persons who use drugs by injection; (2) provide verbal and written information to customers concerning syringe disposal, blood-borne disease prevention, substance abuse treatment, and HIV counseling and testing; and (3) if needed, to request training from Public Health on blood-borne infection prevention. In 2001, in addition to community pharmacy activities, Public Health pharmacies began to sell syringes to anyone who requested them.

As of August 2002, Public Health had contacted 48 King County community pharmacies about collaborating in selling syringes to IDUs. Twenty-eight (58%) enrolled as Public Health partners. One has closed, and the remainder report that the collaboration has been positive and successful.

The response of pharmacy corporations has been mixed. One director of pharmacy, a national leader in increasing syringe access, instructed his King County district managers to assist Public Health. Another director, concerned about having her pharmacies advertised to IDUs, declined to participate stating that she would nevertheless educate individual pharmacy managers to sell to anyone requesting syringes. Staff of community pharmacies that declined participation expressed concerns that participating would attract IDUs who might be safety and security threats. Some pharmacists were not comfortable signing an MOU without consent from their corporate offices. One pharmacist adamantly opposed increasing syringe access, stating that providing access condoned drug use.

The Washington State Board of Pharmacy and the Washington State Pharmacist Association have assisted Public Health's recruitment efforts. One pharmacy manager personally recruited fellow managers and wrote a letter to King County pharmacists recommending participation.

Anecdotal reports from participating pharmacists and IDU suggest that pharmacies are selling syringes to IDUs. Public Health

proposes to recruit 50 additional pharmacies by spring 2003 and plans to assess pharmacy syringe sale practices by systematic attempts to purchase syringes from pharmacies.

Syringe Disposal

Public Health also established a program to help reduce the number of used syringes in the trash and solid waste. Individuals may give any quantity of used syringes to staff at 10 Public Health clinics and 7 SEPs for safe disposal as medical waste. Secure, steel syringe drop boxes have been installed outside 3 Public Health clinics and, through collaborative initiatives, outside 1 private Community Health Center. These enable individuals to discretely and safely dispose of syringes 24 hours a day. Public Health is considering placing a drop box at each of its other seven health clinics and at other Community Health Centers.

Public Health clinic managers have been overwhelmingly supportive, but some clinic staff were initially ambivalent about accepting used syringes for disposal. Through education focused on health promotion and disease prevention, by providing education about blood-borne infections, by challenging staff perceptions about IDUs, and by giving staff members the authority to coordinate syringe disposal procedures at their clinic, most staff became less fearful and embraced syringe disposal. Early indicators suggest that syringe disposal drop boxes installed in Public Health and Community Health Center clinics have been used properly. No adverse events have been reported from any of the clinics where drop boxes were installed.

Conclusion

Seattle and King County are served by active SEPs that exchange more than 2 million syringes a year. However, because some IDUs continued to share syringes, and because of the millions of additional syringes needed for IDUs to have a new, sterile syringe for each injection, Public Health wanted to expand pharmacy syringe sales to IDUs. The new policy of the Washington Board of Pharmacy and new state laws allowed pharmacists to expand syringe sales to IDUs. Public Health staff established working relationships with practicing pharmacists to promote such sales. The support of pharmacy leaders and institutions (the Board of Pharmacy and the Washington Pharmacy Association) have promoted pharmacist participation.

J Am Pharm Assoc. 2002;42(suppl 2):S26–7.

Received June 20, 2002, and in revised form September 5, 2002. Accepted for publication September 18, 2002.

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Additional information about pharmacy sale of syringes and safe syringe disposal in Seattle and King County, Washington is available at the Harm Reduction and Drug Use section on the HIV/AIDS Program Web site at www.metrokc.gov/health/apu.

- Syringe disposal at http://www.metrokc.gov/health/apu/resources/disposal.htm.
- Syringe access at http://www.metrokc.gov/health/apu/harmred/syringe_campaign.htm.

Mobilizing Public and Private Partners to Support New York's Expanded Syringe Access Demonstration Program

Susan J. Klein, Alma R. Candelas, and Guthrie S. Birkhead

Improved access to hypodermic needles and syringes (hereafter referred to as "syringes") through pharmacy sales without a prescription can help prevent blood-borne disease transmission among injection drug users (IDUs), their sex partners, and their children, as well as others who self-inject medications.[1–3] On January 1, 2001, the Expanded Syringe Access Demonstration Program (ESAP) went into effect in New York State.[4,5] ESAP offered to register pharmacies, health care facilities, and health care practitioners with the New York State Department of Health (NYSDOH) to sell or furnish up to 10 syringes without a prescription to persons at least 18 years of age.[6] ESAP was authorized through March 31, 2003, as a demonstration program. The legislation required an extensive independent evaluation.

Beginning in 2000, NYSDOH developed and implemented extensive outreach to promote and explain ESAP to secure the cooperation of agencies and organizations that could maximize ESAP's success.

This report provides a brief description of outreach to some key organizations.

Objectives

To communicate accurate information and promote ESAP in New York State.

Methods

We used a social marketing approach to identify goals, priority groups, and approaches for mobilizing partners from diverse sectors. We sought to tailor messages and methods of communication and to obtain feedback so that program strategies could be adjusted to meet the specific needs of others, such as pharmacists.

We aimed to (1) provide basic program information, (2) gather recommendations on how to structure regulations and program requirements pertaining to syringe access, safe disposal, and registration of eligible providers, (3) encourage referrals to participating ESAP providers, (4) engage local agencies and organizations in community-level systems of improved syringe access and safe disposal, (5) offer training, and (6) ensure access to information for program evaluation. Not all goals were pertinent to each sector. For example, goals related to suggestions on regulations and provider registration were particularly relevant to pharmacies and other eligible providers.

Our priorities for outreach included pharmacies, health care facilities, health care practitioners, legal/law enforcement agencies, local public health departments, human immunodeficiency (HIV)/acquired immunodeficiency syndrome (AIDS) prevention providers, diabetes educators and associations,[7] DOH planning or advisory bodies, and state agencies.

We conducted two mailed surveys, one to gather pharmacists' perspectives on ESAP regulations and requirements[8] and a second to gather information about syringe disposal from health care facilities required to operate sharps disposal programs.[9]

Results

Pharmacists

Pharmacists and pharmacy organizations were key ESAP partners. We collaborated with the New York State Education Department (SED), which licenses pharmacists, and the Pharmacists Society of the State of New York (PSSNY), and we met with pharmacy leadership. The SED, the PSSNY, and New York State-based schools of pharmacy supported ESAP and communicated to individual pharmacists.

Comments from the NYSDOH survey of 4,395 licensed pharmacies in New York State, which was conducted in July and August 2000,[8] were considered in developing the ESAP regulations that became effective March 7, 2001. Every corporation operating pharmacies in the state was contacted concerning potential participation in ESAP. NYSDOH developed a streamlined registration process for corporately owned pharmacies and provided personalized assistance to those seeking to register multiple pharmacies in ESAP.

State Agencies

Outreach to state agencies, individually and through such mechanisms as the Governor's Interagency Task Force on AIDS, resulted in a high level of interagency collaboration. Ten other New York State government agencies (in addition to NYSDOH) were involved in ESAP implementation. Involvement of other state agencies as avenues for active outreach to, for example, law enforcement was particularly valuable. New York State's Division of Criminal Justice Services (DCJS) and the New York State Commission of Corrections, and the New York State Police provided law enforcement officials with written guidance on the amendments to the Public Health Law that created ESAP. They also explained how ESAP interfaces with provisions of the Penal Law, which was not modified by ESAP legislation. In addition, the DCJS agreed to provide criminal activity data for ESAP evaluation.

Local Health Departments

NYSDOH contacted local health departments directly and through the New York State Association of County Health

Officials. Many local health departments promoted ESAP within their communities, providing information about ESAP to local residents and health and human service providers through news releases, fliers, brochures, presentations, and county-specific ESAP "resource directories" for syringe access and safe disposal. Some expanded options for safe syringe disposal. Several reached out to other local government agencies and providers (similar to the outreach by NYSDOH to other state agencies).

Discussion

Our approach involved multiple outreach strategies. We identified relevant sectors, actively solicited recommendations, engaged professional organizations, employed multiple methods of communication, reached out to corporate contacts for pharmacy chains, and developed training and technical assistance to meet specific needs.

Mobilizing public and private partners for optimal public health impact of ESAP is a continuing priority for NYSDOH. We built upon these early experiences and expanded outreach even further. We also employed multiple strategies to inform consumers about ESAP and initiated several projects to promote safe disposal of syringes used outside of health care settings.[9]

Conclusion

NYSDOH began an extensive outreach program to engage public and private sector organizations in maximizing ESAP's success. These efforts offer models for other states implementing expanded syringe access initiatives and similar public health programs.

J Am Pharm Assoc. 2002;42(suppl 2):S28–9.

Received June 11, 2002, and in revised form September 12, 2002. Accepted for publication September 18, 2002.

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The authors declare no conflicts or interest or financial interests in any product or service mentioned in this article.

Acknowledgments: This work was supported by the Centers for Disease Control and Prevention HIV Prevention Cooperative Agreement U62\CCU202061-16 (Guthrie S. Birkhead, principal investigator) with Health Research, Inc. and the New York State Department of Health. The authors appreciate the review of this manuscript by T. Stephen Jones, MD, and Jennifer Taussig, MPH, Division of HIV/AIDS Prevention–IRS, Centers for Disease Control and Prevention, and Phillip Coffin, MIA, New York Academy of Medicine.

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Maximizing the Benefits of Expanded Syringe Access and Safe Disposal for Persons with Diabetes

Susan J. Klein, Maureen S. Spence, Rita A. Fahr, and Hope A. Plavin

Increasing access to sterile syringes is a well established intervention to prevent transmission of human immunodeficiency virus (HIV) and other blood-borne infections among injection drug users (IDUs).[1] The additional benefits of syringe access initiatives to individuals who are not IDUs are less well documented. The Expanded Syringe Access Demonstration Program (ESAP) is a New York State initiative to prevent the spread of blood-borne diseases, particularly HIV and hepatitis B and C, by providing access to sterile hypodermic needles and syringes (hereafter referred to as "syringes") without a prescription and improving options for safe disposal of used syringes.[2,3] Consistent with legislative intent, the New York State Department of Health (NYSDOH) prioritized the development of messages, materials, and methods to promote syringe access and safe disposal to IDUs. During program implementation, the benefits of ESAP to other syringe users became apparent.

Syringe Access and Safe Disposal for Persons with Diabetes

While a wide range of treatments require self-injection of pharmaceuticals, diabetes affects the largest number of people. As of 1999, in New York State an estimated 832,000 adults age 18 years and older had diabetes and diabetes was the seventh leading cause of death.[4] According to the Centers for Disease Control and Prevention (CDC), 5% to 10% of all diagnosed cases of diabetes are type 1, the management of which requires several injections of insulin per day.[5] These data suggest that between 41,600 and 83,200 individuals in New York State have type 1 diabetes. In addition, 40% of persons with type 2 diabetes, approximately 300,000 individuals in the state, inject insulin.[5] We estimated that people with diabetes use approximately 250 million syringes each year in the state of New York.

Most individuals with diabetes have access to sterile syringes through prescriptions provided by their medical care providers. A prescription often enables individuals to purchase a large quantity of syringes, with insurance covering most of the cost. The availability of syringes without a prescription through ESAP provides a safety net for individuals who may need to purchase syringes when traveling or who may need a short-term supply of syringes.

ESAP's emphasis on safe syringe disposal also benefits persons with diabetes. Studies at Grady Memorial Hospital in Atlanta found that most individuals with diabetes failed to use puncture-resistant containers at home or away from home and disposed of their used syringes in household trash; accidental needle-stick injuries among housemates were reported.[6,7] A 1989 study of 100 HIV-infected individuals with diabetes in New York City revealed that 83% disposed of their needles directly into the trash. Only 14% stated they used a puncture-resistant container.[8]

Finally, while diabetes educators "provide necessary skills and education for individuals with diabetes…, safe disposal practice...has not been consistently included in the agenda of diabetes educators."[9(p321)] We identified a need to reach out to diabetes educators to inform people with diabetes about syringe access and safe disposal options through ESAP.

NYSDOH Response

Within NYSDOH, the AIDS Institute (which has lead responsibility for ESAP) and the Diabetes Control and Prevention Program (DCPP) have collaborated on strategies to assure that persons with diabetes also benefit from ESAP. First, we established routine meetings of AIDS Institute and DCPP staff regarding ESAP. Day-to-day communications around specific work projects and products ensued. We collaborated on materials development, letters, and presentations to the diabetes community. Support of NYSDOH senior management, the CDC, and an Advocacy Director of the National American Diabetes Association facilitated the interdisciplinary collaboration.

Second, we corresponded with the New York State chapters of the American Diabetes Association and Juvenile Diabetes Research Foundation, providing updates on ESAP. The DCPP sent an e-mail letter about ESAP to over 400 participants in a statewide diabetes listserv and we presented an ESAP overview at the American Diabetes Association Task Force meeting.

Third, we promoted involvement of diabetes programs and educators in several community-based syringe access and safe disposal demonstration projects. Staff from the DCPP participated in statewide demonstration project meetings. These projects provide unique opportunities to design and develop locally tailored syringe access and safe disposal programs. One example is a project in Amsterdam, a town in upstate New York, in which Centro Civico, an HIV/acquired immunodeficiency syndrome (AIDS) community-based organization, developed Project Needle Smart with an independent pharmacy (Tag's) and a hospital (St. Mary's). Project staff distributed sharps containers at no cost, developed a multimedia informational campaign, and helped assure that all county pharmacies were registered with ESAP. Tag's Pharmacy installed a sharps collection kiosk, which St. Mary's Hospital maintains. At the kick-off event, several persons with diabetes expressed their appreciation for this new program.

Fourth, we developed a brochure specifically for diabetes educators and persons with diabetes and their families. We created a poster for a general audience addressing safe disposal for use in diabetes clinics, pharmacies, and other provider settings and updated a consumer brochure entitled *Household Sharps–Dispose of Them Safely*. The DCPP provided a sample article about ESAP to local diabetes coalitions statewide for use in their newsletters. A hotline for persons with diabetes with information about obtaining and disposing of syringes is being developed and staff from both programs are developing training, messages, and resource information for hotline operators.

Finally, we convened diabetes educators from all regions of New York State to: (1) provide them with basic information on ESAP, (2) identify optimal approaches to inform the diabetes community about ESAP, and (3) examine ways to evaluate the impact of ESAP on the diabetes community. In the opening remarks, a person with diabetes described her personal experience of being stranded in New York City without necessary supplies, including syringes, when a prescription was still required, a powerful affirmation of the relevance of ESAP to persons with diabetes. The diabetes educators who attended provided feedback on materials being developed. We are creating a 15- to 20-minute videotape and trainers' manual to be used to train diabetes educators and providers about expanded syringe access and safe disposal options.

Linking ESAP and Diabetes

Linking AIDS Institute and DCPP staff allowed us to accomplish a great deal in a short period of time. We found that messages

and methods designed for IDUs needed to be adapted to the needs of individuals with diabetes, their families, diabetes educators, and other diabetes providers. Diabetes educators and others in the diabetes community had strong negative reactions to ESAP materials tailored to the needs of IDUs. Persons with diabetes do not want to be confused with or identified as IDUs. Public perceptions about HIV/AIDS also meant that use of already-existing statewide HIV/AIDS hotlines that routinely provide ESAP-related information was not an appealing option for the diabetes community, nor was access to ESAP information on the NYSDOH Web site through the "HIV/AIDS" portion of the site. Alternatives had to be found for the program to be effective.

Diabetes educators were interested in learning about ESAP and provided feedback on a consumer brochure and training needs and strategies. They believed their patients could benefit from easier access to syringes and improved disposal options and indicated that they would utilize materials that effectively addressed these needs.

We also engaged endocrinologists and clinical care centers. When we discussed ESAP via telephone conference call with the NYSDOH-designated "Diabetes Centers of Excellence," endocrinologists identified safe disposal as a major challenge that they and their patients face. We offered to develop the safe disposal poster, noted above, and agreed to collaborate on a survey regarding disposal practices, to be implemented at the Centers of Excellence. AIDS Institute staff has identified other clinical facilities interested in implementing the survey.

Conclusion

We have found that ESAP, a program that was intended for IDUs, has wider benefits potentially involving hundreds of thousands of New York State residents who use syringes to inject insulin. They can now purchase up to 10 syringes at a time, without a prescription, and they benefit from new, improved options for safe syringe disposal. Through collaboration between NYSDOH program areas and with the larger diabetes community, we were able, in a short period of time, to generate new educational programs and materials tailored to the interests of people with diabetes. The diabetes community has enthusiastically embraced ESAP-related efforts to enhance the availability and safe disposal of syringes.

J Am Pharm Assoc. 2002;42(suppl 2):S29–31.

Received June 11, 2002, and in revised form September 12, 2002. Accepted for publication September 18, 2002.

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The authors declare no conflicts of interest or any financial interests in any product or service mentioned in this article.

Acknowledgments: We greatly appreciate the support and efforts of our colleagues within the New York State Department of Health who have worked together, across disciplines, in a partnership between HIV/AIDS and diabetes prevention and control. Specifically, we appreciate the ongoing assistance of Alma Candelas, Richard Cotroneo, Jay Cooper, Wendy Gould, Dave Hoffman, Gloria Maki, Dan O'Connell, Laura Shea, and Ileene Mills-Yashpeh.

This work was supported by funds from the Centers for Disease Control and Prevention HIV Prevention Cooperative Agreement U62\CCU202061-16 (Guthrie S. Birkhead, principal investigator) to Health Research, Inc. and the New York State Department of Health.

The authors appreciate the review of this manuscript by Guthrie S. Birkhead, MD, MPH, Director, AIDS Institute and Center for Community Health, New York State Deparment of Health; Andrea Small of the AIDS Institute; Elizabeth Berberian and David Hoffman of the New York State Deparment of Health Bureau of Chronic Diseases, Center for Community Health; T. Stephen Jones, MD, Division of HIV/AIDS Prevention–IRS, Centers for Disease Control and Prevention; and Phillip Coffin, MIA, New York Academy of Medicine.

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Encouraging Pharmacy Sale of Syringes to Injection Drug Users in New Mexico

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Injection drug use is a prominent public health problem in both urban and rural New Mexico.[1] The New Mexico legislature enacted laws in 1997 and 2001 to help increase sterile syringe availability to injection drug users (IDUs) to prevent transmission of human immunodeficiency virus (HIV) and other blood-borne pathogens. The 1997 laws authorized syringe exchange programs (SEPs) in New Mexico, and the New Mexico Department of Health (DOH) supported the development of a statewide SEP network. Based on enrollment surveys as of June 19, 2002, 20 SEPs were operational and served a total of 4,628 clients.

Some IDUs have purchased syringes at community pharmacies, including those in areas served by SEPs. In the parts of New Mexico without access to SEPs, pharmacies have been a particularly important source of sterile syringes. In 2001, to alleviate the concerns of some pharmacists that selling syringes to IDUs might not be fully legal, the state legislature amended the Controlled Substances Act to specifically exempt pharmacists from criminal liability for selling syringes to persons who did not have documented medical need.

Pharmacy Project

In 2001 DOH's Infectious Disease Bureau initiated a "Pharmacy Project" to encourage pharmacy owners, managers, and staff to sell sterile syringes to persons who might be IDUs. The project goals were to (1) assess the attitudes of pharmacists about selling syringes to persons they believe to be IDUs, (2) encourage pharmacists to sell syringes to persons who might be IDUs, and (3) encourage pharmacists to refer customers who might be IDUs to SEPs. DOH also published a brochure describing how pharmacists could become involved in improving access to sterile syringes in their communities and mailed the brochure to all state-licensed pharmacies. The Infectious Disease Bureau mailed all licensed pharmacies a copy of the new pharmacy law and a letter encouraging them to view selling syringes to IDUs as one way to reduce transmission of HIV and viral hepatitis.

In 2001 there were 486 pharmacies in the state. As the principal activity of the Pharmacy Project, we selected 100 pharmacies in areas that lacked convenient access to SEPs and that, based on consultation with HIV prevention and drug treatment specialists, had high levels of drug use. In May and June 2001, a DOH representative visited these pharmacies and met with pharmacy owners and managers to determine their level of understanding about efforts to improve syringe availability and to encourage their participation in selling syringes to IDUs in their community.

The DOH representative spoke to the owner or manager at 70 pharmacies and to an on-duty staff pharmacist at 30. The responses of owners/managers and staff pharmacists were similar.

Many Pharmacists Unaware of New Pharmacy Law

Before DOH's visit or mailing, 52 pharmacists did not know about the changes in pharmacy law. Many pharmacists believed that it had always been legal to sell syringes to customers who did not have documented medical need. After the DOH representative explained the new law, most pharmacists applauded the change.

Although most pharmacists were reluctant to report on community drug use based solely on their observations of pharmacy customers, 67 pharmacists believed that their community had at least some injection drug use problem and 3 reported no problem. Eighty-seven pharmacists reported past requests for syringes by customers lacking documented medical need. Many pharmacists offered unsolicited reports of having sold syringes to customers without documented medical need. Many pharmacists expressed the belief that providing a sterile syringe for an illegal activity was justified because it could reduce disease transmission. Of the six pharmacists who stated they had not had requests for syringes, two did not sell syringes at all, two reported that they did not know of IDUs in their communities, and two refused to do business with persons they believed injected illegal drugs.

Sixty-five pharmacists stated that as a result of the new law, they were more willing to sell syringes without a prescription; 27 that they might be more willing; and 8 that they still were not willing. These "unwilling" pharmacists were in communities that had at least one other pharmacy that was willing to sell syringes. Among those pharmacists who might be more willing, all stated they would sell syringes on a case-by-case basis.

Pharmacists Unaware of SEPs

Pharmacists were asked about their knowledge of SEPs in the state. Twenty-two pharmacists said they had at least some knowledge of SEPs and 78 reported little or no knowledge. During all pharmacy visits, the DOH representative provided an overview of syringe access initiatives. Ninety-one pharmacists were interested in more information about the Pharmacy Project and other harm-reduction activities and seven referred the DOH representative to their owner/manager. The two pharmacists who did not want additional information worked at pharmacies that turn away suspected drug users at the door. Most pharmacists were very interested in brochures about harm-reduction sites in their community that they could give to persons they believed could benefit from the program.

Safe Syringe Disposal

The DOH representative also discussed options for safe syringe disposal. At the start of the project, a sharps container was offered to any pharmacy that indicated they were willing to have customers bring in loose used syringes; the local health department office would collect and dispose of the containers when full. Twenty-six sites were offered a sharps container and nine accepted. However, DOH suspended this part of the program to investigate a more comprehensive syringe disposal program. At the time of publication, DOH was considering disposal using repainted "drop boxes" at fire stations and public health offices. One local public health office was willing to have a disposal drop box put at their office and another was interested in placing a sharps container in the office that could be used by customers.

Conclusion

Before DOH intervention, pharmacists were not well informed about SEPs or the pharmacy law change. DOH outreach to pharmacists was well received. Similar public health department outreach to pharmacists may be helpful in other states to increase pharmacist knowledge and acceptance of programs to increase IDU access to sterile syringes as part of public health interventions to prevent blood-born disease transmission.

J Am Pharm Assoc. 2002;42(suppl 2):S32–3.

Received June 28, 2002, and in revised form, September 19, 2002. Accepted for publication September 23, 2002.

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PROVISIONAL RECOMMENDATIONS

Provisional Recommendations to Drug Users Who Continue To Inject

Health care workers involved in programs that serve drug users should communicate the following recommendations to drug users who continue to inject. Adhering to these drug preparation and injection procedures will reduce the public health and individual health risks associated with drug injection for both drug users and other persons in their communities.

Persons who inject drugs should be regularly counseled to:

I. Stop using and injecting drugs.

II. Enter and complete substance abuse treatment, including relapse prevention.

III. Take the following steps to reduce personal and public health risks, if they continue to inject drugs:

- Never reuse or "share" syringes, water, or drug preparation equipment.
- Use only syringes obtained from a reliable source (e.g., pharmacies).
- Use a new, sterile syringe to prepare and inject drugs.
- If possible, use sterile water to prepare drugs; otherwise use clean water from a reliable source (such as fresh tap water).
- Use a new or disinfected container ("cooker") and a new filter ("cotton") to prepare drugs.
- Clean the injection site prior to injection with a new alcohol swab.
- Safely dispose of syringes after one use.

United States Public Health Service. HIV prevention bulletin: medical advice for persons who inject illicit drugs. May 8, 1997. Available at: www.cdc.gov/idu/pubs/hiv_prev.htm. Accessed October 30, 2002.

Pharmacy Student Knowledge, Attitudes, and Beliefs About Selling Syringes to Injection Drug Users

Wendy J. Blumenthal, Kristen W. Springer, T. Stephen Jones, and Claire E. Sterk

Objective: To explore pharmacy school education and pharmacy students' knowledge, attitudes, and beliefs about human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS), drug use, and syringe sales to injection drug users (IDUs). ***Design:*** Qualitative study of a convenience sample of pharmacy school students. ***Setting:*** A pharmacy school in the southeastern United States. ***Intervention:*** Two focus groups and nine in-depth interviews were conducted about HIV/AIDS education and counseling, syringe sales to possible IDUs, and related pharmacy school education. ***Participants:*** 19 Doctor of Pharmacy students, including 88 students in their third professional year and 11 in their fourth professional year. ***Results:*** Most participants believed that they would benefit from more class time on HIV/AIDS topics, including AIDS treatment medications and HIV prevention. Most participants believed that the laws and regulations governing syringe sales in their state were vague, leaving syringe sale decisions to pharmacists' discretion. Nine study participants supported selling syringes to possible IDUs, five opposed it, and five were undecided or ambivalent. Classroom education focused on addiction to prescription drugs, with limited attention to illicit drug use. ***Conclusion:*** Pharmacy students have divided opinions about selling syringes to IDUs. To prepare students for helping their patients with drug-use problems, pharmacy schools should increase training about HIV/AIDS and addiction. Policy makers should consider changing laws and regulations of syringe sales to recognize prevention of blood-borne infections as a legitimate medical purpose for selling syringes to IDUs.

J Am Pharm Assoc. 2002;42(suppl 2):S34–9.

Injection drug use is a major risk factor for human immunodeficiency virus (HIV) transmission in the United States.[1] As of June 2001, 29% of adult acquired immunodeficiency syndrome (AIDS) cases in the United States were associated directly or indirectly with injection drug use.[2] A comprehensive approach to HIV prevention among injection drug users (IDUs) includes advising those who continue to inject drugs to use sterile syringes obtained from a reliable source such as a pharmacy. However, many IDUs obtain syringes from street sources (e.g., needle dealers, other IDUs, shooting galleries) rather than from pharmacies or syringe exchange programs.[3–4] Laws, pharmacy regulations, and pharmacists' attitudes and beliefs influence whether IDUs can purchase sterile syringes at pharmacies.[5–7]

In the state where this study was conducted, a prescription is not required for pharmacy syringe sales. The state pharmacy board prohibits pharmacists from selling syringes if the pharmacist believes the syringes will be used for an unlawful purpose. The state drug paraphernalia law prohibits the sale, distribution, or possession of paraphernalia used to consume drugs, including syringes. To be in violation of the drug paraphernalia law, the person selling a syringe has to know that it would be used to inject illegal drugs.[8] There are no known reports of pharmacists prosecuted under such a provision in any jurisdiction in the United States (S. Burris, personal communication, April 2002).

Objectives

The objectives of this study were to explore pharmacy school education and pharmacy students' knowledge, attitudes, and beliefs about HIV/AIDS, drug use, and syringe sales to IDUs. To our knowledge, this is the first such study of U.S. pharmacy students.

Received June 12, 2002, and in revised form August 23, 2002. Accepted for publication August 26, 2002.

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Methods

We used e-mail, flyers, and in-class announcements to recruit participants from students in their third and fourth professional years in a Doctor of Pharmacy program at a pharmacy school in the southeastern United States. Between November 1997 and March 1998, after obtaining informed consent, we conducted nine in-depth interviews and two focus groups of five participants. The 45- to 90-minute interviews and focus groups were conducted in private rooms at the pharmacy school. We provided participants with a meal or cash compensation ($5 to $15) for their time. We included questions about HIV/AIDS education and counseling, selling syringes to possible IDUs, and pharmacy school education related to HIV/AIDS, drug use and addiction, and selling syringes. For example, one interview question asked, "*How do you personally feel about the idea of selling syringes to persons who might be injection drug users?*" Readers can obtain copies of the interview and focus group guide questions by contacting the corresponding author.

Sessions were recorded by audiotape and transcribed. The guides for these focus groups and interviews were adapted from findings of studies of pharmacists[9–16] and further refined as themes emerged. Using transcripts from the first three interviews and the first focus group, one researcher developed a coding scheme guided by the research questions and based on important themes in the data. Two other researchers used this coding scheme to code one interview, and some alterations were made in the scheme. The three researchers then coded three more interviews using this revised scheme, and found strong similarities, suggesting interrater reliability. Qualitative data management software (The Ethnograph, Qualis Research Associates, Salt Lake City, Utah) was used to organize the data for coding and analysis. The names used in this report are not the participants' real names.

The Emory University Human Investigations Committee approved the study proposal and consent forms on October 30, 1997.

Results

The convenience sample of 19 students included 8 students in their third professional year and 11 students in their fourth professional year. The participants ranged in age from 22 to 38 years, and 89% were women. All participants had worked in pharmacies as interns or employees. Four (21%) reported working in a pharmacy they believed to be in an area with a high or very high level of injection drug use; however, 12 (63%) had worked in pharmacies in areas with low, little, or no drug use.

Pharmacy School HIV/AIDS Education

Most participants recalled lectures on the epidemiology, physiology, pathology, and treatment of HIV/AIDS. Several recalled classroom discussions about HIV transmission but limited information on HIV prevention. One participant described a discussion about reducing syringe sharing among IDUs to prevent HIV transmission.

Most participants suggested that more class time be spent on HIV/AIDS topics, such as opportunistic infections, organ systems affected by HIV, HIV prevention, and more in-depth coverage of AIDS treatment medications. One participant expressed a need for more exposure to the "personal side" of HIV/AIDS, for example, hearing from people living with HIV. Another recommended incorporating HIV prevention (e.g., talking about condoms or syringes) into a laboratory class discussion.

Knowledge, Attitudes, and Beliefs About Drug Use, IDUs, and Addiction

According to the participants, issues of injection drug use and addiction received limited class time. Discussion related to addiction focused on detecting forged prescriptions for controlled substances and the risk for addiction among pharmacists and other health professionals. Discussions of substance abuse treatment were limited to treatment programs for pharmacists.

A few participants reported class discussions about how pharmacists can respond to and counsel addicted patients. One participant recalled a lecture about the role of pharmacists in intervening with addicted persons. Others recalled being taught they cannot help people who do not want to help themselves.

Some participants expressed varying degrees of intolerance of drug use, ranging from beliefs that drug use is wrong, a poor choice, or stupid, to the following more extreme view:

> *I may be really insensitive, but I think—and this is my personal opinion; I'm sure no one else thinks this—but if they are dumb enough to get themselves in that situation, I don't have any pity for them…If they're low enough to use an illicit drug, that's their problem.*
>
> —Alicia, third year

Some expressed beliefs that drug users were a homogeneous group, referring to IDUs as "they" and "drug abusers." Many participants expressed negative views of drug users by describing their appearance as "matted hair and goopy make-up," and "tattered and…rail thin." One participant labeled drug users as "scuzzballs" and "weirdoes." Some voiced concerns about the dangers that drug users might pose to pharmacists, staff, other customers, and the general community, fearing robberies, attacks, "raising a scene," and car crashes.

A contrasting opinion was that pharmacists should not make moral judgments. One participant spoke at length about society's lack of sympathy for, and intolerance of, IDUs compared with users of legal substances such as alcohol, as follows:

> *I guess using drugs, unlike using alcohol, is not really considered a disease…. There's been more sympathy in the eyes of the public and health care workers for the alcoholic. I don't think there's that same sympathy for the IV drug user…I don't think it's a desired lifestyle. I don't think it's something that*

somebody gets up every day and wants to do it…If it's a physical addiction…is that a choice? I don't think so.

—Mary, fourth year

Pharmacists' Role in Counseling and HIV/AIDS Education

Of the participants who discussed counseling, most believed that part of the pharmacist's responsibility is to promote health, educate, and counsel patients. One participant described counseling about medications and their adverse effects. Some spoke specifically about the desire to see an expanded pharmacist role in health education.

I'd like to see the pharmacist get away from dispensing and play a very large role in health education. I think doctors are overwhelmed right now, and I think we're a valuable source of information, not to replace, but to work with doctors and nurses… I'd love to see them get away from the traditional dispensing.

—Mary, fourth year

Participants brought up a number of barriers to providing HIV/AIDS education and counseling. Concerns raised most frequently were lack of privacy for conversations and possible patient embarrassment. Greater privacy would make it easier to provide HIV/AIDS counseling. There was also the concern that offering HIV/AIDS prevention messages could offend some patients. Participants believed that pharmacists should be prepared to provide HIV/AIDS information and counseling if requested, but that they should not do so unsolicited.

Knowledge, Education, and Interpretation of Syringe Sale Laws and Regulations

Most of the fourth-year participants, who had completed relevant classes such as Law and Ethics, recalled limited class discussion regarding selling syringes; they recalled an ethics debate and a discussion of requirements to sell syringes for "legitimate medical purposes." However, most of the participants were either unfamiliar with or unclear about the state laws and regulations governing selling syringes.

After the interviewer read the laws and regulations, participants were asked for their reactions and interpretations. Most viewed the law as vague, leaving syringe sale decisions up to the pharmacist's discretion. Some participants were particularly frustrated by the position in which they would be placed because of the law's lack of clarity.

That's…leave it up to you open-ended interpretation. Unlawful purpose, you know, that's still, still asking pharmacists to make a moral judgment…The laws are just not realistic.

—Kelly, fourth year

Several study participants preferred that decisions about selling syringes be taken out of their hands. Some felt that the current situation places an "unfair burden" on the pharmacist by leaving the decision to pharmacist discretion. Several participants in favor of selling syringes to IDUs would prefer clearer guidance from the laws and regulations.

The fact that our society is plagued with drug use is a bad sign of our society, but it's not fair for the pharmacist to have to decide…"It's okay to sell to this person, but it's not okay to sell to that person." People who use drugs, if they want to use needles to do their drugs then they should be able to go some place and get needles.

—Angela, fourth year

Many participants would have liked clearer guidance from the state government and board of pharmacy. Some wanted support for refusing to sell syringes, and others would feel more comfortable selling syringes to IDUs if they knew that state law and/or the pharmacy board would back them up.

I think that if the law were more supportive of doing it, that probably more pharmacists would do it; but I think because we're put in a position of having to determine the legitimate medical need that a lot of pharmacists don't want to be bothered with having to figure it out.

—Jill, fourth year

Attitudes and Beliefs About Selling Syringes

When asked for their personal opinions about selling syringes to possible IDUs as an HIV-prevention strategy, nine participants supported this strategy, five opposed it, and five were undecided or ambivalent.

So by all means, sell them. Sell them by the truckload. They ought to be free, you know? AIDS is such an amazing epidemic; it's just growing every day. And if we can do this, pharmacists can do this small part, then take this role and help prevent the spread of this disease. I'd give them out on the street corner, free.

—Kelly, fourth year

Others did not believe pharmacy syringe sales would prevent syringe sharing or HIV transmission. They believed that providing a sterile syringe to an IDU would not prevent that person from reusing the syringe and passing it on to other IDUs. Most of those who opposed selling syringes to IDUs believed that it condones or promotes drug use.

If [drug use] was never a problem in the first place, we wouldn't have to deal with it. I know it always will be, but I just can't see promoting it by giving out syringes.

—Alicia, third year

Another strong belief for those who opposed selling syringes to IDUs was that selling syringes conflicted with their view of the pharmacist as a health care professional. One participant, who believed that selling sterile syringes to IDUs would probably help prevent HIV transmission, felt that doing so violated the pharmacist's oath.

Unless someone had a documented medical reason to use

them, I'm not going to give it out because I think I'm allowing somebody potentially to…open the door for potential abuse of a drug; and as a pharmacist, that's against my oath. That's against my whole practice.

—Jonathan, third year

Concerns about selling syringes reflected the negative perceptions of drug users. A few participants made general statements about not wanting "that type of person" to come into the pharmacy. Both supportive and opposed participants were concerned about gaining a reputation as the "neighborhood needle supplier."

I wouldn't want those scuzzballs coming into my store and hanging around because then, I mean, they tell all their other little druggie friends, "Oh yeah, that person sells me needles," and then, you know, they all come in.

—Julie, fourth year

Not all participants expressed these concerns. One had few reservations and believed strongly that refusing to sell syringes to certain individuals would reflect an inappropriate moral judgment about drug use.

I'm not concerned about…you know, drug abusers keep coming into my pharmacy. If they want to keep coming, fine. You know, if they need syringes, fine; they may have them; I will sell them to them. I don't have any concerns about that at all.

—Kelly, fourth year

Some participants viewed selling syringes as not only an opportunity for HIV/AIDS prevention, but also for drug-use counseling. The chance and even obligation to intervene by offering help or providing referrals to substance abuse treatment or other services were discussed a number of times. Some thought that selling syringes to IDUs must be accompanied by counseling.

Discussion

Our findings suggest that pharmacy students' attitudes and beliefs about selling syringes to IDUs are similar to those of practicing pharmacists. Individuals from both groups support, oppose, or are uncertain about selling to IDUs. Like pharmacists, these students had strong beliefs and opinions for or against selling syringes to IDUs, and some were concerned about a potential negative effect on other business.[6,7,17,18]

Many participants requested clearer guidance from state law and the board of pharmacy. Practicing pharmacists have made similar requests for clearer legal and regulatory policies about selling syringes to IDUs.[6,7,17] The Washington State Board of Pharmacy has amended its regulations to specify that selling syringes to prevent blood-borne disease transmission is a legitimate purpose for such sales,[19] and the board in Maine clarified state law by stating that pharmacists are expected to sell nonprescription syringes to all customers.[20]

A few participants believed that selling syringes would violate their professional ethics as pharmacists. In fact, leading pharmacy and medical organizations—including the American Pharmaceutical Association, National Association of Boards of Pharmacy, and American Medical Association—issued a joint statement in 1999, *HIV Prevention and Access to Sterile Syringes*.[21] The statement clearly supports increasing access to sterile syringes for IDUs with the closing point that the sponsoring organizations "believe that coordinated efforts of state leaders in pharmacy, public health, and medicine are needed to address access to sterile syringes as a means of preventing further transmission of blood-borne diseases."[21] Each association has established policies supporting increasing access to sterile syringes[21]; since 1987, 11 states have deregulated the sale or possession of a least some number of syringes.[5]

Findings also highlight topics that could be included in a comprehensive pharmacy curriculum designed to address the issues related to addiction and the prevention of blood-borne infections. First, students could benefit from more information about drug use and addiction, particularly to dispel stereotypes of drug users. Participants who expressed negative views about the character, appearance, and behavior of IDUs were more often opposed to selling syringes to IDUs. Those who favored selling syringes to IDUs had the most tolerant views of drug users. Many studies of pharmacists' attitudes have found similar relationships between attitudes toward IDUs and support or opposition to selling syringes to them.[6,10,11,22] Pharmacy school emphasis on vigilance to detect bogus prescriptions for controlled substances may contribute to the negative views of drug users.

