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HIV Prevention on the U.S.-Mexico Border

Addressing the Needs of Most-at-Risk Populations

Courtesy of Ed Scholl

The US-Mexico border at Tijuana is the world's busiest land border crossing.

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Tijuana and Ciudad Juarez—Mexican cities bordering the United States—have both seen better days. On Tijuana's Avenida Revolución, souvenirs are still on display, even though tourists from across the border in San Diego, California, are few and far between, scared away by reports of murders and kidnappings associated with drug wars between narco-traffickers and the military. However, just a few blocks from the once-bustling city center is the city's vibrant red light district. Despite the danger and the global economic downturn, sex tourism is still very much in business. In Ciudad Juarez, across the border from El Paso, Texas, the scene is even more grim. The city's center is filled with gutted buildings and faded signs, and tourism has evaporated. On the front lines of one of the most violent drug wars in recent history, Juarez now holds the dubious distinction of having the world's highest homicide rate (Carlsen 2010).

Situated on major drug trafficking routes that bring heroin, cocaine, and methamphetamine from Mexico into the United States, Tijuana and Juarez experience high rates of local drug use and rank first and second, respectively, in prevalence of illicit drug use within the country (Ramos et al. 2009). Sex tourism is another feature shared by Tijuana and Juarez. Both cities have "tolerance zones" where sex work is openly practiced and, in the case of Tijuana, even regulated by the authorities. Only 38 percent of female sex workers (FSWs) report using condoms often or always for vaginal sex with their clients (Table 1). This lack of precaution is driven in large part by economic need: FSWs report that clients are willing to pay approximately twice as much for unprotected sex (Larios et al. 2009). Further contributing to the risk

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TABLE 1. CHARACTERISTICS OF MOST-AT-RISK POPULATIONS IN TIJUANA AND JUAREZ

Female Sex Workers	Injecting Drug Users
• 69% had U.S. clients	• 92% male
• 24% married/common law	• 28% married/common law
• 94% had children	• 30% ever had sex with a male (men only)
• 39% born in state where they now live	• 35% lived or worked outside Mexico in past 10 years
• 12% injected drugs in last month	• 46% homeless
• 33% ever shared needles or injection equipment	• 61% ever arrested for carrying used needle/syringe
• 38% often or always used condoms for vaginal sex with clients	• 27% often or always engaged in receptive needle sharing
• 27% positive for at least one sexually transmitted infection	• > 95% positive for hepatitis C
• 6% HIV-positive	• 34% ever tested for HIV
	• 3% HIV-positive

Sources: Frost et al. 2006; Patterson et al. 2008b; Ramos et al. 2009a; Strathdee et al. 2008a.

of HIV among FSWs is the high degree of overlap between sex work and drug use, especially injecting drug use.

A third characteristic the two cities share is their large transient populations. Over half of Tijuana's inhabitants were born outside the state of Baja California, and over a third of Juarez's inhabitants were born outside the state of Chihuahua (Strathdee et al. 2008c). Many of these non-native residents migrated from other states within Mexico, or from other countries in Central America or South America. Some are temporary residents hoping to migrate to the United States or recent deportees from the United States. Others have lived on the border for many years and now consider it home.

Injecting drug use, commercial sex, and displacement of populations in these two cities have created very favorable conditions for HIV transmission, which has Mexican public health authorities worried. Mexico has a concentrated epidemic with national prevalence of only 0.3 percent (about half that of the United States).

We have a lot of mobility. We have a lot of people coming from southern parts of Mexico and South America in search of the American dream, and unfortunately Tijuana is a place of a lot of broken dreams because they didn't make it on their way to the United States or they got deported. And these kind of sad stories contribute to a lot of despair, hopelessness, and sometimes addiction, sex work, and, unfortunately with it, sometimes HIV and sexually transmitted diseases.

–Steffanie Strathdee (from an interview with PRI's "The World")

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However, a dynamic subepidemic is present in the northern states of Mexico that border the United States. Tijuana and Juarez have among the highest prevalence in the country, ranging from 3 percent among male injecting drug users (IDUs) (Frost et al. 2006), 6 percent among FSWs (Patterson et al. 2008b), and 12 percent among female FSWs who also inject drugs (Strathdee et al. 2008d). HIV prevalence among men who have sex with men (MSM) in the border states is less well documented, but one study reported 19 percent among young MSM in Tijuana (Sanchez et al. 2004).

