

Pharmacist and Pharmacy Staff Experiences with Non-prescription (NP) Sale of Syringes and Attitudes Toward Providing HIV Prevention Services for Injection Drug Users (IDUs) in Providence, RI

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ABSTRACT Increased access to sterile syringes among injection drug users (IDUs) has been correlated with reduced syringe sharing. Many states, including Rhode Island, have legalized non-prescription (NP) sale of syringes in pharmacies. Previous studies have suggested that training pharmacists to provide HIV-related services to IDUs may be an important opportunity to engage IDUs and provide them with such services. However, it is not clear to what extent pharmacy staff are willing to expand their roles in providing services to IDUs who come in to purchase syringes. We recruited pharmacists and pharmacy staff from the 48 pharmacies indicating NP sale of syringes in the greater Providence, RI area, to participate in an online survey consisting of demographic information; views about the current syringe laws in Rhode Island; willingness to provide HIV-related services, including referral for HIV testing, substance use treatment, and medical and social services, to IDUs; and past experiences with IDU customers. One hundred and forty-six individuals completed the online survey (32 pharmacies, 114 pharmacy staff). Most participants were employed by chain pharmacies (92%). Most participants thought that pharmacies are important resources for IDU customers (77%) and that they would be willing to provide health and prevention information/referrals to IDU customers who purchase NP syringes (59%). With respect to willingness to offer HIV prevention-related services, access to confidential space and concern about personal safety had the strongest associations with willingness to provide HIV prevention services (OR, 4.3 and 0.1, respectively). As the nature of the retail pharmacy shifts, researchers, pharmacy executives, and health care officials can build upon the willingness of pharmacists and pharmacy staff in order to address the health needs of injection drug users and other underserved populations.

KEYWORDS *Pharmacies, IDUs, HIV prevention, OTC syringes*

INTRODUCTION

Pharmacies are an underutilized health care resource staffed with highly trained health care professionals. As the role of community pharmacies in the United States shifts toward patient care, there exists an opportunity to offer expanded health

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services to diverse populations, many of whom are historically underserved and who may not have access to other health care services such as basic primary health care. One of the underserved populations that may significantly benefit from expansion of health services, especially HIV-related prevention services, in the pharmacy setting is injection drug users (IDUs). A primary route of HIV transmission is the injection of illicit drugs using contaminated needles, syringes, and other equipment.¹⁻³ Similarly, IDU accounts for most hepatitis C virus (HCV) transmission in the United States and is attributed to a substantial proportion of HCV infections during the past decades.⁴

States that have permitted non-prescription (NP) syringes to be sold through pharmacies have seen increased access to sterile syringes and decreased syringe sharing and reuse and HIV incidence among IDUs without an increase in drug use.^{5,6} Rhode Island is an example of such a state. Prior to 1998, syringe prescription and paraphernalia laws in Rhode Island carried some of the harshest penalties in the nation; at that time, IDUs in Rhode Island reported among the highest average rates of syringe reuse in the United States.^{7,8} This contributed to Rhode Island being one of only four states with greater than 50% of AIDS cases related to injection drug use.⁸ In 2000, in response to the HIV/AIDS epidemic in Rhode Island and following several previous legislative changes, the state passed legislation completely legalizing the sale of an unlimited number of non-prescription syringes by pharmacists, at their discretion, in order to increase access to sterile syringes for IDUs.⁷ Since then non-prescription syringes have been available for purchase at Rhode Island pharmacies to anyone over 18 years of age.⁹ This change is likely associated with an absolute reduction in IDU-related new HIV cases in the state of 80%.¹⁰

Current pharmacy-based health initiatives have focused on building pharmacies' capacity to serve as centers of community health. Increasingly, retail pharmacies are expanding their scope of services beyond that of medication dispensation and counseling and are presenting themselves as convenient, accessible, and affordable places to receive primary care services. Various retail chain pharmacies have implemented on-site clinics that provide primary health care services to their patients such as health screenings, diagnostic services, and vaccinations. The services provided by pharmacy clinics are usually available without an appointment and on a no- or low-fee basis. These low-cost services, coupled with the overall accessibility of pharmacies, have enabled pharmacies to successfully offer medical services and treat the health needs of "walk-in" patients.