A second component of the curriculum could be enhanced instruction and discussion on HIV/AIDS prevention. Some participants believed that selling syringes promoted drug use or that increased syringe access would not reduce the risk of HIV/AIDS transmission. However, a number of studies have shown that improved access to sterile syringes does reduce the risk for HIV/AIDS transmission and does not increase drug use.[23–25] Some studies showed that IDUs engage in less frequent syringe sharing when they obtain their syringes in pharmacies.[26–28] Professional or continuing education programs for pharmacists about HIV/AIDS prevention, including the sale of sterile syringes, should address the concerns raised by participants.

Concerns about pharmacy staff safety and the effect on other customers agree with findings from surveys of pharmacists.[11,12] Pharmacy education could provide students with data about positive experiences of pharmacists who sell syringes, as well as data from studies that discuss negative incidents and other effects of selling syringes on pharmacies.[13–16]

In recent years pharmacists have been developing new initiatives to provide more direct patient care, including health promotion and disease prevention (e.g., influenza immunizations).[29] HIV/AIDS counseling and prevention could be a major component of this expansion.[9,30] Most participants in our study believed that pharmacists should play a key role in counseling. Thus, pharmacy schools could also discuss HIV prevention and syringe sales in the context of the pharmacist's role in counseling patients, including those with drug addictions. At the same time, however,

pharmacy school education should address the perceived barriers to providing HIV/AIDS risk-reduction messages in the pharmacy; whether the perception about customers' discomfort regarding HIV/AIDS counseling is accurate or not, private counseling areas in pharmacies may help to overcome this barrier.

Limitations

First, this study used a convenience sample of a small number of students from one school; its findings may not be generalizable to all students at this or other pharmacy schools. Second, including students in their third professional years of study may have led to an incomplete picture of the coverage of these topics in the school of pharmacy classes. Third, participant recall of class content may not have been accurate. Nonetheless, the qualitative research methods used in this study provided in-depth information on a topic not previously studied among pharmacy students.

Conclusion

Our study of pharmacy students supports the findings of studies of practicing pharmacists. It reinforces the need for a collaborative effort between public health and pharmacy agencies to increase pharmacy syringe sales to IDUs as part of a comprehensive HIV-prevention strategy. As pharmacists move away from simply dispensing medications and toward increasing involvement with patients and development of settings more conducive to discussion of sensitive topics (including addiction, injection drug use, and HIV/AIDS prevention), pharmacy students should be more aware that selling syringes to IDUs for disease prevention has a legitimate medical purpose. It is equally important to focus on changes and clarifications to the laws and regulations governing syringe sales. Clear guidance that selling syringes to prevent blood-borne infections among IDUs is accepted and recommended by pharmacy boards and legal authorities should help pharmacists choose to make such sales.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

Preliminary data for this paper was presented as "Blumenthal W, Jones TS, Sterk C, Springer K, Nykamp D. Policy implications related to pharmacy students' knowledge, attitudes, beliefs and intentions regarding the sale of sterile syringes to IDUs: a qualitative study. *1999 National HIV Prevention Conference.* Atlanta, Ga. August 29–September 1, 2001; Abstract 435," and "Blumenthal W, Jones TS, Sterk C, Springer K, Nykamp D. Pharmacy Students' Knowledge, Attitudes, and Beliefs Regarding HIV/AIDS, Injection Drug Use and the Sale of Sterile Syringes: A Qualitative Study. *1998 Georgia Public Health Association Annual Meeting.* Jekyll Island, Ga. September 1998."

We would also like to thank Jennifer Taussig for her assistance in design of this study, and Phillip Coffin and P. Lynne Stockton for their editing assistance.

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ON ACCESS TO STERILE SYRINGES

October 1999

HIV Prevention & Access to Sterile Syringes

Dear Colleague:

Approximately one third of all AIDS cases and one half of hepatitis C cases are directly or indirectly linked to injection drug use. Limited access to sterile syringes contributes to the transmission of these blood-borne infections among injection drug users (IDUs), their sex partners, and their children.

The United States Public Health Service recommends that drug users who continue to inject use a new, sterile syringe for each injection to prevent the transmission of blood-borne pathogens and that they obtain syringes from reliable sources such as pharmacies.

In many states, there are legal and regulatory barriers to the pharmacy sale of sterile syringes to IDUs, including prescription and drug paraphernalia laws and pharmacy regulations on syringe sales. The American Medical Association (AMA), the American Pharmaceutical Association (APhA), the Association of State and Territorial Health Officials (ASTHO), and the National Alliance of State and Territorial AIDS Directors (NASTAD) have suggested that the removal or modification of legal barriers is an important step in increasing the availability of sterile syringes through pharmacies. Connecticut, Minnesota, and Maine have made such changes.

. . . . .

AMA, APhA, ASHTO, NASTAD, and the National Association of Boards of Pharmacy (NABP) believe that coordinated efforts of state leaders in pharmacy, public health, and medicine are needed to address access to sterile syringes as a means of preventing further transmission of blood-borne diseases.

We encourage you and other state leaders in these fields to meet, assess the situation in your state, and decide on appropriate approaches to these important public health issues. Other issues that may be important to consider are the availability of substance abuse treatment and options for safe disposal of syringes

Signed by

E. Ratcliffe Anderson, Jr., MD
Executive Vice President
American Medical Association

John A. Gans, PharmD
Executive Vice President
American Pharmaceutical Association

Patti Shwayder
Interim Executive Vice President
Association of State and Territorial Health Officials

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National Alliance of State and Territorial AIDS Directors. HIV prevention and access to sterile syringes. [Joint letter issued by the American Medical Association, American Pharmaceutical Association, Association of State and Territorial Health Officials, National Association of Boards of Pharmacy, National Alliance of State and Territorial AIDS Directors.] October 1999. Available at: www.nastad.org/PUBLICPOLICYRESOURCES/HIVPREVSTERILESYRINES.PDF. Accessed October 18, 2002.

Individual and Structural Influences Shaping Pharmacists' Decisions to Sell Syringes to Injection Drug Users in Atlanta, Georgia

Jennifer Taussig, Benjamin Junge, Scott Burris, T. Stephen Jones, and Claire E. Sterk

Objective: To better understand the individual (e.g., attitudes and beliefs) and structural (e.g., laws and regulations) factors that influence and shape pharmacists' decisions about selling syringes to injection drug users (IDUs). ***Design:*** Qualitative research. ***Setting:*** Metropolitan Atlanta. ***Participants:*** 20 practicing pharmacists who work in or near areas of high drug use in Atlanta, and nine pharmacists who are considered leaders in their profession in Georgia. ***Interventions:*** Semistructured, in-depth interviews. ***Main Outcome Measures:*** Individual and structural factors that influence pharmacists' decisions about selling syringes to IDUs. ***Results:*** Pharmacists reported that they use their professional discretion in making syringe sale decisions and that these decisions are influenced by individuals factors such as their personal attitudes and beliefs about the nature and causes of drug use, and by structural factors such as the Georgia Board of Pharmacy regulation stating that syringes cannot be sold if they will be used for an "unlawful purpose." ***Conclusions:*** IDUs' access to sterile syringes from pharmacies in Atlanta, would likely be increased by (1) providing practicing pharmacists with professional education programs that describe the broad professional support for IDU access to sterile syringes and why blood-borne infection prevention is a legitimate medical purpose for selling syringes and (2) removing or modifying the restrictive Board of Pharmacy regulation governing syringe sales.

J Am Pharm Assoc. 2002;42(suppl 2):S40–5.

In the United States, approximately one-third of all reported cases of acquired immunodeficiency syndrome (AIDS)[1,2] and about one-half of new cases of hepatitis C virus[3] are directly or indirectly associated with injection drug use. These associations are largely attributed to the sharing and reuse of syringes and other injection equipment.[4–6] Multiperson use of syringes among injection drug users (IDUs) is primarily caused by an artificial scarcity of sterile syringes in the community.[7] Multiple barriers restrict IDU access to sterile syringes from reliable sources such as community pharmacies. These barriers include laws and regulations governing syringe sales and restrictive syringe sale practices of some pharmacists.[8–17]

Community pharmacies are a means for providing IDUs with access to sterile syringes. Pharmacies are conveniently located throughout communities, are customer oriented, typically operate 6 or 7 days a week, and provide easy access to a health care professional.

In the United States, the main structural barriers limiting IDUs' access to sterile syringes from pharmacies are state laws and regulations governing the sale and possession of syringes.[7,8] Laws in 10 U.S. states and 1 U.S. territory require a prescription for the purchase of syringes; however, in 4 of these states, 10 or fewer syringes can be purchased without a prescription. Drug paraphernalia laws in the District of Columbia and every state (except Alaska) prohibit the sale, distribution, and possession of a variety of injection equipment, including syringes, although a number of

Received June 19, 2002, and in revised form August 27, 2002. Accepted for publication August 28, 2002.

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states' laws contain exemptions that allow at least some syringe sales to IDUs at the discretion of the pharmacist. Pharmacy boards or state health agencies may also regulate syringe sales by requiring syringe purchasers to show identification or demonstrate that the syringes will be used for a lawful or legitimate medical purpose.

Regardless of the legal status of selling syringes to IDUs, individual pharmacists make the final decision about selling syringes to a possible IDU. Individual barriers include negative attitudes and moral beliefs about drug users, human immunodeficiency virus (HIV) prevention, and selling syringes.[9–17]

We present findings from a qualitative study conducted in 1998 on the determinants of pharmacists' syringe sale practices with IDUs in Atlanta. Georgia has no law requiring a prescription for syringe purchases; however, a Georgia State Board of Pharmacy regulation requires pharmacists to determine with "reasonable cause" that syringes they sell will not be used for an "unlawful purpose."[18] The Georgia drug paraphernalia law prohibits the sale, distribution, and possession of paraphernalia, including syringes, that may be used for injecting illegal drugs.[19] Whether the drug paraphernalia law applies to selling syringes to IDUs in pharmacies is unclear, although no pharmacist in Georgia has been prosecuted for violating the drug paraphernalia law by selling syringes to IDUs.[20]

Objectives

The goal of this study was to gain a better understanding of how (1) individual pharmacist's attitudes and (2) syringe laws and regulations influence pharmacists' decisions whether to sell syringes to persons who may be IDUs.

Methods

The findings of a 1995 survey of pharmacists' attitudes and practices toward the sale of syringes to IDUs in metropolitan Atlanta were used to plan this study.[13]

We conducted semistructured, in-depth interviews with (1) pharmacists who work in or near areas of high drug use in Atlanta, and (2) pharmacists considered leaders in their profession in Georgia.

The 29 participants were recruited using a modified convenience sample. We used theoretical sampling to ensure that we reached a point of saturation.[21,22] Saturation means that no new patterns or themes are identified; qualitative researchers typically stop data collection once the point of saturation has been reached.[23,24] We used drug treatment admissions, emergency room episodes, and informal conversations with researchers and service providers working with drug users to identify pharmacies in or near areas of high drug use.[25,26] The leaders, selected because of their potential influence on state laws, regulations, and opinion, were pharmacists involved in the state pharmacy professional association, members of the Georgia State Board of Pharmacy, faculty members at a school of pharmacy, or members of the Georgia Legislature.

Trained interviewers asked written core questions and probed to clarify responses. The main interview topics were pharmacists' (1) attitudes and beliefs about the sale of syringes to IDUs and (2) syringe sale practices and the individual and structural factors that influence these practices. Interviewers were a graduate student in public health and the research coordinator, both of whom were trained for this study by a PhD qualitative researcher. All interviews were audiotaped and transcribed verbatim. QSR NU*DIST software (Scolari, Sage Publications, London, England, 1997) was used to manage and analyze the qualitative data.[27] Data were coded using a coding scheme based upon the research questions and emerging variables. Intercoder reliability was established by having three qualitative researchers code all of the interviews. The Emory University Institutional Review Board approved this study in April 1998.

To protect study participant confidentiality, no names or identifying information are used in this report. We use verbatim quotes in the results section and provide demographic information about the respondent being quoted. These quotes are representative of salient themes rather than representative of the overall sample. The latter would be important in quantitative research.[24]

Results

Of the 29 respondents, 20 were practicing pharmacists and 9 were pharmacist–leaders. All 9 leaders held pharmacy degrees, and 7 were practicing pharmacists in addition to their leadership roles. The total sample (29) was approximately two-thirds male, 46% African American, 54% white, with a mean age of 44.8 years. Among the 27 respondents currently practicing as pharmacists, the mean number of years of practice was 17.5, with a mean of 9.5 years at the current pharmacy. Almost one-half (48%) of the pharmacies were independent; the rest were part of pharmacy chains. Slightly more than one-half (16; 57%) of all respondents held bachelor in pharmacy degrees; the others had doctor of pharmacy degrees.

Practicing Pharmacists

We found that decisions about selling syringes to potential IDUs are largely left to the discretion of the pharmacist.

> *It's left for the pharmacist who is on duty to decide. So my personal opinion is different from my partner…They use their own discretional measures. I leave those things to them. These are professionals. I cannot tell them how to operate, but they can use their own simple rational way of deciding when or when not to sell the syringes.*
>
> —44-year-old African American male chain pharmacy manager

Three clusters of influences that shape these decisions emerged, two individual and one structural: (1) personal attitudes and beliefs about drug users and HIV/AIDS, (2) concerns about deception, and (3) concerns about legality.

Attitudes and Beliefs

Pharmacists' attitudes and beliefs about drug use, drug users, and HIV/AIDS were strongly linked to their decisions whether to sell syringes to suspected IDUs. Not surprisingly, respondents who consider drug addiction a personal choice and a matter of personal responsibility were less disposed to sell syringes to a suspected IDU.

Well, I think they're irresponsible. I think they're a source of a vast majority of crime in this country…I think they're misguided…They're still going to use dirty needles.

—45-year-old African American female pharmacist in a chain pharmacy

From my understanding…it's that they want to share, it's not because of a lack of syringes that they are sharing…They want to share it.

—30-year-old African American female pharmacist in a chain pharmacy

To me it's just too risky, just putting it in somebody's hands who's not responsible. You know that from the beginning they're drug users. To me, it's just not a responsible thing to do. To me, you're infecting even more people.

—28-year-old African American female chain pharmacy manager

Another pharmacist was reluctant to sell syringes to IDUs because of her belief that the syringes would be unsafely discarded in the community, endangering neighborhood children.

Some pharmacists believed that having IDUs in their pharmacies caused personal discomfort or had a negative effect on business. These opinions can result either in refusing to sell or selling syringes to shorten the IDU's time in the pharmacy.

I'm reluctant to sell drug users syringes because I don't want that type of clientele frequenting the store. Usually, in my experience, that gets into robbery or some other kind of unfortunate condition that these people bring in. They come in without money. They want you to lend them money, they ask for money or something like that. We prefer not to have that type of clientele.

—75-year-old African American male pharmacy owner

In contrast, other pharmacists viewed drug users and their addiction problems as health concerns.

I don't hate them or despise them…They have a disease like any other disease; it just needs to be treated.

—44-year-old African American male pharmacist at a chain pharmacy

Pharmacists who viewed drug use as a health issue were more likely to discuss working with drug users to achieve public health benefits (e.g., cessation of drug use, reduction in syringe sharing).

I've had [customers] that are abusers…They've tried every type of con game in the world, and usually I'm just straightforward with them…Usually when you approach them that way, you gain their confidence, and they're not going to pull tricks with you, and you can be their ally and their friend and assist as part of a team with medical care and with their support. That's the experience that I've had. Again, don't look down on them, but see it as a point of compassion.

—51-year-old white male independent pharmacy owner

Pharmacists who accepted syringe access as an HIV-prevention strategy were more willing to sell syringes to IDUs. This acceptance was generally associated with knowing HIV-infected drug users, usually because of working at pharmacies frequented by drug users. These pharmacists view their authority to sell syringes as potentially life-saving and, therefore, feel ethically required to do so.

They're going to get them somewhere, and I'd rather they use clean needles than share them or whatever they do. So I sell it to them. It bothered me at first when I was right out of school; I thought it was a little unethical. But the older I have gotten, I would think it would be kind of unethical not to.

—52-year-old white female independent pharmacy manager

We see a fairly large population of HIV patients and…I see an awful lot of IV [drug use] …the policy of this pharmacy is to go ahead and dispense and sell to syringes pretty much anybody who asks for [them].

—40ish white male independent pharmacy owner

Concerns About Deception

Pharmacists' fear of being duped by a customer is a salient concern that is addressed by screening customers.

If somebody just comes in, I would say, "Okay, what do you want these syringes for?" And they say "I'm diabetic"…and I say, "What type of insulin do you use?" They say, "I use this." I say, "How many units in the morning, afternoon, and evening?" Based on that, I know if they're telling me the truth or not. If I determine they're lying to me, then I know these are not going to be used in the legal way so I would have to decline them.

—44-year-old African American male chain pharmacy manager

Another pharmacist, a 45-year-old African American female pharmacy manager, indicated that when an IDU was "honest" and "willing to confide" about his or her intentions to use syringes to inject drugs, then she was more likely to sell syringes to that person.

Pharmacists' concerns are substantially reduced, and the likelihood of a syringe sale increased, if the customer (1) answers questions about diabetes and insulin dosages correctly and without hesitation, (2) is willing to show identification, or (3) is comfortable with the pharmacist creating a patient profile.

If I have a patient that comes in and asks for a 3-cc, 21-gauge syringe, I'm going to say…"I need a doctor's order for that"…We can sell, of course, the insulin syringes upon request, but I like to have a patient profile.

—34-year-old white male owner of an independent pharmacy

Concerns About Legality

Pharmacists were concerned whether selling syringes to an IDU would be legal. However, most of the pharmacists in this study had limited knowledge of the laws and regulations affecting syringe sales. Practicing pharmacists had little or no understanding of the state drug paraphernalia law and its stipulations regarding syringe sales. Most practicing pharmacists indicated that the Georgia drug paraphernalia law had very little, if any, influence on their syringe sale decisions.

While pharmacists were generally aware that the state pharmacy board has a formal regulation on syringe sales, knowledge, and interpretations of it varied widely. Very few pharmacists knew about the reasonable cause and unlawful purpose clauses in the regulation.[18] These two concepts appeared to be merged by several of these pharmacists into a looser construction of *legitimacy* of syringe sales that was used as a general guide in deciding about selling syringes.

> *Well, certainly I feel I can fall back on that regulation, but at the same time…I can refuse to fill a prescription if I don't feel it's legitimate. The decision to fill or not fill a prescription, sell or not sell syringes, is mine. You can follow the law and even the law says "lawful use." If I were of a mind, I could justify selling syringes, but I'm not of that mind.*
>
> —54-year-old white female independent pharmacy owner

Many pharmacists perceived the pharmacy board regulation as vesting them with the authority to assess each request and make a decision about the sale. On the other hand, a pharmacist may choose not to judge the case.

> *If I don't ask, ignorance is bliss. Therefore, I will assume they're all diabetics and [that] all their grandparents are diabetics.*
>
> —44-year-old white male independent pharmacy owner

However, most pharmacists did not appear to have rigorously examined their criteria for reasonable cause. Interpretations of unlawful purpose were similarly vague. Some pharmacists focused on the likelihood that illegal drug use will be facilitated through a syringe sale.

> *Well, it does affect me greatly because if I know this is a drug user, I will not sell it. If there were a different rule, then I would have to abide by those rules; but telling me I should only sell it for legal use, I would have to go by those criteria.*
>
> —44-year-old African American male chain pharmacy manager

In the formulation that drug use is illegal, selling syringes to a drug user would facilitate drug use and would be interpreted as an unlawful purpose. However, pharmacists may also focus on the broader outcomes associated with selling syringes to drug users. Among pharmacists who have some HIV-infected patients, HIV prevention is interpreted as a valid justification for a syringe sale. In this second formulation, lawful purpose is established through a combination of compassion and public health good associated with preventing human suffering and disease.

> *Anything that doesn't break the law, period. So drug use would be not a lawful purpose, but the spread of HIV would be a lawful purpose, so that's a matter of interpretation.*
>
> —45-year-old African American female pharmacist in a chain pharmacy

When asked whether they would be more likely to sell syringes to IDUs if the wording of the state pharmacy board regulation on syringe sales indicated that the sale of sterile syringes to prevent the transmission of blood-borne infections was a lawful purpose, some pharmacists indicated that they would be more at ease knowing that they were not violating pharmacy practice regulations.

> *That will remove me from any legal problems with the Board. I will be very willing to sell it to those people based on…criteria that include people using illegal drugs… So it's the wording, that wording that includes you can sell syringes to illegal drug users, then I will sell it. It's the wording and the rule that has everything to do with it.*
>
> —44-year-old African American male pharmacist

Another believed that increasing IDUs' access to sterile syringes in pharmacies might constitute reasonable justification.

> *Absolutely, certainly. If the state and federal regulators would allow such, I think it's very justifiable as a health professional.*
>
> —34-year-old white male owner of an independent pharmacy

Not all pharmacists, however, agreed that preventing blood-borne infection was a justification for selling syringes to IDUs.

Pharmacy Leaders

When the nine leaders were asked about changing the state pharmacy board regulation on syringe sales so that the sale of sterile syringes to prevent the transmission of blood-borne infections would be considered a lawful purpose, responses included, "I like that idea," "I have no problem with that," "I would react somewhat positively to that," and "That would be a positive move." Only one responded negatively. However, despite indicating that they would support a change in the wording of the regulation, some differentiated between their professional support for such a change and their nonsupportive personal beliefs.

Discussion

Our study found that in metropolitan Atlanta, pharmacists' syringe sale decisions are largely left to the individual pharmacist's discretion and that these decisions are shaped by individual and structural factors. These findings are consistent with recent studies of pharmacists' practices and attitudes about selling syringe to IDUs.[9–17]

That syringe sale decisions are largely left to the individual

pharmacist's discretion has significant implications for HIV prevention. Pharmacists have differing personal beliefs about drug users, HIV, and prevention strategies for preventing transmission of HIV and other blood-borne infections. When pharmacists decide about selling syringes to IDUs, these beliefs strongly shape if and how they screen customers. Further, pharmacists had differing views about how selling syringes to IDUs as a public health prevention strategy fits with their role as health care professionals.

Pharmacists' varying levels of concern about the legality of selling syringes to persons who may use them to inject illicit drugs stem partially from the ambiguous language of the Board of Pharmacy regulation and the Georgia drug paraphernalia law. Interpretation among pharmacists of these issues varies considerably. Some interpret the prevention of HIV and other blood-borne diseases as a lawful and medically legitimate reason for selling syringes to IDUs. Others, however, perceive the use of syringes for injecting drugs as illegal and not legitimate pharmacy practice.

This study does not rank the individual and structural factors influencing pharmacists' decisions about selling syringes to IDUs. However, for some, the foremost concern appears to be determining whether the syringes will be used for a legal purpose; for others, it appears to be preventing HIV transmission. For some pharmacists, beliefs that drug users are immoral, irresponsible, and a threat to store staff and clientele appear strongly related to their syringe sale decisions.

Addressing both the individual and structural factors would likely increase availability of sterile syringes for IDUs in Atlanta. A combination of continuing professional education and supportive public positions by Georgia pharmacy leaders would help address the individual factors. Changes in the regulations and laws governing syringe sales and clarification of their interpretations would address the structural factors.

Although current educational programs for pharmacists focus on the pharmaceutical treatment of HIV/AIDS, public health and pharmacy agencies could collaborate to offer new courses, seminars, and workshops focused on HIV and viral hepatitis prevention (e.g., condom use, substance abuse treatment, access to sterile syringes, hepatitis A and B immunizations). These programs could present scientific research demonstrating that access to sterile syringes from pharmacies and other sources can lead to substantial decreases in injection-related risk behaviors among IDUs and in HIV and hepatitis transmission.[28–30] Addiction is another important topic. Presentation of the current scientific understanding of drug addiction as a chronic, relapsing, and treatable medical condition with a biological basis may help pharmacists see drug users as persons with medical problems rather than as immoral individuals who are responsible for their addiction. In addition, pharmacy schools could increase the class time devoted to HIV prevention and addiction and thereby better prepare pharmacy students to make syringe-sale decisions.[31]

The fundamental structural-level intervention to improve IDUs' syringe access from pharmacies in metropolitan Atlanta would be changing the Georgia Board of Pharmacy regulation that makes it illegal to sell syringes for an unlawful purpose. This regulation appeared to be the primary legal concern for pharmacists in this study. In its present form, the regulation makes it illegal for a Georgia pharmacist to dispense syringes to an IDU even if the IDU has a physician's prescription.[32] Options for change include deleting the phrase "unlawful purpose" and a formal Board statement that preventing transmission of HIV and other blood-borne pathogens is a lawful purpose for selling syringes. Pharmacy leaders, who have the authority to help enact such changes, largely supported this approach. In addition, syringes could be excluded from the Georgia drug paraphernalia law. Removing the possibility of legal or professional sanctions for selling syringes to IDUs would likely increase the number of pharmacists willing to sell to IDUs, according to more than one-half of the pharmacists interviewed.

Recent actions by the boards of pharmacy in Washington and Maine could be used as models for Georgia. In Washington State guidelines "allow the sale without a prescription to reduce transmission of HIV, hepatitis, and other blood-borne viruses."[33] In Maine, the Board of Pharmacy clearly supported the interpretation that selling syringes to IDUs was a legitimate medical and pharmaceutical practice.[34] In Seattle, Minnesota, and New York State, collaborative efforts of public health departments and professional pharmacy organizations were instrumental in changing syringe laws to allow and then promote increased syringe sales in pharmacies as a public health prevention strategy.[35–38]

Limitations

This study interviewed a small convenience sample, so generalizability is limited. Nonetheless, it allowed for in-depth exploration of themes and provides important insight into some of the determining factors shaping pharmacists' decisions about selling syringes to IDUs.

Conclusion

This study highlights the importance of understanding and addressing both individual and structural factors influencing pharmacists' decisions about selling syringes to IDUs. It also helps identify steps that could increase such sales. Pharmacists can serve an important role in the prevention of HIV and other blood-borne infections by facilitating syringe sales to IDUs and promoting the safe disposal of used syringes.

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Selected findings from this paper were presented at the 2000 *U.S. Conference on AIDS* in Denver, Colorado and at the 1999 *HIV Prevention and the Role of Pharmacists in Selling Syringes* meeting in San Antonio, Texas.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

Pharmacists' Attitudes and Concerns Regarding Syringe Sales to Injection Drug Users in Denver, Colorado

Beth A. Lewis, Stephen K. Koester, and Trevor W. Bush

Objective: To identify factors influencing pharmacists' decisions about selling syringes to injection drug users (IDUs). ***Design:*** Audiotaped interviews. ***Setting:*** Denver, Colorado. ***Participants:*** Thirty-two pharmacists at 24 pharmacies. ***Intervention:*** One-hour semistructured interviews. ***Main Outcome Measures:*** Practices regarding syringe sales to IDUs and factors influencing the practices. ***Results:*** Of the 32 pharmacists interviewed, 16 indicated that they sold syringes to all customers ("pro-sell"), 11 refused to sell unless shown proof of diabetic status ("no-sell"), and 5 were "undecided." Several factors influenced the decision to sell. A perceived conflict between prevention of disease and prevention of drug abuse most clearly distinguished the three categories, with pro-sell pharmacists more likely than others to prioritize disease prevention and believe that syringe sales would not increase drug abuse. Business concerns, such as the effect of the presence of IDUs on other customers and the possibility of discarded syringes around the store, were especially prevalent among no-sell and undecided pharmacists. Seventeen pharmacists did not know about Colorado laws governing syringe sales. Four no-sell pharmacists used the laws to justify their decision not to sell, and two undecided pharmacists said they used the law when they did not want to sell syringes to IDU. All pharmacists supported syringe exchange programs. ***Conclusion:*** One-half of the pharmacists sold syringes to IDUs, and several more indicated that they would do so if certain concerns were addressed. These data suggest that improved syringe disposal options, continuing education programs, and clarification of existing laws and regulations would encourage more pharmacists in Denver to sell syringes to IDUs.

J Am Pharm Assoc. 2002;42(suppl 2):S46–51.

Injection drug use is related to more than one-third of acquired immunodeficiency syndrome (AIDS)[1] and more than one-half of hepatitis C cases in the United States and continues to be a dominant risk factor in new cases of human immunodeficiency virus (HIV) and hepatitis C virus.[2] Encouraging injection drug users (IDUs) to use sterile syringes every time they prepare and inject drugs is one proven way to reduce the spread of these diseases. In many areas, however, this public health goal is impossible for IDUs to follow because of structural factors that create an artificial scarcity of syringes. Structural impediments include laws, state pharmacy board regulations, and the sales policies of some pharmacies.

In Maine, which repealed the prescription and paraphernalia laws limiting syringe access in 1993, and Baltimore, which never had such laws, studies have found that some pharmacists continued to require prescriptions for sterile syringes.[3,4] The Baltimore study found that pharmacists ranked their familiarity with the customer as "very important" in influencing whether they would sell syringes without a prescription.[3] Concerns about improperly discarded syringes, staff and customer safety, and business concerns such as fears of increased theft and harassment of customers have been shown to influence a pharmacist's decision to sell syringes to suspected IDUs.[4–8] Farley and colleagues found that almost one-half of the pharmacists interviewed in Louisiana who did not sell nonprescription syringes believed that such sales would increase drug use.[8]

Denver has no prescription law or state pharmacy board regulation governing syringe sales. In a 1999 syringe-buying survey, we found that pharmacy staff at 13 of 22 Denver pharmacies refused to sell syringes to some (10 pharmacies) or all (3 pharmacies) of our IDU research assistants. Overall, only 54% of 206 purchase attempts were successful.[9] This is particularly troubling in Denver, a geographically dispersed city in which IDUs have no other legal means of obtaining sterile syringes. We assumed that the reticence of some pharmacists to sell syringes was the result of a state statute and complementary Denver ordinance regulating drug paraph-

Received June 5, 2002, and in revised form September 4, 2002. Accepted for publication September 13, 2002.

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nalia. Currently, more than 40 states have paraphernalia laws modeled after the Drug Enforcement Agency's Model Paraphernalia Act of 1979. Syringes are included as paraphernalia in most of these laws, and IDUs are frequently cited for violating the provision making it illegal to possess syringes.[10] Although no pharmacist in Colorado or any state with a similar statute has ever been cited for violating a paraphernalia statute by selling syringes to IDUs (Scott Burris, written communication, October 2000), we assumed that Colorado's paraphernalia statute[11] might deter community pharmacists from selling syringes without a prescription to individuals they suspected to be IDUs.

Objective

Our objective was to identify what factors, including the Colorado drug paraphernalia statute and a similar provision in a Denver city ordinance, influence pharmacists' decisions regarding selling syringes without a prescription.

Design

A total of 51 pharmacies were identified on the basis of their location within or adjacent to areas in the metropolitan area of Denver known to have high levels of drug use. Arrest and drug overdose admission data were used to identify high drug use areas. Selected neighborhoods included those targeted for our National Institute on Drug Abuse grant (DA 09232), an HIV intervention study aimed at reducing injection-risk behaviors among networks of IDUs.

Seven pharmacies were ineligible (six had gone out of business and one did not stock syringes). We invited licensed, practicing pharmacists at the remaining pharmacies to participate. At 24 of the 44 eligible pharmacies, 32 pharmacists agreed to participate and were interviewed. Of those who refused to participate, the majority cited time constraints, two stated that the pharmacy manager would not allow them to take part, and one said that he was not comfortable talking about this issue.

A semistructured question guide was developed and modified to complement a similar study among Atlanta pharmacists.[12] The guide included open-ended questions on attitudes and policies toward IDUs and selling syringes to suspected IDUs, the impact of HIV and hepatitis C on the pharmacists and their pharmacies, and thoughts about increasing the availability of syringes for IDUs. The guide was piloted with pharmacy students at the University of Colorado Health Sciences Center. Trained qualitative researchers conducted all interviews.

Before the interview, pharmacists were fully informed about the study and asked to sign a consent form. Interviews were audiotaped, conducted in a location that was convenient to the pharmacist (e.g., coffee shop, the pharmacy), and lasted approximately 1 hour. Pharmacists were compensated $50 for their time. Audiotapes were transcribed, individually coded, and analyzed for significant, recurring themes. The study was approved by the University of Colorado at Denver Human Research Committee.

Results

Of the 32 pharmacists, 16 willingly sold syringes to all customers ("pro-sell"), 11 pharmacists refused to sell unless shown proof of diabetes ("no-sell"), and five pharmacists described themselves as being "undecided." Four themes emerged:

- Concerns about disease transmission and increased drug use.
- Business concerns.
- Uncertainty about legality of syringe sales.
- Views on syringe exchange programs.

Concerns About Disease Transmission and Increased Drug Use

Pharmacists who reported selling syringes to all individuals and those who only sold to customers they believed to be insulin users had divergent views on their roles in helping to prevent disease transmission among drug users. Pro-sell pharmacists stated that their primary motivation was preventing blood-borne disease transmission; these pharmacists did not believe that providing sterile syringes encouraged drug use, and they did not think that drug users would quit injecting if syringes were more difficult to obtain. Pro-sell pharmacists commented that IDUs would most likely find other ways to obtain syringes if unable to purchase them in pharmacies, including borrowing one or picking a syringe up off the street. Pro-sell pharmacists emphasized that they would rather provide sterile syringes than have IDUs use contaminated syringes:

> *Usually the popular thing to do is just say, "No, don't give them [syringes], you are encouraging intravenous drug usage if you provide syringes." I disagree with that. People are going to share syringes if they don't have access to sterile syringes. You are not going to stop that behavior by stopping the providing of syringes.*
>
> —41-year-old white man, 5 years' experience, independent pharmacy

> *Whether syringes are available or not does not stop users from becoming an addict. If they are going to become an addict, they are going to become an addict anyway. Having sterile syringes available just decreases the possibility of spreading the disease, whether it being AIDS or hepatitis, or whatever....I know people who are users, whether it is a good clean syringe is not going to help them to decide whether they want to be or don't want to become an addict.*
>
> —32-year-old African American man, 3 years' experience, independent store

No-sell pharmacists were concerned about the implications of selling syringes to individuals they suspected were IDUs, although

for different reasons. Several expressed the view that, as health care providers, they had an important role to play in preventing drug abuse. Almost one-half of the no-sell pharmacists stated that they had no interest in supporting a behavior that was detrimental to a person's health. They believed that they were discouraging drug use by restricting sales. Some suggested that by denying an IDU a syringe, they might encourage that person to seek substance abuse treatment. Other no-sell pharmacists contended that by denying syringe sales they might be decreasing drug injection and thus, decreasing the potential for blood-borne disease transmission.

I don't think that two wrongs make a right as far as dispensing the syringes because they'll have clean syringes when they use their heroin so they won't share needles and nobody will get HIV. Ideally that may be the case, but I think there will still be sharing of needles...I don't think you should be handing out sterile syringes and saying, "Okay, see ya." That's not helping anybody, not them, not society, it's not helping the prevention of anything, in my opinion. I just think that's like a quick fix.

—29-year-old white woman, 6 years' experience, chain pharmacy

Undecided pharmacists were concerned about both drug addiction and blood-borne disease transmission and, as a result, were uncertain about whether to sell syringes. They were uncomfortable supporting a destructive behavior, but they were equally uncomfortable knowing that denying syringe sales might increase disease transmission.

I don't want to spread AIDS and for part of me, turning people down bothers me. But then I can justify it by telling myself that if I sell this guy a 10-pack of syringes, he's probably going to share those 10 anyways. So I shouldn't feel bad about that. But the pharmacist in me says I shouldn't be helping them. The human being in me says I shouldn't be letting AIDS get spread, so where do you go? It's a tough one.

—33-year-old white woman, more than 10 years' experience, supermarket chain

I still maintain that by selling them the clean syringe, they're probably going to avoid hepatitis because they've already got the stuff they're going to shoot, but I also feel like there has been enough information spread about through the Drug Enforcement Agency, through the various agencies against drug use, their programs and etc., that people are pretty much aware of the danger that they're involved in if they start using drugs…they've made a bad decision and I don't feel like I want to support a bad decision.

—60-year-old white man, 35 years' experience, independent pharmacy

Two factors separated these undecided pharmacists from no-sell pharmacists: their acknowledgment of the public health benefits of sterile syringe sales and their skepticism that selling syringes would increase injection drug use. Nevertheless, they rarely, if ever, sold sterile syringes to IDUs. A few undecided pharmacists admitted selling syringes under certain circumstances or to individuals they knew. One of these pharmacists said that he sold syringes a "couple of times" to visibly ill addicts, and another said that he sold syringes to an IDU who was honest about his purpose for requesting syringes.

Business Concerns

The second most commonly stated reason for not selling syringes to IDUs was the feared effect on business and other customers. Nevertheless, 11 of 16 pro-sell pharmacists stated that the presence of IDUs in their store had little or no detrimental effect on business. One pro-sell pharmacist observed that his store's recent policy of selling syringes to IDUs, a change made at the corporate level, actually seemed to alleviate some problems they had when they previously denied sales to IDUs.

It seems now that we've changed our policy and we sell them more freely to people, we don't seem to be at odds with the addicts. I haven't noticed any problems.

—35-year-old white man, 10 years'experience, chain pharmacy

Several pro-sell pharmacists noted that IDUs were focused on their purchase when they came to buy syringes and always left without incident. These pharmacists believed that most IDUs did not want to attract attention and would therefore cause few, if any, disturbances. The five pro-sell pharmacists who did report problems with IDUs in their store stated that the health benefits of selling sterile syringes outweighed their business concerns. Problems mentioned by these pharmacists included theft, finding used syringes on store premises, and concerns for staff and customer safety.

Four of 11 no-sell pharmacists cited business concerns as the primary reason not to sell but were worried about the potential for disease transmission through injection drug use. Four others mentioned business concerns as an important secondary motivation for not selling syringes to IDUs. Several no-sell pharmacists feared that if they sold syringes to suspected IDUs their stores would develop reputations as being IDU-friendly, leading to an increase in IDU customers; they were apprehensive about the possible loss of other customers.

I think they'd [regular customers] feel uncomfortable being in the store. I think they would be uncomfortable having their children come in to the store.

—60-year-old white man, 35 years' experience, independent pharmacy

No-sell pharmacists were concerned about how their willingness to sell syringes to drug users would be interpreted by other customers:

It just sends the wrong message to other customers in the store, depending on appearance and attitude and things like that. If a customer sees them in there buying syringes and they give the appearance or have the attitude that they're an abuser, it doesn't give the store a very good reputation and people develop a fear to go into places like that where they

see that kind of activity going on.

—39-year-old white woman, 15 years' experience, independent pharmacy

Several no-sell pharmacists were worried about the potential for theft if IDUs routinely came to their store to purchase syringes. A few went further, describing IDUs as "riffraff" and "bad clientele" who were untrustworthy, and more apt to shoplift than other clientele. They were apprehensive that IDUs might vandalize their stores or leave used syringes in the bathrooms and parking lots, a potential threat to other customers and employees.

They are demanding. They are usually untrustworthy. And usually, there is certainly more potential to be a shoplifter than the average person, because they are out of money usually all the time. So, I don't have a problem with it morally. I just think that the pharmacy isn't the place for that."

—52-year-old white man, 25 years' experience, chain pharmacy

Four of the five undecided pharmacists identified business concerns as a reason they did not feel comfortable selling syringes to IDUs. Only one reported it as his primary concern.

Uncertain Legality of Syringe Sales

Only one-third (11 of 32) of the pharmacists interviewed were aware of a state statute (Colorado's paraphernalia law) with a possible effect on syringe sales; 17 pharmacists were unaware of any law or regulation; four did not comment. Five of the sixteen pro-sell pharmacists knew of the statute. These pharmacists stated that the law was not a deterrent to syringe sales.