To address the burgeoning HIV epidemic in these border cities, two organizations have taken the lead in developing innovative programs to prevent HIV among most-at-risk populations (MARPs), including IDUs, FSWs, and MSM. Their multipronged efforts using behavioral, biomedical, and structural approaches to HIV prevention—also known as combination prevention—have been largely successful, but not without challenges and setbacks. Their experiences provide valuable lessons for other programs addressing the HIV prevention needs of MARPs.

Prevencasa

Prevencasa (prevention house) is a Mexican nongovernmental organization (NGO) that began working in HIV prevention in Tijuana in the mid-1990s and became officially registered in 2006. The organization began as a series of research collaborations between two professors at the School of Medicine at the University of California, San Diego (UCSD) and a Mexican physician who continues to direct the organization today. UCSD and Prevencasa began a series of collaborations on research, much of it funded by the U.S. National Institutes of Health (NIH), around HIV, commercial sex, and drug use. In addition to its close relationship with UCSD, Prevencasa also benefits from a strong relationship with the Mexican government and Ministry of Health, particularly at the state level.

With 14 employees and close to 20 volunteers, Prevencasa remains a relatively small organization, similar to many NGOs in Latin America that live from grant to grant and largely depend on volunteers and donations to survive. It is, however, somewhat unique in its access to U.S. Government funds for research activities through its connections to UCSD.

Prevencasa serves marginalized communities in Tijuana, especially IDUs, both male and female, and female and transgender sex workers. Their efforts to reach these MARPs with HIV prevention, care, and support services are described below.

Sex workers: To reach sex workers, Prevencasa engages program staff and volunteers to distribute condoms each night in Tijuana's red light district. With a van following slowly behind, staff and

Courtesy of John Nicholson

Female sex worker in Tijuana.

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volunteers walk up and down Avenida Coahuila, stopping to give a handful of condoms to each sex worker and returning to the van to refill their empty buckets. The team also enters the numerous bars where sex workers operate to hand out condoms to the women, their clients, and bartenders and bouncers alike. A few blocks away, the team distributes condoms to transgender sex workers. Before the night is over, the team will have distributed thousands of condoms, donated by the Mexican Ministry of Health. In 2009, Prevencasa distributed about half a million condoms to sex workers and other MARPs.

Prevencasa also has a mobile clinic—actually a modified recreational vehicle—called the *prevemovihl,* which provides services to sex workers and other vulnerable populations. Services include HIV testing and basic medical care and access to condoms and clean syringes for IDUs.

IDUs: To reach its other principal target group—IDUs—Prevencasa implements a needle exchange program, both at its main program office and through the prevemovihl, as well as through street-based peer educators who visit the high drug-use areas of Tijuana and the city's many shooting galleries. Prevencasa depends greatly on volunteer peer educators to carry out the needle exchange and provide information and referrals to IDUs. Unlike many other peer education programs that use "model" peer educators—former drug users who are now "clean"—Prevencasa engages both former and current drug users. What is important in selecting these peer educators is their street credibility and their willingness to collect used syringes and provide prevention packets and education about their use. The packets (donated by the Mexican Center for AIDS Prevention and Control) include a condom, a disposable syringe, an alcohol swab, distilled water (for mixing with heroin), bleach (for disinfecting syringes if new syringes are

Courtesy of Prevencasa

Prevemovihl distributes condoms, injection equipment, and HIV tests to most-at-risk populations in Tijuana.

Unlike many other peer education programs that use "model" peer educators—former drug users who are now "clean"—Prevencasa engages both former and current drug users.

Courtesy of Ed Scholl

Shooting up heroin with the help of fellow IDU in Tijuana.

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ROLE OF GENDER IN INJECTING DRUG USE IN TIJUANA

Compared to male IDUs, females IDUs are more likely to:

- Be HIV positive (10.2 percent vs. 3.5 percent)
- Be married/common-law
- Have sex partners who are IDUs
- Have engaged in transactional sex
- Have suffered sexual abuse
- Obtain and use drugs within the context of a sexual relationship, with people they know and trust
- Be "second on the needle" when sharing syringes
- Inject at home rather than shooting galleries.

Sources: Cruz et al. 2007; Strathdee et al. 2008a; Ulibarri et al. 2009.

unavailable), and a pamphlet explaining how to clean a syringe, along with a hotline number to call. Peer educators get a small stipend from Prevencasa but are not salaried staff. Last year, Prevencasa distributed approximately 50,000 disposable syringes and 60,000 prevention packets to IDUs.

