

Published in final edited form as:

Int J Drug Policy. 2009 July ; 20(4): 329–335. doi:10.1016/j.drugpo.2008.09.002.

Exploring stakeholder perceptions of acceptability and feasibility of needle exchange programmes, syringe vending machines and safer injection facilities in Tijuana, Mexico

Morgan M. Philbin^a, Andrea Mantsios^a, Remedios Lozada^b, Patricia Case^c, Robin A. Pollini^a, Jorge Alvelais^b, Carl A. Latkin^d, Carlos Magis-Rodriguez^e, and Steffanie A. Strathdee^{a,*}

^a School of Medicine, University of California, San Diego, La Jolla, CA, USA

^b Pro-COMUSIDA, Tijuana, Mexico

^c The Fenway Institute, Fenway Community Health, Boston, MA, USA

^d The Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

^e Nacional para la Prevención del VIH/SIDA (CENSIDA), Ministry of Health, Mexico

Abstract

Background—Injection drug use is a growing public health crisis along the U.S.–Mexican border and rising rates of blood-borne infections highlight the pressing need for harm reduction interventions. We explored the acceptability and feasibility of such interventions in Tijuana, a city adjacent to San Diego, California.

Methods—Using in-depth qualitative interviews conducted from August 2006–March 2007 with 40 key stakeholders – pharmacists, legal professionals, health officials, religious officials, drug treatment providers, and law enforcement personnel – we explored the acceptability and feasibility of interventions to reduce drug-related harm in Tijuana, Mexico. Interviews were taped with consent, transcribed verbatim, and translated. Content analysis was conducted to identify themes which included barriers, structural limitations, and suggestions for implementation.

Results—Topics included acceptance and feasibility of needle exchange programmes (NEPs), syringe vending machines, and safer injection facilities (SIFs), structural barriers and suggestions for implementation. Of these interventions, NEPs were deemed the most acceptable (75%); however, only half believed these could be feasibly implemented, citing barriers involving religion, police, and lack of political will, public awareness, and funding.

Conclusions—Increasing HIV infection rates among injection drug users in Tijuana have prompted interest in public health responses. Our results may assist policy strategists in implementing social-structural interventions that will help create enabling environments that facilitate the scale-up and implementation of harm reduction in Tijuana.

Keywords

Mexico; HIV/AIDS; Harm reduction; Injection drug use

*Corresponding author at: Department of Family and Preventive Medicine, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093-0622, USA. Tel.: +1 858 822 6468; fax: +1 858 534 4642. E-mail address: sstrathdee@ucsd.edu (S.A. Strathdee).

Introduction

Recent studies suggest evidence of a dynamic HIV sub-epidemic along the Mexico–U.S. border fuelled by high levels of injection drug use (Frost et al., 2006; Strathdee et al., 2005; Strathdee, Lozada, et al., 2008; Strathdee, Philbin, et al., 2008; UNAIDS, 2007). As many as 0.8% of adults aged 15–44 in Tijuana were HIV-positive in 2005 (Brouwer et al., 2006). In 2005, HIV prevalence among pregnant women screened at Tijuana General Hospital was 0.65 and 6.1% among female injection drug users (IDU) (Viani et al., 2006). HIV prevalence was 6 and 12% among female IDUs and female sex workers who inject drugs, respectively (Strathdee, Lozada, et al., 2008; Strathdee, Philbin, et al., 2008; Strathdee & Magis-Rodriguez, 2008).

Tijuana's geographical location along a drug transit route has created a local consumption market (Brouwer et al., 2006). Tijuana also attracts large numbers of migrants and displaced individuals who lack family and financial support, creating vulnerabilities that can lead to drug use (Brouwer et al., 2008). Tijuana's rates of illicit drug use are the highest in the country, with 14.7% of the city's population reporting ever having used an illegal drug, three times the national average (5.3%) (CONADIC, 1998). According to a 1998 National Addictions Survey, Tijuana has one of Mexico's fastest growing populations of IDUs (Magis-Rodriguez, Bravo-Garcia, & Rivera Reyes, 2000; Magis-Rodriguez, Marques, & Touze, 2002). In 2003, there were an estimated 6000 active IDUs and 200 shooting galleries in Tijuana, but the actual number of IDUs is likely to be much larger (Strathdee et al., 2005).

Although syringes can legally be purchased in pharmacies in Tijuana, IDUs report often being refused or charged exorbitant prices (Strathdee et al., 2005). In the U.S., Friedman, Perlis, and DesJarlais (2001) found that HIV prevalence was higher (13.8%) among IDUs in locales with laws prohibiting over-the-counter-syringe sales compared to those in locales which lacked such laws (6.7%). Reduced HIV transmission among IDUs has also been linked to access to needle exchange programmes (NEPs) (Normand, Vlahov, & Moses, 1995; Strathdee & Vlahov, 2001; Wodak, 2006).

Although there are many harm reduction interventions that reduce harms associated with injection drug use—including voluntary counselling and testing, NEPs, opioid substitution therapy, and outreach, we examined three harm reduction interventions focused on increasing access to sterile syringes: (1) NEPs, (2) syringe vending machines, and (3) safer injection facilities (SIFs).