No big deal. What are they going to do? Are they going to fine me? I don't think so.

—29-year-old Latino man, 12 years' experience, independent pharmacy

If I sell someone a package of syringes and they don't look like a diabetic or if I think they're not a diabetic, they're saying we can be prosecuted for that. I don't see how you could be.... I can't imagine someone coming up to you later and trying to prosecute you because you knew that person was a drug addict. There's no way to know that.

—39-year-old white man, 15 years' experience, chain pharmacy

Four of 11 no-sell pharmacists knew of the law and used it to support their decision not to sell syringes.

They are coming in asking for insulin syringes, but they aren't using them for insulin. So they are disguising their needs, and so technically what we are doing is illegal by selling them to somebody who is not a diabetic. So it takes the risk off our back by not doing it.

—52-year-old white man, 25 years' experience, chain pharmacy

This pharmacist's interpretation of the law appears inaccurate given that no legal action or judicial interpretation supports the claim. Only two no-sell pharmacists cited the law as their primary reason for not selling syringes to individuals they suspected were IDUs.

Two of the five undecided pharmacists knew of the statute and were unsure how to reconcile it with their desire to prevent blood-borne disease transmission. They stated that they used the law when they did not want to sell syringes.

And I tell them, "No, I only sell them [syringes] if, supposedly by law, you are using them for insulin."

However, this same pharmacist stated that sometimes she sold syringes because the Colorado Pharmacy Board did not have a prescription requirement. In fact, the Colorado Pharmacy Board does not have a regulation concerning syringe sales.

That's why I'm more and more lenient in selling it [10-packs of syringes] to them because since the [pharmacy] board is not so clear about it, they didn't require a prescription for it, so I go, "Well, it's up to me."

—27-year-old Asian woman, 2 years' experience, chain pharmacy

Data from the 11 pharmacists representing all three sales categories who reported knowledge of the Colorado paraphernalia law suggest that the actual implications of the law on pharmacy sales are not clear. Pharmacists who were unclear or unaware of the law needed more guidance before deciding to sell. Four pharmacists, three undecided and one no-sell, stated that they would sell sterile syringes without personal conflict if the paraphernalia law's provision on syringe sales clearly exempted pharmacies.

Views on Syringe Exchange Programs

Regardless of their personal stance on syringe sales, all the pharmacists we interviewed supported community syringe exchange programs (SEPs). Several indicated that their acceptance of SEPs was due in part to information provided by the media and in part to conversations with other pharmacists. One pro-sell pharmacist said:

That's an alternative. … If I should run out, God forbid, you just tell them, "Okay, go to this clinic and you can get some clean syringes or exchange them." To me, that's great. That's something that should actually happen around the United States.

—29-year-old Latino man, more than 5 years' of experience, independent pharmacy

Some pharmacists believed that SEPs would be more acceptable to IDUs and better equipped than pharmacies to provide harm reduction and supplementary health information on topics such as HIV and hepatitis. Some believed that SEPs would reduce their burden of being the only reliable and legal source for sterile syringes, particularly important for pharmacists concerned about the effects of syringe sales on business.

Two no-sell pharmacists stated that a primary reason they did not sell syringes was because there was no option for their safe disposal; others expressed this concern as well. Pharmacists believed that a SEP would offer a safe and comfortable option for users interested in both receiving and returning syringes. Some pharma-

cists also said they would be more comfortable selling syringes knowing that SEPs offered a means of safe disposal. Pharmacists in all three categories suggested that access to health information and reduced IDU traffic in pharmacies were potential benefits of SEPs. Two no-sell pharmacists who were opposed to selling syringes to IDUs for moral reasons believed that SEPs should be coupled with substance abuse treatment.

Discussion

Contrary to our assumption, the Colorado drug paraphernalia statute was not a principal reason pharmacists gave for denying sales to IDUs. Only one-third of the pharmacists interviewed were aware of the possible legal restriction on syringe sales. Five of those who were aware sold syringes to IDUs. Only 2 of the 32 pharmacists identified the statute as their primary reason for not selling syringes to IDUs. However, some interviewed indicated that if pharmacists and pharmacies were plainly exempted from the statute's authority, they would be willing to sell syringes to IDUs.

The concerns expressed by no-sell and undecided pharmacists in our study are subjects of intervention and research. Numerous efforts have been made to change statutes and ordinances that restricted syringe access through prescription requirements or paraphernalia laws and programs aimed at ensuring the safe disposal of used syringes have been implemented in several municipalities and states.[13] Increased access to syringes through these legal and programmatic changes has been associated with decreases in high risk injection practices[14,15] and actual negative encounters between IDU and pharmacists appear to be infrequent.[16] As our findings suggest, affirming the legality of syringe sales in states with existing paraphernalia laws can also help.

Our finding that all the pharmacists interviewed support the idea of syringe exchange programs is very promising. However, pharmacists should not perceive SEPs as replacing pharmacies as the source of sterile syringes. Recent research demonstrates that different sterile syringe sources (pharmacies, SEPs, and vending machines) serve the needs of distinct groups of IDUs.[17] In addition, a SEP's effectiveness may be limited by location and hours of operation. Even in places with SEPs, pharmacies constitute a decentralized, neighborhood site for obtaining sterile syringes.

Studies with pharmacists in Maine, Connecticut, and Georgia identified similar concerns to those voiced by pharmacists in Denver and concluded by recommending educational programs focusing on these issues.[4,12,18] An initial program in Connecticut was based on peer education.[18] In Colorado, we have presented our findings and developed a continuing education course that we presented to University of Colorado School of Pharmacy students and at annual meetings of two pharmacist associations. Feedback suggests that these presentations were well received. As indicated by our study and others, such efforts should address pharmacist-identified issues including information about IDUs, substance abuse treatment, the role of sterile syringes in decreasing blood-borne disease transmission, clarification of existing laws and regulations, the role of SEPs, and syringe disposal options.

Limitations

The purpose of this study was to elicit pharmacists' thoughts about selling syringes to IDU. The data presented are based on semistructured interviews with consenting pharmacists working at community pharmacies in the Denver metropolitan area. The sample was small and purposive. As such, the study is not representative and the findings cannot be generalized.

Conclusion

Syringe sales by pharmacists are a critical element of comprehensive, community-level disease prevention. One-half of the pharmacists we interviewed were selling sterile syringes to IDUs, and several more indicated they would if some of their legal and practical concerns were addressed. All of the pharmacists in this study supported SEPs, a clear indication that they understood the role of sterile syringe access in preventing blood-borne disease transmission. Our results suggest that addressing the perceived conflict between blood-borne disease prevention and drug abuse prevention through continuing education programs, improving syringe disposal options and clarifying existing laws and policies governing syringe sales could encourage more pharmacists in Denver to sell syringes to IDUs.

This research was conducted as part of the ongoing research program of Urban Links, a project affiliated with the Health and Behavioral Sciences Program, University of Colorado at Denver. Funding for this study was provided by the Association of Teachers of Preventive Medicine (ATPM) and the Centers for Disease Control and Prevention (CDC), ATPM/CDC/ATSDR Cooperative Agreement (TS 270-13\13). We would like to thank Steve Jones and Jennifer Taussig at the CDC, Phillip Coffin at the New York Academy of Medicine, David C. Elm and Susan M. Paulsen of the School of Pharmacy, University of Colorado Health Sciences Center, and Jason Glanz, Sarah Braudrick, Doug Kershaw, David A. Miller, Christy Christiansen, and Anna Baron at Urban Links. Most importantly, we would like to thank the pharmacists who took the time to discuss this issue with us.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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FROM THE LITERATURE

Dearth of Sterile Syringes

HIV, hepatitis and other infections spread through the use of unsterile injection equipment pose a major health threat in the United States, causing thousands of deaths and millions of dollars in preventable health care expenditures every year. The victims include not only drug users themselves, but also indirectly their sex partners and their children, whose infections at birth can be attributed to drug use.

Scarcity of clean needles for injection drug users (IDUs) is one of the main causes of the problem. Scarcity of needles is, in turn, almost entirely the result of public policy. Drug paraphernalia, needle prescription and pharmacy practice laws and regulations were intended to make it difficult for IDUs to purchase syringes, and have done so. These rules, and the steps police take to enforce them, often make IDUs who have needles reluctant to carry them for fear of arrest. Public health dictates reducing or eliminating legal barriers to syringe access.

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Pharmacist Ambivalence About Sale of Syringes to Injection Drug Users

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Objective: To examine pharmacists' attitudes and practices surrounding human immunodeficiency virus (HIV) prevention among injection drug users. ***Design:*** Focus groups. ***Setting:*** Urban and rural sites in Colorado, Connecticut, Kentucky, and Missouri. ***Patients or Other Participants:*** Eight focus groups, with 4 to 11 pharmacists participating in each group. ***Interventions:*** Transcripts of focus group discussions were evaluated for common themes by the authors and through the use of NUD*IST. ***Main Outcome Measures:*** Willingness to sell syringes to all customers, views on syringe exchange programs (SEPs), knowledge of laws governing syringe sales and racial, ethnic, or gender biases in syringe selling practices. ***Results:*** Two pharmacists established their own policies of selling syringes to everyone, and three expressed a willingness to have their pharmacies serve as SEPs. A total of 20% of the pharmacists expressed an interest in learning more about the efficacy of SEPs and distribution of syringes by pharmacists, and were willing to change their views based on this information. Many also indicated a general willingness to work with SEPs or to participate in the effort to curb the spread of HIV. However, a majority of pharmacists opposed having SEPs in their pharmacies and reported selling syringes only within specific limits: to known diabetics, to individuals who looked reasonable, or to individuals who presented a logical explanation. No racial, ethnic, or gender bias was observed. ***Conclusion:*** Opinions among pharmacists varied across and within sites. While a majority of pharmacists would not establish SEPs in their own pharmacies, nearly all would participate in other HIV-prevention programs. Educational programs for pharmacists may be valuable in HIV-prevention efforts.

J Am Pharm Assoc. 2002;42(suppl 2):S52–7.

Injection drug users (IDUs) are at risk for human immunodeficiency virus (HIV), hepatitis B, and hepatitis C through the sharing of contaminated injection equipment including syringes, rinse water, cookers, and cotton. According to the Centers for Disease Control and Prevention,[1] injection drug use accounted for more than one-third (36%) of the cumulative acquired immunodeficiency syndrome (AIDS) cases in the United States in 1998. A higher rate, 50%, was reported for 96 U.S. metropolitan areas,[2] and one study reported that 51% of people infected with HIV in the northeastern United States were IDUs.[3]

While syringe exchange programs (SEPs) play an important role in reducing blood-borne disease transmission through sterile syringe distribution, several barriers limit their efficacy in the United States: SEPs exist only in selected locations, some IDUs hesitate to participate in SEPs because state paraphernalia laws make them vulnerable to arrest if found in possession of a syringe,[4] and some IDUs are reluctant to dispose of used syringes in SEP sharps biohazard containers because they do not want to identify themselves as IDUs.[4]

Access to syringes through pharmacy sale is limited by laws and regulations. Even where syringes may be purchased legally without a prescription, many pharmacists refuse to sell syringes to suspected drug users.[5] Studies have shown that pharmacists may be unwilling to sell to IDUs because they lack knowledge about the efficacy of sterile syringes in preventing HIV and hepatitis transmission, because of stigma associated with injection drug use, or because of concerns about improperly disposed syringes.[6]

Received June 24, 2002, and in revised form August 26, 2002. Accepted for publication August 26, 2002.

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States that relaxed syringe laws have documented increases in IDU purchases of sterile syringes from pharmacies with no apparent increase in the rate of injection drug use.[7–12] In cities where SEPs provide a ready supply of sterile syringes, HIV prevalence has remained at 5%, and HIV incidence has remained at 1 per 100 person years at risk or less.[13] These findings are supported by similar results in other countries with syringe-access programs such as the United Kingdom[14] and Australia.[15]

Given the serious public health risk in reusing potentially contaminated injection equipment, comprehensive programs aimed at reducing infections typically include multiple methods to increase access to sterile syringes,[16,17] including SEPs and pharmacy sales.

In October 1999 the American Medical Association, the American Pharmaceutical Association (APhA), the Association of State and Territorial Health Officials, the National Association of Boards of Pharmacy, and the National Alliance of State and Territorial AIDS Directors issued a joint statement recommending that pharmacists help to disseminate sterile syringes to IDUs.[18] Such a policy position is consistent with pharmacists' roles as health educators, advocates, and sources of health equipment.

Objectives

We conducted focus groups with pharmacists to determine their opinions about the role of pharmacists in preventing the spread of HIV and to determine issues to be overcome to increase participation in such efforts.

Methods

Detailed scripts and procedure manuals were prepared by an anthropologist (W.R.) to ensure standardized methods. Each site conducted two pharmacist focus groups, one urban and one rural, for a total of four urban (census-defined metropolitan areas) and four rural (less populated areas that were generally more than 75 miles from urban areas) groups in each of the four study states (Colorado, Connecticut, Kentucky, and Missouri). Because of the small size and generally dense population of the state, Connecticut areas were selected from the nonurban areas surrounding Hartford. Pharmacies that had participated in phase 1 of the study, in which research assistants who were former drug addicts attempted to buy syringes from urban and rural pharmacists[5] were divided into two groups: those who sold the syringes to the assistant, and those who refused. Pharmacists were called randomly from each group and invited to participate in a focus group about attitudes and behavior towards persons attempting to purchase syringes. The size of individual focus groups varied from 4 to 11 persons. A total of 34 urban pharmacists (ranging from 6 to 11 per group) and 24 rural pharmacists (4 to 9 per group) participated. Informed consent, approved by each local human subjects committee, was obtained from all participants.

Focus groups were held over a 3-month period. Each 1-hour focus group was led by two facilitators. Trained research assistants took notes. Sessions were recorded using two audiotape recorders to ensure accurate transcription, and each participant was assigned a number to enhance participant confidentiality.

The discussions focused on four main topics:

- Legal aspects of syringe sales in the study states.
- How pharmacists distinguish IDUs from customers who have diabetes.
- Pharmacists' attitudes toward selling syringes to nondiabetic customers.
- Pharmacists' views about and participation in SEPs.

Transcripts were analyzed for "themes" by the authors by hand and with the qualitative analysis software program NUD*IST.[19] NUD*IST was used primarily to perform word searches that put repeated terms and phrases in context and to select coding schemes for topics discussed. These coding schemes were also arranged into "themes." The opinion of one pharmacist was considered a "theme" if it constituted a significant departure from the opinions of other members of the focus group. There were no differences in the number and content of the themes whether the data were analyzed with NUD*IST or by hand.

Results

Table 1 lists demographic characteristics of participating pharmacists and the urban versus rural distribution in Colorado, Connecticut, Kentucky, and Missouri. Results are presented based on major themes and urban versus rural groups. The categories under which the themes were grouped included: "Will Sell," "Conditional Sales," and "Won't Sell."

Views of Selling Syringes

Ambivalent and divergent views of pharmacists both among and within sites are shown in Table 2. Twelve pharmacists said that they would sell to anyone. One pharmacist from the urban Connecticut group had participated in a video that encouraged others to sell to all customers in the context of preventing HIV and hepatitis transmission. A few pharmacists described customers who purchased syringes for nonmedical uses, including people who used syringes to squirt glue into corners, finish floors, baste turkeys, clean carburetors and hearing aids, and make beer. All but one of the themes in the category of "Will Sell" were from urban and rural focus groups of Colorado and Connecticut; the urban Missouri group had one theme represented in this category, and the Kentucky groups had none.

Opinions of some pharmacists in all sites fell into the category "Conditional Sales." These pharmacists did not want to sell to known IDUs but generally did not investigate the drug status of their customers. They would sell syringes to anyone who looked and acted "reasonably" and had "plausible" reasons for purchasing syringes. Under these circumstances a drug user with a good

Table 1. Demographic Characteristics of Focus Group Participants (n = 101)

Characteristic	No. Respondents (%)
Gender	
Men	59 (59)
Race	
White	91 (91)
Black	2 (2)
Asian/Pacific Islander	1 (1)
Middle Eastern	4 (4)
Other	2 (2)
Age, mean ± SD, years	44.0 ± 13.7
Years worked in current pharmacy, mean ± SD	9.1 ± 11.2
Position	
Owner and managing pharmacist	19 (19)
Non-owner and managing pharmacist	18 (18)
Staff pharmacist	49 (49)
Supervising pharmacist	8 (8)
Other	6 (6)
Pharmacy type	
Independent	38 (38)
Chain	61 (61)
Other	1 (1)
Pharmacy setting	
Freestanding, direct street access	65 (65)
Part of larger retail store	17 (17)
Storefront in mall or shopping plaza	14 (14)
Part of medical, hospital, convalescent facility	2 (2)
Other	2 (2)
Perceived level of drug activity in neighborhood of pharmacy	
Moderate or high	52 (52)
Low or none	48 (48)
Aware of law change before survey	95 (95)
Participation in syringe sale to IDU in 4 weeks before survey	23 (23)
Pharmacy availability of the following items	
Syringes in packs of 10 or 100	99 (99)
Personal sharps disposal containers	79 (79)
Spoken with customers about the following topics in the past year	
Safer injection practices	38 (38)
Safe syringe disposal	78 (78)
Drug treatment services	38 (38)
Pharmacy acceptance of the following items for biohazard disposal	
Syringes in personal sharps containers	22 (22)
Loose syringes	6 (6)

IDU = injection drug user; SD = standard deviation.

knowledge of diabetes needs and the capacity to look and act "reasonably" could get syringes.

Opinions of some pharmacists from all sites except rural Connecticut fell into the category "Won't Sell." This group was larger than the "Conditional Sales" group and included pharmacists who were adamant that syringes should not be sold to drug users. Some reported that it was morally wrong to sell to drug users or that such sales would promote drug use. Others were more concerned that their pharmacy would develop a reputation for selling syringes and would attract an "undesirable" clientele. Some pharmacists also worried that IDUs would discard syringes on pharmacy property, possibly resulting in needle stick injuries.

Several pharmacists described ways they discouraged IDUs from purchasing syringes in their stores, such as "grilling" customers with questions about how much and what kind of insulin they used and the size of the syringe they needed. Pharmacists from the "Conditional Sales" group did not endorse the "grilling" method because it could result in the harassment of "real diabetics."

Among the "Won't Sell" pharmacists were some with mistaken presumptions, including beliefs that sale of syringes by pharmacists would promote drug use and that AIDS is acquired chiefly through unsafe sex. A small number of pharmacists, chiefly from Missouri and Kentucky, indicated that neither ready access to sterile syringes from pharmacies nor SEPs would have any effect on HIV-risk behavior among IDUs. One pharmacist characterized the sharing of syringes as a "bonding thing," part of the injection ritu-

Table 2. Themes Related to Syringe Sales

Will Sell	Conditional Sales	Won't Sell
Will sell to anyone (Colorado,[b] Connecticut[a,b])	Will sell if person looks/acts reasonable (Connecticut,[a,b] Kentucky,[a] Missouri[a])	Don't want kids picking up syringes (Missouri[a])
It is our job as pharmacists to sell (Colorado,[b] Connecticut[a,b])	Won't sell 10-pack to customer twice in one day (Connecticut[a])	Don't sell syringes at all (Missouri[a])
Selling syringes helps to stop the spread of AIDS (Colorado,[a,b] Missouri[a])	Will sell if story sounded reasonable (Connecticut,[a] Kentucky,[a] Missouri[a])	Won't sell without insulin (Kentucky,[a] Missouri[a,b])
Tell customers not to use on premises (Colorado[a])	Pressure on chains to make a profit (Missouri[a,b])	Won't sell but will direct to pharmacy that will sell (Connecticut[a])
	Ask to sign a log (Kentucky,[a,b] Missouri[b])	Won't sell without prescription (Kentucky[b])
	Don't want to give "real diabetics" a hard time (Colorado,[a] Missouri[b])	Promotes drug use (Kentucky[b])
	Won't sell to strangers (Kentucky,[b] Missouri[b])	Morally wrong (Colorado,[b] Connecticut,[a] Kentucky,[b] Missouri[a,b])
	Will sell if plausible nonmedical reasons are provided (Connecticut,[a] Kentucky[a])	Don't want syringes lying about (Connecticut,[a] Kentucky,[b] Missouri[a,b])
	Easier to sell than argue when you have people waiting in line (Connecticut[b])	Diabetics don't run out of syringes (Missouri[a])
	If you don't sell, "they" could be waiting for you in the parking lot (Kentucky[a])	Boxes of 100s to known people only (Missouri[a])
		All the addicts will start coming (Colorado,[a] Kentucky,[a,b] Missouri[a,b])
		Ask for a "diabetic card" (Colorado[a])
		Upset regular customers (Colorado,[a,b] Missouri[a,b])
		Won't sell without "grilling them" (Colorado,[a,b] Kentucky,[a,b] Missouri[a,b]

AIDS = acquired immunodeficiency syndrome.
[a]Urban.
[b]Rural.

al. Others believed the distribution of sterile syringes would promote drug use or cited information they had heard that made them believe SEPs would not work.

Views of Syringe Exchange

Only a few pharmacists' from the Connecticut urban and rural sites were willing to consider using their pharmacies as syringe exchange sites. However, the majority of participants was willing to consider either participating in an SEP not connected with their pharmacies or being involved in HIV prevention in some other way (Table 3). Their unwillingness to use their own pharmacies as syringe exchange sites arose from concerns about customer safety and the reputation of their pharmacies or doubting that IDUs would identify themselves as drug users by purchasing syringes in a pharmacy.

Some pharmacists expressed interest in volunteering in off-site SEPs. Several pharmacists acknowledged that they knew little about the efficacy of SEPs or access to sterile syringes from pharmacies. These participants appeared eager for education. Pharmacists expressed a willingness to distribute pamphlets and to play a role in educating others. In rural Missouri, pharmacists who had taken part in prevention education programs for elementary and high school students saw themselves as "pillars of the community," and felt an obligation to lend their expertise in the face of an epidemic balanced by concerns about offending regular clientele. A minority was against SEPs of any kind.

Knowledge of Syringe Laws

Nearly all pharmacists reported familiarity with state laws governing the sale of syringes. None of the four states had prescription-only laws (except Connecticut where a prescription was required for purchasing more than 10 syringes at one time), and every group agreed that the decision to sell syringes was at the discretion of the individual pharmacist. All but one pharmacist believed that drug paraphernalia laws, which generally prohibit the possession (or sale) of syringes to be used for injecting illicit substances, had no effect on their decision to sell or not sell. The participant who discussed the possibility of legal consequences from paraphernalia laws admitted no knowledge of any pharmacist being prosecuted under these laws. This particular pharmacist was a proponent of the theory that distributing syringes promoted drug use. Other participants described being told by their state pharma-

Table 3. Themes Related to Participation in Syringe Exchange Programs

Support Syringe Exchange	Conditionally Support Syringe Exchange	Not Support Syringe Exchange
Willing to have sharps containers in store (Colorado,[a] Connecticut[a])	Not in the pharmacy (Colorado,[a,b] Connecticut,[a,b] Kentucky,[a,b] Missouri[a,b])	Wouldn't work, they don't bother with clean syringes (Kentucky,[a] Missouri[b])
	Don't want those people in my pharmacy (Colorado,[a] Missouri[b]).	In Sweden syringe exchange didn't work (Missouri[a])
	Inhibit regular clientele (Colorado,[a] Kentucky,[a,b] Missouri[a])	Don't think it worked in England (Kentucky[b])
	Should be run by County Health or some federal or state agency (Colorado,[a] Connecticut,[a] Missouri[a,b])	AIDS isn't a big problem down here (Missouri[a])
	Churches should do it (Missouri[a])	Tested syringes from exchange and found 4 or 5 different kinds of blood (Connecticut[a])
	Need studies/statistics to see if syringe exchange works (Colorado,[a] Connecticut,[a] Missouri[a])	Would promote drug use (Kentucky,[a,b] Missouri[a])
	Who would discard the sharps containers? (Colorado,[a,b] Connecticut,[a,b] Missouri[a])	A syringe could be used as a weapon (Missouri[a])
	Willing to participate in education programs (Connecticut,[a,b] Missouri[a,b])	Accidental sticks are a concern (Connecticut[a])
	We're "professionals in the community" and should be involved in some way (Colorado,[a] Connecticut,[a,b] Missouri[a,b])	
	Would pass out pamphlets (Connecticut,[a,b] Kentucky,[a] Missouri[a])	

AIDS = acquired immunodeficiency syndrome.
[a]Urban.
[b]Rural.

cy organizations that pharmacists could sell syringes at their own discretion, emphasizing that they were not required to sell syringes. Two pharmacists in Connecticut and Missouri described syringe sales as being motivated by profits.

Urban Versus Rural Pharmacists

The rural pharmacists were considerably less supportive of selling syringes and participating in syringe exchange than the urban pharmacists. One pharmacist from rural Colorado reported that he had refused to sell syringes to IDUs in the past, but had been educated about the AIDS epidemic and believed that pharmacists had a duty to "protect people and prevent AIDS." A rural Connecticut pharmacist felt that it was "unprofessional" to refuse to sell syringes to anyone. Yet other rural Colorado and Connecticut pharmacists were adamant that syringes should be sold for medical purposes only.

Rural Kentucky and Missouri pharmacists were the least supportive groups. Several rural Kentucky pharmacists reported that they would sell syringes only by prescription, while others said they would sell only to customers they knew well. Rural Missouri pharmacists were less concerned with the spread of HIV or hepatitis than with preventing methamphetamine use, probably as a result of extensive methamphetamine production and consumption throughout the area.

Discrimination in Selling Practices

There was little evidence of racial, ethnic, gender, or socioeconomic biases. Participants generally agreed that, barring observable signs such as track marks, it was difficult to identify someone as an IDU. A number of anecdotes described professional-looking persons turning out to be IDUs, and casually dressed persons with diabetes who could have been mistaken for IDUs. The two groups that indicated a possible bias, urban and rural Missouri, reported perceiving IDUs as predominantly white. Rural Missouri pharmacists agreed that young men sometimes sent their girlfriends to buy syringes, believing that women would be less suspect of illicit behaviors.

Discussion

Pharmacy sale of syringes to help prevent blood-borne disease transmission relies on pharmacist cooperation. Our study results suggest that the attitudes and behaviors of many pharmacists impede easy access to sterile syringes. The Colorado and Connecticut sites appeared more likely to allow syringe sales to IDUs than the Missouri or Kentucky sites. Urban Connecticut pharmacists were the most willing to sell syringes to all customers. The rural Connecticut group was more polarized. Rural and urban Colorado were similar to the Connecticut sites, with a number of pharmacists wanting IDUs to have easy access to sterile syringes

and some considering that selling syringes promoted drug use.

The rural Missouri site presented a special case, as rural Missouri is, according to pharmacists and print and television media, in the midst of a methamphetamine epidemic. These pharmacists felt that fighting methamphetamine production and consumption was a higher priority than disease prevention. Urban Missouri pharmacists, although unlikely to sell syringes to IDUs, viewed themselves as community professionals and voiced willingness to participate in programs to reduce HIV transmission. The two Kentucky sites followed the pattern of the Missouri groups, with rural pharmacists less likely to sell syringes to IDUs.

In every site, pharmacists agreed that the decision to sell syringes should be at their discretion, consistent with the stated policies of APhA and other professional organizations.[18] Some pharmacists were not only willing to sell syringes to all customers but appeared proactive in doing so. However, the majority appeared to be against providing syringes without documented medical necessity because they either did not connect syringe sale with disease prevention or were concerned about the impact on their business.

Limitations

Data gathered by means of focus groups are considered qualitative, in contrast with the quantitative data produced by means of more formal methods, such as structured interviews. Specific questions may not be asked in focus groups, resulting in a loss of certain kinds of information. Additionally, there may be some bias with respect to the type of people who agree to participate in focus groups. Due to the sampling methods used in this study, the findings are not generalizable to all pharmacists in the states studied. On the other hand, qualitative information from the comfortable and informal setting of focus groups results in data that may not be gathered by other means, and is also important for crafting specific questions for a more formal interview.

Conclusion

Differences in pharmacists' attitudes and opinions among the four states and between rural and urban areas indicate that any intervention to increase availability of syringes must be tailored to local circumstances. Evidence of misinformation among the pharmacists and the general willingness of the pharmacists to involve themselves in prevention efforts indicate that education programs to increase awareness of pharmacists' role in preventing blood-borne disease transmission through voluntary sale of syringes to all customers could be valuable.

Acknowledgment: Funded by grants DA12340 (W. Compton, principal investigator[PI]); DA00488 (W. Compton, PI); and DA00430 (R. Cunningham-Williams, PI) from the National Institute on Drug Abuse of the National Institutes of Health.

All work on this project was completed while Dr. Compton was on the faculty of Washington University and does not represent the opinions of the NIH, DHHS, or the federal government.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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Pharmacist Support for Selling Syringes Without a Prescription to Injection Drug Users in Rhode Island

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Objective: To examine pharmacists' attitudes and obstacles to syringe sales to IDUs without prescriptions in Rhode Island, around the time that such sales became legal in the state. ***Design:*** Self-administered written survey. ***Setting:*** Rhode Island. ***Participants:*** 400 randomly selected pharmacist members of the Rhode Island Pharmacists Association. ***Main Outcome Measures:*** Responses to survey items. ***Results:*** Of the 400 pharmacists contacted, 131 (33%) completed and returned the survey; of these, 101 (77%) were pharmacists who worked in stores that provided direct nonprescription syringe sales to the public. The majority of these 101 pharmacists were willing to sell syringes to a suspected IDU without a prescription (65%), favored providing free sharps containers for disposal (68%), and supported providing pamphlets on safer injection practices (88%). Willingness to sell syringes to IDUs without a prescription was significantly correlated with various beliefs about possible consequences of sales. ***Conclusion:*** The high level of support for nonprescription syringe sales to IDUs is promising. The correlation between the willingness to sell syringes to IDUs without a prescription and various beliefs suggests that future educational interventions might encourage pharmacists to sell syringes to this population without a prescription to decrease HIV and hepatitis transmission.

J Am Pharm Assoc. 2002;42(suppl 2):S58–61.

Laws and regulations controlling access to needles and syringes (referred to as "syringes" in this article), intended to discourage injection drug use, have resulted in an artificial scarcity of sterile injection equipment for injection drug users (IDUs)[1] and further stigmatization of this group.[2] The difficulty faced by IDUs in the procurement of sterile syringes and the fear of arrest has encouraged the multiperson use and reuse of syringes.[3,4] Such sharing and reuse of injection equipment is of public health concern because it is a principal route by which IDUs can acquire blood-borne infections such as human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV).[4–6] Further, once HIV becomes well established in a large, at-risk population, such as IDUs, the epidemic has a strong tendency to self-perpetuate.[2]

Before July 1998, Rhode Island's syringe prescription and paraphernalia laws were among the strictest and most vigorously enforced in the nation. Those in possession of a syringe without a prescription, regardless of intent, could receive a prison sentence of up to 5 years and a $5,000 fine.[3] Between 1994 and 1996, syringe arrests accounted for 10% of all drug possession arrests and 7% of all drug possession-related convictions in the state, costing the state more than $4 million in incarceration costs alone. The mean time served by individuals incarcerated for illegal possession of syringes was 13 months.[7]

Such strict syringe possession laws may have been responsible for increased HIV and hepatitis transmission among IDUs in the state.[3] In the general United States population, 25% of the acquired immunodeficiency syndrome (AIDS) cases from 1982 to 1999 have injection drug use reported as their only risk factor; in Rhode Island, this percentage is 38%. Further, according to the Rhode Island Department of Health (T. Latta, oral communication, April 2001), since 1993, more than one-half of all the new AIDS cases in Rhode Island have been associated with IDUs (personal injection, sex with an IDU, and perinatal transmission from mothers who injected or who had sex with an IDU).[8]

As a response to the widespread transmission of blood-borne pathogens among IDUs, Rhode Island legalized syringe exchange programs (SEPs), which began operations in April 1995. A follow-up study documented a significant decrease in the proportion of users sharing syringes and other paraphernalia (e.g., cotton filters, cookers, and rinse water); however, enrollment statistics show

Received May 30, 2002, and in revised form, August 27, 2002. Accepted for publication August 29, 2002.

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that the majority of IDUs in the state are not regularly using the program (T. Latta, oral communication, April 2001). Factors limiting SEP participation in Rhode Island include lack of awareness of the program, inconvenient location and hours of operation, and fear of identification and police harassment.[8] To facilitate access to sterile syringes, Rhode Island passed legislation legalizing nonprescription syringe sales by pharmacists effective September 2000.

Syringe deregulation has already demonstrated efficacy in facilitating access to sterile injection equipment in several other states and countries. In 1987 France was one of the first countries to repeal its syringe prescription law to legalize nonprescription syringe sales. Follow-up studies documented decreased sharing of syringes, greater use of sterile injection equipment, and increased purchase of syringes in pharmacies.[9] The 1992 legalization of nonprescription syringe sales in Connecticut resulted in similar findings.[10–12] In addition to its obvious role in reducing IDU-associated HIV and hepatitis transmission, nonprescription pharmacy syringe sales have been proposed to be cost-effective.[13] Further, the large number and widespread geographic distribution of pharmacies with their convenient hours of operation may facilitate access to sterile syringes more than SEPs, which operate at a limited number of sites and hours.[14]

Based on the success of the deregulation of syringes in other countries and states, a decrease in IDU-related transmission of HIV and hepatitis is anticipated in Rhode Island. However, successful intervention of pharmacy-based HIV and hepatitis prevention largely relies on local pharmacists' willingness to sell syringes to IDUs.[15] In previous studies, factors precluding pharmacists selling syringes to IDUs without prescriptions include lack of knowledge about paraphernalia laws and concern about discarded syringes, the health of IDUs, the safety of customers and pharmacy workers, and customer sobriety.[16–20] Additionally, a 1992 observational study in St. Louis found racial discrimination in the nonprescription purchase of syringes from local pharmacies.[21] Such barriers to pharmacist syringe sales should be addressed to increase IDU access to sterile injection equipment.

Objectives

The purpose of this study was to examine pharmacists' attitudes and obstacles to selling syringes to IDUs without a prescription in Rhode Island around the time that such sales became legal in the state. Such information should be useful in devising future interventions to encourage pharmacy syringe sales.

Methods

A self-administered written survey was mailed to 400 randomly selected members (of approximately 500 members) of the Rhode Island Pharmacists Association (RIPhA) in August 2000 (1 month before the law change) to assess current attitudes, knowledge, and practices of nonprescription syringe sales to IDUs. The survey instrument included questions about (1) willingness to provide health education, referral services, syringe disposal units, and accept used syringes; (2) factors influencing the sale of syringes without a prescription, including concerns about the possible impact of nonprescription syringe sales on businesses, the community, and the amount of injection drug use; and (3) demographic characteristics, including the clientele of the pharmacy in which the respondent worked.

Data analysis was descriptive and correlational based on Pearson χ^2 tests with SAS 8.2 (SAS Institute, Inc., Cary, N.C.; 2001). Statistical tests that were performed did not include "don't know" and "refused" responses. The level of significance was set at $P < .05$.

Results

Of the 400 pharmacists contacted, 131 (33%) completed and returned the survey. All calculations below were based on the responses of the 101 (77%) pharmacists who worked in stores that provided direct nonprescription syringe sales to the public.

Most pharmacists surveyed were white and middle-aged and had been working in their stores for almost 10 years. Twenty-three percent reported having sold a syringe to an IDU in the 4 weeks before the survey. Although the majority of pharmacists had addressed safe disposal practices with clients in the past year, less than one-half had discussed safer injection practices or drug treatment services. Only a minority of respondents reported that their pharmacies accepted used syringes for disposal. One-half of the pharmacists reported moderate or high levels of illicit drug activity in the neighborhood of the pharmacy. (See Table 1.)

When asked whether they would be willing to sell syringes to IDUs without a prescription (after the law change), 32% of the 101 pharmacists were "very willing," 33% were "somewhat willing," 26% were "not at all willing," and 10% were "unsure." Pharmacists were significantly more willing to sell syringes nonprescription to IDUs who had a referral card from a clinic or agency: in this situation, 45% were "very willing," 40% were "somewhat willing," 11% were "not at all willing," and 4% were "unsure" ($\chi^2 = 47.2$, $P < .0001$).

Pharmacists were also asked whether they supported having the pharmacies in which they worked provide various services. The majority of the 101 pharmacists supported the provision of free biohazard containers (77%), pamphlets on safer injection drug use (94%), counseling to customers on safer injection practices (80%), and referrals to drug treatment (92%). Less than one-half (38%) supported having the pharmacy provide sharps containers in which customers could discard their used syringes.

To elucidate the factors affecting willingness to sell syringes to IDUs, participants were asked about their agreement with various statements regarding the consequences of such sales. Agreement with the items, "If I sell syringes to IDUs, the community will be

littered with dirty syringes," "Selling sterile syringes to IDUs will increase drug use," and "My business will suffer if I sell syringes to IDUs because the community will not want to support a pharmacy that they feel encourages drug use" was negatively correlated with willingness to sell syringes to IDUs. Similarly, agreement with the statements, "Selling syringes to IDUs is an important part of a comprehensive approach to HIV/AIDS prevention" and "Selling sterile syringes will decrease HIV transmission among persons who inject drugs and their sex partners and children" was positively associated with willingness to sell. All correlations were statistically significant at the $P = .01$ level (see Table 2). There was no significant correlation between perceived level of illegal drug use in the area and willingness to sell ($r = 0.134$, $P = .265$).

Table 1. Demographic Characteristics of Survey Respondents (n = 101)

Characteristic	Respondents No. (%)
Gender	
Men	59 (59)
Race	
White	91 (91)
Black	2 (2)
Asian/Pacific Islander	1 (1)
Middle Eastern	4 (4)
Other	2 (2)
Age, mean ± SD, years	44.0 ± 13.7
Years worked in current pharmacy, mean ± SD	9.1 ± 11.2
Position	
Owner and managing pharmacist	19 (19)
Non-owner and managing pharmacist	18 (18)
Staff pharmacist	49 (49)
Supervising pharmacist	8 (8)
Other	6 (6)
Pharmacy type	
Independent	38 (38)
Chain	61 (61)
Other	1 (1)
Pharmacy setting	
Freestanding, direct street access	65 (65)
Part of larger retail store	17 (17)
Storefront in mall or shopping plaza	14 (14)
Part of medical, hospital, convalescent facility	2 (2)
Other	2 (2)
Perceived level of drug activity in neighborhood of pharmacy	
Moderate or high	52 (52)
Low or none	48 (48)
Aware of law change before survey	95 (95)
Participation in syringe sale to IDU in 4 weeks before survey	23 (23)
Pharmacy availability of the following items	
Individual syringes	64 (64)
Syringes in packs of 10 or 100	99 (99)
Personal sharps disposal containers	79 (79)
Spoken with customers about the following topics in the past year	
Safer injection drug practices	38 (38)
Safe syringe disposal	78 (78)
Drug treatment services	38 (38)
Pharmacy acceptance of the following items for biohazard disposal	
Syringes in personal sharps containers	22 (22)
Loose syringes	6 (6)

IDU = injection drug user; SD = standard deviation.