To reach some of the shooting galleries in Tijuana, Prevencasa staff and peer educators travel to inhospitable locations that are reportedly avoided by the police because of the danger. One such location is in the middle of a flood channel running through Tijuana, where over 1,000 homeless IDUs live, protecting themselves from the elements by building shelters under the bridge overpasses and in the floodgates emptying into the flood channel. Prevencasa staff and peer educators are on a first-name basis with many of these homeless IDUs and are warmly received on their weekly visits to collect used syringes and hand out prevention kits. Prevencasa does not operate a methadone or other substitution therapy program, but instead refers IDUs to several privately run programs in Tijuana that offer these services.

Female IDUs: Prevencasa discovered that many IDUs in Tijuana are women, and many also engage in full-time commercial or transactional sex. Prevencasa provides services to these women through a separate clinic in an unmarked building in the heart of the red light district. The program is run by a former lawyer from Mexico City who has a remarkable rapport with the 300 or so women who participate in the program.

The clinic has examining rooms, a pharmacy, and a laboratory where HIV rapid tests are provided, as well as sexually transmitted infection (STI) diagnostic tests. It is staffed by a physician, three nurses, a lab technician, and

Courtesy of Ed Scholl

New syringes being given to homeless female IDU in Tijuana by Prevencasa staff.

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DOES MIGRATION AFFECT HIV RISK?

Mobility is an important driver in Mexico's HIV epidemic, especially for migrant males who are more likely to have sex with other men, and to pay for sex with males and females, compared to non-migrants (Ramos et al. 2009a). In one study, deportation from the United States was independently associated with four-fold increased odds for males of being HIV-positive, though no association was seen among females (Strathdee et al. 2008a). Another study found that more recent migrants to Tijuana were more likely to report injecting drugs with used needles (Strathdee et al. 2008b). Possible causes for this association include the disintegration of family support networks, loss of social ties and income, and homelessness, leading to high-risk behaviors.

the program director, who also provides counseling to the participants. In addition to counseling and testing, program participants also receive primary health care, including gynecological care and family planning services. Something else the participants receive, unrecorded in program records but obvious to the authors who observed interactions at the clinic, is companionship. The women appear to come to the clinic as much for companionship with each other and the program staff as to obtain specific services.

Prevencasa uses a behavior change strategy with female IDUs that is grounded in social cognitive theory. It is built around a counseling intervention that seeks to increase participants' knowledge and self-efficacy to adopt healthier behaviors (such as consistent condom use and using clean needles/injection equipment). In addition, a video and motivational interviewing techniques elicit information on the participants' current situation and motivation to practice safer sex and avoid needle sharing.

A previous iteration of this program that targeted sex workers only (regardless of drug use) was evaluated through a randomized controlled trial under an NIH grant. The results found that the motivational interviewing/counseling approach succeeded in reducing HIV and STI risk behaviors among FSWs and reduced HIV/STI incidence by 40 percent in the intervention group compared to the control group that received only HIV information (Patterson et al. 2008a). However, the intervention was less effective among FSW-IDUs and had no effect on FSWs' condom use with their noncommercial partners (Ulibarri, Strathdee, and Patterson 2010). This finding has led Prevencasa to tailor its approach to address the ways substance use may compromise the ability to negotiate safer sex.

Programa Compañeros

Programa Compañeros is a Mexican NGO based in Ciudad Juarez. It has been implementing HIV prevention programs since 1988, making it the longest-running HIV program in the country. It focuses on high-risk populations such as the IDU community, leading the way with many innovations, such as Mexico's first needle exchange program, subsequently adopted by the Mexican Ministry of Health and other NGOs, including Prevencasa. Programa Compañeros also runs a rehabilitation center using both conventional and alternative medicine, and provides psychological and social support to IDUs. In addition, the

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program offers a wide range of services that include HIV prevention as a core component, though not the only focus of program activities. Various programs work with FSWs, inmates in the municipal prison and prison officials, police, homosexual youth, spouses of IDUs or MSM, and high-risk youth in Juarez.