Many IDUs have low utilization rates of health care services and may benefit from accessing existing pharmacy-based services or an expansion of such services.¹¹⁻¹³ Furthermore, the paucity of funding sources for syringe exchange programs (SEPs) inhibits their efforts to expand program access to provide IDUs with sterile syringes and referrals for medical and social supportive services.¹⁴ As funding for SEPs dwindles and the sale and possession of non-prescription syringes becomes more widespread, the role of retail pharmacies and pharmacy staff is becoming more important. In fact, pharmacy-based syringe access can serve to supplement SEPs since they are much more prevalent than SEPs and often have expanded hours during which SEPs are not able to operate.¹⁵

For IDUs, the current transition in pharmacies may carry significant benefits, as pharmacies can serve as important new points of contact for IDU populations. Expanding pharmacy services to include HIV- and drug treatment-related referrals for IDUs is based upon successes of SEPs nationally that provide many primary health care, HIV prevention, and referral services in addition to syringe exchange.¹⁶

These include linkage to medical care, HIV testing, psychiatric care, drug treatment, and social services including housing and eligibility assistance. In this study, we assess the level of contact that pharmacy staff, including pharmacists, pharmacy interns, and pharmacy technicians, have with IDUs who purchase syringes over the counter, their overall experiences and attitudes regarding this contact, and their willingness to engage IDUs on issues related to drug use and HIV prevention.

METHODS

Our study population consisted of pharmacists and pharmacy staff (including pharmacy technicians and pharmacy interns) in retail pharmacies located in the greater Providence area (defined as Providence, North Providence, Pawtucket, East Providence, and Central Falls) with NP syringes available for purchase. We compiled a list of eligible pharmacies, assessed through telephone screening, that currently sell NP syringes. There were a total of 48 pharmacies located in the greater Providence area that were eligible. All pharmacy staff from any of these 48 pharmacies were eligible to participate in the study. While we did not collect data on pharmacies that indicated that they did not sell NP syringes, nearly 100% of pharmacies we called responded that they did sell NP syringes.

We approached each pharmacy and distributed informational materials about the study. Additionally, we asked pharmacy managers to disseminate information about the study to their employees. Among the materials disseminated to pharmacies was a research email address to which any potential participant could inquire to receive a link to an online survey administered by Survey Monkey (www.surveymonkey.com). If a pharmacy staff person was interested in the study, he or she sent an email to the study email address, which was monitored daily by the study research assistant who replied to each email with a link to the online survey. Each survey link was unique and could only be used once by the participant. Of the total number of people to whom we emailed survey links ($n=174$), 146 individuals completed the survey for an overall response rate of 84%. A \$15 online gift card was offered as an incentive to individuals completing the survey.

Online Survey Instrument

The online survey consisted of demographic information and a mix of open- and closed-ended questions which included the following domains: attitudes and beliefs regarding syringe laws in Rhode Island; experiences selling NP syringes to IDUs (or perceived IDUs); perceived role in providing HIV-related services to IDUs; knowledge of community HIV prevention-related services; current HIV-related services that they provide on-site; and willingness to expand the number and type of HIV-related services presently offered. In this study, HIV-related services were defined as: referral for HIV testing, HIV prevention education, referral to substance use treatment services and social supportive services, such as housing and eligibility assistance; and if HIV positive, referral to HIV primary care.

Data Analysis

Summary tables of survey responses were created and Chi-square contingency analyses were performed to compare participants with respect to demographic variables, such as race/ethnicity and gender, and responses to survey questions. We performed exploratory data analysis and generation of descriptive statistics. Open-ended questions were coded into binary variables. Logistic regression analysis was

performed to examine predictors of perceived barriers to willingness to provide HIV-related prevention services. Covariates were selected based on statistically significant ($p < 0.05$) bivariate associations with the outcome variable of perceived barriers to willingness to provide HIV-related prevention services. All analyses were performed using STATA 8 (College Station, TX).