Discussion

This study provides important information on Rhode Island pharmacists' attitudes toward nonprescription syringe sales to IDUs at a critical time in the change of the legal status of these sales. Encouragingly, approximately two-thirds of pharmacists were very or somewhat willing to sell nonprescription syringes to a suspected IDU: this level of support is comparable with that of pharmacists in Connecticut and higher than was found in Maine and New York City.[22] These findings are also similar to those of an unpublished 1997–1998 prederegulation study performed by the authors, in which 59% of Rhode Island pharmacists expressed willingness to sell syringes nonprescription to suspected IDUs if laws were changed, 12% were unsure, and 29% would not. Pharmacists were more willing to sell nonprescription syringes to an IDU if the client had a referral card from an agency or clinic, implying perhaps that some would be more comfortable if another professional supported the decision to sell syringes to an individual IDU. Additionally, a majority of pharmacists supported having their pharmacies provide pamphlets on safer injection practices. These data also reflect findings from our 1997–1998 survey, in which 78% of pharmacists replied that they thought it was appropriate to ask pharmacists to take an active role in educating clients about HIV prevention. This high degree of support might not be found in other states, since RIPhA's policy has supported syringe access to IDUs since 1998, 2 years before syringe deregulation.

Table 2. Correlation Between Willingness to Sell Syringes to IDUs[a] and Pharmacists' Beliefs Regarding Nonprescription Syringe Sales

Pharmacists' Belief	*r*	*P*
If I sell syringes to IDUs, the community will be littered with dirty syringes.	–0.537	< .0001
Selling syringes to IDUs is an important part of a comprehensive approach to HIV/AIDS prevention.	0.520	< .0001
Selling sterile syringes to IDUs will increase drug use.	–0.515	< .0001
Selling sterile syringes will decrease HIV transmission among persons who inject drugs, their sex partners, and their children.	0.508	< .0001
My business will suffer if I sell syringes to IDUs because the community will not want to support a pharmacy that they feel encourages drug use.	–0.462	.0002

[a]Measured as "very willing," "somewhat willing," and "not at all willing." "Unsure" and nonresponders were excluded.

When pharmacists who identified as being very or somewhat willing to sell syringes to IDUs were compared with those who were unsure or unwilling to do so, several differences were found in their attitudes toward such sales. In particular, those willing to sell syringes were more likely to agree that selling syringes to IDUs is an important part of a comprehensive approach to HIV/AIDS prevention and that such sales would decrease IDU-related HIV transmission. Further, they were less likely to believe that nonprescription syringe sales to IDUs would result in an increase in the amount of discarded syringes in the community, an increase in drug use, and have a negative impact on their business. That such views are significantly associated with willingness to sell syringes to IDUs suggests that an intervention addressing such beliefs might encourage these pharmacists to sell syringes to IDUs.

Limitations

The findings of this study should be interpreted with caution given the relatively low response rate (33%), which may have resulted in a nonrepresentative sample. Despite this and the limited sample size, this study provides insight into the high degree of support for nonprescription pharmacy syringe sales to IDUs in Rhode Island and highlights factors associated with reluctance to sell syringes to this population.

Conclusion

For nonprescription syringe sales to be successful in decreasing HIV and hepatitis transmission, pharmacists must sell syringes to IDUs. We found that factors associated with reluctance to sell syringes included perceptions that such sales will increase the number of discarded syringes in the community, increase drug use, and cause a pharmacist's business to suffer. Additionally, pharmacists unwilling or unsure about their willingness to sell nonprescription syringes to IDUs were not as likely to believe that selling syringes to IDUs would decrease HIV transmission in this population. The significant association between these beliefs and willingness to sell syringes suggests that educational interventions could be useful in encouraging pharmacists to sell syringes to IDUs. Future research could address ways to most effectively encourage pharmacists to participate in such IDU-targeted interventions.

The project described was supported by grant K20-DA00268 from the National Institute on Drug Abuse (NIDA); grant RO1 DA14853-01 from the National Institute on Drug Abuse; and partial support from the National Institute of Health, Center for AIDS Research (NIH CFAR) grant P30-AI-42853. The content of this article is solely the responsibility of the authors and does not necessarily represent official views of the awarding agencies.

The authors would like to acknowledge the Rhode Island Pharmacists Association for their gracious assistance and support.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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More Pharmacists in High-Risk Neighborhoods of New York City Support Selling Syringes to Injection Drug Users

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Objective: To document changes in pharmacists' opinions and practices from the time of passage to implementation of a law permitting selling syringes without a prescription (the Expanded Syringe Access Demonstration Program [ESAP]). ***Design:*** Two cross-sectional randomized telephone surveys. ***Setting:*** High-risk neighborhoods of New York City. ***Subjects:*** Pharmacists. ***Main Outcome Measure:*** Support for selling syringes without a prescription to injection drug users (IDUs). ***Results:*** We completed 130 surveys at baseline (BL) in August 2000, from neighborhoods with high numbers of injection-related acquired immunodeficiency syndrome (AIDS) cases and 231 surveys at law change (LC) in January 2001. To correct for differences in sampling, we limited the analysis to pharmacies in ZIP Codes represented in both samples and weighted results to adjust for the median income level of those postal codes. From BL (n = 83) to LC (n = 84), law awareness increased (43% to 90%, $P < .001$), as did personal support for selling syringes without a prescription to IDUs (36% to 63%, $P < .001$). From BL to LC, a larger proportion of supporters believed that selling syringes was an important part of human immunodeficiency virus (HIV) prevention and would help decrease HIV transmission, and a smaller proportion was concerned about customer discomfort and increased drug use. A total of 40% of respondents were ESAP registered at LC but registration was not associated with support for selling syringes to IDUs. ***Conclusions:*** Support for ESAP among pharmacists increased in high-risk neighborhoods as the program was implemented. The finding that some pharmacists were ESAP registered but did not support selling syringes to IDUs and others were supportive, but not ESAP registered, may have program implications.

J Am Pharm Assoc. 2002;42(suppl 2):S62–7.

As of June 2000 more than 35% of cumulative acquired immunodeficiency syndrome (AIDS) cases reported to the U.S. Centers for Disease Control and Prevention were among injection drug users (IDUs), their sexual partners, and their children.[1] That figure approached 50% in New York City (NYC)[2] and, at the end of 2000, more than 17,000 adults in NYC were living with AIDS acquired through injection drug use.[3]

Multiperson use of needles and syringes (hereafter "syringes") has been the major route of human immunodeficiency virus (HIV) transmission among IDUs in NYC[4] and has been driven by lack of access to sterile syringes.[5] Syringe exchange programs (SEPs) have proved effective in reducing injection-related HIV risks. In 1996 an analysis of three studies in NYC (total n = 1,442) found that HIV incidence was more than threefold lower in participants at SEPs versus nonparticipants.[4] Partly attributable to SEPs, which opened in the early 1990s, HIV incidence among IDUs in NYC dropped from 4.4 per 100 person years in 1992[6] to approximately 0.7 per 100 person years by 1997.[7] However, SEP coverage is limited to the populations of IDUs with access to one of the nine legal programs in NYC.

An analysis of different modalities for improving syringe access estimated that subsidizing SEPs for 50% of all syringes used by IDUs would cost $0.97 per syringe and would be cost-neutral for a community if HIV seroincidence in IDUs exceeded 2.1%.[8] Subsidizing pharmacy sale would be cost-neutral if HIV seroincidence was 0.3% or higher.[8] With declining HIV incidence in NYC, a law change to permit pharmacy access would be consistent with cost-effectiveness modeling. Nonetheless, an IDU survey in Marseille, France, where IDUs could obtain syringes through SEPs, pharmacies, and vending machines, found that each site attracted different types of IDUs, suggesting that having multiple syringe sources increased the number of IDUs who obtained sterile syringes.[9]

U.S. government-funded studies conducted by the National Commission on AIDS,[10] the University of California,[11] the National Academy of Sciences,[5] and the Office for Technology

Received June 16, 2002, and in revised form July 25, 2002. Accepted for publication August 20, 2002.

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Assessment[12] have concluded that syringe clauses in paraphernalia laws and prescription requirements should be repealed or amended to increase access to sterile syringes among IDUs to help prevent blood-borne pathogen transmission.[13] In New York State, a law passed May 2000, and effective January 1, 2001, established the Expanded Syringe Access Demonstration Program (ESAP). ESAP permits the sale of up to 10 syringes without a prescription to individuals 18 years of age and older by providers who register with ESAP through the State Department of Health (DOH). Similar to laws passed in Connecticut in 1992, Minnesota and Maine in 1997, and Rhode Island and New Hampshire in 2000, ESAP is intended to reduce blood-borne pathogen transmission among IDUs, their sexual partners, and children.

We conducted a telephone survey of pharmacists in NYC just after the law was passed to determine baseline attitudes.[14] When the law went into effect and after DOH mailings and meetings with pharmacists to promote ESAP, we conducted a follow-up survey.

Objective

Our objective was to document any changes in pharmacists' opinions and practices from the time of ESAP passage to the time of implementation.

Methods

Two anonymous cross-sectional telephone surveys of pharmacists in NYC were conducted to assess pharmacists' attitudes and practices related to selling syringes to IDUs without a prescription and changes from the time of law passage—baseline (BL)—to the time of law implementation—law change (LC).

At BL, we obtained a list of all pharmacies from www.yellowpages.com, a no-charge online directory of phone books and new business listings. We identified pharmacies in the three ZIP Code groupings in each of the five NYC boroughs with the highest number of AIDS cases among IDUs,[2] and randomly selected 40 pharmacies from each borough, for a total of 200 pharmacies.

At LC, we obtained an updated listing of all licensed pharmacies from DOH. We excluded the 166 pharmacies that completed or refused to complete the BL survey to limit the number of pharmacists likely to refuse because they had recently completed the previous survey. We then stratified the list by the median household income of the ZIP Code in which the pharmacy was located[15] and randomly selected 525 pharmacies, 50% from the lowest quartile of median incomes, 20% from each of the two middle quartiles, and 10% from the highest quartile.

We piloted the survey in June 2000 and adapted language to ensure clarity (e.g., "drug injection" was changed to "illegal drug injection" or "intravenous drug injection"). For both surveys, if any selected pharmacy did not provide over-the-counter service, telephone was disconnected, or the managing 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 (e.g., respondent was busy), the next pharmacy on the list was selected. Pharmacies were called during regular business hours, at times when, based on the pilot, customer volume was expected to be low (i.e., Tuesday through Thursday, 10:00 to 11:00 am and 2:00 to 3:00 pm).

Following procedures used in a Connecticut survey,[16] the interviewer asked to speak to the managing pharmacist, briefly explained the new law, 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. If no other pharmacist was available after three or more calls, the interviewer attempted to speak with the staff pharmacist. Unless the pharmacist refused to participate, contact was attempted a minimum of five times. After five unsuccessful attempts, the pharmacist was coded "unavailable," unless the interviewer was asked to call again. The interview lasted 10 minutes; call length varied as interviewers complied with requests to hold while pharmacists attended to customers.

The interview gathered respondent and pharmacy characteristics, briefly described ESAP, and asked if respondent was aware of the new law, willing to sell syringes without a prescription in different situations, influenced by several factors in syringe transactions, supportive of several public health services in the pharmacy, and in agreement with a series of statements about the effects of selling syringes to IDUs. The interviewer also asked if respondent's pharmacy was registered with ESAP; these responses were compared to the DOH list of ESAP-registered pharmacies.

Both surveys were exempted from review by the New York Academy of Medicine Institutional Review Board in July 2000. Data analysis was descriptive and correlational. Frequency distributions, Pearson χ^2, and Fisher exact tests, confidence intervals, and Cronbach's reliability coefficient were used with SAS 6.12 (SAS Institute, Cary, N.C.).

Results

At BL, out of 166 valid pharmacies, the pharmacist was unavailable at 13 (7.8%), 23 (13.9%) refused to participate, and 130 completed the survey, for an overall response rate of 78.3%. At LC, out of 398 valid pharmacies, the pharmacist was unavailable in 102 (25.6%), 65 (16.3%) refused to participate, and 231 completed the survey, for an overall response rate of 58.0%. The majority who refused to participate in each survey were "too busy"; 4 refused to participate because they disapproved of ESAP. There were no differences in socioeconomic quartile or borough among those who refused, were unavailable, and completed at BL and LC. At LC there were no significant variations in demographics or attitudinal measurements based on the number of times each pharmacy was called before completing the survey or between those pharmacists who completed the survey within 2 weeks of

first contact and those who completed the survey later.

To control for differences in sampling methodology for this analysis, we selected only pharmacies in ZIP codes that were included in both samples. The combined effect of the two sampling methodologies was that these pharmacies were in areas with the highest numbers of drug injection-related AIDS cases for the borough and were also more likely to be in low-income areas ("high-risk neighborhoods"). We were able to include 83 pharmacies from BL and 84 pharmacies from LC. Because the LC sample included more pharmacies from low-income areas, we weighted the LC analysis so that the distribution of pharmacies by income quartile would represent the distribution of income quartiles in the group of ZIP Codes that we included in the analysis.

Respondent demographics were consistent from BL to LC (see Table 1). Among respondents at BL and LC, respectively, 76.8% and 76.5% were male, 24.1% and 27.4% were white, 44.6% and 33.8% were Asian or Pacific Islander (including individuals of south Asian descent, such as Indian and Pakistani), and 78.3% and 83.7% were owners, managers, or supervisors. The median year in which pharmacists had received their license was 1985 and 1986, respectively (median 15 years in practice for both surveys). The proportion of pharmacies that were independently owned was 79.5% and 75.1%, respectively.

From BL to LC, awareness of ESAP increased significantly (43.4% to 89.5%, $P < .001$). In both surveys, 94.0% were "somewhat" or "very" willing to provide nonprescription sale of syringes to a "known diabetic." Respondents answered two separate questions about selling syringes to IDUs. The proportion of pharmacists who "personally supported" selling syringes to IDUs from their pharmacy increased from 35.5% to 63.2% ($P < .001$). The proportion of pharmacists "very" or "somewhat" willing to sell syringes to an IDU increased from 39.8% to 60.2% ($P = .04$). Support for selling syringes to IDUs and willingness to sell syringes to IDUs were internally consistent (Cronbach $\alpha = .66$ and .47, respectively). Consistent with our previous study,[14] support for selling syringes to IDUs was the outcome variable for this analysis.

Factors influencing the decision to sell syringes without a prescription were grouped as concerns about "safety," "context of sale," and "customer-related" issues and compared with support for selling syringes to IDUs (see Table 2). At BL and LC, most pharmacists considered HIV prevention among IDUs and the risk of discarded syringes in or around their pharmacy as "very important" in deciding whether or not to sell syringes nonprescription. From BL to LC, a declining proportion of pharmacists rated safety of self and staff as "very important" ($P = .049$), while increasing proportions rated as "very important" customer appearance ($P = .007$) and customer knowledge about diabetes, insulin, and syringes ($P = .012$). Willingness to sell single syringes without a prescription increased from BL to LC ($P = .002$). Support for selling syringes to IDUs was associated with willingness to sell syringes without a prescription as 10 packs ($P < .001$, $P < .001$) and as singles ($P = .04$, $P = .013$), at BL and LC, respectively.

Table 1. Characteristics of New York City Pharmacists and Pharmacies at Baseline (August 2000) and Law Change (January 2001)

Characteristic	Baseline % (n = 83)	Law Change % (n = 84)	*P* Value
Men	76.8	76.5	.965
Race/ethnicity			.570
White	24.1	27.4	
Asian or Pacific Islander	44.6	33.8	
African American	6.0	8.7	
Latino	9.6	11.9	
Other	8.5	9.4	
Position			.384
Owner/manager/supervisor	78.3	83.7	
Staff/other	21.7	16.3	
Type of pharmacy			.662
Independently owned	79.5	75.1	
Chain	20.5	23.9	
Setting of pharmacy			.786
Free-standing	79.5	74.1	
Larger retail store/16.9 shopping plaza	21.2		
Aware of law allowing nonprescription syringe sales	43.4	89.5	< .001[a]
Support for selling syringes to IDUs	35.5	63.2	< .001[a]

IDU = injection drug users.
[a]Significant.

Table 2. "Very Important" Influences on Decision to Sell Syringes Without a Prescription at Baseline and Law Change

Influences on Sell Decision	Baseline % (n = 83)	Law Change % (n = 84)	*P* Value
Safety			
Safety of self/staff	72.3	53.6	.049[a]
Risk of theft/robbery	57.8	48.6	.450
Risk of discarded needles	75.9	57.5	.088
Risk of use on premises	58.8	41.8	.089
Potential liability	57.3	50.4	.498
Context of sale			
Customer appearance	14.6	35.8	.007[a]
Customer sobriety	61.0	53.9	.543
Customer knowledge about syringes, insulin, diabetes	60.2	82.3	.012[a]
Customer familiarity	49.4	49.9	.271
Presence of other customers	12.1	16.8	.816
Potential income	8.5	12.5	.253
As 10 packs of syringes[b]	27.7	41.3	.269
As individual syringes[b]	13.6	31.0	.002[a]
Customer-related factors			
Concern for HIV prevention	74.4	66.9	.336
Patient a diabetic[b]	77.1	80.4	.504
Patients an IDU[b]	14.5	22.0	.041[a]

HIV = human immunodeficiency virus; IDU = injection drug user.
[a]Significant.
[b]"Very willing" to sell syringes in given situation.

Pharmacists were asked if they supported having their pharmacy offer a variety of public health services. At BL and LC, respectively, the majority supported providing free sharps disposal containers (68.4% and 74.9%), pamphlets on safer sex practices (98.8% and 92.1%), pamphlets (87.8% and 83.2%) and counseling (80.3% and 80.0%) on safer intravenous drug injection, and referrals to substance abuse treatment (93.9% and 92.1%). The proportions supporting providing sharps containers in the store for customers to discard used syringes increased from 25.0% at BL and 43.4% at LC ($P = .016$).

At BL support for these services was not associated with support for selling syringes to IDUs, but at LC support for pamphlets on safer sex ($P < .01$) and pamphlets ($P < .001$) and counseling ($P < .001$) on safer intravenous drug use were associated with support for selling syringes to IDUs. Table 3 illustrates that, among supporters of selling syringes to IDUs, support for a SEP in the pharmacy increased from BL to LC ($P = .025$). Among nonsupporters of selling syringes to IDUs, support for pamphlets on safer sex ($P = .002$) and on safer injection drug use ($P = .016$) declined.

Pharmacists were asked if they agreed or disagreed with two statements about the benefits and four statements about the harms of selling syringes to IDUs (Table 4). Among supporters of selling syringes to IDUs, the proportion of respondents that believed selling syringes to IDUs was an important part of HIV prevention ($P = .004$) and would decrease HIV transmission ($P = .042$) increased significantly from BL to LC and the proportion concerned about customer discomfort ($P = .034$) and increased drug use ($P = .031$) declined significantly. Among nonsupporters, a larger proportion was concerned about discarded syringes ($P = .049$).

At LC, 40% of the pharmacies were ESAP registered; all respondents knew whether or not their pharmacy was ESAP registered. Among respondents at ESAP-registered pharmacies, 41.4% did not support selling syringes to IDUs. There were no associations between ESAP registration status and support for selling syringes to IDUs ($P = .667$) or willingness to sell syringes to IDUs ($P = .854$). In an attempt to characterize those pharmacists that worked at ESAP-registered pharmacies but did not support selling syringes to IDUs, several variables were examined but no association was found between ESAP registration status and any pharmacist or pharmacy characteristics.

Discussion

NYC pharmacists' support for nonprescription syringe sales to IDUs rose from a modest level at BL to a level at LC comparable with the levels found in states that already allowed nonprescription syringe sales (64% in Connecticut cities[16]; 67% in Baltimore[17]). Moreover, a greater proportion of supporters than nonsupporters believed selling syringes would have a positive impact on HIV prevention and fewer believed that selling syringes would harm their business or community; this subgroup was also more likely to support the provision of a variety of public health services from their pharmacy at LC. These results suggest that the increased level of support for syringe sales encompassed broader disease prevention efforts with IDUs. These findings are promising, as studies conducted in Louisiana,[18] England,[19] and Canada[20] found that pharmacists have regular contact with IDUs and are in a position to contribute significantly to HIV prevention goals.

Between BL and LC, a number of efforts were made to inform pharmacists about ESAP, including a mailing by DOH to all pharmacies and several multimedia events hosted by DOH and community-based organizations, to increase awareness of and participation in ESAP.[21] Although we could not attribute the changes from BL to LC to any single intervention, ongoing dissemination of information about ESAP may have contributed to increased and more comprehensive support for selling nonprescription syringes to IDUs among pharmacists in high-risk neighborhoods of NYC.

The proportion of pharmacists who did not support selling

Table 3. Support for Public Health Services Among Those Who Support and Those Who Do Not Support Selling Syringes to Injection Drug Users at Baseline and Law Change

	Support			Not Support		
Public Health Concept	Baseline % Respondents (n = 27)	Law Change % Respondents (n = 50)	*P* Value	Baseline % Respondents (n = 49)	Law Change % Respondents (n = 29)	*P* Value
Provide free sharps containers	74.1	80.7	.560	66.7	63.5	.785
Allow disposal of sharps in store	24.0	44.7	.083	24.4	39.7	.167
Provide pamphlets on safer sex	96.3	98.3	.576	100.0	80.7	.002[a]
Provide pamphlets on IV injection	85.2	93.3	.245	87.5	64.3	.016[a]
Offer counseling on IV injection	77.8	91.9	.080	79.2	60.3	.076
Provide referrals to drug treatment	92.6	89.0	.612	93.8	97.1	.524
Offer syringe exchange in pharmacy	19.2	45.4	.025[a]	8.3	11.8	.619

IV = intravenous.
[a]Significant differences.

Table 4. Opinions About the Effects of Selling Syringes to Injection Drug Users Among Supporters and Nonsupporters at Baseline and Law Change

	Support			Not Support		
Opinion Topic	Baseline % Respondents (n = 27)	Law Change % Respondents (n = 50)	*P* Value	Baseline % Respondents (n = 49)	Law Change % Respondents (n = 29)	*P* Value
Beneficial impact						
Important part of HIV prevention	63.0	91.7	.004[a]	63.3	56.5	.684
Decrease HIV transmission	51.9	77.5	.042[a]	73.5	59.4	.344
Detrimental impact						
Increase discarded syringes	55.6	37.0	.062	46.9	57.8	.049[a]
Increase customer discomfort	40.7	23.3	.034[a]	40.8	59.4	.260
Community will disapprove	40.7	19.3	.114	49.0	47.9	.315
Increase drug use	40.7	24.1	.031[a]	51.0	53.7	.975

HIV = human immunodeficiency virus.
[a]Significant differences.

syringes to IDUs declined from BL to LC, and those who were nonsupporters were more likely to not support other public health services for IDUs and to agree with statements about the harm of syringe sales to IDUs. These findings suggest that many of the nonsupporters at BL may have been unsure about their opinion, while nonsupporters at LC consisted mostly of those firmly opposed to selling syringes to IDUs.

It was encouraging that all respondents knew if their pharmacy was ESAP registered, but we were unable to explain the lack of an association between ESAP registration and support for selling syringes to IDUs. We will address this question in future surveys.

Limitations

We attempted to account for the use of two different sampling methods by restricting our analysis to pharmacies in regions of NYC represented in both surveys. This limits the applicability of our findings to pharmacies in high-risk neighborhoods.

Because of a high rate of "unavailable" pharmacists at LC, the response rate was higher at BL than at LC. It is possible that pharmacists who were willing to complete the survey were more likely to support selling syringes to IDUs, and thus that we captured a more supportive sample at LC than at BL. To examine that possibility, we compared demographics of respondent pharmacists and the pharmacies where they worked and found no difference between BL and LC. To determine if pharmacists who required multiple call-backs to complete the survey were more likely to oppose ESAP, we compared the attitudes of respondent pharmacists at LC who completed the survey immediately with those who required multiple call-backs over several weeks and found no differences, supporting the comparability of these two samples.

Conclusion

Although our survey conducted soon after the ESAP law passed showed only a modest level of enthusiasm for selling syringes without a prescription to IDUs, implementation of the law was associated with increased support, similar to reports from states that already permitted nonprescription syringe sales. Further surveillance will be needed to monitor changes in attitudes and practices of pharmacists as they gain experience with ESAP.

This study was supported by grants from the New York Community Trust and the Robert Wood Johnson Foundation.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

Preliminary data for this paper was presented as "Coffin PO, Ahern J, Stevenson L, Vlahov D. New York City pharmacists' attitudes toward sale of needles/syringes to injection drug users. *2001 National HIV Prevention Conference*. Atlanta, Ga. 12–15 August 2001; Abstract 997."

Acknowledgments: To Emad Rizkala, Arline Faustin, Vijay Mukhija, Nichele Nivens, Tushar Smith, Y-Uyen Nguyen, Vivek Prasad, Dana Jaffe, and the Center for Urban Epidemiologic Studies staff for assistance in data collection.

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FROM THE LITERATURE

Access to Syringes and Preventing HIV Transmission Among Injection Drug Users

The main factor associated with HIV infection among injection drug users is the practice of sharing injection equipment.(p2)

This multiperson use of syringes is particularly dangerous because residual blood retained in the syringe from one person can be unintentionally and, even with rinsing, inconspicuously passed along to the next person using the syringe.(p2)

This sharing behavior is in part a consequence of the restricted availability of sterile needles and syringes.(p2)

For injection drug users who cannot or will not stop injecting drugs, the once-only use of sterile needles and syringes remains the safest, most effective approach for limiting HIV transmission. (p2) *(Emphasis added.)*

Laws that make it a criminal offense to possess injection equipment (paraphernalia laws) were designed to decrease the prevalence of injection drug abuse, but they also inhibit users from carrying their own supply of needles and thus unwittingly contribute to the sharing of contaminated ones.(p158)

Laws requiring a prescription for the purchase of new needles and syringes (prescription laws) constrain the availability of sterile injection equipment and thus promote the sharing of contaminated equipment.(p158)

- Legislative bodies remove legal sanctions for the possession of injection paraphernalia.(p158)
- Appropriate legislative bodies should repeal laws in the nine states that require a prescription in order to purchase injection equipment.(p158)

Normand J, Vlahov D, Moses LE, eds. *Preventing HIV Transmission: The Role of Sterile Needles and Bleach.* Washington, DC: National Academy Press; 1995. Available at: www.nap.edu/catalog/4975.html. Accessed October 30, 2002.

Injection Drug Users Report Good Access to Pharmacy Sale of Syringes

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Objective: To examine injection drug users (IDUs) opinions and behavior regarding purchase of sterile syringes from pharmacies. ***Design:*** Focus groups. ***Setting:*** Urban and rural sites in Colorado, Connecticut, Kentucky, and Missouri. ***Patients or Other Participants:*** Eight focus groups, with 4 to 15 IDU participants per group. ***Interventions:*** Transcripts of focus group discussions were evaluated for common themes by the authors and through the use of the software program NUD*IST. ***Main Outcome Measures:*** Knowledge of human immunodeficiency virus (HIV), pharmacy use, barriers to access from pharmacies, high-risk and risk-reducing behavior, and rural/urban difference. ***Results:*** Almost all participants knew the importance of using sterile syringes for disease prevention and reported buying syringes from pharmacies more than from any other source. Two IDUs believed pharmacists knew the syringes were being used for injecting drugs and perceived pharmacists' sales of syringes to be an attempt to contribute to HIV prevention. Most IDUs reported that sterile syringes were relativity easy to buy from pharmacies, but most also reported barriers to access, such as having to buy in packs of 50 or 100, being made to sign a book, having to make up a story about being diabetic, or having the feeling that the pharmacists were demeaning them. While the majority of IDUs reported properly cleaning or not sharing syringes and safely disposing of them, others reported inadequate cleaning of syringes and instances of sharing syringes or of improper disposal. There were few differences in IDUs' reported ability to buy syringes among states or between urban and rural sites, although the data suggest that IDUs could buy syringes more easily in the urban settings. ***Conclusion:*** For the most part, participants understood the need for sterile syringes in order to protect themselves from HIV, hepatitis B virus, and hepatitis C virus and saw pharmacies as the best source of sterile syringes. Although these data are not generalizable, they suggest that pharmacists can and do serve as HIV-prevention service providers in their communities.

J Am Pharm Assoc. 2002;42(suppl 2):S68–72.

Injection drug users (IDUs) are at risk for acquiring human immunodeficiency virus (HIV), hepatitis B virus, and hepatitis C virus through the sharing of contaminated syringes, water, cookers, cotton, and other injection equipment.[1–3] Pharmacies are an obvious source of sterile syringes for IDUs.[4–7] However, a number of barriers, including drug paraphernalia and syringe prescription laws, make access to syringes from pharmacies difficult for IDUs.[8,9] In addition, some pharmacists may have negative feelings about IDUs and be unwilling to have them as customers. They may also be unwilling to sell sterile syringes to IDUs because they worry about used syringes being unsafely disposed of in public areas.[1,10]

Received August 27, 2002. Accepted for publication September 6, 2002.

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Objectives

To learn more about these issues, we conducted a series of pharmacist focus groups in urban and rural areas of four states, and the results of this study are reported elsewhere in this supplement.[1] We also addressed these issues from the perspective of the IDUs in a parallel series of focus groups conducted as part of the same study, funded by the National Institute on Drug Abuse, of the availability of syringes. This article presents results of the IDU focus groups

completed in four states: Missouri, Connecticut, Colorado, and Kentucky, with the objective of gathering information about IDUs' experiences in purchasing sterile syringes from pharmacies. In each state, research staff conducted one urban and one rural focus group. The informal atmosphere of a focus group allowed IDUs to express their views about the role of syringe access in preventing the spread of HIV and report the sources from which they bought sterile syringes, how easy it was to buy syringes, and the barriers to buying sterile syringes from pharmacies.

Methods

Methods were similar to those described in a study of pharmacists.[1] Focus groups were coordinated by researchers from Washington University in St. Louis. Detailed scripts and procedure manuals were prepared by an anthropologist (W.R.) with extensive training in qualitative studies. Scripts and manuals were sent to all sites and a pre-focus group conference call was held to ensure that all the focus groups would use standardized methods.

Urban (census-defined metropolitan areas) and rural (definitions varied) focus groups were conducted. In Missouri, Kentucky, and Colorado, the rural sites were remote areas more than 75 miles from any defined metropolitan areas. Connecticut "rural" areas were selected from the nonurban areas surrounding Hartford; because of the generally dense population in Connecticut, no remote rural areas were available.

IDUs were recruited from substance abuse treatment centers and by word of mouth. Once a roster was obtained, IDUs were called and invited to participate in the focus group. This resulted in convenience samples at all sites. IDUs were informed that they would be taking part in a study of attitudes and behaviors of persons attempting to purchase syringes. Focus group participants were paid $20. Before the focus groups, all participants signed informed consent statements using procedures approved by each site's Institutional Review Board.

Two facilitators led each focus group. One facilitator was the moderator; the other ensured that all questions were covered and that all participants had an opportunity to voice their feelings and opinions. Each participant was assigned a number, which was used instead of names to protect confidentiality. Each focus group lasted about an hour and was audiotaped.

Facilitators focused the discussion on five main topics: (1) general syringe practices, (2) where syringes were obtained, (3) ease or difficulty in obtaining syringes, (4) knowledge of laws and regulations, and (5) prevention of HIV and hepatitis B and C infections.

The transcripts from all eight focus groups were analyzed by the researchers at Washington University using the qualitative analysis software, NUD*IST.[11] NUD*IST was used primarily for word searches that put topics in context so that themes could be developed. We also reviewed the transcripts.

Results

Focus groups of 4 to 15 participants were conducted over a 6-week period in June and July 2000. Seventy-nine IDUs participated: 39 men and 40 women. The majority of participants were white, with the second largest group composed of African Americans (see Table 1). An unexpected finding was the few differences among states, and between urban and rural sites, although syringe purchase appeared easier in urban areas. IDUs in Colorado showed the most risk-reducing behavior, followed by Missouri and Connecticut. Kentucky showed the least.

Two major themes were identified: "Access to sterile syringes from pharmacies," and "risk behaviors." In "risk behaviors" we included syringe-disposal behaviors. The most common facility from which focus group participants obtained sterile syringes were pharmacies, and their reports indicated less difficulty purchasing them from this source than we had anticipated.[11] Many participants indicated that pharmacies were the best source of sterile syringes, and that syringes could be obtained there with relative ease (Table 2). However, other participants reported difficulties, such as tough drug paraphernalia laws, only being able to buy in boxes of 50 to 100, being made to sign a book, and believing that the pharmacists viewed them negatively.[8] A few participants reported that the only source of obtaining sterile syringes was stealing syringes from hospitals or doctor's offices or getting syringes from diabetics. While some Connecticut IDUs obtained sterile syringes from a syringe exchange program (SEP), others, in Colorado, believed that the van-based SEP was not available frequently enough to provide regular access to sterile syringes.

By far the majority of focus group members appeared aware of the dangers of contracting HIV or hepatitis B or C viruses through sharing needles. Aside from buying sterile syringes, chiefly from pharmacies, many IDUs engaged in other risk-reducing behaviors, such as cleaning their syringes with bleach or never sharing their syringes with others (Table 3). A number of participants made sure that their syringes were safely disposed of by putting the syringes in biohazard boxes, flushing tips down the toilet and putting the rest in a dumpster, or by breaking tips and putting syringes in a milk bottle or other container.

Table 1. Injection Drug User Focus Groups (n = 79)

Characteristic	No.
Men	39
Women	40
Race/Ethnicity	
White	41
African American	21
Puerto Rican	9
Dominican	1
Native American	1
Asian	1
Multiracial	2
Other	3

Table 2. IDU Opinions about Pharmacy Syringe Access

Easy Access	Difficult Access
Some pharmacists act like they don't want you to get AIDS; very helpful (Colorado,[a] Missouri[a])	Have to know which pharmacies to go to (Missouri[b])
Easy to obtain (Connecticut,[a] Missouri[a])	Have to learn the right things to say about insulin (Colorado,[b] Kentucky,[b] Missouri[a])
No problems with pharmacies (Connecticut,[a] Missouri,[b] Colorado[a])	Have to buy 50 to 100 at a time (Colorado,[b] Connecticut,[b] Kentucky,[a] Missouri,[a,b])
Compared to other states, Colorado is easy (to get syringes) (Colorado[a])	Steal syringes—hospitals, doctors' offices (Missouri[b])
People are so helpful. They know what you're doing (Colorado[a])	Some pharmacists make you sign a book (Missouri,[b] Kentucky[b])
Police don't do too much (Colorado,[a] Missouri[b])	Feels ashamed when have to buy packs of 50 or 100 (Colorado,[b] Missouri[b])
Walk into any pharmacy and buy them (Colorado,[a] Kentucky[a])	Hard to get a syringe late at night (Kentucky,[b] Connecticut,[b] Missouri[b])
Don't need a prescription (Colorado,[a,b] Missouri[b])	Some pharmacists judge them negatively (Colorado,[b] Connecticut,[b] Kentucky,[b] Missouri [b])
Get them at drive through pharmacies (Missouri[b])	Tough drug paraphernalia laws (Missouri,[b] Connecticut,[b] Kentucky[b])
Get them from diabetics (Missouri,[a] Connecticut[b])	If police find a needle when they pat you down you get in real trouble (Missouri[a])
Gone to pharmacies looking like "death warmed over" (Missouri[b])	Syringe van doesn't come around often enough (Colorado[a])
Easier to get down here than in Denver (Colorado[b])	
Don't need ID (Colorado[a])	
Syringe exchange program (Connecticut[b])	

AIDS = acquired immunodeficiency syndrome; IDU = injection drug user.
[a]Urban.
[b]Rural.

Table 3. Themes Related to IDU Risk Behaviors

Risk-Reducing Behaviors	High-Risk Behaviors
Scared of AIDS (Colorado,[b] Missouri,[a,b] Connecticut,[b] Kentucky[b])	Shoots bleach through a couple of times (Colorado,[b] Missouri,[b] Kentucky[b])
If you can afford drugs you can afford to buy in bulk (Missouri[a])	Cleans syringes with vodka (Connecticut[b])
Clean with bleach (Colorado[a,b])	Cleans syringes with peroxide (Connecticut[b])
Always uses sterile syringes (Colorado,[a] Kentucky,[a] Connecticut[b])	Cleans syringes with rubbing alcohol (Colorado,[a] Kentucky[a])
Scratches name (identification) on syringe to make sure—doesn't get someone else's (Colorado,[a] Connecticut,[b] Missouri[a])	Rinses with water (Connecticut[b])
Doesn't share syringes (Connecticut,[b] Kentucky,[b] Colorado[b])	When "drug sick" will use dirty needles (Connecticut,[b] Missouri[b])
Carries own water (Colorado[a,b])	Knows of people who share needles without cleaning them (Missouri[a])
Buys month's supply of syringes at a time (Colorado,[b] Missouri[b])	Get hepatitis C from doing drugs and drinking, not from sharing needles (Kentucky[b])
Gets sterile syringes from pharmacies (all groups)	People are lazy (Colorado,[a] Missouri[a])
Flushes tips down toilet—puts rest in dumpster (Colorado,[a,b] Missouri[a])	All I think about is getting high (Colorado[a])
Breaks tips—put syringe in safe container, then in dumpster (Missouri[a])	Try not to but when you need drugs you take a risk and share syringes (Connecticut[b])
Puts tips in biohazard boxes (Connecticut[b])	Some [other] people leave syringes in the street (Colorado,[a] Kentucky,[b] Missouri[a])
	Leaves syringes in abandoned buildings (Missouri[b])
	Pitch syringes out the window if you see the police coming (Missouri[a])

AIDS = acquired immunodeficiency syndrome; IDU = injection drug user.
[a]Urban.
[b]Rural.

Although most group members recognized the need for clean syringes, some still engaged in high-risk behaviors. Some IDUs still showed a lack of knowledge about the safe ways of cleaning syringes with bleach. Some cleaned their syringes with vodka, peroxide, or rubbing alcohol, while others simply rinsed them with water. A few said that, at times when they really craved the drugs (i.e., when they were feeling "drug sick"), they didn't care whether or not they shared syringes. A minority did not dispose of needles safely. Some group members reported that they "knew" of people who disposed of syringes unsafely; while others admitted that they had done so.

Many of the group members indicated that drug paraphernalia laws made buying sterile syringes from pharmacies more difficult.[9] A number of participants were concerned that carrying sterile syringes could result in legal trouble, ranging from harassment by the police to jail time. One group member from urban Missouri reported that he and his associates would pitch syringes out the car window if they saw the police.

Despite the barriers to access, group members on the whole reported that pharmacies were their main source for sterile syringes and made efforts to dispose of them safely.

Discussion

The data from the eight focus groups showed few differences. Syringes appeared easier to obtain from pharmacies in urban areas. IDUs in Colorado exhibited the most risk-reducing behavior while Kentucky showed the least. The majority of the IDUs understood the necessity for sterile syringes and saw pharmacies as the best source for them. The IDUs from all eight focus groups reported that syringes could be obtained from pharmacies with relative ease. This differs from focus group information obtained from pharmacists from the same eight sites,[1] many of whom reported being on the lookout for IDUs posing as legitimate customers. These data do not allow us to determine whether pharmacists were being deceived by the IDUs, were more lax in their practices than they admitted, or were satisfied that selling syringes in boxes of 50 to 100 prevented IDUs from purchasing them. The IDUs may have exaggerated the ease of purchase syringes, or may have adjusted to buying in large quantities, or pretended to be diabetic. Also, the IDUs in our study may not have used the pharmacies in which the pharmacist study participants worked. However, it is clear that group members viewed buying from pharmacies as the best source for sterile syringes.