Programa Compañeros has long had to contend with the challenges of working on the border with transient IDUs and other vulnerable and stigmatized populations, as well as working in a major drug trafficking area that is home to the Juarez Cartel and has an average 8 to 10 drug-related murders a day (Booth and Fainaru 2009). In this context of extreme violence, Programa Compañeros has kept a low profile, avoiding publicity while working quietly with police to avoid roundups of IDUs, and maintaining an independent posture to avoid reprisals from either the military or narco-traffickers.

Programa Compañeros collaborates on research studies, many of which have been conducted in collaboration with the U.S.-Mexico Border Health Association (now the Alliance of Border Collaboratives), UCSD, and the University of Texas-El Paso, to name a few. In addition to receiving funds through research grants, Programa Compañeros has received funding from many U.S. and Mexican foundations, as well as the Mexican government.

Programa Compañeros has a fluctuating staff. It numbered 30 in December 2009, but almost half of those staff members were scheduled to be laid off in January 2010 due to the termination of their projects. Some of these staff may be rehired as new projects are awarded from various donors. The organization also has many regular volunteers working in the office, plus many collaborating peer educators who receive various types of incentives for their work.

Harm Reduction Program: The Harm Reduction Program is one of Programa Compañeros' oldest continuous programs. It pioneered Mexico's first needle exchange program, which was later replicated in other Mexican states by the Ministry of Health. The program uses a large cadre of peer educators—both former and current users—who visit high-drug-use neighborhoods and shooting galleries, collecting used syringes and needles and providing IDUs with prevention kits that include clean needles, syringes, bleach, and condoms. About 20 IDUs have received training to become peer educators in the program. Program staff and peer educators also set up small tents and tables in high-drug-use neighborhoods to encourage IDUs to come forward on their own to exchange syringes, take rapid HIV tests, and receive counseling and educational material, along with lollipops (a favorite of many IDUs, who find sugar can reduce the craving for drugs). The Harm Reduction Program is reaching several thousand IDUs currently, about 30 percent of whom are women.

Courtesy of Ed Scholl

Peer educators ready to exchange syringes among IDUs in Juarez.

Another aspect of the Harm Reduction Program is a detoxification program to help IDUs become less dependent on drugs through conventional and alternative medicine, herbs, and music and aroma therapy. The program also provides counseling

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and social support groups. Reintegration into society through social networks is another aim of the program, and IDUs are offered employment assistance, as well as recreational, educational, and job training opportunities. The detoxification program is staffed by a nurse under the supervision of the medical director.

Pasa la Voz: Begun in 2005, Pasa la Voz (Pass the Word) is a women's outreach program designed to reach women living with HIV, female IDUs, FSWs, and women whose partners are at high risk (IDUs or MSM). The program uses an innovative outreach strategy that taps social networks to reach women at risk, who in turn help reach other women, using a chain approach to recruitment. Programa Compañeros has shown this approach to be very cost-effective in increasing access to and uptake of services, including HIV testing.

One network that Programa Compañeros has tapped is that of FSWs, where program staff visit brothels as well as street-based sex workers. At one brothel, the authors observed staff distributing condoms and prevention kits with clean syringes (for those who are also IDUs), and providing female condoms and instruction in how to use them. The women were also invited to the Programa Compañeros office for medical exams and STI/HIV testing.

Women referred to as "housewives" by the program are another network that the program targets. Most of these women are considered to be at high risk for HIV because their husbands or partners are members of MARPs. Many of these women are reached through their children's primary schools, as well as through some churches. Teachers or clergy invite Programa Compañeros staff to come and give talks to the mothers. Another venue for reaching women is "testing parties," where HIV tests are provided in women's homes, to which they invite friends and neighbors. Trained program staff provide individual and confidential rapid tests at these testing parties. The staff have been trained in issues of confidentiality, counseling, and referrals for those testing positive. Programa Compañeros evaluated the time devoted by each volunteer promoter, or "seed," per HIV test conducted, and found that testing parties were very cost-effective compared to more traditional referral methods to testing sites (2.97 hours/test vs. 6.18 hours/test, respectively) (Ramos, Green, and Shulman 2009).

Youth Outreach Program: This program uses web-based social media, youth networks, and school-based peer educators to provide HIV and pregnancy prevention messages to young people in Juarez. The program's 15 peer educators distribute condoms as well as emergency contraception. The program also reaches young people working in the many assembly plants in Juarez, as well as those incarcerated in a juvenile detention facility. They also collaborate with the Harm Reduction Program to provide needle exchange to young IDUs.