Beyond the provision of sterile syringes, NEPs can provide the opportunity for integrated care, educational services, syringe disposal, and referrals to drug treatment, medical care and HIV testing (Hagan et al., 2000; Henderson, Vlahov, Celentano, & Strathdee, 2003). NEPs have been evaluated in international settings and found effective in preventing the acquisition of HIV and other blood borne pathogens without promoting or increasing levels of drug use, discarded syringes, or crime (Normand et al., 1995; Strathdee & Vlahov, 2001; Wodak, 2006).

Syringe vending machines (SVM) accept contaminated syringes and return a sterile one in exchange and have been implemented in various countries including Australia, Germany, Switzerland and France (Obadia, Feroni, Perrin, Vlahov, & Moatti, 1999). Their advantages include reduced staffing costs, anonymity for the user, round-the-clock access, and have been found to attract younger IDUs (Obadia et al., 1999; Strathdee & Vlahov, 2001).

SIFs have been introduced in 26 European cities, as well as Vancouver, Canada, and Sydney, Australia (Kerr, Tyndall, Li, Montaner, & Wood, 2005) and offer a medically supervised setting where IDUs can inject illicit drugs that they have obtained elsewhere (Wood et al., 2004). SIFs have been credited with improving the health and social functioning of users who frequent

them, along with reducing the risk of fatal overdose, public drug use, improperly discarded syringes, and injection behaviours associated with HIV and viral hepatitis (Kerr, Oleson, Tyndall, Montaner, & Wood, 2005). In Vancouver, SIFs have been shown to promote entry into detoxification and methadone maintenance (Rhodes et al., 2006; Wood et al., 2007).

Until the mid-2000s, the only active NEP was operated by a nongovernmental organization (NGO) in Ciudad Juarez, Chihuahua, which began in the late 1980s and was unofficially sanctioned by the state Secretary of Health. In 2004, Tijuana opened the second NEP in the country, operated by Prevecasa A.C. (CENSIDA, 2003; Magis-Rodriguez, Ortiz Ruiz, & Ortiz Mondragon, 2007). In 2005, national guidelines supporting harm reduction were published by CENSIDA (2006). At the time of writing, there were no known SVMs or SIFs operating in Mexico.

Numerous articles discuss the empirical evidence for harm reduction interventions, but few describe the approval process and barriers encountered during implementation (Downing et al., 2005; Tempalski et al., 2007). For countries lacking a social and political environment conducive to harm reduction, there is a dearth of literature underscoring what steps public health professionals can take to facilitate their implementation. This study aimed to identify structural and environmental factors affecting the acceptability and feasibility of three harm reduction interventions – NEPs, SVMs, and SIFs – in Tijuana. Results will be used to assist the future development of culturally appropriate interventions in Mexican–US border cities in order to reduce drug-related morbidity and mortality.

Methods

Between August 2006 and March 2007, trained Mexican and American interviewers recruited 40 key stakeholders who had at least some direct or indirect interaction with injection drug users in Tijuana, Mexico. Interviews were also conducted with the users of these harm reduction interventions, which will be described elsewhere. In order to develop a diverse understanding of acceptability of these interventions among policymakers, we used a targeted sampling method adapted from Rapid Policy Assessment and Response (RPAR) techniques by interviewing stakeholders at two levels: systems and interactors (defined below), across five sectors—health, rehabilitation, legal, pharmacies, and religion. The RPAR method combines traditional legal analysis with empirical data collection to explore how structural factors can impact community-level health interventions (Lazzarini, Case, Burris, & Chintalova-Dallas, 2007). This mixed methods approach which integrates qualitative data on implementation of laws, policies and practices with locally important policy questions was recently used in four countries (Poland, Russia, Ukraine, and Kazakhstan) and found to be useful in identifying policy issues and guiding interventions (Kitsenko et al., 2008; Kozachenko et al., 2008; Sobeyko et al., 2007; Vyshemirskaya et al., 2008).

The targeted sample was constructed after a master list was created of all Tijuana stakeholders who were involved with drug use, health policy, or programme implementation at the systems or interactor level in each of the five sectors. From this list, key informants were chosen based on their level of experience, time spent in Tijuana, and, in some cases, willingness to be interviewed.

Systems level stakeholders

Systems level stakeholders possess oversight of critical components within a given system and included respondents each of the five sectors. Specific informants – politicians, judges, pharmacy owners, pastors, ministry of health officials, and directors of drug treatment programmes – were interviewed to gain their understanding of, and ability to affect change in, the drug injecting risk environment. While systems level informants may have little direct

contact with IDUs, they are involved with laws and policies and how they are formally or informally put into practice.

Interactor level stakeholders

Interactor level informants operate in sectors that affect IDUs' attitudes, behaviours, and access to syringes, and typically have daily contact with IDUs. Interactor level informants were selected from each of the five sectors and included pharmacy clerks, police, treatment providers, priests, lawyers, methadone clinic directors, and prison wardens. Interactors provide practical on-the-ground information about the implementation of drug policies and the limits of risk reduction interventions and offer a unique perspective because of their understanding derived from interacting both with IDUs and policy makers.

Data collection and analysis

Qualitative methods were employed to generate nuanced and insightful narratives about drug policy in Tijuana without imposing pre-determined variables or boundaries (Firestone-Cruz et al., 2006; Powers, 1998; Tashima, Crain, O'Reilly, & Elifson, 1996). We focused on structural factors as previous research suggested that transmission of blood borne infections is shaped by structural factors such as law enforcement and health care policy, governance, and providers of injection services (shooting gallery operators) (Rhodes, Singer, Bourgois, Friedman, & Strathdee, 2005; Tempalski, 2007).