Despite the IDUs' assertions that, except in rare cases, they could obtain syringes from pharmacists, many reported having to deceive the pharmacists to obtain the syringes. A number of focus group members reported having to submit to what they considered degrading behavior, such as having to buy in large quantities, sign a book, pretend that they were diabetic, or deal with the perception that the pharmacists were judging them negatively.

Even when IDUs were able to purchase sterile syringes, drug paraphernalia laws made carrying a sterile syringe risky. None of the states in this study requires pharmacists to sell syringes only upon presentation of a prescription, but clearly drug paraphernalia laws would impede IDUs' acquisition of sterile syringes from a safe source and also reduce the likelihood that they would attempt to dispose of used syringes safely.

Limitations

The findings of this study were subject to the following limitations. Data gathered from focus group discussions are qualitative. Specific questions may not be asked, which could result in an unintended loss of information. There may be bias with respect to the type of people who would agree to participate in a group. On the other hand, the informal setting of focus groups can elicit qualitative data that might not be obtained through quantitative studies. Qualitative data can help define issues and questions that can be further explored.

Conclusion

For the most part, IDUs understood the need for sterile syringes to protect themselves from HIV, hepatitis B, and hepatitis C infections. A large majority of IDUs viewed pharmacies as the best source of sterile syringes. Pharmacists can play an important role in increasing IDU access to sterile syringes and in counseling drug users about safe syringe disposal, substance abuse treatment, and use of condoms.

Acknowledgment: Funded by grants DA12340 (W. Compton, principal investigator [PI]), DA00488 (W. Compton, PI), and DA00430 (R. Cunningham-Williams, PI) from the National Institute on Drug Abuse of the National Institutes of Health.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article. All work on this project was completed while Dr. Compton was on the faculty of Washington University and does not necessarily represent the opinions of the National Institutes of Health, Department of Health and Human Services, or the United States government.

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ON COMMUNITY NEEDLE DISPOSAL

June 25, 2002

Safe Community Disposal of Needles and Other Sharps

Dear Colleague:

. . . . .

In the community, improperly disposed used sharps pose a public health hazard to both workers and the public. While this complex problem requires national leadership, successful solutions must be focused at the state, local and community levels. Collaborative efforts involving national, state, and local governments, the solid waste industry, labor organizations, syringe and pharmaceutical manufacturers, pharmacies and pharmaceutical distributors, and health associations are needed to identify, develop, and implement strategies to ensure safe disposal of used sharps in the community. Ideally, these strategies should reduce or eliminate sharps in solid waste, should be low-cost and convenient for the public, and should be easily implemented.

We encourage organizations and state leaders in these fields to convene state and local governments, the solid waste industry, syringe and pharmaceutical manufacturers, pharmacies and pharmaceutical distributors, health associations, and other interested parties to review and improve the current options for safe disposal of used sharps generated in the community by patients and IDUs and to plan public education efforts on safe disposal.

. . . . .

Kathy Berkowitz, RNC, FNP, CDE
President
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Julie M. Scofield
Executive Director
National Alliance of State and Territorial AIDS Directors

Sincerely,

American Association of Diabetes Educators, American Diabetes Association, American Medical Association, American Pharmaceutical Association, Association of State and Territorial Health Officials, and National Alliance of State and Territorial AIDS Directors. *Safe Community Disposal of Needles and Other Sharps.* Houston, Tex: August 7, 2002. Available at: www. safeneedledisposal. org/Call%20to%20Action. html. Accessed September 2, 2002.

Legal Syringe Purchases by Injection Drug Users, Brooklyn and Queens, New York City, 2000–2001

Don C. Des Jarlais, Courtney McKnight, and Patricia Friedmann

Objective: To assess preliminary results of the Expanded Syringe Access Demonstration Program (ESAP) in New York City. ***Design:*** Temporal trends of pharmacy use among injection drug users (IDUs) in Brooklyn and Queens were analyzed from December 2000 through December 2001. ***Setting:*** Brooklyn and Queens, New York City. ***Participants:*** IDUs. ***Main Outcome Measures:*** Attempts to purchase syringes from pharmacies and success in doing so. ***Results:*** Of the 1,072 IDUs interviewed from December 2000 through December 2001, the majority were daily heroin injectors, but there was also substantial speedball and cocaine injection. There was a clear increase over time in both the percentage of subjects who attempted to purchase syringes in pharmacies and in the percentage who successfully purchased syringes. Among IDUs interviewed 4 or more months after ESAP began, large majorities of those who attempted to purchase syringes were successful in doing so. No differences in use of ESAP by IDUs were identified in Brooklyn versus Queens: 27% of IDUs interviewed in Queens reported that they had attempted to purchase syringes in pharmacies versus 28% in Brooklyn. Persons who reported injecting on a daily or more frequent basis were more likely to have attempted pharmacy purchases than persons who reported injecting less frequently, 32% versus 21%. ***Conclusions:*** The ESAP program has led to an increase in the use of pharmacies as sources of sterile injection equipment among IDUs in New York City. The extent to which pharmacies become an important source of sterile injection equipment and the effect of legal pharmacy sales on risk behaviors for human immunodeficiency virus (HIV) infection remain to be determined.

J Am Pharm Assoc. 2002;42(suppl 2):S73–6.

Providing access to sterile injection equipment is a central component of human immunodeficiency virus (HIV) prevention for IDUs.[1] Syringe exchange programs (SEPs) and legal pharmacy sales of needles and syringes (hereafter "syringes") to drug users are the two primary methods of providing access. Each has its own strengths and limitations. SEPs provide for disposal of used injection equipment, can be a site for providing multiple health and social services, and require no outlay of money on the part of the drug user. In contrast, pharmacies can usually provide easier access because of better geographic coverage and much longer hours of operation. Therefore, syringe exchange and pharmacy sales are complementary rather than competing ways of providing access to sterile injection equipment.

Received June 19, 2002, and in revised form August 12, 2002. Accepted for publication August 26, 2002.

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A relatively large number of studies have evaluated SEPs, including trials that have used biological outcomes.[2–5] The general conclusion of the syringe exchange literature is that these programs are usually, but not always, effective in reducing HIV transmission among IDUs.[6] Researchers have also studied pharmacy sales as a method for reducing HIV risk among IDUs; for example, pharmacy sales were an important component of limiting HIV transmission among IDUs in Glasgow,[7] a national program in France led to substantial reductions in risk behavior,[8] a statewide program in Connecticut also led to substantial reductions in risk behavior,[9] and a similar statewide program in Minnesota led to an increase in the use of pharmacies by IDUs.[10]

On January 1, 2001, New York State began the Expanded Syringe Access Demonstration Program (ESAP). This program allowed drug users and others to legally purchase up to 10 syringes from pharmacies without prescriptions, which were previously required for all syringe sales. Possession of up to 10 syringes was also legalized (these syringes are not subject to narcotics paraphernalia laws). Participation by pharmacies is voluntary and the participating pharmacies are required to register with the New York State Department of Health. Pharmacies are not allowed to advertise that they sell syringes without a prescription.

Objectives

This paper contains preliminary data on a study conducted on pharmacy syringe sales among IDUs in the boroughs of Queens and Brooklyn in New York City. These two boroughs were selected because they have relatively few syringe exchange programs (Brooklyn has three programs, and Queens has none). Thus, ESAP may fill a particular need for access to sterile syringes for IDUs in these two boroughs.

Methods

Beginning in December 2000, IDUs were recruited on the streets of Brooklyn and Queens to participate in a survey about their knowledge of ESAP, knowledge of pharmacies participating in ESAP, and the extent to which IDUs were using pharmacies to obtain syringes. The behavioral questions referred to behaviors in the 6 months before the interview. The subjects were recruited in conjunction with the AIDS Outreach Project, a street outreach program that has been operating in New York City since the mid-1980s. The recruitment procedures did not change during the course of data collection, and there were no difficulties in recruiting subjects throughout data collection.

The interviews lasted approximately 15 minutes and participants were paid $10 for their time. Subjects were assigned a unique identifier when recruited, which was entered into a database and was used to avoid duplication of interviews (subjects were interviewed only once during this study).

The data reported here are part of larger, ongoing evaluation of ESAP.

The research protocol was approved by the Institutional Review Board of Beth Israel Medical Center.

For analysis, subjects were divided into five groups, based on date of interview:

- Pre-ESAP: December 1–31, 2000.
- ESAP I: January 1–April 9, 2001.
- ESAP II: April 10–June 30, 2001.
- ESAP III: July 1–September 30, 2001.
- ESAP IV: October 1–December 31, 2001.

Differences between periods were tested using χ^2 analysis, and the level of significance was set at $P < .05$.

Although the law prohibits the advertisement of nonprescription syringe sales, the New York State Department of Health issued a list of ESAP-participating pharmacies. This list was distributed on April 10, 2001. The ESAP I time period covers the time that the law was in effect but that the knowledge of participating pharmacies was limited. The time periods thereafter are quarters.

Results

Table 1 shows the demographic and recent drug use characteristics of the subjects by borough. The racial/ethnic differences reflect the population differences between the boroughs. Table 2 shows the frequency of the injection of heroin alone, cocaine alone, and speedballs (heroin and cocaine mixture) by the subjects in the 6 months before the interview. The majority of subjects were daily heroin injectors, but there was also substantial speedball and cocaine injection.

Table 3 shows the percentage of subjects who attempted to purchase syringes from pharmacies, and the percentage of those attempting who successfully purchased syringes in each of the five time periods. Note that the question referred to attempts and successful attempts in the 6 months before the interview. There is a clear increase over time in both the percentage of subjects who made purchase attempts in pharmacies and in the percentage who successfully purchased syringes there. During the last three periods, large majorities of those who attempted to purchase syringes were successful in doing so.

There were no differences in use of ESAP by IDUs in Brooklyn versus Queens. For all of the ESAP time periods combined, 27% of IDUs interviewed in Queens reported that they had attempted to purchase syringes in pharmacies versus 28% in Brooklyn.

Persons who reported injecting on a daily or more frequent basis were more likely to have attempted pharmacy purchases than persons who reported injecting less frequently, 32% versus 21% ($P = .002$). There were also significant differences in use of pharmacies by race/ethnicity. Table 4 shows the percentage attempting pharmacy purchases by race/ethnicity and by time. There is a clear separation of the three groups, with white IDUs becoming the most likely to attempt pharmacy purchases and African American IDUs becoming the least likely to attempt pharmacy purchases.

Table 1. Characteristics of Street-Recruited Injection Drug Users

	Brooklyn No. (%) (n = 611)	Queens No. (%) (n = 461)
Mean Age (years)	40.5	42.0
Race/Ethnicity		
Latino	305 (51)	125 (28)
African American	203 (34)	198 (44)
White	86 (14)	128 (28)
Sex		
Male	403 (66)	301 (65)

Table 2. Drug Injection Frequency During Last 6 Months by Drug Type

	Heroin %	Speedball %	Cocaine %
None	6	51	60
< daily	28	29	27
1+ times/day	66	20	13

Discussion

The data in this preliminary report reflect experiences during an extended start-up phase for ESAP among IDUs in Brooklyn and Queens. This start-up period is consistent with several of the features of the ESAP law, including the need for pharmacies to register with the Department of Health and the prohibition on advertising nonprescription syringe sales. That one-half of the subjects interviewed in our last time period had attempted pharmacy purchases, and that more than 90% of those attempting were successful does clearly show that ESAP was operational on a large scale by the end of 2001 in Brooklyn and Queens.

The eventual extent of pharmacy purchasing by IDUs and the effect of pharmacy sales on injection risk behavior remain to be determined. ESAP does appear to be used more frequently by those IDUs who inject daily, and thus have a more frequent need for sterile injection equipment. We suspect that the relationship between pharmacy purchases and risk behavior is likely to vary with the degree of ESAP implementation and that substantial reductions in injection risk behavior will occur when large numbers of high-risk IDUs purchase from pharmacies on a frequent basis. We also note that any trends in risk behavior among IDUs who purchase from pharmacies would need to be interpreted in conjunction with trends in risk behavior among IDUs who are not purchasing from pharmacies.

The emerging racial/ethnic differences in pharmacy sales in our data are of considerable concern. At present, we do not have an explanation for these differences. This is an area in which further research is needed and in which additional ESAP implementation efforts addressing Latino and African American IDUs are needed.

Limitations

Data reported in this paper should be interpreted cautiously, given the preliminary nature of the results. The data reported on pharmacy purchases did not assess the effect of ESAP on the transmission of HIV and other blood-borne pathogens. Finally, IDUs were recruited on the streets in both Brooklyn and Queens; therefore the results and experiences reported here may not be representative of all IDUs in New York City.

Conclusion

The first year of ESAP in Brooklyn and Queens included a lengthy implementation period. By the end of 2001, the program had reached a point where one-half of the street-recruited IDUs in Brooklyn and Queens had attempted to purchase syringes in pharmacies, and almost all who attempted such purchases were suc-

Table 3. Attempts and Success of Pharmacy Purchase of Syringes Over ESAP Implementation Periods

	Pre-ESAP[a] % (n = 210)	ESAP I[b] % (n = 339)	ESAP II[c] % (n = 175)	ESAP III[d] % (n = 179)	ESAP IV[e] % (n = 181)
Tried ($P < .0001$ by χ^2 test for trend)	12	18	31	40	50
Succeeded ($P < .0001$ by χ^2 test for trend)	54	35	74	82	92

ESAP = Expanded Syringe Access Demonstration Program.
[a]December 1 – 31, 2000.
[b]January 1 – April 9, 2001.
[c]April 10 – June 30, 2001.
[d]July 1 – September 30, 2001.
[e]October 1 – December 31, 2001.

Table 4. Racial and Ethnic Differences in Pharmacy Purchase of Syringes Over ESAP Implementation Periods

	Pre-ESAP[a] % (n = 202)	ESAP I[b] % (n = 331)	ESAP II[c] % (n = 170)	ESAP III[d] % (n = 169)	ESAP IV[e] % (n = 175)
Race/Ethnicity					
White	11	17	40	49	79
African American	13	11	22	30	35
Latino	11	27	35	42	49
P Value[f]	.988	.003	.093	.157	.001

ESAP = Expanded Syringe Access Demonstration Program.
[a]December 1 – 31, 2000.
[b]January 1 – April 9, 2001.
[c]April 10 – June 30, 2001.
[d]July 1 – September 30, 2001.
[e]October 1 – December 31, 2001.
[f]By χ^2 test for trend. *P* values < .05 were considered significant.

cessful. However, throughout the five time periods analyzed, considerable racial/ethnic differences emerged among IDUs using pharmacies, with African Americans being the least likely to purchase syringes in a pharmacy.

Continued expansion of pharmacy purchases by IDUs is still needed, as well as an increase in outreach and education regarding ESAP. These expanded efforts should focus on Latinos and African Americans to increase their use of pharmacies for obtaining sterile injection equipment.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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NEW YORK STATE

EXPANDED SYRINGE ACCESS DEMONSTRATION PROGRAM

E S A P

On January 1, 2001, the **Expanded Syringe Access Demonstration Program (ESAP)** went into effect in New York State. ESAP offered pharmacies, health care facilities, and health care practitioners the opportunity to register with the New York State Department of Health to sell or furnish up to 10 syringes without a prescription to persons at least 18 years of age. The legislation required an extensive independent evaluation.

Seven articles in this supplement report on aspects of ESAP. See pages S28, S29, S62, S77, S83, S92, and S105. Additional information on ESAP can be found at: www.health.state.ny.us/nysdoh/hivaids/esap/regover.htm.

Impact of Increased Syringe Access: Preliminary Findings on Injection Drug User Syringe Source, Disposal, and Pharmacy Sales in Harlem, New York

Crystal M. Fuller, Jennifer Ahern, Liza Vadnai, Phillip O. Coffin, Sandro Galea, Stephanie H. Factor, and David Vlahov

Objective: To evaluate the New York State Expanded Syringe Access Demonstration Program (ESAP) through injection drug user (IDU) surveys, discarded needles and syringes studies, and pharmacy sales and experiences surveys. ***Design:*** Pre–post comparison. ***Setting:*** In Harlem, New York City, risk surveys among street-recruited IDUs, needle/syringe street counts on 27 systematically sampled city blocks, and Harlem pharmacist reports of sales and experiences. ***Main Outcome Measures:*** Number and types of IDU syringe sources, block mean counts of discarded needles and syringes, level of pharmacy nonprescription syringe sales (NPSS), and pharmacists' experiences. ***Results:*** Comparing 209 pre-ESAP with 396 post-ESAP IDUs, pharmacies as a *primary* syringe source increased: 3.4% to 5.3% ($P < .001$, and *ever* pharmacy use increased: 4.9% to 12.5% ($P < .001$), respectively. Compared with pre-ESAP IDUs, post-ESAP IDUs tended to be younger and more often black. Harlem pharmacy participation in ESAP increased considerably from March 1, 2001, to March 1, 2002, 49% to 79%, respectively. Among three Harlem pharmacies, there was a modest increase in NPSS; pharmacists reported no problems, and no discarded needles and syringes were observed in pharmacy areas. In the three pharmacies, the proportion of syringe sales that were NPSS was 46% (110 to 240 NPSS/month), 3% (25 to 90 NPSS/month), and 0%. The mean ratios of needles/syringes to background trash have not increased in Harlem since ESAP began. ***Conclusion:*** To date, no evidence of harmful effects (discarded needles/syringes, pharmacy altercations) resulting from ESAP were observed. While NPSS have increased in Harlem, pharmacy use among IDUs remains low. In Harlem, efforts are underway to increase ESAP awareness and reduce socioenvironmental barriers to ESAP.

J Am Pharm Assoc. 2002;42(suppl 2):S77–82.

Injection drug users (IDUs) are at high risk for acquiring human immunodeficiency virus (HIV), hepatitis B virus, hepatitis C virus, as well as other blood-borne pathogens.[1–4] The primary mode of transmission for HIV and other blood-borne pathogens among IDUs is parenteral, specifically through direct syringe sharing or "multiperson use" of syringes.[4,5] Ethnographic and epidemiologic studies have concluded that multiperson use of syringes is due to several factors; the two principal factors being lack of access to sterile syringes and needles (referred to collectively in this paper as "syringes"), and fear of arrest and detainment for infractions of paraphernalia possession laws and ordinances.[6,7]

In 1997 four federal agencies issued an *HIV Prevention Bulletin* recommending that to reduce the risk of infectious disease, IDUs unable to stop injecting drugs should "use a new, sterile syringe to prepare and inject drugs" and practice safe injection techniques.[8] Syringe exchange programs (SEPs; i.e., programs that allow drug users to exchange used syringes for sterile syringes) have been implemented worldwide and used as a safe syringe source for IDUs to combat the spread of HIV. Increased access to sterile

Received June 20, 2002, and in revised form August 22, 2002. Accepted for publication August 29, 2002.

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syringes has proved to be an effective response to injection-related HIV risks.[9] However, in New York City, as well as other cities across the United States, syringe reuse continues to occur particularly among subgroups of IDUs who do not have access to SEPs.[10,11] Limited days and hours of operation (a result of a federal ban on funding for SEPs) and long travel distances to an SEP site may be primary reasons for lack of access to SEPs by some IDUs.[12,13]

Numerous researchers have urged the use of pharmacies as safe syringe sources through sales or exchange programs that would supplement SEPs.[6,14–17] In an effort to increase access to sterile syringes, New York State enacted legislation, the Expanded Syringe Access Demonstration Program (ESAP), permitting pharmacy sale of syringes without a prescription. Since January 1, 2001, New Yorkers 18 years of age or older have been able to purchase up to 10 syringes at a time from pharmacies registered with the New York State Department of Health (NYSDOH) without a prescription and to possess those syringes legally. This law is similar to the Connecticut law, enacted in 1992, allowing nonprescription syringe purchases from pharmacies. In Connecticut, the law has been associated with reductions in syringe-sharing among IDUs as well as increases in nonprescription syringe sales (NPSS) over time.[9,18]

The New York State law mandates an independent program evaluation for submission to state policy makers to determine the impact of law on: (1) IDU practices (e.g., syringe sharing and syringe disposal); (2) pharmacy practice (e.g., level of participation); (3) substance abuse trends (e.g., changes in illicit drug abuse); (4) criminal activity (e.g., level of drug-related arrests); and (5) occupational consequences (e.g., needle sticks). As the independent evaluator of ESAP, the New York Academy of Medicine (NYAM), in collaboration with Beth Israel Medical Center and the National Development and Research Institutes, conducted a focused qualitative and quantitative epidemiologic assessment of these areas of interest.

Objectives

In this paper, we provide early findings on three ESAP evaluation components underway in the Harlem neighborhood of New York City: (1) IDU syringe source before and after ESAP legislation; (2) discarded syringe (i.e., needle and syringe) counts before and after ESAP legislation; and (3) pharmacy sales and pharmacists' experiences since ESAP began. These analyses provide information on of the early effects of ESAP on drug users, pharmacists, and the community of Harlem.

Methods

From September 1997 to December 1998, IDUs were enrolled in an observational cohort study (CIDUS-2) and followed for 1 year at 6-month intervals in the Harlem neighborhood of New York City. Study participants were asked about their injection practices as well as other high-risk practices. In July 2000, enrollment of a new IDU cohort (Hepatitis C cohort study) began in Harlem, which assessed high-risk behaviors similar to those of the earlier cohort. A third observational cross-sectional study (Urban Resource Center [URC] Cross-Sectional Survey) was implemented in October 2000, which also captured similar risk practices. Each of these studies used similar recruitment and data collection methodologies with one exception. Two studies (CIDUS-2 and Hepatitis C) targeted IDUs ≤ 35 years of age and one study (URC) had no age requirement. Participants in all three studies were asked which syringe source they *used most often* in the past 6 months, and whether they *ever* purchased a syringe from a pharmacy in the last 6 months. These studies provide data on IDU syringe sources before (pre-ESAP) and after (post-ESAP) the legislation.

Street counts of discarded syringes were conducted quarterly in Harlem from October 2000 to December 2001, yielding a total of 8 time points. The methodology has been described in detail elsewhere.[19] In brief, every fourth city block was systematically sampled yielding a total of 27 blocks. Four survey teams of two "counters" and a "recorder" were sent into the field using a standard protocol. All surveying began in the northeast corner of the block, and teams walked clockwise until the perimeter of the block was completed. The teams returned to side streets and alleys within the block and surveyed these areas systematically and consistently. The counters surveyed the outer edge of the sidewalk, the middle of the sidewalk, and 3 feet into a yard or empty lot. As the surveyor observed each item, the recorder tallied and recorded counts of syringes, needles, and background trash (drug vials, soft drink bottles, and cans). These counts were conducted on the same day of the week and by the same survey team to maximize consistency.

In June 2001, 10 ESAP-registered pharmacies were randomly selected from the ZIP Codes in New York City with the highest prevalence of acquired immunodeficiency syndrome (AIDS), drug-related hospitalizations, and juvenile crime to participate in our Pharmacy Sales and Experiences Study. Each pharmacist (owner or manager) was required to record monthly prescription and NPSS data. Participating pharmacists were also asked to participate in a 10-minute monthly survey that assessed practices and experiences surrounding the sale of nonprescription syringes, conversations that occurred during sales transactions, cost of syringes as singles and in packs of 10, and how each of these reported practices and experiences changed over time. Additionally, a 1-block radius around each participating pharmacy was assessed for discarded needles, syringes, and background trash. In this paper, we report on a subset of these 10 pharmacies, including 3 pharmacies located in Harlem.

Statistical Analysis

Data from the three IDU studies (CIDUS-2, Hepatitis C, URC) were combined to examine differences between the two time periods, pre-ESAP versus post-ESAP. We examined demographic characteristics (i.e., age, sex, race/ethnicity) and syringe source (i.e., syringe source used *most often* in the last 6 months, and *ever* use of a pharmacy as a syringe source in the past 6 months). After data cleaning and editing, *t* tests and χ^2 tests were used to determine bivariate statistical differences for continuous and categorical variables, respectively.

The discarded syringe street counts measured at each time point included syringes, *N*, vials, *V*, and bottles/can, *B*, per block. The ratio of needles and syringes to the sum of vials, bottles, and cans, $N/(V + B)$, was used to account for the background trash or condition of each block. Additionally, we chose something small (e.g., drug vial) and something larger (e.g., beverage bottles and cans) to help account for a visual "practice" effect over time. Ratios and counts are commonly skewed to the right. Thus, to reduce the effect of the skewness on our study findings, the ratio $N/(V + B)$ for each block count was transformed to $\log N/(V + B)$. To ease the interpretation of the count data, the transformed data were averaged, exponentiated, and presented as needles and syringes per 100 trash items, as follows:

$$e^{\{\text{mean of } \log [N/(V+B)]\}} \times 100$$

This resulted in a geometric mean that reflects the natural scale of the original (transformed) data.[19]

The pharmacy sales and experiences data collected from the three Harlem pharmacies were used to calculate the number of NPSS by month. Additionally, the proportion of NPSS out of the total number of syringes sold (e.g., prescription and nonprescription) was calculated for the three pharmacies combined. Qualitative assessments of the practices and experiences of each Harlem pharmacist were summarized.

Results

As of January 2002, 605 IDUs had been enrolled in the three IDU studies yielding 209 IDUs enrolled before January 1, 2001 (pre-ESAP period) and 396 after (post-ESAP period). IDUs enrolled before ESAP implementation were significantly younger than those enrolled after as shown by the median ages of 26 and 36, respectively (Table 1). There were no significant differences by gender, however there were significantly more black IDUs (23.5% versus 9.6%) and fewer white IDUs (4.6% versus 13.4%) during the post-ESAP period compared with the pre-ESAP period. A higher proportion of IDUs reported a pharmacy (5.3% versus 3.4%) and an SEP (67.3% versus 48.1%) as the syringe source most often used during the post-ESAP period compared with the pre-ESAP period. A lower proportion of IDUs reported a family member or friend (14.5% versus 17.8%) and other source (12.9% versus 30.8%) during the post-ESAP period compared with the pre-ESAP period. Post-ESAP, a significantly higher proportion of IDUs reported ever purchasing from a pharmacy in the last 6 months (12.5% versus 4.9%) compared with pre-ESAP. Demographically, significantly higher proportions of syringe purchases were observed during the post-ESAP period compared with the pre-ESAP period among white IDUs (25% versus 3.7%; $P < .04$), and Latino IDUs (13.1% versus 5.2%; $P < .01$), respectively. However, the overall proportion of pharmacy syringe purchases were lower, and these syringe purchases did not significantly increase among black IDUs (4.6% versus 0%; $P < .36$) when comparing the post- versus pre-ESAP periods, respectively (data not shown in tables).

Discarded syringe counts over the 27 Harlem selected city blocks are summarized in Table 2. The syringe counts per block were low, with many blocks having 0 counts. The actual counts observed in Harlem ranged from 2 to 5 syringes with the exception of 1 month in which 32 syringes were counted. However, when background trash (e.g., bottles/cans and vials) was taken into account, the block mean of syringes per 100 trash items did not differ across the five count dates. The block mean ratios of syringe to background trash have not increased since ESAP was implemented. In fact, there appears to be a decrease in block mean ratios when comparing pre-ESAP period ratios (1.17 and 1.03) with post-ESAP period ratios (0.81, 0.53, and 0.73).

Since ESAP began, the proportion of Harlem pharmacies registered out of the total number of pharmacies has increased considerably from March 2001 to March 2002, 49% to 79%, respectively (81 total pharmacies in Harlem).[20] Of the 3 Harlem pharmacies that participated in the Pharmacy Sales and Experiences Study, 2 are actively selling nonprescription syringes and 1 has sold none since ESAP began. The pharmacy selling the most nonprescription syringes sells between 110 and 240 syringes per month, while the other pharmacy is selling between 25 and 90 nonprescription syringes. NPSS make up about 46% of the total syringe sales at the highest selling pharmacy and about 3% of the total syringe sales at the moderate selling pharmacy. These two pharmacies are located within five blocks of one another but are reporting very different syringe sales experiences (one had not sold nonprescription syringes to date, while the other is the most active among the three Harlem pharmacies). The active pharmacy is located close to an active open-air drug market. The pharmacy reporting no syringe sales is located in a more active SEP area of Harlem compared with the other two pharmacies. In terms of clientele, this pharmacy is tailored to "filling prescriptions only" with a customer base of pediatric Medicaid patients. This particular pharmacy is more of an apothecary shop and does not have a typical "drugstore" appearance. It sells only a few nonprescription products, which limits number of customers seeking those products. At all three pharmacies, single syringes are available for $0.50, and 10-packs range in price from $2.99 to $4.99.

No pharmacists have experienced "unusual events, transactions,

Table 1. Characteristics of Injection Drug Users Enrolled in Three Community Studies Pre- and Post-ESAP[a]

Characteristic	Pre-ESAP (n = 209)	Post-ESAP (n = 396)	*P* value[b]
Age (in years), median (range)	26 (18–34)	36 (18–62)	< .001
Gender			
Men, No. (%)	148 (70.8)	267 (68.3)	< .340
Women, No. (%)	61 (29.2)	118 (30.2)	
Other, No. (%)	0 (0.0)	6 (1.5)	
Race/Ethnicity			
White, No. (%)	28 (13.4)	18 (4.6)	< .001
Hispanic/Latino, No. (%)	156 (74.6)	271 (69.1)	
Black, No. (%)	20 (9.6)	92 (23.5)	
Other, No. (%)	5 (2.4)	11 (2.8)	
Primary syringe source in last 6 months			
Pharmacy, No. (%)	7 (3.4)	21 (5.3)	< .001
Needle exchange program, No. (%)	100 (48.1)	265 (67.3)	
Family/friend, No. (%)	37 (17.8)	57 (14.5)	
Other, No. (%)	64 (30.8)	51 (12.9)	
Ever bought syringes from a pharmacy in last 6 months[c]:			
Yes, No. (%)	10 (4.9)	47 (12.5)	< .003
No, No. (%)	194 (95.1)	330 (87.5)	

IDU = injection drug user; ESAP = Expanded Syringe Access Demonstration Project.
[a]CIDUS-2, Hep C, and URC; pre-ESAP period was from September 1997 through December 1998, post-ESAP from January 2001 through January 2002.
[b]*T* tests were used for continuous variables and χ^2 square tests for categorical variables.
[c]This was originally a dichotomous variable and has not been collapsed.

or incidents" involving syringe sales since ESAP began through February 2002. Pharmacists reported that customers seeking syringes are "polite" and "considerate" at best, and "impatient" or "unwilling to talk" at worst. For the most part, these pharmacists reported that there was little or no discussion with the customer during syringe transactions. When there was discussion, it was primarily focused on safe syringe disposal, what the syringes were used for, and in some cases, substance abuse treatment. The pharmacist who was selling most actively had indicated concerns regarding the volume of "daily single syringe sales customers" and their potential impact on his other business. There have been no observations of needles or syringes through the systematic counts conducted in the surrounding area of each selected Harlem pharmacy. All pharmacists enrolled stated that they were supportive of ESAP.

Discussion

Entering the second year of ESAP, early information suggests that the program has been embraced by pharmacies in Harlem, as demonstrated by the proportion of pharmacies registered in the program. However, while self-reported nonprescription syringe purchases have significantly increased among IDUs in Harlem, the proportion of IDUs reporting pharmacy use is relatively low, compared with Brooklyn and Queens.[21] Yet, the results presented here show no evidence of untoward events as a result of ESAP implementation. This could be a result of low use of pharmacies as syringe sources; however, our data provide a detailed account of actively selling pharmacies and their experiences. Specifically, the Harlem pharmacies selling nonprescription syringes reported no disruption, and no discarded syringes were observed in or around their locations. The low ratios (and lack of increase) in discarded syringes observed for the 27 systematically sampled Harlem city blocks further support the lack of adverse effects, namely, the potential for contaminated syringes to be found on streets.

Several factors may account for the modest uptake of the program in its first year in Harlem. First, Harlem, particularly East Harlem, has the most concentrated number of SEPs in New York. These programs have been established for several years, have a legal status that permits carrying syringes, and provides free syringes (whereas pharmacy sales are legal but involve purchases). This long-standing availability of SEPs in Harlem provides a basis for a slower adoption of a new program in this community. In other cities that offer different venues for syringe access, studies show that each service meets the needs of different IDU subgroups

Table 2. Total and Block Mean Counts by Date Surveyed

	Pre-ESAP		Post-ESAP[b]		
Survey Item	October 25, 2000	January 30, 2001[a]	April 25, 2001	June 27, 2001	December 5, 2001
No. needles and syringes	4	32	2	3	5
No. vials/other drug containers (V)	80	484	122	187	144
No. bottles/cans (B)	332	781	371	652	490
Block mean = $e^{\{\text{mean of log } [N/(V+B)]\}} \times 100$	1.17	1.03	0.81	0.53	0.73

ESAP = Expanded Syringe Access Demonstration Project.
[a]Although ESAP legislation began in January 1, 2001, components of ESAP continued to be developed (i.e., pharmacy registration for ESAP were ongoing, ESAP-provider directory was being compiled and made public to public health providers).
[b]Because of the events of September 11, 2001, no street count was conducted in September.

for HIV prevention.[22] Thus, over time, ESAP may complement existing safe syringe sources, and thereby reach a greater proportion of IDUs in New York City.

Second, those accessing syringes through ESAP (at least early on in the program) may differ demographically from those who have not used the program, and this may explain the low level of pharmacy utilization in the Harlem community. For example, the overall population studied in Brooklyn and Queens tended to be older and reflect a relatively lower proportion of black and Latino IDUs compared with the Harlem IDU study sample. Reports of ESAP participation among IDUs in Brooklyn and Queens also demonstrated slower uptake by black and Latino IDUs as compared with white IDUs.[21] Similar demographic differences were also observed among the Harlem population with regard to level of IDU participation in ESAP over time. Thus, the slow uptake in Harlem, and potentially elsewhere in the New York City, may be characterized by a more vulnerable IDU subgroup that may perceive barriers to ESAP, which may warrant attention by public health practitioners. Based on these data, the Community Action Board of the Harlem Urban Research Center at NYAM has undertaken efforts that began in the summer of 2002 to increase the use of ESAP, thereby potentially reducing levels of multiperson syringe use and HIV transmission in Harlem. This will provide the subject of a separate evaluation.

Finally, ESAP has not included advertising (which is banned in the legislation), and efforts to inform IDUs about the law have been implemented slowly during the study period. In March 2002, the AIDS Institute provided a decal for participating pharmacies to post on their windows or doors, and community-based organizations have taken a role in publicizing the program; the effects of this will be the subject of future evaluation.

ESAP-participating pharmacists have the opportunity to be "frontline" public health educators for drug users who patronize their pharmacies. While generally little conversation between pharmacists and IDUs was reported to occur, drug treatment discussions sometimes took place as well as inquiries on safe syringe disposal. Pharmacies could develop relationships with other community and local government agencies that target prevention messages to high-risk communities to help promote safer injection and disposal practices as well as provide information on drug treatment options. The AIDS Institute has involved pharmacies in this fashion as a part of the overall evaluation of ESAP.[23]

Limitations

A drawback in this study is the potential lack of comparability between the pre- and post-ESAP populations. This is evidenced by the older age and increased use of SEPs among the post-ESAP IDU population compared with the pre-ESAP population (older IDUs are more likely to participate in SEPs compared with younger IDUs[11]). Based on this, and the enrollment criteria stated earlier, the observed difference between pharmacy use pre- versus post-ESAP may be somewhat overestimated in this report. For example, if pre- and post-ESAP populations were more comparable (i.e., both younger or both older), the overall level of pharmacy use may have been potentially lower (only if both were younger) and the difference may have been somewhat diminished. Previous studies have also shown that older IDU populations tend to have higher proportions of black participants while younger IDU populations tend to have larger proportions of white IDUs.[24,25] As the evaluation proceeds over the next year, future analyses will help explain these early findings, particularly the importance of individual and contextual sociodemographic effects on ESAP participation.

Conclusion

Our findings reveal early results of the recently implemented ESAP legislation through a comprehensive evaluation strategy that may serve as a basis for future public health policy in the state of New York, and elsewhere in the United States, using data on IDU behavior, pharmacy sales and experiences, and discarded syringes in a relatively high-risk area of New York City. Based on our findings, no evidence of harmful effects resulted from ESAP implementation in Harlem. We have provided evidence that suggests relatively low use of pharmacies as a safe syringe source for Harlem IDUs 1 year after the enactment of this new law. There may be certain subgroups of IDUs that are not yet comfortable

with obtaining syringes through ESAP (i.e., blacks). Investigation of social and environmental barriers to ESAP is underway in the Manhattan, Brooklyn, and Bronx boroughs. Additionally, a Harlem community-based intervention is in progress to increase awareness and use of ESAP among IDUs, pharmacists, and community residents, which will be soon evaluated.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

Supported by NIDA (R01 DA14219), Robert Woods Johnson Foundation, and The New York Community Trust Fund.

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Pharmacy Syringe Sale Practices During the First Year of Expanded Syringe Availability in New York City (2001–2002)

Ruth Finkelstein, Rebecca Tiger, Robert Greenwald, and Rajat Mukherjee

Objective: To assess the role that customer characteristics, including race, age, and gender and pharmacy characteristics, including type and location, play on actual syringe-selling practice by pharmacies registered to sell syringes under the New York State Expanded Syringe Access Demonstration Program (ESAP). ***Design:*** 89 syringe-purchasing visits were made in randomly selected ESAP-registered pharmacies, stratified by chain and independent status. ***Setting:*** Visits were conducted in 14 New York City neighborhoods. Three neighborhoods (two with high need for human immunodeficiency virus [HIV] prevention services and one with low need) were selected in each of New York City's five boroughs (except Staten Island, where only two neighborhoods were visited, as only one exists with high need for HIV prevention services). ***Participants:*** Visits were conducted by syringe-purchasing testers with different demographic characteristics, including age (≤ 25 and > 25), race/ethnicity (white, black, Latino), and gender (men, women). ***Results:*** Testers were able to purchase syringes in 69% of visits. Tester race, age, and gender did not significantly affect sales of syringe-selling practices. Location of pharmacy was statistically significant, with only 33% of the registered pharmacies selling syringes in the Bronx, but 67% to 89% selling in other four boroughs. ***Conclusions:*** ESAP has been widely implemented among registered pharmacies in four of New York City's five boroughs. The program's effectiveness could be enhanced through pharmacy-based efforts focused broadly on the ESAP goal of preventing the transmission of HIV and other blood-borne infections among injection drug users.

J Am Pharm Assoc. 2002;42(suppl 2):S83–7.

An estimated 200,000 injection drug users (IDUs) reside in New York City, and 18,000 adults in the city are living with acquired immunodeficiency syndrome (AIDS) directly acquired through injection drug use. For years, advocates and practitioners have highlighted the importance of access to sterile syringes to reduce the spread of blood-borne diseases among IDUs.

The New York State Legislature's passage of the Expanded Syringe Access Demonstration Program (ESAP) constituted an important step in addressing blood-borne pathogen prevention among IDUs. ESAP is a 3-year demonstration program that began on January 1, 2001, allowing anyone 18 years of age or older to obtain syringes without a prescription from pharmacies and health care providers that voluntarily register with the New York State Department of Health (NYSDOH). Registration is a simple procedure, consisting of the submission of one form to NYSDOH and receipt of free copies of a required safety insert, providing information on safe syringe use, methods for preventing disease transmission, proper disposal practices, and substance abuse treatment.[1] By increasing IDU access to sterile syringes, effective ESAP implementation could help reduce IDU exposure to and transmission of human immunodeficiency virus (HIV) and other blood-borne infections. As of March 2002, 737 (49%) of pharmacies in New York City had registered with ESAP. Some evidence, however, suggests that not all of the ESAP-registered pharmacies do, in fact, sell syringes without a prescription.[2] Other reports suggest that some pharmacies selling syringes make the purchase onerous, likely deterring customers from returning to the pharmacy. These observations and reports led to a concern that IDUs might encounter obstacles to syringe purchase in registered pharmacies because of a lack of knowledge or support for the program by all pharmacists and pharmacy staff working within a store since pharmacies could be registered by a lead pharmacist or the chain's headquarters. Further, we were concerned that there might be variations in access by gender, race, ethnicity, and location of pharmacies.