Outreach to Homosexual Youth: This program began 13 years ago and provides education material, including HIV prevention messages, condoms and lubricants, and access to HIV rapid testing. Approximately 3,000 homosexual youth participated in some aspect of the program in 2009. This program also works with transgender youth.

Prison Program: Programa Compañeros has been working in the state prison—El Cereso—since its earliest days. They provide education about HIV and STI prevention, including how to avoid needle stick injuries, to the guards and other staff. They also attempt to sensitize the guards and staff about the need to make condoms and even clean needles/syringes available, because sex and drug use are reportedly widely practiced in the prison. According to a study conducted by prison officials, 7 percent of the inmate population are living with HIV, while 94 percent are positive for hepatitis C. Approximately 35 percent of the inmates are estimated to be IDUs. With the steady flow of

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visitors and family members to the prison, as well as overcrowding, it is difficult to control drug use in the expansive facility. Peer educators (inmates who are trained by Programa Compañeros) conduct most of the educational and harm reduction work in cooperation with the prison medical unit.

What Has Worked Well

Peer-driven interventions: Both Prevencasa and Programa Compañeros rely heavily on peer-driven interventions, supported by professional staff, to reach the at-risk populations they serve. Their reliance on peer educators from the same MARP groups is consistent with many other HIV prevention programs serving MARPs, but these two organizations take the peer educator model a step further by engaging *current* IDUs and FSWs as peer educators. What allows these individuals to serve as peer educators is their willingness to educate their peers about safer behaviors, provide condoms and prevention kits, and encourage their peers to come in for HIV tests, medical exams, and other program services. The benefits of this approach, while not formally evaluated, are self-evident to these organizations. They feel that peer educators enhance the credibility and effectiveness of outreach efforts and allow access to locations (such as shooting galleries) that would normally be off-limits to outsiders, while reducing their operating costs. Both organizations also have many members of MARP groups represented on their staff, further enhancing their credibility and solidarity with the populations they serve.

Courtesy of John Nicholson

Prevencasa staff with female IDUs at Prevencasa clinic in Tijuana.

Targeting MARPs: Both organizations explicitly focus their efforts on MARPs and address those behaviors that are driving the HIV epidemic along the U.S.-Mexican border. Prevencasa's HIV prevention efforts are primarily targeting FSWs and male and female IDUs. Programa Compañeros also reaches these same subgroups of MARPs, as well as homosexual youth, inmates, and spouses and partners of MARPs. Both organizations have a wealth of data generated by their numerous research studies that document sexual and drug use behaviors in the border areas where they work, as well as the prevalence of STIs and HIV among various groups of MARPs. They put these data to use by focusing on the subgroups of highest-risk MARPs (e.g., female IDUs who engage in transactional sex) and tailoring their program messages and services to best address the behaviors that are transmitting HIV in their communities.

Involvement with police and prison authorities: The police are often major impediments to implementing successful HIV prevention programs among MARPs. Even in cities where sex work is legal, or where, as in Tijuana and Juarez, "zones of tolerance" exist, police often harass sex workers, and many FSWs report being forced to provide sexual services to the police in exchange for being allowed to work on the streets. IDUs are even more likely to be harassed or imprisoned by police if found with used or sterile syringes, in spite of the fact that possession of syringes alone is not a crime in Mexico. This results in many IDUs refusing the offer of clean injection equipment by needle exchange programs, preferring to run the risk of acquiring HIV by sharing needles,

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rather than being caught by police with prevention kits that include injection equipment. Prevencasa and Programa Compañeros have partially, though not entirely, mitigated these problems through outreach and education to police in both cities. Programa Compañeros has likewise provided education and training at the state prison to enlist the support and active cooperation of prison officials in HIV prevention efforts, including distribution of condoms and needles within the prison.

Partnerships with government and universities: The research partnerships that both organizations have with universities have benefited both the universities (which are able to more easily conduct research on HIV-related issues along the border) and these NGOs (which are able to hire staff with the research funds and use research findings for program planning and evaluation). Likewise, both Prevencasa and Programa Compañeros have good relationships with the government and local health authorities. Both organizations receive donated condoms, prevention kits, medicines, and other supplies from the national AIDS program and state health departments, and they refer HIV-positive patients to state-run clinics for antiretroviral therapy.