After identifying potential key informants, each was approached individually and the purpose of the study was explained. After providing informed written consent, each participant was asked 10 quantitative questions to assess socio-demographic information such as age, gender, and education level. The interviews were semi-structured and used a topic guide that focused on syringe access, specific interventions (i.e. NEPs, SVMs and SIFs), barriers and limitations to harm reduction, and suggestions for implementation. Prior to intervention-specific questions, definitions were given to each participant to ensure that their meanings were understood. Examples of specific questions include (1) "Which harm reduction interventions do you see as feasible in Tijuana's current political and social context?", (2) "What are possible legal and social obstacles to implementation?", and (3) "What do you see as the most effective way to promote health and safety among IDUs?" Interviews were conducted in private locations based on availability, safety, and comfort and included homes, offices, or places of work. This study was approved by Institutional Review Boards at University of California at San Diego and Tijuana General Hospital.

Interviews were conducted in Spanish, approximately one hour long, and digitally recorded. The audio files of the interviews and transcripts were anonymous, and identified only by code numbers. Native Spanish speakers conducted verbatim transcription and translation of the in-depth interviews and audio files were destroyed after transcription and translation. Translations were validated by two bilingual individuals. A "do not translate" list and corresponding glossary including street jargon and slang words was created, in order to preserve the connotations and meaning of the original Spanish.

Content analysis was conducted concurrently with data collection to allow revision of the interview guide to reflect new information. Analyses focused on general themes such as harm reduction in the Mexican context, acceptability of the three interventions, barriers, and suggestions for implementation. Transcripts were first hand-coded by two investigators who, after reading a cross-section of the interviews, created a preliminary codebook containing key concepts and categories. The investigators then applied these codes to ten interviews from both the interactor and systems levels in order to modify and create more nuanced versions of the codes. Using qualitative data analysis software, interviews were uploaded and coded using the

preliminary codes. Any discrepancies in coding were discussed among the investigators and resolved.

Results

The 40 stakeholders consisted of 20 interactor level and 20 systems level participants. Their professions were divided into five sectors: health, rehabilitation, legal, pharmacies, and religion. The twenty interactor level stakeholders had a median age of 36 years (range: 31–61 years) and 71% were male. The twenty systems level stakeholders had a median age of 44 years (range: 32–71 years) and were 63% male.

Political affiliations were similar in both groups. Interactors described themselves as liberal (25%), moderate (59%) or conservative (19%) as did systems stakeholders, reporting themselves as liberal (30%), moderate (50%) or conservative (20%). None of the respondents said their views were either ‘very liberal’ or ‘very conservative.’

Though the professions of interactor and systems level stakeholders varied, their responses to the acceptability and feasibility of the described interventions did not. As a result, these two levels of stakeholders were collapsed for analysis. Of the three interventions, NEPs were seen as the most acceptable (See Table 1) with 75% voicing acceptance, followed by SVMs (65%) and SIFs (58%). Levels of perceived feasibility were much lower than acceptance; NEPs were seen as the most feasible (53%) followed by SVMs (38%) and SIFs (25%). Three general areas were assessed qualitatively: (1) general acceptance of harm reduction, (2) acceptance of the three specific interventions, and (3) suggestions for implementation.

General acceptance toward harm reduction interventions

Levels of acceptance and perceived feasibility differed across the three interventions and the respondent’s profession. Interviewees with direct contact with IDUs (health care providers, rehabilitation centres, etc.) largely accepted harm reduction measures, reasoning that since drug use is unlikely to decrease, measures must be created to lessen the resulting infections.

The majority (66%) of individuals voiced acceptance, and the majority of sectors – aside from religion – also personally supported at least one form of the three interventions. Even so, these supporters acknowledged others’ resistance and expressed the need to further work toward the expansion of syringe access. As one individual stressed:

If you can’t win the war, join it. If you can’t make them stop using drugs, at least reduce the harm. I think there is going to be a lot of resistance to this. We need to do something, otherwise they are going to continue to spread diseases (Female, 31, rehabilitation, interactor).

In contrast, a systems level participant felt that harm reduction would promote drug use:

I think that this [harm reduction] would worsen the situation because it is like supporting drug use, like saying that maybe you won’t get infected...but it doesn’t matter that you continue to use drugs (Female, 55, religion, systems).

The concern that harm reduction interventions could promote drug use permeated a number of the interviews and was interwoven with the concept of drug users deserving a negative fate. One interviewee noted that:

The only thing a drug user does is to try to find a way to hurt or steal for money and we wouldn’t promote this kind of programme... I believe that sometimes a person has to learn through the consequence of their actions and the problem will not be solved by offering sterilized syringes. Maybe they won’t get HIV or AIDS or other

types of illnesses, right? [But they will continue to use drugs] (Male, 35, religion, interactor).

This description of barriers was widely expressed, and a dynamic emerged in which individuals labelled both themselves and each other as barriers to implementation. As one systems level interviewee noted:

If we just bring a programme like syringe exchange or substitution [i.e., opiate substitution therapy], there will be a medical community that is against these programmes (Male, 44, health, systems).