RESULTS

Between October 2008 and May 2009, we enrolled a total of 146 participants. Demographic and descriptive characteristics are stratified by pharmacy position and are presented in Table 1. In total, 32 pharmacists and 114 pharmacy staff (pharmacy technicians or pharmacy interns) participated in the study. Proportionally, pharmacists were older; 45% of pharmacy staff were between the ages of 18 and 25 years compared with 9% of pharmacists ($p > 0.001$). Pharmacists and pharmacy staff were similar with respect to gender and pharmacy of employment (chain vs. independent). Most participants, both pharmacists and pharmacy staff, were white and non-Hispanic, though approximately two thirds of pharmacy staff reported their race as other than White (Table 1). Overall, there were no differences with respect to past 30 days sale of NP syringes and previous refusal to sell NP syringes between the two groups; the vast majority of all respondents indicated that they had sold syringes in the past month and that they had never refused selling NP syringes (Table 1).

Table 2 summarizes survey responses relating to specific attitudes and beliefs about selling NP syringes and about providing HIV prevention services to IDUs in the retail pharmacy setting. The majority of respondents agreed or strongly agreed that IDUs should always be allowed to purchase NP syringes and that providing NP syringes is an effective way of preventing blood-borne infections among IDUs (87% and 91%, respectively). Additionally, most respondents disagreed that IDU customers are a disruption to their pharmacy and that IDUs make other customers feel uncomfortable (Table 2).

While most participants indicated that they agreed that pharmacists should provide HIV-related prevention services to *anyone* purchasing NP syringes, including IDUs, many disagreed that pharmacy technicians and pharmacy interns (defined as pharmacy staff) should provide these services. Nearly 46% of respondents disagreed or strongly disagreed that pharmacy staff should provide HIV prevention services to IDUs and 49.3% disagreed or strongly disagreed that pharmacy staff should provide HIV prevention services to anyone purchasing NP syringes. When specifically asked about support for on-site syringe disposal, nearly 70% of respondents indicated that they are supportive of on-site disposal (Table 2).

Most participants agreed that pharmacies are important resources for IDU customers (77.4%) and that they would be willing to provide health and prevention information/referrals to IDU customers who purchase NP syringes (59%). However, the majority of respondents also agreed or strongly agreed that they are concerned about correctly identifying NP purchasing customers as drug users (85.7%). Finally, nearly 71% of respondents disagreed or strongly disagreed that they have enough time to provide information/referrals to IDUs who purchase NP syringes.

In order to assess specific barriers to participant willingness to provide HIV prevention-related services, we performed logistic regression analysis. Regression analysis results are presented in Table 3. In the final regression model, race (non-White), higher education level, and availability of confidential space to interact with IDU NP syringe-purchasing customers were all positively correlated with willingness

TABLE 1 Descriptive characteristics

Descriptive variable	Pharmacist	Pharmacy staff (technician or intern)	Chi-square <i>P</i> value
	<i>N</i> =32	<i>N</i> =114	
	<i>n</i> (%)	<i>n</i> (%)	
Age (years)			
18–25	3 (9.4)	55 (45.3)	
26–35	12 (37.5)	43 (37.7)	
>35	17 (53.1)	16 (14.0)	>0.001
Race			
White	39 (78.1)	75 (34.2)	
Other	7 (21.9)	39 (65.8)	0.18
Ethnicity			
Latino	31 (96.9)	97 (85.1)	
Other	1 (3.1)	17 (14.1)	0.07
Education level			
High school	1 (3.1)	50 (45.1)	
College	1 (3.1)	43 (38.7)	
Graduate school	30 (94.8)	18 (16.2)	>0.001
Gender ^a			
Female	16 (50)	41 (36.9)	
Male	16 (50)	70 (63.1)	0.18
Type of pharmacy ^a			
Independent	4 (3.6)	4 (12.5)	
Chain	28 (96.4)	107 (87.5)	0.05
Sold syringes in past month ^a			
No	1 (5.6)	6 (3.2)	
Yes	30 (94.4)	102 (96.8)	0.60
Ever refuse to sell syringes			
No	29 (93.6)	102 (93.6)	
Yes	2 (6.4)	7 (6.4)	0.99

^aNumbers do not add up to *N*=146 due to missing data

to provide HIV prevention services. One of the most significant of these factors was confidentiality: individuals who reported that a lack of confidential space was not a barrier to providing HIV-related prevention services were 4.3 times more likely to express their willingness to provide such services compared with individuals reporting that a lack of confidential spaces was an important barrier to providing expanded services (95% CI, 1.38–13.58). In addition, participants with a graduate education had a nearly fourfold higher odds of willingness to provide HIV prevention services compared with participants with only a high school education (OR, 3.8; 95% CI 1.03–13.74).