Commitment of staff and solidarity with MARPs: Staff and volunteers from both programs demonstrate a high level of commitment to and solidarity with the MARPs they serve. Some peer educators are former IDUs, for example, and readily identify with MARPs. The staff and volunteers also evidence a remarkable degree of sensitivity and empathy with their clients, all of whom experience discrimination and rejection from most of society. While simple handshakes or embraces may not seem out of the ordinary in polite society, these common courtesies are seldom extended to homeless IDUs, and transmit an unspoken message about the worth of all individuals regardless of their circumstances. Similarly, program staff approach their clients and their needs in a holistic way, not just as people with problematic drug or sexual behaviors. Thus they are as likely to help a pregnant IDU access prenatal care and deliver safely as they are to provide HIV prevention services for her.

Incorporation of a gender perspective: Both Prevencasa and Programa Compañeros have integrated an intentional and clear gender perspective into their programs. For example, the staff of Prevencasa and their colleagues at UCSD found, through analysis of HIV and STI epidemiological studies disaggregated by gender, that one of the most affected groups along the U.S.-Mexico border with HIV is female IDUs. They also documented the overlap between sex work and drug use for many of these IDUs. They were then able to use careful analysis of epidemiological data and experiential learning to tailor a program to target female IDUs who engage in transactional sex. Programa Compañeros also applies a gender perspective to its programming, particularly evident in its Pasa la Voz program, which recognizes the HIV risk of many women whose partners are MSM or IDUs. The HIV “testing parties” and education given in women’s homes are an innovative intervention that sprang from a gender-based analysis of the risk faced by the spouses of individuals engaging in high-risk behaviors, who may mistakenly consider themselves at low risk for HIV. The physical location of services—for example, locating a program clinic for FSWs in the middle of the red light district—is another example of programmatic decision-making based on direct input from FSWs about their needs.

Challenges

Violence: Undoubtedly, the violence emanating from the war between the Mexican authorities and the powerful drug cartels is one of the greatest challenges facing Prevencasa in Tijuana, and

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especially Programa Compañeros in Juarez. To date, neither organization has had staff killed or abducted, but Programa Compañeros has had anonymous threats made against it. In this chilling climate where literally the entire city of Juarez seems to be held hostage, program staff and volunteers take a low-profile approach.

Mobile populations/immigration policies: The large immigrant and mobile populations in Tijuana and Juarez, driven by the economic disparities between Mexico and the United States, and by U.S. immigration policies, represent another challenge. Both cities, and especially Tijuana, have large numbers of residents born outside the state, significant transient and homeless populations, and many deportees from the United States. As noted earlier, studies have shown that being deported from the United States and being a recent migrant are associated with high-risk behaviors and HIV-positive status. Mobile populations arriving on the U.S.-Mexico border hoping to enter the United States, as well as deportees who are returned to Tijuana or Juarez by U.S. authorities, often experience the disintegration of family support networks, loss of social ties and income, and homelessness, which can easily lead to high-risk behaviors.

Police harassment: Although Prevencasa and Programa Compañeros are working with local police and have had some success in enlisting their support in condom distribution and needle exchange programs, police harassment of FSWs and IDUs persists, particularly in Tijuana. Many FSWs report being coerced to provide sexual favors to police officers to avoid jail, and some have reportedly had drugs planted on them and been sentenced to prison terms for refusing a police officer's requests. Police harassment of IDUs is also persistent. Although possession of a syringe is not a crime in Mexico, discovering a syringe appears to provide police an opportunity to take a drug user into custody for a minor offense (Miller et al. 2008). This can dissuade IDUs from accepting prevention packets and make it more likely they will share needles.

Sustainability: Prevencasa and Programa Compañeros, like most NGOs working in HIV prevention in developing countries, lack sufficient resources to make them financially sustainable over the long term. While Programa Compañeros appears to be the more financially sustainable of the two, and indeed has been operating since 1988, its programs depend on foundation and research grants from various funding agencies. Prevencasa is a newer organization and is particularly dependent on U.S. research grant money that it receives through its partnership with UCSD. Despite these challenges, both organizations have a measure of sustainability because of their close relationships with Mexican public health authorities and the donated commodities they receive from them. In addition, there is the expectation that both organizations will receive funding from the Global Fund through the recently awarded $76 million grant to Mexico.