In contrast, the head of a religious rehabilitation centre explained that:

The government doesn't seem to worry. If you watch the news you are not going to hear about a programme that addresses drug users or alcoholics. I think it is because the government is not interested in these types of people (Female, 55, religion, systems).

On the other hand, an interactor level interviewee saw religion as a barrier:

Because Mexico is a country that has a very religious culture and it is not very open to the consumption of drugs and also socially it is seen as very bad. If we were to put [these interventions] around the city...then the church will scream (Female, 35, legal, interactor).

This complex environment of barriers was seen as a product of Mexican culture, itself an amalgamation of previously mentioned factors. As one individual explained:

The culture that we have is the barrier, and maybe the principal barrier, because the political decisions are derived from it, as well as personal actions. The idea that the drug user continues to be a delinquent, we already have these concepts in our culture, and these become the principal impairments, because it also affects politics on various levels (Female, 42, health, systems).

Needle exchange programmes

NEPs were viewed as the most accepted (30/40) and feasible (21/40) of the three interventions. Personal support, however, differed largely based on a respondents' profession. While nearly all health respondents expressed personal support, only one in the religious sector did so. Since very few informants were aware that an NGO-run NEP was already operating in Tijuana, most spoke of it in hypothetical terms. As one interviewee shared:

I see it as very risky because, first of all, controlling it is not going to be easy, and who is going to run it, in which way, for how long, and all of that. It is something that could become out of control and it could solicit more promiscuity (Male, 46, religion, systems).

In contrast, a systems interviewee in the pharmacy sector voiced personal support:

I think that it would be very practical, especially in avoiding or preventing contagious diseases because of used syringes....I think is a fabulous idea because there is a lot of drug addiction (Female, 59 pharmacy, systems).

Many people expressed a need to integrate other health services into NEPs and use them as a point of outreach—to integrate IDUs into a system that could refer them for abscess care, HIV testing, and treatment. Informants argued that by coupling awareness and time, society could slowly come to terms with these interventions, and if not outright accept them, at least tolerate them. Even with acknowledged barriers, stakeholders saw hope that through raising awareness these interventions could eventually be implemented. As one participant explained:

We can see this problem from a religious, security, and economic perspective, and I think we all agree that Tijuana as a society has a problem with both the circulation and distribution of drugs. I believe that it [a NEP] would be feasible, and that we should raise awareness, and support this to avoid the spread of illnesses to others (Male, 35, rehabilitation, interactor).

NEPs were seen by many as a possible starting point to spread this information to the community and alert them to the growing problem of HIV/AIDS. The few that were aware of the existing NEPs felt that these examples could be used to prove that, even within Mexico, they can be effective. As explained by one interviewee:

I think we can show the results of the studies that we have conducted so far, the findings when it comes to prevention and the sharing of risks...we can use this argument to convince them by showing the cost effectiveness and benefit of these programmes (Female, 50, health, systems).

Syringe vending machines

Those who viewed SVMs as acceptable (65%) expressed the benefits of their convenience and anonymity; critics noted their ease of access and insufficient control. The role of SVMs in collecting and dispensing syringes was seen as too risky for some who felt it would spur children into drug use, and create too much access which could lead to theft. For example, a member of the clergy felt that:

It is like saying to a child 'here you have a gun and use it,' and the risk is there that the child will shoot it or use it, it is very risky, dangerous, delicate, too much exposure... I feel that there is a lack of culture, preparation, even a consciousness on this matter, and that is why we haven't talked much about the problem, it is not known (Male, 46, religion, systems).

In contrast, an individual from the rehabilitation sector voiced personal support.

From the point of view of individual health and public health; I think that it would be great. If you're going to inject, let's do it this way, right. In the end, it is going to reverberate in all parts of society (Male, 59, rehabilitation, systems).

That SVMs could be utilized without oversight from health personnel was viewed as both a benefit and a barrier. Numerous stakeholders disapproved of their implementation because other people could possibly utilize them. One interactor from the health sector explained:

Because then everybody in the world would have access to this, and what we want it is for the youth not to have so much access, this access will facilitate it [drug use] even more (Female, 31, health, interactor).

In comparison, others saw this lack of monitoring as a benefit:

I think it would be very practical because the drug user wouldn't have a problem with being identified as such so they can go at whichever moment is convenient for them (Female, 42, health, systems).

Safer injection facilities

In general, fewer informants accepted the concept of SIFs (23/40), and fewer still voiced personal support. Although typically SIFs provide on-site medical personnel for the treatment of infections or accidental overdoses, one participant saw it as unethical:

I think it is going against our principals. My duty is to help relieve sickness; if my duty [as a doctor] is finding relief and promoting health, then I would be betraying

my ethical principals when it comes to seeing a person hurting himself, right?’ (Male, 47, health, systems).

Other barriers included fears of police intervention, confidentiality, and increased stigma. Many interviewees noted that interactions between police and IDUs could lead to further stigmatisation if, upon exiting a SIF, IDUs were detained and searched for drug paraphernalia. When individuals were asked to explore feasibility, the majority voiced scepticism as to whether an SIF could be implemented in the current context. One said:

Honestly, from a public health perspective I don't think so. It requires a lot of resources, specialized personnel...a specific place. So, I see it as something good, but the possibility is still a bit distant, although with agreement from some organizations this could be done (Female, 42, health, systems).