Studies of pharmacists in other states have revealed misgivings among some pharmacists about providing syringes to IDUs. A

Received June 3, 2002, and in revised form August 22, 2002. Accepted for publication August 23, 2002.

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1996 survey in Maine, conducted 3 years after its legislature repealed the law requiring a prescription for syringe sales, found that while 94% of pharmacists were willing to sell syringes, only 50% (98) were willing if they suspected the customer was an IDU.[3] Of that 98, 68% (67) said they would require the customer to provide information, such as reasonable justification, photo identification, and name and address before selling syringes.[3] A study of IDUs and pharmacists in Connecticut found that pharmacies were an important source of syringes for IDUs.[4] However, while more than 80% of Connecticut pharmacies sold syringes without a prescription in the first 2 years after the law changed[5,6] significant geographic disparities in syringe access persisted after 4 years.[7]

These studies largely relied on surveys of pharmacists and IDUs. Little research assesses experiences in actual pharmacy practice. In one such study, an African American man and a white man, both in their 40s, made 33 attempts to purchase syringes from St. Louis pharmacies. The African American man was refused more frequently than the white man; however, the small number of visits did not permit statistically generalizable conclusions.[8]

Objective

The objective of the current study was to assess differences in pharmacy practice of sale of sterile syringes by the gender, race/ethnicity, or age of the prospective buyer and the location (by borough and neighborhood) and type of community pharmacy (chain or independent).

Methods

To assess the impact on pharmacy selling practices of a customer's and pharmacy's characteristics, we attempted to purchase syringes at 89 New York City ESAP-registered pharmacies. We selected two neighborhoods with the highest level of HIV/AIDS prevention services needs as assessed by the Community Needs Index (CNI) and one with the lowest from each of New York City's five boroughs. CNI is a composite measure developed by the NYSDOH that ranks ZIP Codes according to statistical health indicators, including AIDS cases, cocaine and opioid-related hospital discharges, sexually transmitted diseases, and teen pregnancy rates.[9] For Staten Island, only one neighborhood had a CNI ranking outside the low range, resulting in 14 rather than 15 neighborhoods included in the study. The chosen CNI ZIP Codes were enlarged into neighborhoods based on clusters of ZIP Codes to capture a sufficient number of registered pharmacies to fulfill the study design. We then randomly selected pharmacies to visit within the 14 designated neighborhoods by assigning numbers to all of the registered pharmacies listed in the New York State ESAP registry, stratifying by chain and independent status, generating a random numbers table, and choosing the pharmacies with the assigned numbers that corresponded to this table.

Each pharmacy received only one visit except in four neighborhoods. Three of these neighborhoods had fewer than three chain and/or independent registered pharmacies, in which case individual pharmacies received more than one visit. The fourth neighborhood was in Staten Island where only one neighborhood met the high need criteria; thus the same pharmacies in this neighborhood were visited twice to ensure that each borough received an equal number of pharmacy visits. All together, 10 pharmacies were visited twice, two of which were visited three times.

Syringe purchasing testers (hereafter referred to as "testers") visited the pharmacies and attempted to buy syringes without prescriptions. Testers were chosen from 12 categories based on race/ethnicity (Latino, black, and white), gender (women and men), and age (25 years and under and older than 25 years). A total of 20 testers participated, 10 of whom were women, 10 were men; 5 were Latino, 7 black, 8 white; and 10 older than 25, and 10 who were 25 and younger. Testers were recruited from and represented a range of ages, professions, socioeconomic statuses, and neighborhoods.

The New York Academy of Medicine's Institutional Review Board (IRB) extensively reviewed the study protocol and determined that it was not necessary to obtain informed consent from pharmacies and that doing so would compromise the study design. The IRB also required that testers be hired as contractual employees of the New York Academy of Medicine, and that their training to conduct the visits include being informed of potential risks to their participation, not to carry controlled or illegal substances while participating in the study, to be legal or permanent residents of the United States, and to have no outstanding arrest warrants. The study team had a lawyer on call while in the field.

Syringe purchasing visits were conducted throughout the week, between the hours of 10:00 am and 8:00 pm from August 2001 to January 2002. Testers were instructed to walk directly to the pharmacy counter of the store and ask the person staffing the pharmacy counter for a syringe. If unable to purchase a single syringe, testers sought to purchase the smallest number available. The testers did not differentiate between the pharmacist and pharmacy assistant, so either may have been asked. No late evening monitoring took place, and the study did not measure the impact of time of day on pharmacy practice. All visits were conducted in English.

For each visit, we documented the tester's demographic information, the pharmacy neighborhood and borough, and the type of community pharmacy. If a syringe was purchased, we documented whether a safety information insert was included, the minimum number of syringes available for purchase, the price of the syringe(s), and the provision of any information about syringe disposal. If a syringe was not purchased, we documented the pharmacy staff's stated reason for not selling a syringe and whether any information was provided about when a syringe would be available or other locations where a syringe could be purchased. All questions asked or comments made by pharmacy staff during the visits were documented. Testers noted if they were provided any referrals to health care or substance abuse treatment centers.

Results were tabulated and statistical tests for significant differences in success of purchase (by participant and pharmacy characteristics) were calculated using χ^2 tests with significance attributed to $P \leq .05$.

Results

We conducted 89 pharmacy visits; one pharmacy was never open and therefore dropped from the analysis. Testers were able to purchase syringes in 69% (61) of the pharmacy visits (see Table 1). In the 28 unsuccessful visits, pharmacy staff gave several reasons for not selling syringes; the most common explanation was that it was against the law to sell syringes without a prescription (offered by 10 staff people). Other reasons given by more than one pharmacy staff person included: they were not registered to sell syringes without a prescription (7 mentions); they had run out of syringes and/or safety inserts (5); or they required proof of diabetes or insulin use (2).

In 17% of all visits, testers were asked why they needed to purchase a syringe and for what purpose they intended to use it. In four of these visits, testers were asked to sign their names and addresses on a pharmacy log. In these instances, pharmacy staff incorrectly said that they were required by law, as part of their participation in ESAP, to collect this information from people purchasing syringes.

In 70% (43) of successful visits, testers did not receive the mandated safety information insert; when asked about safety information, the majority of pharmacy staff did not know about the safety insert and could provide no safety information. In 10% (6) of successful visits, testers received disposal information without request; in an additional 39% (24) of successful visits, some disposal advice was provided upon request, yet in many cases the information was incorrect and, if followed, would have resulted in unsafe disposal. Improper suggestions were to wrap used syringes in tissue and discard or to throw used syringes in the garbage.

No statistically significant differences in ability to purchase a syringe by level of neighborhood need (as measured by CNI), independent or chain pharmacy status, or the tester's gender, race, or age were identified (see Table 2). A statistically significant difference in syringe access among boroughs was identified: syringe access through pharmacies in the Bronx was considerably less than in any other borough. Testers were unable to purchase syringes at 67% of visits in the Bronx, compared with levels in other boroughs, ranging from 11% in Staten Island to 33% in Queens (see Table 3). Close to 50% of the pharmacies visited in the Bronx said that they could not sell syringes without a prescription, and a smaller proportion required proof of insulin use.

Testers were instructed to purchase the minimum numbers of syringes possible. In 33% (20) of the successful visits, testers were able to purchase a single syringe; the price ranged from \$0.30 to \$2.00, with a mode of \$0.50. In 62% (38) of the transactions, testers were required to purchase a 10-pack of syringes; the price ranged from \$2.00 to \$8.00, with a mode of \$3.99.

Table 1. Syringe Purchases as a Percentage of Total Pharmacy Visits

	Pharmacy Visits No. (%)
Successful syringe purchases	61 (69)
Successful syringe purchases without inappropriate questions asked	48 (54)
Single syringes purchased	20 (23)
Successful syringe purchases with disposal information	30 (34)
Successful syringe purchases with safety information insert provided	18 (20)

Table 2. Success of Syringe Purchases Grouped by Tester Demographics

Tester Characteristic	% Successful Purchases
Race/ethnicity	
Black	70
White	53
Latino	83
Age (years)	
≤ 25	71
> 25	66
Gender	
Women	72
Men	64

Table 3. Success of Syringe Purchases by Pharmacy Type and Location

Pharmacy Characteristic	% Successful Purchases	*P* Value
All pharmacies	69	
Pharmacy location		.003[a]
Bronx	33	
Brooklyn	71	
Manhattan	83	
Queens	67	
Staten Island	89	
Pharmacy type		.809
Chain	67	
Independent	70	

[a]Significant difference at $P < .05$.

To draw inferences from the sample of visited pharmacies to the population of registered pharmacies in New York City, we separated our findings into two groups: one for the visits in Brooklyn, Manhattan, Queens, and Staten Island and one for visits in the Bronx (see Table 4). Assuming that the randomly selected phar-

macies visited are representative of those not visited, sterile syringe purchases would be anticipated in 77%, or 493, of the 640 pharmacies registered in Brooklyn, Manhattan, Queens, and Staten Island. However, in the Bronx, if the 33% success rate is representative, then of 97 pharmacies registered in this borough, customers would be unable to purchase syringes in 65 pharmacies. Given the small number of visits in the Bronx (18), the inferences should be considered exploratory rather than definitive.

Table 4. Success of Syringe Purchases Extended to All ESAP-Registered Pharmacies

Brooklyn, Manhattan, Queens, Staten Island (n = 71)	
Successful purchases, %	77
Inference to 640 registered pharmacies	493
Bronx (n = 18)	
Successful Purchases, %	33
Inference to 97 registered pharmacies	32

ESAP = Expanded Syringe Access Demonstration Program.

Discussion

That our study found no statistically significant differences in a person's ability to purchase a syringe based on age, gender, or race/ethnicity is encouraging. Pharmacies did not clearly discriminate based on an individual customer's attributes. The lack of differences between the practices of chain and independent pharmacies is also encouraging, as we had hypothesized that because chains could register from headquarters, individual outlets might not know about the program.

With respect to neighborhoods, we found no significant differences between those with low- and high-CNI rankings. We did find, however, that access in the Bronx is significantly lower than in the other boroughs. Given that 40% of New York City's opioid-related hospital discharges take place in the Bronx, the lack of pharmacy access in this high-need borough demands attention.

As to cost of syringes, we found widespread variation throughout the city. Perhaps more important, we found that single syringes were largely unavailable; in almost two-thirds of successful visits, testers were required to purchase a 10-pack of syringes with a modal price of $3.99.

Limitations

The major limitation of the study is the timing of its implementation (August 2001 through January 2002). The study was conducted within the first 8 months of the new law's implementation, and the attack on the World Trade Center disrupted the life of New York City significantly for much of that time. It would be useful to repeat the study to ascertain whether some implementation issues have been resolved.

Other limitations include conducting visits during daytime hours, precluding evidence about syringe availability at night (when most exchanges are closed), and speaking English during visits, precluding evidence about non-English speakers.

Lastly, the random selection from among registered pharmacies allows generalization only to all registered pharmacies. Generalization to all pharmacies is not possible because no systematic study was conducted of the differences between registered and nonregistered pharmacies.

Recommendations

We have grouped the following recommendations for enhancing ESAP implementation into those directly related to HIV prevention, those with potential to enhance HIV prevention, and those related to compliance with ESAP requirements. We suggest that efforts should be targeted toward enhancing the program elements that are directly linked with proven HIV prevention strategies.

HIV Prevention

As this study demonstrates, further efforts should be undertaken to train pharmacy staff to maximize ESAP effectiveness. Because the use of sterile syringes is known to prevent HIV transmission, the NYSDOH should focus efforts on strategies to enhance syringe access. Specifically, NYSDOH should work to ensure that all of the registered pharmacies sell syringes. Training should take place with pharmacy staff at ESAP-registered pharmacies to ensure that they are, in fact, participating in ESAP. Because the pharmacist is often not the person involved in the syringe-selling transaction, all pharmacy staff, including weekend and evening workers, should be included in such training.

To address the access problems identified in the Bronx, targeted training should take place in registered pharmacies throughout this borough. Outreach to nonenrolled pharmacies could enhance syringe availability. We were encouraged to learn that NYSDOH, upon receiving our preliminary findings, redirected staff and resources to contact and offer assistance to ESAP-registered pharmacies in the Bronx.

Potential for HIV Prevention

Pharmacy staff practices are of concern. Probing customers as to why they are purchasing a syringe or requiring customers to sign their names and addresses in a log or registry may deter people from accessing syringes at pharmacies. While some testers received disposal information that was helpful, our results suggest that most pharmacy staff do not promote proper syringe disposal and that misinformation about syringe disposal is prevalent. Training should focus on pharmacy staff interaction with customers to prevent interactions that might deter customers from buying syringes and undermine ESAP's public health goals.

Additionally, pharmacy staff should be educated about safe syringe-disposal options.

Compliance with ESAP Requirements

As this study demonstrates, customers did not routinely receive the ESAP safety insert. No data exist demonstrating the efficacy of this insert in preventing HIV transmission, so we suggest NYSDOH not expend scarce resources enforcing a requirement of questionable utility. Rather, we suggest considering the elimination of the safety insert requirement to allow the resources available for ESAP implementation to be focused on the aspect of the program with proven public health impact—expanded syringe availability.

Conclusion

Major strides in the implementation of ESAP were made during its first few months of operation, including registration of one-half the pharmacies in New York City. As the study demonstrates, more than two-thirds of registered pharmacies were selling syringes. However, the study also demonstrates that more time is needed for complete implementation and targeted assistance may be needed in specific areas (e.g., the Bronx).

We recommend that the demonstration period of the ESAP program be extended before its effectiveness is evaluated and that more resources be made available for pharmacy training.

Support for this study was provided by the Ford Foundation. None of the authors has any conflict of interest or financial affiliation with any of the pharmacies studied. Ruth Finkelstein holds two contracts for unrelated projects from the New York State Department of Health AIDS Institute, the agency responsible for administration of the ESAP program. The contracts, number 001553-02 and 001217-03, fund a series of educational symposia for HIV providers and an evaluation of adherence support programs.

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FROM THE LITERATURE

Reactions from injection drug users in Atlanta to the prospect of holding onto syringes to dispose of them safely.

"They'd [the police] catch you with a dirty syringe and you'd go to jail for possession, so people ain't hardly gonna keep 'em laying around, keep 'em in a container or whatever."(p 1923)

"That authorities pulling up, 'Hey, I got you.' They know they can stop you, and if you come and dispose of them, they got a case there. You got narcotics in the syringe. You know you gonna have residue in there…"(p 1925)

"Chance of going to jail, I'm not going to risk that. That's me. I got a probation, so I can't take the chance at all. I'm so scared now. Then I'd have to go back and do all that time."(p 1926)

Springer KW, Sterk CE, Jones TS, Friedman L. Syringe disposal options for injection drug users: A community-based perspective. *Subst Use Misuse.* 1999;34:1917–34.

Limited Access to Syringes for Injection Drug Users in Pharmacies in Denver, Colorado

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Objective: To determine the availability of syringes for injection drug users (IDUs) from pharmacies in Denver. ***Design:*** Single-group, uncontrolled, noncomparative study. ***Setting:*** Denver, Colorado. ***Patients or Other Participants:*** 23 randomly selected pharmacies in the Denver metropolitan area and 3 additional pharmacies located near drug-buying locations. ***Intervention:*** Attempt by eight trained IDU "research assistants" to purchase packages of 10 U-100 insulin syringes without a prescription from pharmacies. ***Main Outcome Measures:*** Successful purchase of syringes; reasons for refusal. ***Results:*** Of 26 pharmacies, 4 reported not stocking syringes, 3 did not sell syringes to any research assistants, 10 sold to some research assistants but not to others, and 9 sold to all research assistants. Of 206 purchase attempts, 54% were successful. In 37.9% of 95 refusals, the pharmacist reported that syringes were not sold at the store, and in 28.4% the pharmacist refused to sell because the research assistant did not produce diabetic identification or answer insulin-related questions. No differences in pharmacy response were found with respect to the racial or ethnic characteristics of the research assistant. Price varied substantially within and among stores. No pharmacies that sold syringes to research assistants were open 24 hours per day. ***Conclusion:*** While IDUs who live near a pharmacy that regularly sells syringes and IDUs with a convincing diabetes story may have adequate access to syringes, others face inconsistent availability. Price fluctuations and limited hours of those pharmacies that sell syringes may be additional barriers to access to sterile syringes for IDUs in Denver.

J Am Pharm Assoc. 2002;42(suppl 2):S88–91.

Injection drug use continues to be an important risk factor for the transmission of blood-borne diseases; it is directly or indirectly responsible for about one-third of all cases of human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS)[1] and more than one-half of all hepatitis C virus (HCV) cases.[2] The Centers for Disease Control and Prevention (CDC) estimates that after 5 years of injecting, 90% of injection drug users (IDUs) are infected with HCV.[2] The transfer of blood-contaminated needles and syringes (hereafter referred to as "syringes") among users, and the use of contaminated syringes in the preparation and distribution of shared drugs facilitates blood-borne disease transmission.[3–9] If sterile syringes were used every time an illicit drug was prepared and injected, blood-borne disease transmission through drug injection could be reduced significantly.

Scarcity of sterile syringes, however, contributes to syringe reuse by IDUs.[10] Structural constraints, including state statutes, municipal ordinances, and licensing board regulations, may prevent IDUs from obtaining syringes (because of prescription laws or requirements), discourage IDUs from carrying syringes (because of drug paraphernalia laws), or restrict the establishment or operation of syringe exchange programs.[11–16]

In this study we assessed whether IDUs could purchase syringes from pharmacies and identified factors that may hinder purchases in Denver, a city in a state with no prescription requirement or pharmacy board regulation concerning the sale of syringes. Because of the failure of repeated attempts to pass legislation permitting syringe exchange programs in Colorado, pharmacies are the only reliable source of sterile syringes for most Denver-area IDUs.

The only potential legal constraint to pharmacy sale of syringes in Colorado is a drug paraphernalia statute based on the Drug Enforcement Agency's Model Paraphernalia Act of 1979.[17] No pharmacist has ever been cited for violating this statute or a complementary Denver municipal ordinance (Colorado Board of Pharmacy written communication, 1999). In fact, no pharmacist has ever been cited for violating paraphernalia statutes of any state (Scott Burris, written communication, October 2000).

Received June 5, 2002, and in revised form September 4, 2002. Accepted for publication September 13, 2002.

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Objectives

Our primary objective was to determine whether sterile syringes were readily available from Denver area pharmacies. Our secondary objective was to identify obstacles to access. For example, syringe surveys done in both St. Louis and Florida suggest that ethnic discrimination limits syringe access for some IDUs,[18,19] and in a pilot study, we noted that among the pharmacies that sold syringes, significant differences in the prices charged were identified.

Methods

In 1996, as part of a National Institute on Drug Abuse study, we conducted a pilot syringe-buying survey of pharmacies located in northeast and northwest Denver neighborhoods.[20] In 1999 we designed and implemented this buying survey based on that pilot. Both buying surveys were modeled on a survey conducted in the metropolitan area of St. Louis.[18]

IDU Research Assistant Selection

In an effort to simulate actual syringe purchases, a participatory research methodology was developed. Active IDUs, who had injected within 30 days of screening and had ongoing relationships with the project's qualitative research team, were contracted to buy syringes. These eight "research assistants" represented both genders and the city's three major ethnic groups: African American, white, and Latino. In addition, we included two young (< 25 years old), white IDUs to represent a rapidly growing segment of the IDU population in Denver. Preliminary seroprevalence and ethnographic data from our concurrent intervention study indicated that while many of these youth are free of blood-borne diseases, they engage in high-risk sexual and drug-using behaviors. Seven of the research assistants were daily heroin injectors, and the other was a methamphetamine injector. The participants had been IDUs for 2 to 30 years.

Sampling

The sampling frame for this study was a list from the Denver metropolitan area telephone directory of the 65 community pharmacies located within an approximately 50 square mile area of the city and adjacent suburbs. Twenty-four of these pharmacies were randomly selected; one was excluded because it was an herbal pharmacy that did not sell pharmaceutical medications or syringes. Three other pharmacies were added because they were located within walking distance of drug-buying ("copping") and using areas where we routinely recruited subjects for the intervention study. The resulting sample of 26 included 5 pharmacies located within corporately owned supermarkets, 5 chain pharmacies, 9 independent pharmacies, and 7 independent combination pharmacy/liquor stores.

Buying Strategy

Ethnographers (i.e., qualitative researchers) met with research assistants to discuss the study's purpose and methods and to develop a standard procedure for how the research assistants would ask to purchase syringes. A standard script was based on information from the pilot study, discussion with research assistants, and the stocking practices of most pharmacies. Research assistants were instructed to ask, "Could I have a 10-pack of U-100 insulin syringes?" As our purpose was to determine if IDUs could obtain syringes without having to prove a "legitimate medical need," this standard dialogue was used to lessen the possibility that individual buying strategies would determine whether syringes were sold.

Research assistants, dressed in their typical attire, requested syringes at the pharmacy counter. If the pharmacist or pharmacy staff asked for more information (i.e., a diabetic card or specifics about insulin type or dosage), the research assistant said the syringes were for a relative. After each attempt, one of the ethnographers and the research assistant discussed the attempt.

All purchase attempts were made on Tuesdays or Thursdays between 10 am and 2 pm and in the months of January through May 1999. No pharmacy was visited by more than one research assistant per day.

Results

Syringe Sales

Of the 26 pharmacies visited during 206 purchase attempts, 4 told all of our research assistants that they did not stock syringes. Further study determined that 2 of these pharmacies stopped selling syringes because of their proximity to visible drug buying sites, a third was in the process of phasing out its pharmacy and no longer stocked syringes, and the fourth was an otherwise fully functioning pharmacy that apparently did not stock syringes.

Among the 22 pharmacies that reported carrying syringes, 3 did not sell to any of our research assistants, 9 sold to all of our research assistants, and 10 sold to some but not all of our research assistants (Table 1).

Of 206 purchase attempts, 54% were successful. Unsuccessful attempts were attributed to a number of factors (Table 2).

Individual research assistants' success rates ranged from 48% to 57.7% with a mean of 53.9%. Two assistants requested not being asked to attempt purchases at two pharmacies they regularly visited for personal items; these pharmacies sold to all other research assistants, suggesting that had these two assistants visited these respective stores their success rates might have been higher. Research assistants reported being asked questions about diabetes in 28.4% of buy attempts. In these cases, they gave the mutually agreed upon response that the syringes were for a relative; none of these attempts was successful.

No significant differences were found between success rates based on gender or racial/ethnic differences (data not shown).

Table 1. Syringe Sales at Denver Pharmacies

Syringe-Selling Patterns	No. Pharmacies (n = 26)
Did not stock	4
Did not sell	3
Sold to some	10
Sold to all	9

Table 2. Reasons For Unsuccessful Syringe Purchase Attempts, Denver 1999 (n = 95)

Reason	Attempts No. (%)
Syringes not sold at store[a]	36 (38)
Proof of diabetic status required	27 (28.4)
Syringes only sold in boxes of 100	13 (13.7)
Pharmacy closed during posted business hours	10 (10.5)
Not in store computer as a previous customer	6 (6.3)
Store-imposed age requirement	2 (2)
Ignored by store staff	1 (1)

[a]Six of these attempts were made at pharmacies that sold to other research assistants.

Syringe Prices

The price charged for a package of 10 U-100 syringes varied both within and among stores. Price differences within a store occurred at eight of the pharmacies and ranged from a difference of $0.11 to $8.01 per 10-pack of syringes. One chain pharmacy implemented a price increase midway through the study from $3 to $4 per 10-pack. Two other chain pharmacies and four independents varied their prices between participants for no identifiable reason. One of these chain stores charged $2.89 to the first assistant, $3.00 to the third assistant, and $2.00 to the fifth assistant. At another independent pharmacy, price variability resulted from tax being charged to some research assistants and not to others.

Hours of Operation

None of the 19 pharmacies that sold syringes was open 24 hours per day. Six pharmacies opened before 9:00 am Monday through Friday, while three opened that early on Saturday. Seven pharmacies remained open past 8:00 pm Monday through Friday, but only three were open that late on Saturdays. Four locations were open on Sundays.

Discussion

The results of this survey indicate that sterile syringes are inconsistently available to IDUs through pharmacy sales without a prescription in the Denver metropolitan area. However, more than one-half of the successful purchases occurred at the 9 pharmacies where all attempts were successful. Seven stores refused all sales and 10 others were variable; 5 of these latter pharmacies sold to 4 or fewer of the 8 research assistants. For IDUs who are able to purchase syringes from a pharmacy that regularly sells to IDUs with a convincing diabetic story, access may be adequate. However, among "street" IDUs whose routines are less certain, and who may be unable to convey a diabetic pretext, the uncertainty about pharmacy sales may result in high-risk injection episodes.

Our results are similar to those of syringe purchase attempts in Anchorage, Alaska. That study reported an overall success rate of 54%, with 9 of 22 stores in their sample refusing to sell syringes to any of 3 research assistants. Of the remaining 13 pharmacies that sold syringes, only 7 sold to all 3 assistants. That study also did not find significant ethnic differences in ability to purchase syringes.[21]

In some cases, the cost of syringes may be a factor in whether or not they are purchased, particularly in those instances when IDUs have limited money to purchase them. In one store, the only pharmacy within a 1.5-mile radius of a well-known drug buying and using area, clerks routinely charged $6.99 or more for a 10-pack and $1.50 per single syringe. Syringes at this store were kept at the front counter and not in the pharmacy. This liquor store/pharmacy was poorly stocked and only had a pharmacist on duty a few days a week.

An additional barrier to syringe access is pharmacy hours of operation. Because heroin addicts cannot stop using opiates without suffering withdrawal symptoms, the limited hours of operation of most pharmacies in this survey are of concern.

Finally, only nine of the pharmacies surveyed could be considered "reliable" (selling to every buyer) sources of sterile syringes. In a geographically dispersed, Western city such as Denver where the automobile is the dominant mode of transportation, access to reliable pharmacies may be problematic for IDUs with limited access to transit. This is particularly troubling because IDUs have several reasons to inject the drug soon after obtaining it. If caught with the drug they face a possession charge, and if they are "dope sick" (in withdrawal) their overwhelming concern is to "get well." In such cases, an IDU is unlikely to continue looking for a sterile syringe after being turned down, particularly if alternative syringe sources are not nearby.

Limitations

Interpretation of our data is limited by small sample size and the inability to control for pharmacy staff encountered. We were unable to verify if a seller was the same individual encountered by other research assistants or to determine whether the seller was a pharmacist, technician, or store clerk. Because research assistants only asked for a 10-pack of insulin syringes, this study did not assess the availability through pharmacy sales of smaller numbers or other types of syringes.

Conclusion

The results of the Denver and Anchorage surveys are consistent with other research that has found wide variation in the ability of IDUs to purchase syringes through pharmacies,[18,19,22–25] indicating that syringe sales to IDUs is not a clear-cut issue for many pharmacists. Work by Farley and colleagues[23] has shown that a common fear for pharmacists is that of increasing drug use, while other researchers have found that pharmacists cite business concerns as a reason for discouraging syringe sales to IDUs.[24–26]

These concerns must be addressed in public health efforts to expand syringe availability through pharmacy sales. To accomplish this requires collaboration between public health researchers, practitioners, IDUs, and pharmacists. Pharmacists are a critical component in comprehensive efforts to prevent the spread of blood-borne diseases among IDUs, their sex partners, and their children. Selling syringes to persons who may be IDUs can help to reduce blood-borne disease transmission.

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This study was part of the ongoing research program of Urban Links, a project affiliated with the Health and Behavioral Sciences Program, University of Colorado at Denver. Funding for this study was provided by the Association of Teachers of Preventive Medicine, the Centers for Disease Control and Prevention, and the National Institute on Drug Abuse (R01 DA 09232). We would like to thank Steve Jones, Phillip Coffin, Jason Glanz, Sarah Braudrick, Doug Kershaw, David Miller, Christy Christiansen, and Anna Baron. We would also like to thank the IDU research assistants who, because of issues of confidentiality, are not listed as coauthors.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

Needle Sightings and On-the-Job Needle-Stick Injuries Among New York City Department of Sanitation Workers

Steven Lawitts

The New York City Department of Sanitation (DSNY) is responsible for collecting and disposing of all residential waste in New York City, collecting and marketing recyclable materials from all residences, cleaning the city's 6,200 miles of streets, and clearing the streets of ice and snow. Of DSNY's approximately 9,500 employees, 6,400 are uniformed sanitation workers, whose primary responsibility is operating almost 4,900 "truck-shifts" (one truck, with a crew of two sanitation workers, on an 8-hour shift) per week to collect household garbage and another 2,300 truck-shifts per week to collect residential recyclables.

In this paper, I describe the problems and processes associated with improper disposal of used syringes and needles in household garbage and recyclable materials in New York City.

Sanitation Procedures and Policies

For many years DSNY has made information available to the public on proper disposal of needles and syringes. The *Digest of Sanitation Codes*,[1] which is currently published in five languages, is a summary of sanitation laws, rules, and regulations applying to residents, merchants, and owners and managers of residential and commercial properties. The *Digest of Codes* contains clear instructions on needle disposal. Beginning in the mid-1990s, with the department's increasing use of the Internet, the *Digest of Sanitation Codes* was placed online. In 2001 DSNY added an interactive "How do I dispose of…?" feature to its home page, www.nyc.gov/sanitation. The Web site, and the printed version of the *Digest*, advise syringe users to "place needle in a metal container such as a coffee can labeled 'sharps' or 'used syringes,' seal container with masking tape around the lid, then dispose of the container as Household Non-Recyclables [regular garbage]." The *Digest of Codes* contains more detailed information, including the option of using heavy-duty plastic containers for disposal of needles. The *Digest* also lists fines from $50 to $250 for improper needle disposal.

DSNY follows a standard procedure when sanitation workers observe improper disposal of needles. Sanitation workers immediately stop collecting garbage and call the Sanitation Department Environmental Police Unit, which is responsible for investigating hazardous-waste incidents. An environmental police officer responds, examines, and secures the observed needles. In addition, if the sanitation worker first observed the needles in the open hopper of the collection truck, the environmental police officer searches the hopper for additional needles. If the sanitation worker first observed the needles in a bag or can placed at the curb, the officer will inspect that bag or can and nearby containers. If the officer can determine who improperly placed the needles for disposal, he may issue a summons for a fine, $50 for a first violation and up to $250 for repeat violations. If the officer can determine the owner of the needles, the officer can instruct the owner how to properly dispose of them. When the officer has removed and secured all needles from the truck's open hopper or from the curbside, he authorizes the collection truck to continue on its collection route.

The Environmental Police Unit completes an Unusual Incident Report for each needle-sighting and needle-stick incident, and also records each incident in the DSNY Hazardous Waste Log. DSNY maintains a database showing the date, street address, and borough of every needle-sighting and needle-stick incident.

Needle sightings reported by sanitation workers have decreased in recent years, from 234 reported needle-sighting incidents in fiscal year (FY) 1997 to 90 incidents in FY 2001 and 75 in the first three quarters of FY 2002 (see Table 1). With approximately 7,200 truck-shifts per week collecting from residential routes, a total of

Table 1. Needle Sightings and Needle-Stick Injuries

	Fiscal Year					
	No. Sightings (No. Sticks)					
Quarter	1997	1998	1999	2000	2001	2002
July–September	59 (8)	49 (5)	41 (11)	30 (3)	30 (2)	26 (3)
October–December	53 (11)	49 (5)	29 (3)	29 (0)	23 (13)	28 (1)
January–March	59 (5)	66 (6)	39 (2)	25 (1)	14 (6)	21 (3)
April–June	63 (9)	74 (4)	33 (5)	17 (7)	23 (10)	—[a]
Total, first three quarters	171 (24)	174 (16)	109 (16)	83 (4)	67 (21)	75 (7)
Total, year	234 (33)	238 (20)	142 (21)	100 (11)	90 (31)	—[a]

[a]No data.

374,000 truck-shifts operate each year. The average incidence of needle sighting was 1 in 1,600 truck-shifts in FY 1997. The needle-sighting incident rate decreased to 1 in every 4,156 truck-shifts operated in FY 2001.

Needle-Stick Injuries

Sanitation workers occasionally get stuck by improperly disposed needles. Sanitation workers were stuck by needles 33 times in FY 1997, down to 11 times in FY 2000, up to 31 times in FY 2001, and returned to FY 2000 levels during the first three quarters of FY 2002. Again, with 7,200 collection truck-shifts operated each week, the frequency of needle sticks was approximately 1 in every 11,000 truck-shifts operated in FY 1997, decreasing to 1 in 34,000 in FY 2000, returning to 1 in every 12,000 in FY 2001 and returning to FY 2000 levels in the first three quarters of FY 2002. Each collection truck has a crew of two sanitation workers, with one worker being the designated driver and the other the designated loader. Since many of the designated drivers also elect to load to speed up the collection process, the incident rate of needle sticks per loading sanitation worker shift is lower than the rate per truck-shift. Finally, comparing the first three quarters of each fiscal year, the combined total number of needle sightings and sticks declined from 195 in 1997 to 82 in 2002.

When a sanitation worker is stuck by a needle, the procedure begins similarly to the procedure for needle sightings described above. Concurrent with the environmental police officer's investigation, the sanitation worker is transported to a nearby hospital and given hepatitis B vaccine. The sanitation worker is subsequently referred to an infectious disease specialist and follow-up vaccinations against hepatitis B. The sanitation worker is encouraged to speak with the counselors at the DSNY Employee Assistance Unit and, if preferred, to outside counselors. Beginning 6 months after the needle-stick incident, the sanitation worker is referred for an HIV blood test. All of the medical procedures, and any professional counseling, are fully covered by the city as expenses resulting from a line-of-duty injury. The employee is paid for time needed for medical treatment related to the needle-stick injury. Fortunately, no sanitation worker has become infected with a blood-borne infection caused by an on-the-job needle stick.

Conclusion

The presence of needles and syringes in garbage poses serious risk to sanitation workers and is expensive because of interruptions of work. Sightings of needles and syringes in household garbage and recyclable materials have varied from year to year in New York City. The frequency of needle-stick injuries among sanitation workers has also varied, with the fewest observed in FY 2000. Data from the first three quarters of FY 2002 indicate that the frequency could be as low as in 2000.

As part of the evaluation of the New York State Expanded Syringe Access Demonstration Program (ESAP), which allows sale, distribution, and possession of syringes without a prescription, DSNY is making month-by-month, location-specific needle-sighting and needle-stick data available to the New York State Department of Health. The Department of Health and other organizations participating in ESAP can use these data to look for relationships between increased syringe availability and needle incidents involving sanitation workers.

J Am Pharm Assoc. 2002;42(suppl 2):S92–3.

Received July 21, 2002, and in revised form September 5, 2002. Accepted for publication September 18, 2002.

The author declares no conflicts of interest or financial interests in any product or service mentioned in this article.

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State Syringe and Drug Possession Laws Potentially Influencing Safe Syringe Disposal by Injection Drug Users

Scott Burris, Joseph Welsh, Mitzi Ng, Mei Li, and Alyssa Ditzler

Objective: To review state laws and judicial decisions for potential barriers to proper syringe disposal by injection drug users (IDUs). ***Design:*** Using standard legal research methods, this study reviewed drug paraphernalia, syringe prescription, drug possession, and syringe exchange laws and relevant case decisions in 59 jurisdictions. ***Main Outcome Measures:*** Drug paraphernalia, syringe prescription, and drug possession laws. ***Results:*** Drug paraphernalia laws prohibit all possession of syringes by IDUs in 31 jurisdictions. Syringe prescription laws prohibit possession in 7 jurisdictions. In 53 jurisdictions, IDUs may be subject to prosecution for the possession of drug residue in used syringes. Only two states (HI, RI) have no legal barriers to safe syringe disposal by IDUs. Sixteen jurisdictions that have tried to expand syringe access for IDUs by authorizing SEPs or by deregulating pharmacy sale of syringes continue to have criminal law provisions that could pose barriers to proper disposal. ***Conclusion:*** IDUs are a significant source of syringes disposed of outside the health care system. Involving IDUs in safe community sharps disposal programs is an important public health goal, but may be frustrated by legal barriers. Although this study looked only at law on the books, and not law as actually applied, ethnographic and survey research indicates that criminal laws do influence the syringe possession behavior of IDUs. The findings of this study suggest that syringe and drug possession laws could deter IDUs from participating in safe syringe disposal programs.

J Am Pharm Assoc. 2002;42(suppl 2):S94–8.

Disposal of potentially infectious medical waste has become an important issue in public health policy. Waste generated in the health care system is highly regulated at the state and federal levels. Disposal outside the health care setting has received far less attention and virtually no regulation, yet more than three billion syringes are used each year outside health care facilities and deposited in the general waste stream in the United States.[1] Discarded needles pose a low risk to the general public. There is, however, widespread concern about needles discarded in public places like parks, and discarded needles are a source of injury and anxiety to workers in trash disposal, recycling, and related industries. Most of these syringes come from people administering medications for conditions such as diabetes, but many are attributable to injection drug users (IDUs).[2] IDUs have been estimated to perform as many as one billion injections of illicit drugs each year in the United States.[3] IDUs are thus an important part of the syringe disposal picture, and may become more important as efforts proceed to promote the health goal of a new sterile syringe for every drug injection.[4,5] Pharmacists may well play a key role in the expansion of community syringe disposal opportunities.[6]

Unfortunately, IDUs have generally been neglected by community sharps disposal programs. There are only a few systems, most notably syringe exchange programs (SEPs), that provide for safe disposal of syringes from IDUs.[2,7,8] The need to improve disposal options for IDUs has been recognized in a few recent state laws authorizing syringe sales to IDUs,[9] but the possible role of existing syringe prescription, drug paraphernalia, and drug possession laws in deterring IDU participation in safe disposal schemes has not been thoroughly evaluated. Community disposal programs take many forms, but those implemented to date usually require the participant to dispose of syringes in specially designed or labeled containers placed in regular trash, or to take the needles to a designated community disposal site (including SEPs).[2] In either case, the participating IDU would have to accumulate used needles, many of which would contain drug residues, and dispose of them in a way or in a place that makes concealment difficult. To

Received June 11, 2002, and in revised form August 7, 2002. Accepted for publication August 20, 2002.

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the extent that possession or use of syringes for drug use, or possession of trace amounts of illegal drug, is a crime, participating in safe disposal creates a legal risk for IDUs. As one IDU put it, *"They'd [the police] catch you with a dirty syringe and you'd go to jail for possession, so people ain't hardly gonna keep 'em laying around, keep 'em in a container or whatever."*[7(p1923)]

Objective

This article reports the results of a national survey of drug paraphernalia, syringe possession, and drug possession laws intended to identify potential legal barriers to IDU participation in safe syringe disposal.