Recommendations

Scale-up needle exchange programs: Needle exchange programs (NEPs) have been implemented successfully in many resource-constrained countries and have the endorsement of multilateral institutions, including the World Health Organization, as an HIV prevention intervention. Multiple studies have shown that NEPs are associated with reduced risky injection behavior and HIV incidence (Vlahov, Robertson, and Strathdee 2010). Nonetheless, coverage is poor in developing countries, even where HIV epidemics are fueled by injecting drug use. In Mexico and across Latin America, pharmacies sell needles and

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syringes. However, pharmacists often refuse to sell such equipment to people they suspect of injecting drug use (Cook and Kanaef 2008). NEP programs should be scaled up through community-based and government-run programs, as well as through training of pharmacists. National policies and laws should support NEPs and make it easier for programs to reach IDUs, as well as avoid policing practices that impede efforts to encourage the use of clean injection equipment. The 2009 lifting of the ban on U.S. Government funding of NEPs may provide an opportunity for new resources for these programs.

Scale-up substitution therapy: Neither Prevencasa nor Programa Compañeros directly offer treatment for drug dependence through opioid substitution therapy, though both occasionally refer addicts to such programs. However, there are few publicly funded programs offering methadone or other substitution therapy in Tijuana and Juarez (though there are two in Juarez for young addicts). Neither organization appears to actively promote substitution therapy among the IDUs they reach, which perhaps reflects how difficult it is to become enrolled in these programs. Mexico overall has only 21 methadone therapy sites, and fewer than 10 percent of the country's IDUs are enrolled in them (Cook and Kanaef 2008). Scaling up substitution therapy programs in Mexico should be a priority for the government of Mexico, implementing partners, and donors, given the role that injecting drug use plays in Mexico's HIV epidemic and the proven efficacy of such programs in reducing HIV risk behaviors.

Address the reproductive health needs of MARPs: MARPs, particularly FSWs and female IDUs, have unmet reproductive health needs, including STI diagnosis and treatment, cervical cancer screening and general gynecological care, contraception, prenatal care, and obstetrical and postnatal care. The lack of access to contraception other than condoms seems particularly pronounced in both cities. While condoms are readily distributed to both FSWs and IDUs, condom use is not consistently practiced with commercial clients or casual partners, and even less so with spouses or regular partners. Therefore, other forms of contraception should be available and promoted, along with condoms, as dual protection against HIV and pregnancy among MARPs. Hormonal implants, pills, or injectables would be particularly appropriate for either FSWs or female IDUs. The latter may have special appeal given that they can be administered once every three months by peer educators or other trained volunteers without the need for a clinical setting or medical personnel. By adding hormonal contraceptives to the condoms already available in most programs targeting MARPs, programs can achieve greater HIV prevention results by helping to prevent unintended pregnancies and vertical HIV transmission among women living with HIV.

Address gender issues and the overlap of transactional sex and drug use: Many HIV prevention programs for MARPs treat sex workers and IDUs as separate populations and design separate programs for them. In reality, there is a great deal of overlap between commercial and transactional sex and drug use, especially on the U.S.-Mexico border, where female IDUs who engage in transactional sex have the highest prevalence of HIV. These women are also frequently victimized by gender-based violence and sexual abuse. Qualitative research conducted among IDUs in Tijuana and Juarez reveal very different dynamics between male and female IDUs

Migration and mobility need to be recognized as critical drivers of HIV risk, and responses should become more binational in design.

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in terms of how drugs are obtained, where drugs are used, relationship dynamics surrounding drug use, and sex in exchange for money or drugs (Cruz et al. 2007). Interventions that focus only on safer sex or safer injection without regard to the interplay between sex and drug behaviors and the gender dynamics influencing them will have limited effectiveness.

Address HIV prevention binationally: HIV transmission on the U.S.-Mexico border should be addressed as a binational problem for both the United States and Mexico, and more joint programming efforts should be made to combat the epidemic. Almost half of MSM in Tijuana report having male partners from the United States, while three-quarters of their peers in San Diego report having sex with Mexican men. In Tijuana and Juarez, 69 percent of FSWs report having U.S. clients (Strathdee and Magis-Rodriguez 2008). Clearly, what happens on the Mexican side of the border does not stay there, but affects populations in San Diego, El Paso, Brownsville, Laredo, Las Cruces, and other border cities, and indeed beyond, as many migrants travel throughout the United States in search of jobs. Just as immigrants may bring HIV into the United States, the reverse is also true, as many immigrants who return to Mexico bring back HIV acquired in the United States. Research studies have shown that Mexicans who migrate to the United States and later return, voluntarily or as a result of deportation, are more likely than non-migrants to have had a greater number of sex partners, especially unstable partners, and to inject illegal drugs (Magis-Rodriguez et al. 2004). Given the extent of migration and deportation between the United States and Mexico, and the elevated risk of HIV transmission that accompanies mobile populations, it makes eminent sense for municipal, state, and federal governments in both countries to cooperate on HIV prevention programs among MARPs and mobile populations. Likewise, universities and implementing partners should cooperate and jointly implement comprehensive prevention programs when feasible. Migration and mobility need to be recognized as critical drivers of HIV risk, and responses should become more binational in design. ■