TABLE 2 Attitudes and beliefs regarding NP syringe sales

	Strongly agree, N (%)	Agree, N (%)	Disagree, N (%)	Strongly disagree, N (%)	No opinion/ unknown, N (%)
IDUs should always be allowed to buy NP syringes	27 (18.5)	100 (68.5)	6 (4.1)	5 (3.4)	8 (5.5)
Providing NP syringes is a safe method of preventing blood-borne infections among IDUs	51 (34.9)	82 (56.2)	1 (0.7)	3 (2.1)	9 (6.2)
IDU customers are a disruption to my pharmacy	2 (1.4)	11 (7.5)	91 (62.3)	26 (17.8)	16 (10.9)
IDU customers make other customers feel uncomfortable	3(2.1)	22 (15.1)	83 (56.9)	22 (15.1)	16 (10.9)
Pharmacists/pharmacies are an important resource for IDUs who may not access health care in the community	12 (8.2)	101 (69.2)	19 (13)	2 (1.4)	12 (8.2)
<i>Pharmacists</i> should provide HIV prevention information/resources to IDUs who purchase NP syringes	18 (12.3)	87 (59.6)	29 (19.9)	1 (0.7)	11 (7.5)
<i>Pharmacy staff</i> should provide HIV prevention information/resources to IDUs who purchase NP syringes	9 (6.2)	58 (39.7)	47 (32.2)	20 (13.7)	12 (8.2)
<i>Pharmacists</i> should provide HIV prevention information/resources to <i>anyone</i> who purchase NP syringes	17 (11.6)	79 (54.1)	31 (21.2)	3 (2.1)	16 (10.9)
<i>Pharmacy staff</i> should provide HIV prevention information/resources to <i>anyone</i> who purchase NP syringes	7 (4.8)	52 (35.6)	54 (37)	18 (12.3)	15 (10.3)
It is not the role of <i>pharmacists/pharmacy staff</i> to provide IDU customers with HIV prevention services	4 (2.7)	34 (23.3)	80 (54.8)	10 (6.9)	18 (12.3)
I am willing to provide info/resources to IDUs who purchase NP syringes	10 (6.9)	76 (52.1)	41 (28.1)	5 (3.4)	14 (9.6)
I have time to provide info/resources to IDUs who purchase NP syringes	2 (2.1)	26 (17.8)	70 (47.9)	33 (22.6)	14 (9.6)
I am concerned about mistaking people purchasing NP syringes as drug users	63 (43.2)	62 (42.5)	12 (8.2)	0 (0)	9 (6.2)
I would support a syringe disposal receptacle on the premises of my pharmacy	34 (23.3)	65 (44.5)	25 (17.2)	9 (6.2)	13 (8.9)

TABLE 3 Logistic regression of perceived barriers to willingness to provide HIV prevention services to IDUs

Variable	Adjusted OR (95% CI)
Race	
Non-White	2.8 (1.1–6.6)
White (reference)	
Education	
Graduate School	3.8 (1.03–13.74)
College	1.8 (0.76–4.43)
High school (reference)	
Age ^a	1.0 (0.97–1.08)
Gender	
Female	0.7 (0.30–1.49)
Male (reference)	
Potential to interfere with regular work	
Yes	0.24 (0.06–1.01)
No (reference)	
Lack of confidential space to interact with NP purchasing customers	
Yes	4.3 (1.35–13.56)
No (reference)	
Concern about personal safety	
Yes	0.1 (0.02–0.70)
No (reference)	
Difficult to identify IDUs	
Yes	0.21 (0.04–1.19)
No (reference)	

^aContinuous variable

Concern about personal safety was another substantial barrier to willingness to provide HIV prevention services to IDUs. Participants who responded that they were concerned about their personal safety had an 0.1 times the odds of being willing to provide HIV prevention services compared with participants who responded that personal safety was not an important consideration (95% CI 0.04–1.19).

DISCUSSION

Our study has important implications for the role of chain pharmacies in HIV-related prevention efforts. Participants in our study (92%) were overwhelmingly employed by chain pharmacies. Chain or corporate pharmacies often have unique regulations and policies, both regional and corporate, which dictate staff–customer interactions. In addition, the execution of these policies may vary among stores within a given chain. Therefore, it is particularly important to elucidate specific obstacles to engaging pharmacy staff at chain pharmacies in HIV prevention-related efforts among IDU NP purchasing customers.