Methods

An earlier study identified state syringe prescription and drug paraphernalia laws regulating the sale of syringes to IDUs.[9,10] These statutes were examined to determine whether they prohibited possession of syringes by IDUs, and what penalties they provided upon conviction. Drug possession laws could influence disposal behavior if they prohibit the possession of any amount of drug detectable through chemical analysis, because syringes used by IDUs commonly contain a residue of the drug that was injected. To determine state law with respect to residue possession, we examined every state's drug possession law and used standard legal research techniques to identify court decisions interpreting their applicability to possessors of minute amounts of illegal drugs. Data were collected for 50 states, the District of Columbia, and eight territories. Laws whose applicability was not clear were interpreted using conventional methods of statutory and case law analysis. Detailed memoranda explaining these conclusions were prepared for each jurisdiction, and may be viewed at www.temple.edu/lawschool/aidspolicy.

Results

Drug Paraphernalia Laws

Drug paraphernalia laws typically prohibit the sale and possession of any item intended to be used in the consumption of illegal drugs, including syringes. Only 8 of the states or territories studied did not have a paraphernalia law (AK, Guam, Marshall Islands, Micronesia, Northern Marianas, Palau, PR, and Samoa). Six other jurisdictions regulated only sale, and so did not make the possession of paraphernalia a crime. In 14 states, paraphernalia laws had been amended to exclude syringes entirely, in some set amount, or when obtained from a SEP (see Table 1). Paraphernalia possession is a misdemeanor in most states, typically punishable by up to a year in jail and a fine of $1,000. For an IDU already on probation or parole for a more serious offense such as drug possession, a paraphernalia conviction can lead to a return to jail for a longer period on the original charge. In 3 states (AZ, DE, ND) the crime is a felony. In AZ and DE, however, the conviction still only carries a year in jail. North Dakota is unique in specifying a term of imprisonment up to 5 years. The fines in these three states are larger than in misdemeanor states, ranging, at least on paper, from $2,300 (DE) to $150,000 (AZ).

Syringe Prescription Laws

Thirteen jurisdictions have a provision requiring a prescription for the possession of a syringe under at least some circumstances (see Table 2). In 7 states, these provisions clearly or may reasonably be interpreted to make any possession of a syringe by an IDU illegal without a prescription. In 6 other states, these laws have been amended to allow possession of syringes without a prescription of a specified number (usually 10 or fewer), or when obtained through a SEP. Pennsylvania has a Board of Pharmacy regulation requiring a prescription for the sale of a syringe, but not for possession. With the exception of DE (where it is a felony), violation of syringe prescription laws is a misdemeanor, typically punishable by $2,000 in fines and 1 year in jail.

Table 1. Applicability of Drug Paraphernalia Laws to Possession of Used Syringes by IDU

Law Could be Applied (n = 31)	Law Exempts at Least Some Possession (n = 14)	No Prohibition (n = 14)
AL, AZ, AR, CA, CO, DE, FL, GA, ID, IL, IN, IA, KS, KY, LA, MS, MO, MT, NE, NJ, NC, ND, NV, OH, OK, PA, SD, TN, TX, UT, VI	CT, DC,[a] HI,[b] ME, MD,[a] MN, NH, NM,[b] NY, OR, RI, SC,[d] WA, WI	AK,[c] Guam, Marshall Islands, MA, MI,[c] Micronesia, Northern Marianas, Palau, PR, Samoa, VT, VA, WV, WY

IDU = injection drug user; SEP = syringe exchange program.
[a]SEP clients only.
[b]SEP law exempts clients only; statute deregulating sale and purchase of syringes for disease prevention purposes did not explicitly allow *possession*, but was clearly intended to.
[c]Ordinances in several communities prohibit paraphernalia possession.
[d]Law does not mention syringes or injection, and is limited to items used for consuming "marijuana, hashish, hashish oil, or cocaine."

Controlled Substances Laws

All jurisdictions have laws regulating the possession of controlled substances, which include the main drugs of abuse. State controlled substances laws typically make it a crime "for any person knowingly or intentionally to possess a controlled substance unless such substance was obtained directly from, or pursuant to, a valid prescription or order of a practitioner while acting in the course of the practitioner's professional practice, or except as otherwise authorized by this chapter."[11] In most states, courts have interpreted these laws to prohibit the illegal possession of any amount of drug, no matter how small, that can be detected by chemical analysis (see Table 3). Typically judges have inferred from the lack of a statutory minimum amount that the legislature must have intended to criminalize the possession of any detectable amount of drug.[12] Such an interpretation would encompass the residue remaining in a syringe after use. Because most judges have taken this position, the most conservative assumption is that judges in the 19 jurisdictions without a decision on this issue would reach the same conclusion. In DC and MD, the syringe exchange law exempts only SEP clients from prosecution for possession of drugs in syringes. The penalty for residue possession in jurisdictions where it is a misdemeanor ranges from $1,000 to $5,000 in fines and 1 to 5 years in jail. In the 34 jurisdictions where the crime is a felony, jail terms typically increase to 5 to 10 years, and fines to at least $5,000 (as high as $50,000 in MT and CT).

Table 4 combines the data presented in the first three tables to characterize the degree to which state laws could be acting as barriers to IDUs' participation in safe syringe disposal activities. Jurisdictions are placed into three categories: those with both syringe and drug possession provisions that could apply to used syringes; those with just one type of law; and those with none. Two points are striking. First, only HI and RI have no legal barriers to syringe disposal by IDUs. Second, 16 jurisdictions that have tried to expand syringe access for IDUs by authorizing SEPs or by deregulating pharmacy sale of syringes continue to have criminal law provisions that could pose barriers to proper disposal. This group includes MN, NH, and NY, states whose syringe access laws require that purchasers be given information on safe disposal options.

Table 2. Syringe Prescription Law Impact on Possession of Used Syringes by IDUs

No Possession Allowed Without a Prescription (n = 7)	At Least Some Possession Allowed Without a Prescription (n = 6)
CA, DE,[a] IL, NV,[b] NJ, VA,[c] VI	CT, FL,[d] ME, MA,[e] MN, NY

IDU = injection drug user(s); SEP = syringe exchange program.
[a]Possession illegal even with a prescription.
[b]Pharmacy board has reportedly taken position that syringe sales to IDUs are legal without prescription to prevent blood-borne disease; prescription requirement is reportedly not a barrier to purchase of syringes by IDUs.
[c]Prescription required for minors only; others must show "written legitimate purposes" for possession, per pharmacy regulation.
[d]Prescription required for minors only.
[e]SEP clients only.

Discussion

IDUs could be generating as much as one-fourth of all syringes used in the community.[2,3] Like other community sharps users, IDUs commonly lack good alternatives for safe disposal of their used syringes.[2,8] There has been little published research on IDUs' syringe disposal behavior, though available data suggest they usually put a used syringe in a sturdy container before throwing it in the trash.[13] (Data presented at the XIV International AIDS Conference in 2002 reported high rates of improper disposal among IDUs in Baltimore.[14]) Providing access to appropriate disposal schemes for IDUs is a sensible part of an overall effort to deal with the problem of unsafe community sharps disposal. This study found that serious legal barriers exist, at least on paper, to IDU participation in safe disposal schemes in the vast majority of U.S. states and territories. These barriers even exist in jurisdictions that have otherwise acted to facilitate syringe access to IDUs (and indeed even in states that have mandated that syringe purchasers be given information about safe disposal). This suggests that the legal barriers remain at least in part from a lack of awareness of the way that syringe access and drug possession laws are tied to disposal. In some states, the failure to remove barriers to disposal may also reflect the legal and political complexity of syringe access and drug possession law. In New Mexico, for example, legislation to ease syringe access removed legal barriers to the sale of syringes to IDUs, but apparently inadvertently did not legalize their possession once purchased.[15]

Table 3. Statutes or Judicial Interpretations Regarding Possession of Trace Amounts of Illegal Drugs[a]

Possession Explicitly Criminalized (n = 34)	Law Reasonably Interpreted to Criminalize Possession (n = 19)	Possession Explicitly Exempted by Law or Judicial Interpretation (n = 6)
AL, AK, CO, CT,[b] DC,[c] **GA, ID, IL, IN, KS,** KY, **LA, ME,** MD,[c] **MI, MN,** MS, **MO, NE, NH, NJ, NM,** NY, **NC, ND,** OH, **OK, OR,** SC, **TX,** UT,**VA, WA, WI**	DE, **FL, Guam,** IA, **Marshall Islands, MA,** Micronesia, **MT,** Northern Marianas, Palau, PA, **PR, Samoa, SD,** TN, VT, VI, WV, WY	AZ, AR, CA, HI, NV, RI

SEP = syringe exchange program.
[a]Boldface type indicates crime is a felony.
[b]A federal district court has enjoined enforcement of this law in Bridgeport.
[c]SEP clients exempt.

Table 4. Legal Disincentives to Safe Disposal of Syringes Used by IDUs

Both Syringe and Drug Possession Provisions (n = 31)	*Either* a Syringe or Drug Possession Provision (n = 26)	*No* Syringe or Drug Law Barriers (n = 2)
AL, CO, DE, DC,[a] FL, GA, ID, IL, IN, IA, KS, KY, LA, MA,[a] MD,[a] MS, MO, MT, NE, NJ, NC, ND, OH, OK, PA, SD, TN, TX, UT, VA, VI	AK, AZ, AR, CA,[a] CT,[a] Guam, ME,[a] Marshall Islands, MI,[a] Micronesia MN,[a] NV,[a] NH,[a] NM,[a] NY,[a] Northern Marianas, OR,[a] Palau, PR, Samoa, SC, VT,[a] WA,[a] WV, WI,[a] WY	HI,[a] RI[a]

IDU = injection drug user.
[a]State has authorized SEP, fully or partly deregulated syringes to prevent blood-borne disease, or otherwise acted to enhance syringe access for IDUs.

Two published U.S. studies have found that fear of legal risk influences how IDUs think about disposal. Interviews with 26 Atlanta IDUs elicited incredulity at the proposition that IDUs would retain used syringes in containers at home as part of a syringe collection system: "That's the first thing [IDUs] think about, they gonna go to jail if the police come to their house, they gonna charge you with possession of narcotics."[7(p1923)] Similar fears were expressed about community drop boxes: "They [the police] know they can stop you, and if you come and dispose of them, they got a case there."[7(p1925)] Interviews with Baltimore IDUs found similar views.[8]

Existing data on the enforcement of syringe and paraphernalia laws, and their effect on the behavior of drug users, further suggest that legal barriers could interfere with safe disposal. There is evidence that syringe prescription and drug paraphernalia laws are vigorously enforced in at least some jurisdictions. Studies conducted in Maine and Massachusetts found significant levels of syringe law enforcement.[16,17] In Rhode Island, whose former syringe possession law was one of the nation's most stringent, the street price of syringes reached $6 each.[18] A 1995 study of 466 active IDUs in Baltimore found that 33.9% had been arrested or hassled by the police for carrying syringes.[19] Thirty-eight percent of active IDUs interviewed in a California study reported a police stop based on paraphernalia possession; half those stopped were arrested.[20] In 1995, 3 years after Connecticut law was changed to allow purchase and possession of up to 10 syringes, 7 of 147 IDUs in the eastern part of the state reported recent paraphernalia arrests.[21] In a recent law suit, a federal judge found that police in Bridgeport, Connecticut had continued to stop and sometimes arrest IDUs for possessing syringes or drug residues inside syringes in spite of the state's legislation legalizing syringe purchase and possession.[22]

Ethnographic and survey research among IDUs has repeatedly found that fear of arrest is a factor in whether or not IDUs carry their own syringes with them when they are purchasing and using drugs.[19,23–29] Bluthenthal and colleagues found that 35% of 424 IDUs they interviewed were concerned about being arrested while carrying drug paraphernalia, and that those who were concerned were more than twice as likely to share syringes.[20] In their report of syringe use practices in Seattle, where syringe purchase is legal, Calsyn and colleagues observed lower rates of syringe sharing compared with regions where syringe purchase and possession was illegal.[30] Fear of arrest has also reportedly influenced SEP attendance[31] and may have increased the length of time contaminated syringes circulated on the streets.[32] Heimer and colleagues concluded that "among the many structural impediments SEPs face, none may be more important than their legal status."[32(p171)]

Although the reduction of legal barriers to syringe purchase and possession has had significant effects on IDU behavior, it is important to note the evidence that these effects have been reduced by continuing anxiety about the law among IDUs. Despite the change in Connecticut state laws, only 30% of IDUs surveyed after the new law took effect reported that they regularly carried their own syringes. The majority (65%) cited fear of arrest as their main reason for not carrying syringes in public.[21] A Minnesota study comparing IDUs' behaviors before and after syringe access was legalized found that nearly half continued to worry about being stopped with a syringe. Even months after the new law went into effect, 4% said they had been stopped by the police for having unused syringes in the past 30 days. Although IDUs were more likely to purchase and less likely to share syringes, there were no changes in the proportions who carried, reused or safely disposed of syringes.[13]

Limitations

This study only collected data about law on the books; it did not investigate how the laws are actually applied or how they actually influence the behavior of IDUs. Further research is required to determine whether the potential effects of restrictive syringe and drug possession laws are actually felt in individual communities in the various jurisdictions. This study analyzed syringe and paraphernalia laws as they apply to *possession* by an IDU. The effect of these laws on the legality of providing syringes to IDUs is addressed elsewhere in this issue.[33]

Conclusion

Significant observational research has found that IDU's minimize their time carrying syringes in order to avoid legal jeopardy. Unwillingness to retain or transport used syringes to a safe disposal site would interfere with IDU participation in safe disposal pro-

grams, which serve an important public health purpose in the community. This study has found that the vast majority of states and territories in the United States continue to criminalize the possession of used syringes by IDUs, at least on paper. This finding holds even in states whose public policy has become to afford IDUs access to sterile syringes, and even in states that affirmatively have tried to encourage proper disposal by IDUs. While we lack detailed data for most areas of the country regarding the actual application of these laws or their effects on IDU behavior, we have enough information to be concerned that law is a barrier to safe syringe disposal. Policy steps to address the problem include clearly legalizing IDU possession of syringes and amending controlled substances laws to specify a specific or usable amount of substance necessary to create criminal liability. Pharmacists can play an important role in disposal, both as participants in disposal schemes and as stakeholders in the political process of revising laws to promote safer disposal by IDUs.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

Research for this article was supported by the Centers for Disease Control and Prevention through a grant with the Academy for Educational Development, Washington, D.C. The views expressed are those of the authors and do not neccesarily reflect those of the funding agencies.

The data in this paper were presented at a meeting of the Coalition for Safe Community Needle Disposal, Washington, D.C., June 2002.

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Community Syringe Collection and Disposal Policies in 16 States

Wayne L. Turnberg and T. Stephen Jones

Objective: To review laws, regulations, and guidelines that affect the collection and disposal of hypodermic needles, syringes, and lancets used outside of professional health care settings (hereafter referred to as "community syringes"). ***Design:*** Law and policy analysis. ***Setting:*** Alabama, California, Florida, Georgia, Hawaii, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, Oregon, Rhode Island, South Carolina, Washington, and Wisconsin. ***Intervention:*** Information on syringe collection and disposal in the community was gathered from federal and state records and state agency personnel. ***Main Outcome Measure:*** Legally permissible means of syringe collection and disposal available to persons in the community injecting medical treatments and injection drug users. ***Results:*** Laws, regulations, or guidelines in 13 states allowed community syringes to be legally discarded in household trash; guidelines for in-trash disposal varied among the states. Only 6 states had laws or regulations that specifically addressed community syringe collection. In 10 states, infectious waste laws and regulations that apply to medical facilities such as clinics would also apply to community syringe collection sites. ***Conclusion:*** In the 16 states studied, laws, regulations, and guidelines relating to community syringe collection and disposal were somewhat inconsistent and confusing and presented potential barriers to safe disposal. States should consider amending laws, regulations, and guidelines to promote community syringe collection programs. A national effort is needed to achieve consistent community syringe collection and disposal laws and guidelines for all states. Pharmacists can aid in safe syringe disposal by counseling their patients about safe disposal, providing or selling sharps containers, and accepting used syringes for safe disposal. Pharmacists can join other interested groups in advocating clarification of disposal laws and regulations that favor community programs designed to keep syringes out of the trash so that they can be disposed of as infectious waste.

J Am Pharm Assoc. 2002;42(suppl 2):S99–104.

Hypodermic needles, syringes, and lancets used outside of health care settings (hereafter referred to as "community syringes") may be used for diabetes care, allergy care, home health care, animal care, or injection drug use. Estimated use of community syringes includes between 0.9 and 1.68 billion insulin injections[1,2] and up to 1 billion illegal drug injections per year.[2] Public health, environment and occupational health laws have historically focused on disposal of syringes generated in health care settings. Less attention has been paid to disposal of community syringes that, when improperly discarded, present a risk of injury and possible infection.[3,4]

Received June 14, 2002 and in revised form September 13, 2002. Accepted for publication September 16, 2002.

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A 1998 report identified 15 community syringe disposal programs in the United States, Canada, and Australia,[5] which follow one of three basic disposal strategies: (1) placing used syringes in common household containers (e.g., bleach or soda bottles) and then in the trash; (2) placing used syringes in drop boxes located in the community; and (3) bringing filled sharps containers to a collection site, such as a pharmacy, for safe disposal as infectious waste. Many state and local public health agencies, waste management companies, and other organizations have implemented community syringe collection and disposal programs to promote safe disposal practices. Often the goal is collecting all sharps for safe disposal as infectious waste rather than having them discarded in the trash. Such programs help prevent needle-stick injuries and possibly infection among waste collectors, operators of solid waste materials recovery facilities, and the public.

Safe syringe disposal is often difficult for injection drug users (IDUs) although important to achieve. IDUs have elevated prevalence of blood-borne infections.[6,7] Human immunodeficiency virus (HIV) can survive in a syringe for as long as 4 weeks.[8,9] IDUs are interested in safe needle disposal[10]; however, drug paraphernalia laws and other statutes establishing criminal penalties for

possession of syringes exist in most states.[11] Syringe exchange programs (SEPs), which are intended to prevent blood-borne infection transmission by providing IDUs access to sterile syringes for drug injection, also provide a safe syringe disposal option for IDUs. Because most SEPs require that one used syringe be turned in for each new syringe provided, SEPs recover millions of used, blood-contaminated syringes that are disposed of as infectious waste. In the United States, SEPs reported exchanging 19 million syringes in 1998.[12] The number of discarded syringes decreased in some areas where SEPs operated.[13] However, the fear of arrest for syringe possession makes many IDUs unwilling to save used syringes and take them to a SEP or other disposal site.[10] A companion study to this one surveyed all the U.S. states and territories to identify and analyze the laws and regulations affecting IDU syringe disposal.[11]

Objectives

This study was conducted as a pilot project for a national survey. Our purpose was to gather information about federal and state infectious waste and worker safety-related laws, regulations, and guidelines and to assess their effect on three strategies of community syringe disposal in 16 states.

Methods

We selected 16 states for this review: 13 because of their active infectious waste programs managed by state agency staff known to the authors (Alabama, California, Florida, Massachusetts, Michigan, New Jersey, New York, Ohio, Oregon, Rhode Island, South Carolina, Wisconsin, Washington), one because of its community syringe disposal activities associated with a pharmacy-based syringe access initiative (Minnesota),[14] one because of a community sharps disposal program published in the literature (Georgia),[15] and one because of proposed syringe access legislation (Hawaii).

From January through December 2001, we gathered information about laws, regulations, and guidelines related to solid and infectious waste disposal for each state and reviewed the information to determine the effect on community syringe collection and disposal. Information was obtained from state Web sites, if available, or from state agency staff. State agency regulators were asked how policies were interpreted and implemented in their states.

We also examined federal regulations of the Occupational Safety and Health Administration (OSHA) relating to blood-borne pathogen safety and regulations of the United States Postal Service (USPS) on shipment of syringes through the mail.

We examined (1) which agencies manage infectious waste (syringe disposal); (2) which form existing policies take (laws, regulations, guidelines); and (3) what effect policies have on three disposal strategies (in-trash, collection site, or mailback).

Disposal in household trash can involve (a) loose syringes placed in garbage, (b) in a container (e.g., commercial sharps container, bleach bottle, plastic soda bottle, coffee can), or (c) syringes with needles physically removed. Unfortunately, many of the containers currently recommended by state agencies (e.g., coffee cans, bleach bottles, detergent bottles, and commercial sharps containers) break and release their contents when compacted. Although plastic soda bottles have been found to successfully contain most syringes under the stresses of compaction in the waste stream,[16] some syringe-filled containers may be inadvertently recycled, creating a potential hazard for recycling facility workers.

Syringe collection programs may involve either collection sites or mailback programs. With *collection sites*, filled sharps containers are brought to a collection site such as a pharmacy, nonmedical facility (e.g., fire station, solid waste transfer station), collection drop box located in the community or medical facility (e.g., hospital, public health clinic, physician's office). At the collection site, sharps containers may be handled by facility personnel, who manually place them in a storage area or placed into the collection container directly by the consumer without handling by collection site personnel. Collected syringes are disposed as infectious waste. In *mailback* programs, sharps containers meeting legal specifications of USPS are mailed to customers, who return by mail the full containers to a licensed sharps disposal company for disposal as infectious waste.

Results

Managing Agencies

Infectious waste is typically managed by one or a combination of state agencies of public health, environmental protection, and transportation. Among the 16 states reviewed, infectious waste was managed solely by public health agencies in five states (California, Florida, Michigan, Rhode Island, South Carolina), solely by environmental protection agencies in six (Alabama, Georgia, Minnesota, New Jersey, Ohio, Wisconsin), by both public health and environmental protection agencies in three (Hawaii, Massachusetts, New York), and by public health, environmental protection, and transportation agencies in two (Oregon, Washington).

Policy Types and Strategies

State Guidelines

In 13 states, the state agencies responsible for infectious waste management have published guidelines for legal community syringe disposal options (Table 1).

Household trash—In 11 states, agencies recommended placing syringes in a container before disposal in household trash, although the type of disposal container and labeling and sealing instructions varied (Table 2).

Syringe collection and mailback programs—In six states, agency guidelines recommended and assisted in identifying a

community syringe collection site (Table 1). Only two states identified the syringe mailback service as a disposal option. Guidelines in California were under development. Earlier guidelines in Washington recommending six disposal options expired in 1994 following passage of state legislation conditionally restricting disposal of syringes in trash.[16]

Federal Guidelines

Since the 1991 expiration of the 1988 Medical Waste Tracking Act (H.R. 3515 One Hundredth Congress), the United States Environmental Protection Agency (EPA) has had no direct authority over infectious waste disposal. However, EPA has developed guidelines on disposal of community syringes. EPA container recommendations before trash disposal are presented in Table 2. Two EPA brochures recommended placing community syringes in hard plastic or metal containers with screw-on or tightly secured lids prior to disposal in the trash.[17,18] Another booklet was developed for children with insulin-dependent diabetes and their parents.[19]

State Laws and Regulations

Household Trash

State laws or regulations in 11 states allowed community syringes to be legally discarded in household trash (Table 3). Florida infectious waste regulations encouraged home users to segregate and package their syringes, but did not address disposal. New York regulations did not specifically address the legality of community syringe disposal in the trash, although state agency policy allowed home users to dispose of syringes in the household trash. Washington law allowed trash disposal of syringes only in those communities in which no "sharps collection service" was available.[16]

In two states (Oregon, Wisconsin), disposal in the trash of sharps from any source, including community sources, was specifically prohibited. This prohibition also extended to jurisdictions that send solid waste to these states for disposal. For example, the city of Seattle, which ships its solid waste to an Oregon landfill, must comply with the Oregon statutory ban on syringes in the trash.

Syringe Collection Programs

In 10 states, community syringe collection sites were not specifically addressed in state infectious waste laws or regulations (Table 3). In these states, a conservative interpretation of laws and regulations could require that syringe collection sites such as pharmacies be regulated as infectious waste generators and that they meet standards required of health care facilities. However, state regulatory agencies in 2 of these states (Rhode Island, South Carolina) have adopted less restrictive interpretations. In these

Table 1. State Agencies with Community Syringe Disposal Guidelines: Recommendations[a]

	State												
Disposal Strategy Recommended	AL	FL	HI	MA	MI	MN	NJ	NY	OH	OR	RI	SC	WI
In household trash	●	●	●	●	●	●	●	●	●		●	●	
Community syringe collection site / location assistance		●					●	●		●	●		●
Community syringe mailback service		●											●

AL = Alabama; FL = Florida; HI = Hawaii; MA = Massachusetts; MI = Michigan; MN = Minnesota; NJ = New Jersey; NY = New York; OH = Ohio; OR = Oregon; RI = Rhode Island; SC = South Carolina; WI = Wisconsin.

[a]No state agency guidelines in CA, GA, and WA.

Table 2. State Agency and Environmental Protection Agency (EPA) Syringe Container Guidelines[a,b]

	State/Agency											
Recommended Syringe Container For Trash Disposal	AL	FL	HI	MA	MI	MN	NJ	NY	OH	RI	SC	EPA
Clear plastic soda bottle		N		N		Y	Y	Y	Y	N	Y	
Glass bottle		N		N				N		N		N
Detergent/soap bottle	Y	Y	Y	Y	Y		Y		Y	Y		Y
Plastic bleach bottle	Y	Y	Y		Y			Y	Y	Y		Y
Metal coffee can	Y			Y	Y			N	Y	Y		Y
Commercial sharps container		Y	Y									

AL = Alabama; FL = Florida; HI = Hawaii; MA = Massachusetts; MI = Michigan; MN = Minnesota; NJ = New Jersey; NY = New York; OH = Ohio; OR = Oregon; RI = Rhode Island; SC = South Carolina; WI = Wisconsin.
N = No; Y = Yes.
[a]No state agency guidelines in CA, GA, and WA.
[b]Community syringe disposal in trash illegal by statute in OR and regulation in WI.

Table 3. Community Syringe Collection and Disposal Addressed in Solid or Infectious Waste-Related Statute and/or Regulation

	AL	CA	FL	GA	AI	MA	MI	MN	NJ	NY	OH	OR	RI	SC	WA	WI
Trash disposal allowed by statute and/or regulation	•	•	$•_1$	•	•	•	•	•	•	$•_1$	•	P	•	•	$•_2$	P
Collection programs addressed in statute and/or rule		•	•						$•_3$	$•_3$					•	•
Mailback programs addressed in statute		•														

AL = Alabama; FL = Florida; HI = Hawaii; MA = Massachusetts; MI = Michigan; MN = Minnesota; NJ = New Jersey; NY = New York; OH = Ohio; OR = Oregon; RI = Rhode Island; SC = South Carolina; WI = Wisconsin.
$•_1$ = Trash disposal not specifically addressed in rule or statute; allowed under state agency guidelines.
$•_2$ = Trash disposal conditionally allowed by statute in regions not serviced by a "sharps collection service."
P = Trash disposal prohibited by statute or rule.
$•_3$ = Only collection by licensed medical facilities addressed by statute or rule

states, syringes from private residences were not considered to be a regulated waste, and therefore collection facilities receiving such waste were not regulated as infectious waste generators.

Collection sites were specifically mentioned in infectious or solid waste laws or regulations of six states (Table 3). California and Wisconsin simplified the infectious waste disposal requirements for collection sites. Florida regulation and Washington statute exempted collection sites from solid or infectious waste facility permitting requirements. The New Jersey infectious waste regulation allowed community syringe collection only by permitted regulated infectious waste generators such as hospitals. New York's infectious waste statute required that community sharps must be accepted by hospitals and residential health care facilities. Its syringe access statute required that eligible providers of syringes such as pharmacies register with the state health department to either sell or accept community syringes for disposal, and that these facilities must meet the state's infectious waste disposal standards.

Mailback Programs

Mailback for community syringes was mentioned in law only in California. Under California's infectious waste statute, mailback systems were required to submit to the California Department of Health Services a list of all infectious waste generators serviced by the company and to update the list every 3 months.

Federal Regulations

OSHA's blood-borne pathogen standard (29 CFR Part 1910.1030) required that workers be protected in all occupations where exposure to blood or other potentially infectious materials may occur. In an OSHA blood-borne pathogen regulation interpretation for community syringe collection programs in New York, collection sites such as pharmacies in which users placed sharps containers directly into a drop box or kiosk that was maintained by an infectious waste transporter were not required to meet the standard. However, collection sites in which staff received and handled sharps containers from customers or who were involved with emptying a drop box or kiosk had to comply with the OSHA blood-borne pathogen standard.[20]

Shipping of used syringes through the mail is regulated under federal regulations (39 CFR Part 111.1) for syringes mailed via USPS. The federal regulation, which incorporated Section 8.0 of USPS Domestic Mail Manual, established specific packaging, labeling, and tracking requirements for syringes mailed through USPS. Distributors or manufacturers of sharps mailing kits, which are used to mail sharps to storage or disposal facilities, are required to obtain USPS authorization. Before obtaining authorization, each type of mailing kit must be tested and certified by an independent third party to ensure that it meets durability standards.

Discussion

Infectious waste laws, regulations and guidelines in the 16 states we reviewed had many differences and, in many cases, did not mention or support community syringe disposal except for disposal in trash. We found substantial inconsistencies and conflicts between the state laws, regulations, and guidelines, particularly in the recommendations for disposal in trash.

Only six states had laws or regulations related to infectious waste disposal that specifically addressed community syringe collection. In at least five of these states (California, Florida, New York, Rhode Island, Wisconsin), the state government has played an active role in promoting the development of community syringe collection programs.[21–25] It appears that states that formally recognize syringe collection programs invest more staff time and resources in developing such programs.

Ideally, no syringe should be disposed in the trash. Community syringe programs that involve segregating syringes from the trash for disposal as infectious waste help to attain that goal.[22–25] However, collection programs may involve direct and indirect costs to users (i.e., cost of transporting, mailing, and part or all of the cost of sharps containers). Collection programs must have trained staff and space at the collection site. The major program costs are usually purchasing of sharps containers and infectious waste disposal. The costs of transporting and treating the collected syringes are increasing.[26]

Even so, some communities have met the costs of collection programs by developing partnerships among local health departments and solid waste agencies, solid waste companies, pharmacies, diabetes organizations, infectious waste companies, and medical facilities.[20–28] Another collection approach is placing sharps containers in public places. For example, the bathrooms of the Houston Bush–Intercontinental Airport are equipped with sharps containers.[29]

Designing programs and policies that will increase safe community disposal options for IDUs is a high priority. The major barrier to IDU participation is legal; the fear of prosecution for possession of syringes and/or traces of drug in the syringes substantially reduces IDUs' willingness to participate in safe disposal.[10,11] New laws increasing IDU syringe access seem to spur development of community syringe disposal programs and IDU participation.[14,23]

In our view, containment and disposal in the trash, the least costly and most convenient option for the syringe user, should be considered only if community syringe collection programs are unavailable or too costly, and only if legal to do so. Although placing syringes in containers before disposing in the trash would reduce needle-stick hazards for residential waste collectors, containers may rupture, potentially exposing waste handlers to loose needles.

An action taken in August 2002 should result an increased availability of safe disposal options. Six national professional organizations called for the formation of state-level groups to "to review and improve the current options for safe disposal of used sharps generated in the community by patients and IDUs and to plan public education efforts on safe disposal."[30] Another positive step is the recent creation of the Coalition for Safe Community Needle Disposal.[31]

Limitations

The findings of this study are subject to several limitations. First, because this survey was based on a convenience sample of only 16 states, it is not generalizable to the entire United States. Second, this study did not gather data on either local ordinances or the behaviors and activities of individuals or community syringe collection programs. Both factors may lead to de facto differences from the state and federal policies. Third, this study presents limited information on the policies and programs to increase IDUs' safe needle disposal options. Policies relating to legal issues for IDUs who want to safely dispose of their syringes have been reviewed by Burris et al.[11]

Conclusion

Unsafe discarding of community syringes can cause needle-stick injuries and can potentially transmit blood-borne infections. Workers in the solid waste industry are most at risk. In our view, the national goal should be no community syringes discarded in trash or the community in locations such as parks, buildings, or other public areas. To achieve this goal, communities need to develop low-cost, easy-to-use systems in which community syringe users place their used syringes and other sharps into containers that are then collected for treatment as infectious waste. Such systems include community syringe collection sites (e.g., at pharmacies, medical facilities, or fire stations), syringe mail-back programs, and SEPs. If community syringe collection programs are unavailable or too costly for users, then syringe containment before disposal in the trash should be considered provided that the practice is not prohibited by law or regulation.

Our survey findings suggest that states with state government leadership and a wide partnership of interested parties (including, pharmacists, diabetes educators, physicians, HIV/AIDS prevention programs, persons with diabetes, solid and infectious waste companies, local health departments, and local solid waste agencies) make greater progress in increasing the number of syringes diverted from trash.[22–25] States should consider amending laws, regulations, and guidelines to promote community syringe collection programs and other safe disposal methods. Policy changes should improve the disposal options and incentives for *both* IDUs and persons using syringes for medical indications. A national effort is needed to achieve consistent community syringe disposal laws and guidelines for all states.

Pharmacists and others establishing community syringe collection programs should contact state and local government authorities to determine laws, regulations, and guidelines that apply. Pharmacists can play a key role in promoting safe disposal by educating their syringe-purchasing patients, providing sharps containers, and accepting used syringes for safe disposal. Pharmacists can join other interested groups in advocating clarification of disposal laws and regulations that favor community programs designed to keep syringes out of the trash so that they can be disposed of as infectious waste.

The project was funded by the Center for Community-Based Health Strategies, Academy for Educational Development. The authors declare no conflicts of interest or financial interest in any product or service mentioned in this article. The views expressed in this report are the authors' and do not reflect the views or policies of the sponsoring agencies and organizations.

The authors declare no conflicts of interest or financial interests in any product or service mentioned in this artilcle.

We thank Denise Raybon, James Testaverde, Sharon Novey, P. Lynne Stockton, and Phillip Coffin for their assistance.

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Promoting Safe Syringe Disposal Goes "Hand in Hand" with Expanded Syringe Access in New York State

Susan J. Klein, George R. Estel, Alma R. Candelas, and Hope A. Plavin

Safe disposal of hypodermic needles and syringes (hereafter referred to as "syringes") used outside of health care settings is a critical public health concern for which options are limited in many communities.[1,2] Safe disposal options for people who need home health care, people who inject insulin,[3] and people who are injection drug users (IDUs) are often inadequate.[4] Access to sharps containers for syringe disposal may be a barrier for persons with limited incomes.[5]

When the New York State Legislature authorized sale of syringes without a prescription as a demonstration program to prevent blood-borne pathogen transmission, it emphasized proper disposal of syringes.[6] We review syringe disposal options in place before the January 1, 2001, start of the New York State Expanded Syringe Access Demonstration Program (ESAP), and summarize actions taken in conjunction with ESAP to enhance safe disposal.

Safe Disposal Options Before ESAP

Thirteen New York State Department of Health (NYSDOH)–authorized syringe exchange programs (SEPs) have accepted used syringes for safe disposal since 1992.[7] In 1993, the New York State Public Health Law was amended to require certain types of health care facilities to accept used sharps, including syringes, originating from private residences for disposal.[8] Each facility established its own program, including location, days and hours of operation, policies and procedures, designation of staff, and training. These facility-based options exist in all but one county in the state. Residents may also dispose of syringes in household trash in accordance with local laws. Since 1995 NYSDOH has made available a brochure containing guidance on safe disposal of sharps in household trash.

Recent Initiatives

The amendments establishing ESAP set forth specific requirements for safe disposal. To qualify for registration to sell or furnish syringes under ESAP, pharmacies, health care facilities, and health care practitioners must "cooperate in safe disposal of used hypodermic needles and syringes." This was defined in regulation to mean that each time syringes are sold or furnished under ESAP, a safety insert must be provided that addresses safe disposal, among other topics. In addition, the independent evaluation of ESAP must include an analysis of its impact on safe disposal.[9]

Disposal at Pharmacies

Pharmacies in many areas of the country accept used sharps for disposal,[10–13] a practice supported by the American Pharmaceutical Association policy statement on syringe disposal.[14]

Pharmacies enrolled in ESAP are not required to accept used syringes for disposal. To promote safe disposal of used syringes and other sharps used outside of health care settings, pharmacies can voluntarily participate in any of the following:

- Distribute copies of the ESAP safety insert that discusses safe disposal (required for ESAP-registered pharmacies).
- Make available the NYSDOH brochure, *Household Sharps—Dispose of Them Safely.*
- Refer individuals to sharps disposal programs in the community.
- Educate the public about safe disposal.
- Sell or furnish puncture-resistant personal sharps containers or sharps disposal by mail systems.
- Accept syringes and other sharps used by individuals for safe disposal.

Although pharmacy acceptance of used sharps for safe disposal is not widespread in the state, a July 2000 NYSDOH survey of pharmacies revealed that many pharmacies were interested in accepting sharps in the future.[15] We examined NYSDOH and Department of Environmental Conservation (DEC) policies to assess the potential role of various types of providers, such as pharmacies, clinics, and community-based organizations, in safe disposal (Table 1).[16] Although NYSDOH had a procedure in place to register pharmacies and clinics to accept used syringes since January 1, 2001, as of April 2002, few had done so. Barriers to accepting used syringes for safe disposal included: regulatory requirements (i.e., Occupational Safety and Health Administration blood-borne pathogen standards); lack of space on site; lack of resources for disposal of syringes collected; and lack of broad availability of puncture resistant sharps containers.[15,17]

NYSDOH developed guidance for pharmacies interested in offering sharps collection by either (1) installing a tamper-proof sharps collection kiosk for direct deposit of contained sharps by customers, or (2) allowing staff to receive contained sharps from customers for placement into a receptacle.[18] Sharps collected at a pharmacy must be transported to a DEC-approved storage, treatment or disposal facility.[16] NYSDOH purchased personal sharps containers, ESAP "Contains Sharps" stickers, and facilitated placement of kiosks at pharmacies willing to accept used sharps.

Disposal at Health Care Facilities

In November 2000 NYSDOH mailed a survey to all New York State health care facilities (n = 930) required to operate sharps disposal programs. The survey requested contact information, drop-off locations, days and hours of operation, program requirements

Table 1. Syringe Disposal Options Identified for Providers in New York State

Involvement in safe disposal activities	Hospitals	Nursing Homes	Clinics	Health Care Practitioners	Pharmacies	Syringe Exchange Programs	Community-Based Organizations
Already handle regulated medical waste	Y	Y	Y	Y	—	Y	—
Required to accept sharps since 1996 under Public Health Law 1389 dd(4)	Y	Y	—	—	—	—	—
Approved by NYSDOH to accept sharps for safe disposal	—	—	—	—	—	Y	—
Can voluntarily register for ESAP and accept sharps	—	—	Y	Y	Y	—	—
Can work with an ESAP-registered provider that accepts sharps	—	—	—	—	—	—	Y
Can promote safe disposal and refer individuals to safe disposal sites	Y	Y	Y	Y	Y	Y	Y

ESAP = Expanded Syringe Access Demonstration Program; NYSDOH = New York State Department of Health; Y = Yes.

(e.g., requirements for specific types of puncture-resistant containers), and other information. Responses were used to compile a statewide directory, and it was widely disseminated. Some county health departments and other local agencies prepared county-specific directories of facility-based sharps disposal programs as well as fliers and brochures promoting these programs.

Disposal in Trash

While New York state law does not prohibit disposal of used sharps in household trash, we attempted to determine whether local laws had such provisions. We contacted DEC, trade organizations representing the solid waste industry, the New York City Department of Sanitation, and local health departments. We found no evidence of local laws prohibiting disposal of sharps in household trash. NYSDOH's brochure, *Household Sharps — Dispose of Them Safely*, was updated, reprinted in both English and Spanish, and placed on the NYSDOH Web site. This brochure was made available to ESAP-registered pharmacies as well as health and human service providers.