Suggestions for implementing harm reduction interventions

Among those both personally supporting and accepting harm reduction, opinions differed on how to proceed. Some insisted that the government take responsibility while others claimed a more active role in fostering an environment amenable to such programmes. Many suggested raising awareness and education levels within the community, collaborating with religious and political leaders, and changing laws and policies. One interviewee noted that:

I think the educational strategy [is key]. You have to start with the health personnel and form a common front so they are convinced to put aside religion, values, and judgment, right? Then later work with social groups to make an effort to educate people in other levels and organizations that work directly with the communities. I think that is the best long term strategy, but it is a labour of many years (Male, 38, health, systems).

Those in the health sector reiterated that it was their responsibility to provide officials with empirical research allowing informed decisions. As one shared:

If I don't provide them [policymakers] with a document at the time of their decision making so they can understand the problem, and if I don't assure that document is present while they have opportunities for quick decision making, then we are not going to be able to move forward (Male, 47, health, systems).

Nearly all individuals mentioned that small steps must continually be taken as the government requires an extended period of time to decide which interventions are, and are not, acceptable within Mexico. One participant said:

The most effective way would be the participation of everyone, to make public policies that contribute to family values, make laws that control resources or the designation of resources ...to sensitize authorities and educate them little by little and to sensitize the city, the whole community about this problem. We need to create a campaign and find political alliances. We even need an ally in the Catholic Church... And society, the government can't do something without society's support (Male, 32, legal, systems).

Discussion

This qualitative study among key stakeholders examined the acceptance of three harm reduction interventions—needle exchange, syringe vending machines, and safer injection facilities—in Tijuana, Mexico. Although the methods used were not designed for assessing frequencies of opinions or their distribution in the community at large, certain themes were repeatedly mentioned, suggesting we had reached saturation. Of the three proposed interventions, NEPs were the most favoured, with three quarters of respondents voicing

acceptability and over half believing them to be feasible. Findings indicated a number of barriers to implementation – lack of awareness, religious and political opposition, the view that harm reduction promotes drug use – but individuals also outlined key suggestions to promote the implementation of harm reduction interventions; policy creation, educational programmes, and cross-sector collaborations.

Religion and government were often described as barriers. Those interviewed in the religious sector repeatedly mentioned that harm reduction would spur drug use and that abstinence is the only option, supporting previous studies that religious groups see harm reduction efforts as approving what they deem risky and immoral behaviour (Wynia, 2005). Our findings are consistent with other research showing the integral role religion plays in many communities, and that the support of the church and clergy is perceived as critical to the success of government-sanctioned harm reduction programmes (Downing et al., 2005; Hansen, 2005; Tempalski et al., 2007; Tkatchenko-Schmidt, Renton, Gevorgyan, Davydenko, & Atun, 2008; Vlahov et al., 2001). As illustrated by numerous stakeholders, in a country where 88% of the population considers themselves Catholic and the Catholic church and Mexican culture are intricately intertwined, even those working in the health care field can find themselves divided between personal support for harm reduction and their religion's denunciation of such strategies (U.S. State Dept, 2006). Garcia et al. (2004) found that, in spite of church influence, the majority of Mexican Catholics felt that politicians' personal religious beliefs should not affect their legislative decisions on health issues and that efforts should be focused on decreasing the Church's political influence.

Numerous individuals mentioned the government and lack of political will as a limiting factor in implementing harm reduction. Since our research was conducted during an election year in Mexico, it is not surprising that stakeholders reported that politicians were reticent to discuss or support these possibilities. The importance of political support in creating a system amenable to harm reduction interventions has been noted in other locales, including Russia, Malaysia, and China (Reid, Kamarulzaman, & Sran, 2007; Sullivan & Wu, 2007; Tkatchenko-Schmidt et al., 2008). Bluthenthal, Heinzerling, Anderson, Flynn, and Kral (2008) found a 46% increase in the total number of California's NEPs after the passage of an assembly bill eliminating criminal prosecution for the distributions of syringes.

A number of respondents described any intervention aside from full abstinence as condoning drug use. Vlahov et al. (2001) reported a similar issue in the United States when people viewed providing needles to IDUs as both condoning and increasing drug use. In instances where morality and empirical evidence are often at odds, lay persons in the community may emerge as authoritative spokespersons such as police, drug treatment counsellors, community leaders, clergy, and politicians (Rhodes et al., 2005; Vlahov et al., 2001). For some who question the use of harm reduction measures, the opinions of these leaders were given more weight than empirical scientific studies (Vlahov et al., 2001). Raising awareness among community members and key leaders who can explain the role of harm reduction in public health to those looking to them for moral guidance is an important step in the implementation of new government-sanctioned interventions.

Awareness was mentioned by respondents as necessary for implementing harm reduction interventions. Suggestions of how to raise awareness took many forms; a general explanation of harm reduction, assurance that these interventions will not be placed near schools, playgrounds, or other areas where children frequent, and links to other services. As many participants stated support for total abstinence, one approach could be to emphasize that although harm reduction does not require detoxification and cessation from drugs, participation in a syringe access intervention often facilitates cessation (Hagan et al., 2000; Henderson et al., 2003; Kuo et al., 2003; Wood et al., 2007).