Support for NP Syringe Sales and Understanding of NP Syringe Sales as an Important Public Health Initiative. Nearly all participants responded that they agreed that IDUs should always be allowed to purchase NP syringes and that providing NP syringes is an effective method of preventing blood-borne infections.

Of note, there was disagreement about who should be providing resources and/or information to NP purchasing customers, including IDUs. While most participants agreed that it is appropriate for pharmacists to provide HIV prevention-related resources and/or information, fewer respondents agreed that pharmacy staff, specifically pharmacy technicians, should be providing such a service. This view is not surprising, as typically, pharmacy staff (excluding pharmacists) are either legally prohibited to counsel customers about healthcare-related issues (pharmacy technicians) or are permitted to do so under the explicit guidance of a licensed pharmacist (pharmacy interns). It is likely that many respondents understood this restriction on pharmacy staff to apply to providing HIV-related prevention services as well. Importantly, most participants felt that providing HIV prevention-related services to IDUs is an appropriate role for pharmacies to play as more than 60% were willing to provide such services. Finally, three quarters of participants, with no statistically significant difference between pharmacists and pharmacy staff, indicated that they would support on-site syringe disposal at their pharmacies. This is an important finding because, in many pharmacy settings, improper syringe disposal is a substantial barrier to pharmacists making syringes more accessible to IDUs. For example, previous work indicates that pharmacists' fear of discarded syringes around their pharmacy significantly affects their decision to sell NP syringes.¹⁷⁻¹⁹

Barriers to Providing HIV Prevention Services to IDUs. While many participants indicated that they did not have sufficient time to provide HIV prevention services to IDUs, time (or lack thereof) was not a statistically significant predictor of willingness to provide services in our logistic regression analysis. Additionally, many respondents indicated that they were concerned about mistaking a non-IDU syringe-purchasing customer, such as a diabetic without a syringe prescription, for a drug user. However, this also was not a statistically significant predictor for willingness to provide HIV prevention services. Participants with higher levels of education were more likely to be willing to provide HIV prevention services to IDUs. This may be a result of greater education concerning the utility of prevention services in lowering HIV infection rates among substance using populations. Furthermore, non-White participants were also more willing to provide services to IDUs (OR, 2.8; 95% CI 1.1-6.6). This finding may reflect the racially and ethnically diverse population of IDU customers pharmacy staff see on a regular basis. Previous research suggests that racial concordant provider/patient relationships may be beneficial in health care services provision, as greater levels of comfort lend themselves to increased participation and communication.²⁰

One important barrier to a participant's willingness to provide HIV prevention services to IDUs we found in this study was the lack of confidential space in pharmacies. This may be a substantial and difficult obstacle to overcome, as most chain pharmacies are structurally designed in similar ways with insufficient attention paid to customer privacy. This is particularly important given the sensitive nature of discussing HIV risk behaviors with NP syringe-purchasing customers. However, many chain pharmacies including Walgreens, CVS, and Rite-Aid have begun to develop separate, semi-private "consultation" areas designed to allow privacy of interaction for sensitive medically related inquiries and health care consultations. Furthermore, as retail pharmacies transition towards the provision of on-site healthcare services, they are beginning to redesign the pharmacy area and are increasingly

equipping pharmacies with consultation booths or semi-private areas where private, one-on-one conversations can occur.

Also of note is the view held by some participants that their personal safety is an issue when interacting with IDU customers; individuals expressing concern about their own safety were only one tenth as likely to be willing to provide HIV prevention services to IDUs as compared with individuals who did not express this concern. The data do not indicate whether or not this view is held largely by individuals with limited experience serving IDU customers or whether it reflects specific experiences during which participants felt that they were in danger.