Develop Community Coalitions to Promote Safe Disposal

NYSDOH sponsored development of Community-Based Syringe Access and Safe Disposal Demonstration Projects that engage a wide range of local partners. The demonstration projects produce materials to inform community members of the importance of safe disposal and about existing sharps disposal programs, create new sharps collection programs, and distribute personal sharps containers at no charge to individuals. New sharps collection programs include placement of kiosks at local pharmacies, diabetes centers, clinics, and community-based organizations in addition to local partnerships that address pick up, transport, and disposal of collected sharps.

Additional Safe Disposal Options

Based on information gathered, NYSDOH is considering alternative approaches for syringe disposal,[2,10–13,19,20] Options for expanding the availability of puncture-resistant sharps containers, kiosks, and drop boxes are also being explored.

Public Education

The ESAP safety insert contains detailed guidance on safe disposal. The safety insert is available in both English and Spanish and is also accessible on the NYSDOH Web site. In calendar year 2001, more than 170,000 copies of the safety insert were distributed to pharmacies and other providers. Of these, 78% were in English and 22% were in Spanish. Safe disposal was highlighted in a statewide videoconference program and in numerous meetings and presentations.

A new consumer brochure was developed for persons with diabetes and their families. This brochure provides instructions on safely disposing of sharps in household trash. A generic safe sharps disposal poster, suitable for display in diabetes clinics, pharmacies, and other locations, was developed. A videotape and a trainer's guide for diabetes educators addressing safe disposal of sharps in household trash are being developed.

Conclusion

In August 2002, several national organizations, including the American Medical Association and the American Pharmaceutical Association, called for renewed attention to safe syringe disposal

outside of health care facilities.[1,21,22] In New York State, ESAP provided added impetus for NYSDOH and others to expand the options for and availability of safe syringe disposal options.

J Am Pharm Assoc. 2002;42(suppl 2):S105–7.

Received June 11, 2002, and in revised form September 12, 2002. Accepted for publication September 18, 2002.

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The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

Acknowledgments: The authors appreciate the review of this manuscript by Guthrie S. Birkhead, MD, MPH, director, AIDS Institute, NYSDOH; T. Stephen Jones, MD, associate director for science; Jennifer Taussig, health scientist, Division of HIV/AIDS Prevention–IRS, Centers for Disease Control and Prevention; and Phillip Coffin, MIA, New York Academy of Medicine.

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Community Needle Collection and Disposal Programs in Florida

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In June 2001 sharps collection and disposal programs (referred to as "community needle collection programs" in this article) were operating in at least 29 (43%) of the 67 counties in Florida.[1] This article reports on the development of these community needle collection programs. We examined laws, regulations, and guidance documents on this topic and a statewide survey of community needle collection programs.

Establishing the Model Program and Regulations

In the early 1980s, the Florida Department of Environmental Protection (DEP) began to address the management of special waste streams such as household hazardous waste (HHW). During 1983 to 1985, DEP funded statewide "amnesty days" collections for HHW. In 1986 DEP began providing grants to local governments to fund local HHW take-back centers. Some HHW collection centers accepted community-generated needles. As a result, the take-back center concept became the model for needle collection programs.

In 1988, in response to reports of needles on the beaches and accounts of needle-stick injuries among garbage collectors, Florida enacted a biomedical waste statute. The biomedical waste rules, adopted in 1989, covered medical waste from health care facilities. At that time, disposal of needles generated in the community (i.e., outside health care settings) was not addressed by either statute or rule.

County health departments and municipal governments were instrumental in starting community needle collection programs. Although the Florida DEP was not directly involved in organizing local needle collection efforts, it facilitated the process by easing regulatory barriers for county health departments and municipal governments starting such programs. Between 1989 and 1994, the Florida DEP required both a storage permit and permit fee for each needle drop-off site. In 1995, to encourage the growth of these programs, the Florida DEP simplified regulations covering collection programs by requiring only one general permit and permit fee for each program that was open to the public regardless of the number of drop-off sites.[2]

Streamlining Needle Collection

In 1996 the Florida legislature transferred responsibility for biomedical waste to the Florida Department of Health (DOH). The statutory revisions in Section 381.0098(4)(h), Florida Statutes, included language authorizing the DOH to develop "a streamlined process for permitting biomedical waste storage facilities that accept and store only sharps collected from the public, which may include the issuance of a single permit for each applicant that develops or sponsors a sharps collection program." In response, the Florida DOH developed a simplified biomedical waste needle collection program permit application and waived the fee for nonprofit needle collection programs.

Needle collection programs are operated by county governments, county health or environmental health departments, clinics, fire departments, county utilities, or combinations of these institutions (Table 1). Loose needles are not accepted. Properly contained needles are collected at locations such as county health departments, clinics, hospitals, pharmacies, fire stations, or drop boxes.[3,4] Consumers can obtain new sharps containers, at minimal or no cost, from a collection site. When a sharps container is filled, the consumer takes it to a collection site and receives a new container. Filled containers are removed from collection sites by licensed biomedical waste transporters. The containers are transported to a treatment facility and disposed of as biomedical waste. The Florida DOH has developed news releases and posted collection program information on their Web site (www.doh.state.fl.us/environment/facility/biomed/sharpsprograms.htm). The collection programs develop and distribute brochures at locations such as pharmacies, clinics, and hospitals.

The operating costs for Florida community needle collection programs include purchasing sharps containers, promotion and public education (brochures, news releases, public service announcements), and biomedical waste transport and treatment. The programs are supported by funding or in-kind donations from program

Table 1. Types of Organizations Directing Florida Community Needle Collection Programs, 2001

Type of Organization	Florida Counties (n = 67) No. (%)
County government	8 (12)
Environmental health/county health department	13 (19)
Nursing/county health department	2 (3)
Solid waste	2 (3)
Clinic/county health department	2 (3)
Fire department	1 (1.5)
County utilities	1 (1.5)
Counties without identified programs	38 (57)

Source: Reference 1.

sponsors. The sponsors include county health departments, county or municipal governments, hospitals, pharmacies, and commercial biomedical waste transport and treatment businesses.

Conclusion

In a study of 16 states in the United States, 12 states (75%) did not have biomedical waste laws and/or regulations designed to encourage community syringe collection programs.[5] Florida is a good example of how supportive regulations and policies can favor the development of community needle disposal programs. In Florida, state and county governments recognized the value of community programs to collect needles for safe disposal. As a result, Florida state government simplified the administrative procedures and first reduced and then eliminated fees for community needle collection programs. In addition, the Florida DOH Division of Environmental Health assigned biomedical waste coordinators to assist local and county community needle collection efforts. The local programs were designed to provide sharps containers and collection of needles at no or limited cost to the public. An in-depth study of these programs would be useful in assessing the success of the programs in "capturing" needles and other sharps, such as lancets, generated outside of health care settings and in preventing occupational and nonoccupational needle-stick injuries in the community.

J Am Pharm Assoc. 2002;42(suppl 2):S108–9

Received June 20, 2002, and in revised form, August 23, 2002. Accepted for publication September 3, 2002.

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The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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Eureka—Implementing Safe Community Needle Disposal in Rhode Island

Paul F. Caranci, Rita Farmanian, Dona Goldman, Cherie M. Kearns, Karen LeBoeuf, Richard Nicholson, Richard Sands, and Mona Scheraga

In 1999 concerns about worker needle-stick injuries and plant operation interruptions at the state landfill and materials recovery facility (MRF) led to the development of Rhode Island's statewide residential needle disposal program, Eureka Sharps Disposal System ("Eureka"; called "SharpSmart" from 1999 to 2001). Rhode Island Resource Recovery Corporation (RIRRC) staff, who run the landfill and MRF, had observed an apparent substantial increase in the number of loose needles in residential trash and recyclable materials.

Sharps in Trash and Recyclables

At MRF, workers manually sift through waste to remove recyclable materials to reduce the volume of solid waste going to landfills. When a loose needle is observed in the MRF line, RIRRC temporarily stops operations, at a cost of approximately $1,800 per hour. In 1999 and 2000 more than 400 pounds of loose sharps were removed from the MRF line; in the first 8 months of 2000, 35 to 40 incidents of loose syringes led to a total of 65 hours of MRF interruptions at an estimated cost of $120,000. During 18 months in 1999 and 2000, five RIRRC workers suffered accidental on-the-job needle-stick injuries, complicated by concerns about the potential risk of infectious disease.

Program Design

Because of these concerns, RIRRC staff contacted the Diabetes Foundation of Rhode Island (DFRI) to discuss how to reduce the number of needles discarded in residential trash and recyclables. DFRI offered to help create a safe community needle disposal program in Rhode Island. DFRI staff found that 14 pharmacies had sharps collection tubs to collect used needles, but the requirement that the person collecting the used needles must be trained under the Blood-Borne Pathogen Standard of the U.S. Occupational Safety and Health Administration (OSHA) limited the utility of this option. To simplify needle disposal, DFRI staff worked on needle kiosk designs that limited potential exposure to the used needles. Having patients place used needles through a "one-way" door into a locked kiosk substantially reduces the potential blood-borne pathogen exposure for staff in the facility (e.g., pharmacy) where the kiosk is located.

The initial kiosk design, funded by the Champlin Foundation, was a mailbox-like metal bin approximately 5-feet high. The model was designed to accept commercial sharps containers, bleach bottles, and other tape-sealed plastic containers or coffee cans. Depositing sharps in glass containers was not permitted. Eureka kiosks were placed at 14 pilot sites in fall 2000. As of August 2002, kiosks have been placed at 42 sites around Rhode Island, including 35 pharmacies, 4 fire stations, 2 police stations, and the DFRI office. The number of kiosk locations will increase to 50 by December 2002. Although the kiosk is designed for both indoor and outdoor use, all have been placed inside facilities (e.g., in pharmacy waiting areas).

DFRI informed the public of Eureka through a public relations campaign using radio, print, and television media, Web site postings, and posters and brochures for display in physicians' offices. The campaign was designed to reach sharps users, state agencies, municipalities, physicians, pharmacists, nurses, and health educators. Through the campaign, sharps users have been encouraged to place their properly contained sharps in a Eureka kiosk. When a full sharps container is placed in the kiosk, staff at the site provide a new sharps container free of charge. The sharps containers were donated to Eureka by the Rhode Island Department of Health, RIRRC, and Stericycle. Stericycle, a medical waste company, has sponsored the pick-up from the Eureka bins and delivery of sharps to a medical waste treatment plant and, from there, to American Refuel, Inc., where they are burned.

Experiences with Eureka

Between October 2000 and February 2002, more than 7,500 pounds of sharps and sharps containers have been collected through Eureka. Since March 2002, the average monthly collection has been 750 pounds, or more than 1 million syringes collected annually.

DFRI and its Eureka partners are using multiple measures to evaluate Eureka operations and impact. The evaluation measures include weight and estimated number of sharps collected for individual sites and the overall program, number of needles found on the MRF line, and RIRRC worker injuries. Initial findings at RIRRC are promising, with no worker needle-stick injuries since the start of Eureka and a 50% decrease in the weight of loose needles and sharps found on the MRF line (from 400 pounds of sharps in 2000 to 200 pounds in 2001). Eureka has been most successful at those sites where staff and/or local fire departments strongly promoted the program.

Eureka implementation costs have varied, depending on available community resources and sponsorship. The total start-up implementation cost in Rhode Island was $130,000 (a large portion of the start-up funds went to design the materials and to design and build the kiosk), the majority of which was supplied through in-kind donations, cash sponsorship, and grants. For Eureka sites, the average annual cost was $1,500 (for sharps containers, literature for the local community, maintenance, and disposal).

In August 2001, the Rhode Island General Assembly passed legislation to establish a commission to evaluate needle disposal laws and methods, examine the outcomes of the Eureka Sharps Disposal program, and obtain long-term funding for the Eureka project. The commission is publishing a status report in December 2002.

The DFRI plans to begin a national expansion of Eureka in late 2002. DFRI and Walgreens have formed a partnership to place kiosks nationwide in Walgreens pharmacies that have adequate space. A second partnership was formed with Medical Waste Solutions, LLC, to develop Eureka into a comprehensive and replicable residential sharps disposal program.

Conclusion

The preliminary success of Eureka demonstrates the feasibility of a statewide residential needle disposal program developed through collaboration among consumer groups, the solid waste industry, state agencies, health care providers, and corporations.

J Am Pharm Assoc. 2002;42(suppl 2):S109–10.

Received June 30, 2002, and in revised form, August 18, 2002. Accepted for publication September 3, 2002.

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The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article, with the following exceptions. Eureka is a project of the Diabetes Foundation of Rhode Island. Caranci, Nicholson, and Sands are volunteers with Eureka. Farmanian, Kearns, and LeBouef are employees of the Diabetes Foundation of Rhode Island. Goldman and Sachs are not directly connected with Eureka.

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The authors thank the Rhode Island Resource Recovery Corporation, Stericycle, the Champlin Foundations, the Rhode Island Department of Health, and the Rhode Island Department of Environmental Management for sponsoring the Eureka Sharps Disposal System and T. Stephen Jones and Phil Coffin for reviewing drafts of this report.

How Wisconsin Promotes Household Sharps Collection

Barbara B. Derflinger and Jean K. Druckenmiller

An estimated 2 to 3 billion syringes annually are generated outside of health care settings in the United States.[1] Discovery of needles and syringes (hereafter referred to as "sharps") on beaches and other public places have led to widespread concern about sharps in the environment and extensive laws and regulations of sharps generated in health care settings. However, sharps discarded in municipal waste have largely been ignored. Sharps in waste can injure waste handlers and recycling facility workers. Even the suspected presence of sharps can prevent recyclable materials from being recycled.

In the early 1990s, Wisconsin's health care providers, waste handlers, environmentalists, and state government collaborated to write rules that both require and enable all generators to dispose of sharps safely. The goals were as follows:

- To reduce risks of injury and disease.
- To include all who generate or encounter small amounts of sharps, including the public, waste handlers, injection drug users, pet owners, farmers, and small businesses.
- To foster sharps collection programs, which are safe, convenient, inexpensive, flexible, and anonymous.

Wisconsin Forbids Sharps in Solid Waste

Wisconsin's rules about sharps[2,3] can be summarized as follows: All sharps must either be disinfected and broken or be incinerated before being put in a landfill; sharps generated outside of medical facilities, known as "household sharps," are not exempt from the above requirement; all sharps generators must keep sharps separate from other wastes, use proper containers, and dispose of sharps safely; generators may take household sharps to "sharps collection stations," locations whose owners or managers agree voluntarily to collect sharps from the public.

Wisconsin has identified three key components to successful and safe disposal of household sharps. First, *minimal but effective regulation* lays the groundwork for easy-to-implement programs. In addition to the rules mentioned above, Wisconsin requires sharps collection stations to operate at or below cost, to follow safety requirements and, if they are not themselves generating sharps, to register with the state by writing a simple letter. Registration exempts collectors from red tape such as licenses and reports, and enables the state to provide a list of collection sites to the public. Supporting provisions, such as definitions of terms, treatment standards, enforcement and exemptions, were carefully drafted to enable and not to discourage people from collecting sharps. Finally, unlike most states, Wisconsin has no legal penalties for possession of syringes and needles, a situation that enhances use of syringe exchange programs by individuals who are injection drug users (IDUs) (S. Stokes, AIDS Resource Center, Milwaukee, Wisc., oral communication, August 1998).

Most Wisconsin Counties Have Sharps Collection Sites

Second, *local initiatives* respond best to local needs. Pharmacies, health care providers, local governments, waste haulers, and groups of persons with diabetes have all initiated collection programs. These local efforts range from a single collection site to groups of 30 or more sites. All collection sites are designed to be convenient and low cost or free to the user. As of September 2002, more than 500 stations had registered with the state. In addition, numerous health care providers, who do not have to register, accept their patients' sharps. More than 90% (66/72) of Wisconsin's counties have at least one registered sharps collection station.

Third, *education* enables everyone to know what to do. The state publishes generic educational materials and trains health workers; local organizers train people in greater detail. Specifically, the Wisconsin Department of Natural Resources[3] (WDNR) publishes guidance for generators, educators and sharps collectors. WDNR maintains the list of collection sites and distributes it with help from the Wisconsin chapter of the American Diabetes Association and the Wisconsin Veterinary Medical Association. The state health department has trained more than 175 public health nurses and 250 infection control workers who in turn train staff in their facilities. The health department also provides updates in its infection control and AIDS/HIV newsletters and works closely with trade organizations such as the Association for Professionals in Infection Control and Epidemiology (APIC). Local organizers develop their own training videos and outreach materials, such as press releases, public service announcements, brochures and Web pages (for example, Oneida County[4] and City of Madison[5]).

Together, these three components foster safe sharps disposal. As a result, fewer sharps are seen in the environment, more waste can be recycled because it is free of sharps and, where many sharps are collected, waste handlers have fewer injuries, fewer health risks, and less emotional trauma. While the state does not have statistics because it deliberately exempted collectors from keeping records, some local programs do track amounts collected, costs, and sharps injuries.[6,7]

Progress is enhanced where local ordinances establish fines for improper disposal and education is frequent and ongoing (T. Gansluckner, Pierce County Department of Solid Waste, Wisc., oral communication, August 1998) and where community leaders champion the idea (G. Lester, West Allis Memorial Hospital, West Allis, Wisc., oral communication, August 1998). Progress is

impeded where collection sites are inconvenient and where no one volunteers to collect sharps. In Wisconsin, progress is still needed in the hospitality sector and among persons who are homebound, those who are not fluent in English, and those who inject animals, such as livestock producers and pet owners.

Conclusion

Wisconsin has responded to real public health risks posed by household sharps in waste by requiring everyone to separate sharps from other waste and encouraging a wide variety of voluntary sharps collection programs. Wisconsin has found that minimal but effective state and/or local regulation, local initiatives and public education are all vital to successful sharps collection programs. With numerous health care providers serving their patients and more than 500 registered collection sites serving the public, Wisconsin is reducing risks of injury and disease from sharps both in the environment and in waste.

J Am Pharm Assoc. 2002;42(suppl 2):S111–2.

Received July 24, 2002, and in revised form September 23, 2002. Accepted for publication September 23, 2002.

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FROM THE LITERATURE

Importance of substance abuse treatment in preventing HIV transmission among injection drug users.

These recommendations must be viewed in the overall context of the drug epidemic. Comprehensive responses to this threat to public health are critical: most critical is the expansion of drug treatment to make it more available.(p 8)

Indeed, the appropriate legislative bodies should enact legislation (and should appropriate monies) to increase drug treatment capacity and establish better links between treatment and AIDS prevention programs that target injection drug users. (p 8)

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Household Sharps Collection Program in Brown County, Wisconsin

Joseph P. Van Rossum and Judy Friederichs

In 1994 Wisconsin State Administrative Code NR526 made it illegal to dispose of untreated sharps (needles, syringes, finger stick lancets) in landfills in the state.[1] The new code prohibited placing used sharps in residential trash for curbside pick-up. This report describes the program for safe disposal of home-generated sharps developed by Brown County.

Program Development

In 1995 the Brown County Departments of Health and Solid Waste organized a work group to develop the new sharps disposal program. Ideally, the new program would be as convenient and inexpensive as disposal in the trash and be easily accessible to the 212,000 residents of Brown County. The work group included sharps users, pharmacists, physicians, infection control providers, and staff from the Wisconsin Department of Natural Resources, other health departments, hospitals, and regional diabetes and hemophilia associations. The work group took more than 1 year to evaluate other sharps disposal programs and to develop and implement the new county program. While the new program was being developed, consumers were advised to store used sharps in puncture-resistant containers.

Implementing the Program

The Brown County Household Sharps Program began operating in June 1996. The program operates at sharps collection stations, where staff provide sharps containers to the public and accept filled sharps containers, both free of charge. Each collection station has one or more 39-gallon collection bin to store returned sharps containers. When collection bins are filled, station staff call a contracted medical waste hauler for pick up. There are currently 31 sharps collection stations located in local pharmacies (19), health care clinics (9), and hospitals (3). Thus, the majority (61%) of the collection stations are pharmacies. Twenty-eight stations are located in Green Bay.

The program currently distributes two sizes (1 and 5 quarts) of sharps containers that are compliant with Occupational Safety and Health Administration (OSHA) regulations. A small number of larger sharps containers (8 gallons) are provided to people with hemophilia.

Brown County Solid Waste Department (BCSWD) staff manage the program. The county contracts with a medical waste company to distribute sharps containers to collection stations, pick up filled collection bins, and dispose of them as medical waste.

Sharps collection station personnel were required to participate in a 30 to 40 minute training session before the station opened. BCSWD staff visit new collection stations 6 weeks and 6 months after they open.

The program staff developed a variety of materials including: brochures, collection station staff training sheets, an operational guide, a logo decal identifying collection stations, instruction stickers for sharps containers, videos for sharps users and collection station personnel, and a plastic bag to make it easier to place filled sharps container in the bin. The program maintains a Web site at www.co.brown.wi.us/Solid_Waste/sharps_medwaste.htm.

Experiences with the Program

Program data for the period 1996 through 2001 are shown in Table 1. Program costs have increased substantially since start-up primarily because of an approximate 60% increase in the cost of sharps containers. In each year from 1999 through 2001, the program distributed sharps containers with capacity for an estimated

Table 1. Brown County Household Sharps Program

Year	Syringe Capacity of Sharps Containers Distributed[a]	Cost per Quart Container[b] $	Cost of Program[c] $	Pounds of Sharps and Sharps Containers Collected No.
June—December 1996	638,000	0.71	9,035	815
1997	694,600	0.74	10,555	8,655
1998	861,050	0.77	13,128	8,519
1999	1,023,450	0.83	16,937	7,121
2000	908,100	1.11	19,993	5,063
2001	977,000	1.38	27,000	6,276

[a]Each 1-quart container holds an estimated 50 syringes. The estimate of number of syringes is calculated by multiplying the total number of quarts of sharps containers distributed for the year by 50. In 2001, the program distributed 1,760 1-quart, 3,524 5-quart, and 5 8-quart containers.
[b]Total cost of purchasing, collecting, and disposing sharps containers divided by the number of quarts distributed.
[c]Program cost is primarily the cost of purchasing, collecting, and disposing sharps containers. Salaries are not included.

0.9 to 1.0 million syringes.

In 1998 Brown County started a hospitality sharps program, primarily intended to be used in hotels and restaurants. A mailing was sent to all establishments that had a County Health Department license. Only eight businesses participate in the hospitality program. Because of the limited response, the hospitality program will be gradually phased out.

The major program costs are the purchase of sharps containers and collection bins and charges for the collection and disposal of used sharps as infectious waste. County staff salaries are not included in cost estimates. A public–private partnership funds the program. Partnership sponsors include 16 municipalities, the Brown County Health and Solid Waste Departments, 3 local hospitals, a national waste hauler, a national medical waste contractor, and the county landfill contractor. In April 2002 all but one of the partners committed to sponsor the program for 3 more years. No systematic data are available on needle stick injuries or needles found in the trash.

Conclusion

A statewide ban on placing household-generated sharps in community solid waste and landfills prompted the development of the Brown County Household Sharps Program. The program was developed and implemented through a collaboration of pharmacies, local governments, county health and solid waste departments, health care providers, and others, and it currently keeps as many as 0.9 to 1.0 million sharps per year out of solid waste and disposed of as medical waste. Participation by local pharmacies has been an important element in the program's success.

J Am Pharm Assoc. 2002;42(suppl 2):S113–4.

Received June 2, 2002, and in revised form, August 18, 2002. Accepted for publication September 2, 2002.

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The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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San Francisco Safe Needle Disposal Program, 1991–2001

Brad Drda, Jose Gomez, Ruth Conroy, Mel Seid, and Jacob Michaels

In the late 1980s, the San Francisco Department of Health (SFDH) received multiple reports of discoveries of discarded needles and syringes. Although the large majority involved residential trash and trash workers, needles were found in San Francisco parks, mailboxes, and street excavations. Because the San Francisco syringe exchange program (SEP) was assumed to provide disposal services to injection drug users (IDUs), SFDH staff worked to set up a disposal scheme for people with diabetes and other non-IDU needle users. Over a period of about 2 years, SFDH staff brought together diabetes organizations, the solid waste haulers, the major pharmacy chains, syringe manufacturers, and medical waste disposal companies. As a result, in 1991 the San Francisco Safe Needle Disposal Program (SFSNDP) was created to provide free, safe, and convenient needle disposal to San Francisco residents to reduce the risk that garbage workers and city workers would be injured or infected by used needles.[1–3] SFSNDP has become one of the largest community-based programs to keep needles, syringes, and other sharps out of residential solid waste.[1] Multiple community groups including the San Francisco garbage companies, community pharmacies, and local health officials contribute to sustaining SFSNDP.

Free-of-Charge Pickup and Collection of Sharps Containers

San Francisco resident needle users can pick up a free 2-liter (previously 1-quart) sharps container at more than 50 locations throughout San Francisco. When the container is full, the customer turns it in to any of these locations for free disposal. Full sharps containers are stored and picked up in covered plastic tubs called medical waste boxes. People using the program are not required to show any identification, except at one site, the San Francisco Household Hazardous Waste Collection Facility.

Most Sites Are Pharmacies

As of June 2002, 56 participating container pick up and drop-off locations are in San Francisco. Of these, 50 (89%) SFSNDP programs are located in pharmacies including: 42 Walgreens, 4 Kaiser Foundation Health Plan, University of California at San Francisco (UCSF) Parnassus Heights, Stadtlander's, Veterans Administration (VA) Hospital, and San Francisco General Hospital (SFGH). In addition, 6 SFDH clinics participate in the program.

SFSNDP was originally funded almost entirely through donated products, time, and effort. However, those donations slowly declined and, in 2002, the program became fully based on paid services. Most of the current funding for SFSNDP comes from the San Francisco residential solid waste charges. Sanitary Fill Company, one of the San Francisco solid waste companies, contributes funding from these solid waste charges. Additional funding comes from the $200 annual fee paid by each participating pharmacy. See Table 1 for additional cost and program activity data.

Pharmacists contact SFSNDP to request additional sharps containers. All sharps collected by the program are disposed of as infectious waste, currently by Stericycle, at $40 per scheduled pick up. The UCSF, the VA Hospital, and SFGH pharmacies and the six SFDH clinics, dispose of the sharps containers through their medical waste disposal systems.

When the program started, with a 6-month pilot from July 1 through December 31, 1991, the City and County of San Francisco Solid Waste Management Program handled publicity. At a 1991 news conference, a garbage collector who had been stuck by a needle told his story. SFSNDP received excellent media coverage, including an article that appeared in *Newsweek* in 1991. SFSNDP has mailed informational flyers approximately twice a year to people with diabetes and to physicians who are likely to prescribe needles in San Francisco. Letters are also sent to residences where garbage workers have seen needles in the trash. Program posters with the SFSNDP logo have been displayed in buses, bus shelters, and participating pharmacies. The program developed a sticker on how to dispose of the full container which was originally placed on sharps containers when distributed, but this procedure was stopped in 1993 because of the added labor; since then SFSNDP has relied on pharmacists to instruct consumers in proper disposal. In the late 1990s, SFSNDP increased outreach efforts mostly through flyers

Table 1. Program Activity and Estimated Costs for 2000–2001

	Sharps Containers Distributed	Medical Waste Boxes Picked-Up	Weight of Sharps Waste	Estimated Program Costs ($)[a]			
Year	No.	No.	(Pounds)	Containers	Disposal	Administration	Total
2000	14,760	284	6,611	32,000	10,000	25,000	67,000
2001	13,630	269	4,538	32,000	10,000	25,000	67,000

[a]Based on 1999 figures.

and presentations about disposal at health fairs to people with diabetes, the gay community, non-English-speaking Chinese and Hispanic communities, and substance abuse counseling organizations. In 1999, SFSNDP gave out 14,120 sharps containers, and removed an estimated 2 million needles from the residential waste stream. Since then, use of SFSNDP has been stable (see Table 1).

Sanitation Worker Needle-Stick Injuries Decreased

Although we cannot attribute the changes to SFSNDP, the number of needle-stick injuries to garbage collectors declined steadily from 21 sticks in 1989 to 3 in 1995 and remained low, with a total of 6 needle sticks in 2001, according to Occupational Health and Safety Administration logs. Anecdotal reports from garbage collectors and agency administrators also suggest a substantial decline in the frequency of needles sightings in the garbage since the program began.

Although community-generated needles continue to be disposed of in the solid waste stream of San Francisco, SFSNDP has made a substantial contribution to both removing needles from the waste stream by collecting sharps and ensuring that others can be placed in sharps containers distributed by the program, Prevention Point, the San Francisco syringe exchange program, collects approximately 2 million needles per year from IDUs who use the program.[4] Together, SFSNDP and Prevention Point recover and safely dispose of as many as 4 million needles per year from community needle users. This success has depended upon active collaboration between garbage companies, pharmacies, city government, and other health providers.

J Am Pharm Assoc. 2002;42(suppl 2):S115–6.

Received June 29, 2002, and in revised form September 23, 2002. Accepted for publication September 25, 2002.

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Community Sharps Disposal Program in Council Bluffs, Iowa

Donn Dierks and Dick Miller

An alarming increase in needle sightings and six needle-stick injuries in autumn 1991 and spring 1992 in Council Bluffs, Iowa, led its contracted solid waste handling company, Browning Ferris Industries, Inc. (BFI), to seek help from the Council Bluffs Health Department (CBHD). BFI requested that CBHD establish a community sharps disposal program to reduce the number of used needles, syringes, and other sharps (hereafter referred to as "syringes") entering the residential solid waste stream.

In collaboration with BFI and local pharmacies, and with financial support from a local foundation, the Dodge Foundation, CBHD designed and implemented the Council Bluffs Sharps Disposal Program. Initiated in May 1992, the program distributed free of charge, wide-mouth, 1-gallon plastic bottles with screw-on lids to be used as containers for used syringes. Initially, new containers were distributed to the local pharmacies by health department employees. Local pharmacies and the CBHD provided the containers to patients whose medical care required injections. A pamphlet describing the program was given to anyone receiving a container. When a container was filled, residents were to return it, in exchange for a new container, to the CBHD office or to one of several participating local pharmacies. CBHD collected filled containers from pharmacies and consolidated the containers for pickup by a medical waste transportation company (Bio-Hazardous). BFI, the city's solid waste collection contractor at that time, paid the costs of transporting and treating the syringes as infectious waste.

Pharmacy-Based Program

Initial pharmacy participation in the program was low (6 of 15 local pharmacies participated). The main concerns voiced by pharmacists were limited space in their pharmacies and potential liability in accepting the filled containers. In response to the concern about space, the program allowed pharmacists to take as few or as many boxes holding four empty 1-gallon containers as they wished. CBHD also made a commitment to deliver and/or collect containers within 24 hours of notification from participating pharmacies. In response to the concern about liability, the program has provided pharmacies that will not accept filled containers with new containers to distribute to their customers. The flexibility of the program, combined with the efforts of one of the authors, a local pharmacist and Board of Health member, led to 13 of the 15 local pharmacies participating in the program since 1999.

Between 1992 and 2002, CBHD paid approximately $9,180 for containers, labeling, and pamphlets (Table 1). Because CBHD personnel delivered and collected containers while doing other environmental health work, there were no direct personnel costs. The population of Council Bluffs is approximately 60,000 people. The direct program costs over 10 years totaled $0.15/person. The cost of the new containers have been offset by the Dodge Trust grant and the budget of the Solid Waste Management Division of CBHD. In addition, during the same time period, the solid waste collection contractor paid $17,290 for biohazard waste disposal of program containers, leading to a total estimated cost for the program of less than $27,000. The cost of the disposing of the collected syringes as infectious waste is now included in the Council Bluffs solid waste collection contract.

Table 1. Estimated Number of Syringes Collected through the Council Bluffs Syringe Disposal Program, 1992–2002

Calendar Year	Estimated No. Syringes Collected[a]	Estimated No. Biohazard 30-Gallon Containers Collected
1992	8,640	4
1993	38,880	18
1994	56,160	26
1995	62,640	29
1996	77,760	36
1997	95,040	44
1998	84,240	39
1999	84,240	39
2000	105,840	49
2001	84,240	39
2002 (January 1 – June 30)	54,000	25
Total	751,680	348

[a]Based on estimate of 120 needles per gallon container and 18 1-gallon containers per 30-gallon biohazard box.

Conclusion

In 10 years (1992–2002) of program operation, there were only two needle-stick injuries among solid waste workers. The program appears to have helped make the work environment safer for employees of solid waste handling companies and to have helped prevent employee injuries and medical expenses resulting from needle sticks. As a means of diverting community-generated syringes from the solid waste stream, the Council Bluffs Sharps Disposal Program may serve as a model for other municipalities.

J Am Pharm Assoc. 2002;42(suppl 2):S117–8.

Received June 24, 2002, and in revised form September 24, 2002. Accepted for publication September 25, 2002.

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The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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Safe Sharps Disposal in Public Restrooms, Bush Intercontinental Airport, Houston, Texas

Julie E. Myers, Susan Eppes, Danni Lentine, and T. Stephen Jones

With 35 million passengers, Bush Intercontinental Airport in Houston, Texas, was the eighth busiest airport in the United States in 2001 (T. Bartlett, deputy director of aviation, Bush Intercontinental Airport, personal communication, September 12, 2002). The Houston Airport System (HAS) owns and manages the airport, which includes 63 public restrooms and employs approximately 700 maintenance and custodial workers (T. Bartlett, personal communication, September 12, 2002).

In March 1998, the custodial staff started reporting to HAS that they were encountering needles and syringes (hereafter referred to as "syringes"), primarily in the public restrooms at Bush Intercontinental Airport. Staff reported that syringes were most commonly found in the toilet seat cover dispensers and feminine products disposal units inside the restroom stalls. Syringes were sometimes seen protruding through the plastic bags.

These unsafely discarded syringes put custodial staff and solid waste workers at risk for needle-stick injuries and blood-borne infections. Although no needle-stick injuries had occurred, HAS and the airport safety and health director, decided to place sharps containers in all public restrooms. The containers were installed in November 1998. The goal was to protect the health and safety of the employees and travelers in the public restrooms.

Operation

In these 63 public airport restrooms, heavy plastic sharps disposal units measuring approximately 10" × 12" × 5" are mounted on the wall outside the restroom stalls no higher than 48 inches above the floor with unobstructed access in compliance with the Americans with Disabilities Act requirements. Each unit holds a 1-gallon sharps disposal insert and locks it in place. The sharps disposal insert has an opening for a horizontal drop (i.e., flip-top lid), similar to sharps containers used in health care facilities. This design makes it difficult to remove syringes from the container. When the insert is full, the top displays a "full" message, and no more syringes can be introduced.

To discourage unsafe syringe disposal, bright orange decals with the program's logo (a syringe with a universal "no" sign) are affixed to the toilet seat cover dispensers. The decal states, "Please use container provided for your convenience" in English and Spanish.

Because they are considered to be at risk for biohazard exposure, all 200 HAS custodial employees received training about blood-borne pathogens, biohazard spill cleanup, and proper use of personal protective equipment (PPE; i.e., gown, mask, goggles, and gloves). HAS produced and uses a training video about blood-borne pathogens. Only three specially trained employees are allowed to remove full sharps disposal inserts and replace them with empty ones. Only one appointed syringe disposal employee carries out the routine maintenance of the restroom disposal units. This employee checks the containers and records the percentage full; all containers are checked at least once a month. All custodial staff are asked to report full sharps containers to the syringe disposal employee. When a container insert is full, one of the specially trained employees dons PPE, unlocks the metal unit, and places the syringe disposal insert into a red, labeled, biohazard bag, which is later transferred to a large cardboard collection box (with a volume of 3.1 cubic feet) in a designated storage facility at the airport. A biomedical waste management company picks up the cardboard storage boxes and disposes of them as infectious waste.

The cardboard storage box holds approximately eight biohazard bags. Each bag contains one sharps container insert and each full sharps container insert holds approximately 200 syringes. Most sharps container units are changed once or twice a year, more frequently in some locations.

Cost

The major cost of the program was for purchasing and mounting the 63 containers (one mountable sharps disposal container with key plus one sharps disposal insert container) at $30.35 each. Each new sharps disposal insert container costs about $1.50. The physical plant maintenance staff of the HAS mounted all of the containers, absorbing the labor cost of installation. It is difficult to calculate the cost of the training program because most of the training is identical to the biohazard preparedness training required

for all employees. It is similarly difficult to calculate staff time for this program because the monthly inspections of the sharps containers take place in the course of other routine activities. Emptying each container takes about 5 to 10 minutes for an annual total of 5 to 10 manpower hours devoted to this program. The airport is charged for disposal by the storage box and not by weight. In 2002, the biomedical waste management company charged $25 to $30 to dispose of each box, making the entire cost of disposal for each of the past 2 years approximately $225 to $270 per year. The annual cost of the entire program can be estimated at $12.42 to $13.07 per restroom.[a] Charges for staff time maintaining the program are not included.

Evaluation

In 1998, the first year of operation, the program disposed of three of these cardboard collection boxes of biomedical waste (approximately 4,800 syringes). In 1999 and 2000, they disposed of five boxes each year (approximately 8,000). In 2001 and 2002, they disposed of nine boxes each year (approximately 14,000).

The program has not collected data for impact evaluation. Reports of sharps "sightings" continued after the program began but at what is believed to be a much lower frequency. One occupational needle-stick injury was reported since the start of the program (compared with none reported before the program). This 2001 injury occurred while a HAS custodial employee was removing a full, plastic trash bag from a trash receptacle in a restroom. No problems with the sharps container in this restroom were found.

Obstacles

During the 4 years of the program operation, HAS received about five telephone calls and letters about the program. All expressed concern that the airport was supporting injection drug users and condoning drug use.

Tampering with the equipment has occurred. Custodial staff report that some program decals have been removed and that objects other than needles and syringes have been found in the sharps containers.

Some syringe users may be deterred from using the containers placed so that they are accessible and easily seen because of concerns that using the container will identify them as a person who has diabetes or who uses illegal drugs.

[a]To estimate the per restroom annual cost, we depreciated the cost of the wall-mounted sharps container over 4 years ($30.35 per wall-mounted sharps container divided by 4 years equals $7.59), added the cost of changing the insert 1.04 times a year per restroom (approximately 72 discarded inserts divided by 69 restrooms times $1.50 per insert equals $1.57), and added the approximate per restroom disposal cost of the biohazard boxes (between $225 and $270 to dispose of 9 boxes, divided by 69 restrooms).

Expansion

In 2000, six staff restrooms were added to the program, bringing the total number of restrooms with sharps containers to 69. Any future HAS contracts for building expansions will require that all new restrooms have wall-mounted sharps disposal containers.

New Airport Security Measures

After September 11, 2001, the Transportation Security Administration increased the requirements for manual inspection of passenger baggage, thereby increasing the risk of needle-stick injuries to security personnel.[1] New civil and criminal penalties have been established for persons in airports possessing undeclared syringes without specific evidence of needing them for medical purposes.

Conclusion

The HAS program is a model of a program to place sharps containers in airports and other public places. The program has been inexpensive and easy to operate. It appears to have reduced the number of sharps unsafely discarded in trash or hidden in restroom stalls. It has recovered a relatively small but increasing volume of sharps. Seeing these sharps disposal containers probably has an important public health and educational impact—making passengers more aware of the concept of safe syringe disposal.

J Am Pharm Assoc. 2002;42(suppl 2):S118–9.

Received September 27, 2002. Accepted for publication September 27, 2002.

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The authors declare no conflicts of interest or financial interests in any product or service mentioned in this article.

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