Although Mexico's federal Ministry of Health published a document supporting NEPs, there appear to be small-scale programmes operating in only seven states—Baja California, Chihuahua, Coahuila, Nuevo Leon, Oaxaca, Sinaloa, Zacatecas. In 2006, there were a total of 64,281 syringes distributed nation-wide in Mexico and 4474 IDUs were contacted. The vast majority of NEP coverage (99% of syringes and 78% of IDUs contacted) occurred in Tijuana which underscores the urgent need to bring syringe access to scale in other settings. Increased collaboration is needed between CENSIDA and the policy-making bodies in states where injection drug use is occurring to ensure that NEPs and other harm reduction interventions will be implemented. For example, there remains only one publicly funded methadone maintenance program in Mexico, located in Ciudad Juarez, and private clinics offering methadone are sparsely located elsewhere in the country.

A limitation of this study was that many interviewees had no previous knowledge of, or experience with, harm reduction interventions, making it difficult to form an opinion of a complex intervention after only hearing a brief description. Respondents' replies were possibly "gut" responses, rather than considered opinions. Although we conducted interviews across various work sectors and varied between those who interacted daily with IDUs and decision makers, we were limited to interviewing those who consented. We were not able to interview high-level officers in the police department as they refused our interview requests. Though we did not use a theoretical sampling framework, we reached a saturation level with many of our themes providing confidence that our results are meaningful.

While these interviews were being conducted in 2007 a new state Minister of Health, Dr. José Guadalupe Bustamante Moreno, who has publicly endorsed NEPs, was appointed in the state of Baja California. Nationally, in partnership with CENSIDA, the Mexican Ministry of Health deployed a fleet of 'condonetas' – brightly coloured minivans painted with caricatures of condoms equipped with loud speakers and a large videoscreen – that drive through high drug use areas in major Mexican cities distributing condoms and sometimes syringes while broadcasting public service announcements. To date, the condoneta initiative does not seem to have experienced major opposition and has been welcomed by many communities, including Tijuana.

Our results suggest that while syringe access interventions are sorely needed in Tijuana, stakeholders believe that it is critical to create a larger base of awareness prior to implementation. Facilitating dialogue, collaboration, and discussion between stakeholders in each of the five sectors may move critical interventions forward. In the meantime, the existing NEP in Tijuana will continue to provide sterile needles to IDUs in the effort to stem the city's HIV epidemic and hope to serve as a model for future interventions in the rest of the country.

Acknowledgments

Proyecto El Cuete was funded by the National Institute on Drug Abuse (NIDA) (R01 DA019829). Dr. Pollini is funded under a K01 grant from the National Institute on Drug Abuse (DA022923). Ms. Philbin was partially supported by grant number 5R25TW007506 from the Fogarty International Center at the National Institutes of Health. The authors gratefully acknowledge the contributions of study participants and PRO-COMUSIDA and Prevencasa staff for assistance with data collection; Centro Nacional para la Prevención y el Control del VIH/SIDA (CENSIDA); and Instituto de Servicios de Salud de Estado de Baja California (ISESALUD). We also want to thank Zita Lazzarini, for her contribution in editing the manuscript.

References

Bluthenthal RN, Heinzerling KG, Anderson R, Flynn NM, Kral AH. Approval of syringe exchange programs in California: Results from a local approach to HIV prevention. *American Journal of Public Health* 2008;98(2):278–283. [PubMed: 17538068]