This study has several limitations. The computer-based nature of the survey instrument may have presented several challenges. First, as respondents were unable to use in-store computers to complete the questionnaire, only individuals with access to a personal computer were able to participate. This may have inadvertently excluded individuals without access to an at-home computer. Secondly, potential respondents were required to send an email to the research email address in order to receive a survey link. This step unintentionally excluded individuals who were not motivated to go online to complete a survey and individuals who did not understand how to contact the research team in order to receive a personal link (as reported on follow-up visits to several pharmacies). For example, some participants reported being unable to access the survey because they entered the research email address as a Web page when trying to receive a personalized link or, after having been sent a link, did not understand how to click on it in order to be redirected to the survey Web site. Next, although fliers containing information relating to the study were distributed to pharmacies at various times during the day and pharmacy managers were asked to disseminate the information to all pharmacy employees, the research team did not specifically deliver research-related materials to the third, or late-night, shift at pharmacies that are open later or at 24-hour pharmacies. While we did not ascertain which pharmacies were open 24 hours, pharmacy staff who do work late-night shifts may be under-represented in the sample, and in fact only 22% of participants indicated that they worked during the third, or late-night, shift. This is important insofar as illicit drug users may frequent pharmacies during late-night hours, especially since the only two Providence SEPs are not open throughout the night. In addition, pharmacy staff working this shift may have significantly different attitudes, experiences, and beliefs than pharmacy staff working other shifts.

CONCLUSIONS

Injection drug users are a hidden population, and most subsist outside the realm of existing institutional and clinical settings. Watters and Biernacki describe hidden populations as socially invisible insofar as their “activities are clandestine and therefore conceal them from the view of mainstream society and agencies of social control.”²¹ IDUs, as a hidden population, become “more visible” when they enter institutional settings such as pharmacies. In addition to SEPs, in states where NP syringe sales are legally permitted, pharmacies can be excellent venues in the provision of service referrals to IDUs, as pharmacies already supply IDUs with sterile syringes and are often first points of contact for this population. This point of contact serves as an optimal moment for intervention precisely because the “hidden population” is coming into contact, often repeatedly, with highly trained health care

professionals. For many IDUs who are often un- or under-insured, pharmacies may be their *only* health care-related point of contact.

Limited funding for SEPs coupled with the geographic pervasiveness of retail pharmacy outlets have heightened the potential role of pharmacies in the provision of sterile syringes to IDUs. Furthermore, as pharmacies continue to develop in-store retail health clinics that provide essential health care services, the relevance of pharmacies heightens, particularly for underserved populations such as IDUs. The shifting role of pharmacies to provide a greater range of health services to more diverse populations is compelled by consumer demands for unrestricted access to primary health care services, the emergence and succeeding pervasiveness of chain drug stores, and the resulting effect of the emerging business model of the retail “clinic.” However, to date, pharmacists have had limited involvement with IDUs. These limitations are imposed by structural as well as individual factors. On one level, pharmacists are confined to traditionally defined duties such as prescription filling, third-party (insurance) verification, and computer work. On another, restrictive store policies, systems of belief and experience, and workflows promoting a product-based business model often affect the type and nature of NP syringe transactions. Like SEPs, the development of relationships between pharmacists and IDUs encourages the utilization of the pharmacy in the acquisition of sterile syringes by IDUs.^{17,22,23} The current pharmacy model, though moving in this direction, does not expressly foster relationship or trust-building.

Our study shows that, while significant barriers exist with respect to the establishment of novel and critical implementation of expanded services to underserved populations in the pharmacy setting, pharmacists and pharmacy staff are aware of the function and service of their positions in providing health care services to IDUs and other marginalized populations. Important barriers to the expansion of care include concerns about personal or workplace safety, knowledge about addiction and HIV prevention, time constraints, and the appropriateness of the pharmacy as a setting for HIV prevention for this population. The identification of these barriers speaks to the need to more appropriately define the parameters of a useful and targeted intervention. For example, a successful intervention will need to incorporate both individual and structural beliefs and attitudes, as well ensure that IDUs have a place in the emerging pharmacy health care provision model. And in fact, in communities where pharmacies have sold syringes, there have been improvements in overall attitudes, both among pharmacists and community residents, toward pharmacy sale of syringes.²⁴ Clearly, our study indicates that an overwhelming majority of pharmacists and pharmacy staff feel that it is in some way their role to provide HIV-related prevention and health services to IDU populations. As the nature of the retail pharmacy shifts, researchers, pharmacy executives, and health care officials can build upon the willingness of pharmacists and pharmacy staff as well as the changing face of health care delivery in order to address the health needs of injection drug users and other underserved populations.

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