- Brouwer KC, Lozada R, Cornelius WA, Firestone-Cruz M, Magis-Rodriguez C, Zuniga ML, et al. Deportation Along the U.S.–Mexico Border: Its Relation to drug use patterns and accessing care. *Journal of Immigrant and Minority Health*. 2008 February 5;
- Brouwer KC, Strathdee S, Magis-Rodriguez C, Bravo-Garcia E, Gayet C, Patterson T. Estimated numbers of men and women infected with HIV/AIDS in Tijuana, Mexico. *Journal of Urban Health* 2006;83(2): 299–301. [PubMed: 16736378]
- CENSIDA. El consumo de drogas inyectadas y la epidemia del VIH/SIDA en Mexico. Un Problema de Salud Publica: Documento de posicion. 2003. Retrieved November 3rd 2007, from <http://www.salud.gob.mx/conasida/noticias/vihsidacarceles/posicion.doc>
- CENSIDA. Actividades de reducción del daño en usuarios de drogas: Informe interno. 2006. Retrieved 2nd November 2007, from <http://www.salud.gob.mx/conasida>
- Consejo Nacional Contra las Adicciones (CONADIC). Diagnóstico y Tendencias del Uso de Drogas en México: Results from the National Survey on addictions: 1998 Data. 1998. Retrieved 15th November 2007 from: <http://www.salud.gob.mx/unidades/cdi/documentos/CDM1-2.htm>
- Downing M, Riess TH, Vernon K, Mulia N, Hollinquest M, McKnight C, et al. What's community got to do with it? Implementation models of syringe exchange programs. *AIDS Education and Prevention* 2005;17(1):68–78. [PubMed: 15843111]
- Firestone-Cruz M, Mantsios A, Ramos R, Case P, Brouwer KC, Ramos ME, et al. A qualitative exploration of gender in the context of injection drug use in two-US–Mexico border cities. *AIDS and Behavior* 2006;11(2):253–262.
- Friedman SR, Perlis T, DesJarlais DC. Laws prohibiting over-the-counter syringe sales to injection drug users: Relations to population density, HIV prevalence, and HIV incidence. *American Journal of Public Health* 2001;91(5):791–793. [PubMed: 11344889]
- Frost SDW, Brouwer KC, Firestone-Cruz MA, Ramos R, Ramos ME, Lozada RM, et al. Respondent-driven sampling of injection drug users in two U.S.–Mexico border cities: Recruitment dynamics and impact on estimates of HIV and syphilis prevalence. *Journal of Urban Health* 2006;83(6 Suppl):i83–97. [PubMed: 17072761]
- Garcia SG, Tatum C, Becker D, Swanson K, Lockwood K, Ellertson C. Policy implications of a national public opinion survey on abortion in Mexico. *Reproductive Health Matters* 2004;12(24):65–74. [PubMed: 15938159]
- Hagan H, McGough J, Thiede H, Hopkins S, Duchin J, Alexander E. Reduced injection frequency and increased entry and retention in drug treatment associated with needle-exchange participation in Seattle drug injectors. *Journal of Substance Abuse Treatment* 2000;19(3):247–252. [PubMed: 11027894]
- Hansen H. Isla evangelista—a story of church and state: Puerto Rico's faith-based initiatives in drug treatment. *Culture of Medical Psychiatry* 2005;29(4):433–456.
- Henderson L, Vlahov D, Celentano D, Strathdee SA. Readiness for cessation of drug use among recent attenders and nonattenders of a needle exchange program. *Journal of Acquired Immune Deficiency Syndromes* 2003;32(2):229–237. [PubMed: 12571535]
- Kerr T, Oleson M, Tyndall M, Montaner J, Wood E. A description of a peer-run supervised injection site for injection drug users. *Journal of Urban Health* 2005;82(2):267–275. [PubMed: 15872193]
- Kerr T, Tyndall M, Li K, Montaner J, Wood E. Safer injection facility use and syringe sharing in injection drug users. *Lancet* 2005;366(9482):316–318. [PubMed: 16039335]
- Kitsenko, G.; Shakhov, A.; Lazzarini, Z.; Case, P.; Chintalova-Dallas, R.; Burris, S. Harm reduction training in law schools in Ukraine. *Proceedings of the 19th international harm reduction conference (IHRC)*; 2008.
- Kozachenko, N.; Darbekova, G.; Mingazova, I.; Burris, S.; Case, P.; Chintalova-Dallas, R., et al. Evaluation of drug policy and HIV/AIDS prevention programs in Kazakhstan (Temirtau and Shymkent): Summary of RPA results. *Proceeding of the 19th international harm reduction conference (IHRC)*; 2008.
- Kuo I, Brady J, Butler C, Schwartz R, Brooner R, Vlahov D. Feasibility of referring drug users from a needle exchange program into an addiction treatment program: Experience with a mobile treatment van and LAAM maintenance. *Journal of Substance Abuse Treatment* 2003;24(1):67–74. [PubMed: 12646332]

- Lazzarini, Z.; Case, P.; Burris, S.; Chintalova-Dallas, R. Three easy policy changes to improve the risk environment for IDUs in Eastern Europe and the former Soviet Union Abstract #970 . Proceedings of the 18th International Harm Reduction Conference (oral presentation); 2007.
- Magis-Rodriguez, C.; Bravo-Garcia, E.; Rivera, Reyes P. La respuesta Mexicana al SIDA: Mejores practicas. In: Uribe, P.; Magis, C., editors. *Angulos del SIDA 2000*. México D.F., Mexico: Consejo Nacional para la Prevención y Control del SIDA; 2000.
- Magis-Rodriguez C, Marques LF, Touze G. HIV and injection drug use in Latin America. *AIDS* 2002;16 (Suppl 3):34–41.
- Magis-Rodriguez, C.; Ortiz, Ruiz L.; Ortiz, Mondragon R. Actividades de reducción del daño en usuarios de drogas: Informe interno 2006. Mexico City: Centro Nacional Para La; 2007.
- Normand, J.; Vlahov, D.; Moses, LE. Preventing HIV transmission: The role of sterile needles and bleach. Washington, DC: National Academy Press; 1995.
- Obadia Y, Feroni I, Perrin V, Vlahov D, Moatti JP. Syringe vending machines for injection drug users: An experiment in Marseille, France. *American Journal of Public Health* 1999;89(12):1852–1854. [PubMed: 10589315]
- Powers R. The role of qualitative research in HIV/AIDS. *AIDS* 1998;12(7):687–695. [PubMed: 9619799]
- Reid G, Kamarulzaman A, Sran SK. Malaysia and harm reduction: The challenges and responses. *International Journal of Drug Policy* 2007;18(2):136–140. [PubMed: 17689356]
- Rhodes T, Kimber J, Small W, Fitzgerald J, Kerr T, Hickman M. Public injecting and the need for ‘safer environment interventions; in the reduction of drug-related harm. *Addiction* 2006;101(10):1384–1393. [PubMed: 16968336]
- Rhodes T, Singer M, Bourgois P, Friedman S, Strathdee S. The social structural production of HIV risk among injecting drug users. *Social Science and Medicine* 2005;61(5):1026–1044. [PubMed: 15955404]
- Sobeyko, J.; Duklas, T.; Parczewski, M.; Leszczyszyn-Pynka, M.; Bejnarowicz, P.; Lazzarini, Z., et al. After the rapid policy and response process: Drug policy change in Szczecin, Poland. Abstract #668. Proceedings of the 18th international harm reduction conference (poster presentation); 2007.
- Strathdee SA, Fraga WD, Case P, Firestone M, Brouwer KC, Perez SG. Vivo para consumirla y la consumo para vivir” [“I live to inject and inject to live”]: High-risk injection behaviors in Tijuana, Mexico. *Journal of Urban Health* 2005;82(3 Suppl 4):iv58–73. [PubMed: 16107441]
- Strathdee SA, Lozada R, Pollini RA, Brouwer KC, Mantsios A, Abramovitz DA, et al. Individual, social, and environmental influences associated with HIV infection among IDUs in Tijuana. *Journal of Acquired Immune Deficiency Syndrome* 2008;47(3):369–376.
- Strathdee SA, Magis-Rodriguez C. Mexico’s evolving HIV epidemic. *Journal of American Medical Association* 2008;300(5):571–573.
- Strathdee SA, Philbin MM, Semple SJ, Pu M, Orozovich P, Martinez G, et al. Correlates of injection drug use among female sex workers in two Mexico–U.S. border cities. *Drug and Alcohol Dependence* 2008;92(1–3):132–140. [PubMed: 17714888]
- Strathdee SA, Vlahov D. The effectiveness, of needle exchange programmes: A review of the science and policy. *AIDS Science* 2001;1(16):1–33.
- Sullivan S, Wu Z. Rapid scale up of harm reduction in China. *International Journal of Drug Policy* 2007;18 (2):118–128. [PubMed: 17689354]
- Tashima N, Crain C, O’Reilly K, Elifson C. The community identification (CID) process: A discovery model. *Qualitative Health Research* 1996;6(1):23–48.
- Tempalski B. Placing the dynamics of syringe exchange programs in the United States. *Health and Place* 2007;13(2):417–431. [PubMed: 16797217]
- Tempalski B, Flom PL, Friedman S, Des Jarlais R, Friedman DC, McKnight JJ, et al. Social and political factors predicting the presence of syringe exchange programs in 96 US metropolitan areas. *American Journal of Public Health* 2007;97(3):437–447. [PubMed: 17267732]
- Tkatchenko-Schmidt E, Renton A, Gevorgyan R, Davydenko L, Atun R. Prevention of HIV/AIDS among injecting drug users in Russia: Opportunities and barriers to scaling-up of harm reduction programmes. *Health Policy* 2008;85(2):162–171. [PubMed: 17767974]
- UNAIDS. AIDS epidemic update. Geneva, Switzerland: UNAIDS; 2007. <http://www.unaids.org/en/KnowledgeCentre/HIVData/EpiUpdate/EpiUpdArchive/2007default.asp>

- U.S. State Department. International religious freedom report (2006) Released by the Bureau of Democracy, Human Rights, and Labor. 2006. Retrieved 10th December 2007 from <http://www.state.gov/g/drl/rls/irf/2006/71467.htm>
- Viani R, Araneta M, Ruiz-Calderon J, Hubbard P, Lopez G, Chacon-Cruz E. Perinatal HIV counseling and rapid testing in Tijuana, Baja California, Mexico. *Journal Acquired Immune Deficiency Syndrome* 2006;41(1):87–92.
- Vlahov D, Des Jarlais D, Goosby E, Hollinger P, Lurie P, Shriver M. Needle exchange programs for the prevention of human immunodeficiency virus infection: Epidemiology and policy. *American Journal of Epidemiology* 2001;154(12):S70–S77. [PubMed: 11744532]
- Vyshemirskaya, I.; Osipenko, V.; Burkhanova, O.; Lazzarini, Z.; Burris, S.; Chintalova-Dallas, R., et al. Initiating practical health interventions for IDUs in Kaliningrad, Russia: Results of a rapid policy assessment and response (RPAR). *Proceedings of the 19th international harm reduction conference (IHRC)*; 2008.
- Wodak A. Controlling HIV among injecting drug users: The current status of harm reduction. *HIV/AIDS Policy and Law Review* 2006;11(23):77–80. [PubMed: 17375432]
- Wood E, Kerr T, Lloyd-Smith E, Buchner C, Marsh D, Montaner J. Methodology for evaluating insite: Canada's first medically supervised safer injection facility for injection drug users. *Harm Reduction Journal* 2004;1(1):9. [PubMed: 15535885]
- Wood E, Kerr T, Tyndall MW, Zhang R, Hogg RS, Strathdee SA, et al. Rates of HIV/AIDS care and antiretroviral therapy response among active injection drug users. *Addiction* 2007;102(9):1503–1505. [PubMed: 17697280]
- Wynia KA. Science, faith, and AIDS: The battle of harm reduction. *American Journal of Bioethics* 2005;5(2):3–4.

Table 1
Acceptability and feasibility of harm reduction interventions.

	Needle exchange		Vending machines		Safer injection facility	
	Acceptable (%)	Feasible (%)	Acceptable (%)	Feasible (%)	Acceptable (%)	Feasible (%)
Health ^a	85	62	69	39	54	15
Rehabilitation ^a	88	75	75	25	88	25
Pharmacy ^a	67	67	100	100	67	67
Legal ^a	73	36	70	45	45	27
Religion ^a	20	20	20	0	40	20
Total	75	53	65	38	58	25

^a Respondent type.