JS_24197_CS.indd Sec3:13 8/16/10 2:10 PM

REFERENCES

Booth, W., and S. Fainaru. 2009. Mexico Questions Its Drug Strategy: Violence in Juarez Prompts Officials to Admit Military Failure. *The Washington Post,* December 27, 2009.

Carlson, L. 2010. "Murder Capital of the World." Americas Program Report. Americas Program, Center for International Policy. Available at http://www.cipamericas.org/archives/2012 (accessed June 28, 2010)

Cook C., and N. Kanaef. 2008. *The Global State of Harm Reduction 2008: Mapping the Response to Drug-related HIV and Hepatitis C Epidemics.* London: The International Harm Reduction Association.

Cruz, M. F., A. Mantsios, R. Ramos, P. Case, K.C. Brouwer, M.E. Ramos, W. D. Fraga, C. A. Latkin, C.L. Miller, and S.A. Strathdee. 2007. A Qualitative Exploration of Gender in the Context of Injection Drug Use in Two US-Mexico Border Cities. *AIDS Behavior* 11(2):253–62.

Frost, S. D. W., K. C. Brouwer, M. A. Firestone Cruz, R. Ramos, M. E. Ramos, R. Lozada, C. Magis-Rodriguez, and S. A. Strathdee. 2006. 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: Bulletin of the New York Academy of Medicine* 83(7):i83–i97.

Larios S. E., R. Lozada, S. A. Strathdee, S. J. Semple, S. Roesch, H. Staines, P. Orozovich, M. Fraga, H. Amaro, A. de la Torre, C. Magis-Rodriguez, and T. L. Patterson. 2009. An Exploration of Contextual Factors that Influence HIV Risk in Female Sex Workers in Mexico: The Social Ecological Model Applied to HIV Risk Behaviors. *AIDS Care* 21(10):1335–42.

Magis-Rodriguez, C., C. Gayet, M. Negroni, R. Leyva, E. Bravo-Garcia, P. Uribe, and M. Bronfman. 2004. Migration and AIDS in Mexico: An Overview Based on Recent Evidence. *Journal of Acquired Immune Deficiency Syndromes* 37(Suppl. 4):S215–S226.

Miller, C. L., M. Firestone, R. Ramos, S. Burris, M. E. Ramos, P. Case, K. C. Brouwer, M. A. Fraga, and S. Strathdee. 2008. Injecting Drug Users' Experiences of Policing Practices in Two Mexican-U.S. Border Cities: Public Health Perspectives. *International Journal of Drug Policy* 19(4):324–31.

Patterson, T. L., B. Mausbach, R. Lozada, H. Staines-Orozco, S. J. Semple, M. Graga-Vallego, P. Orozovich, D. Abramovitz, A. de la Torre, H. Amaro, G. Martinez, C. Magis-Rodriguez, and S. A. Strathdee. 2008a. Efficacy of a Brief Behavioral Intervention to Promote Condom Use Among Female Sex Workers in Tijuana and Ciudad Juarez, Mexico. *American Journal of Public Health* 98(11):2051–7.

Patterson, T. L., S. J. Semple, H. Staines, R. Lozada, P. Orozovich, J. Bucardo, M. M. Pilbin, M. Pu, M. Fraga, H. Amaro, A. de la Torre, G. Martinez, C. Magis-Rodriguez, and S. A. Strathdee. 2008b. Prevalence and Correlates of HIV Infection Among Female Sex Workers in 2 Mexico-US Border Cities. *The Journal of Infectious Diseases* 197:728–32.

Ramos, R., J. B. Ferreira-Pinto, K. C. Brower, M. E. Ramos, R. M. Lozada, M. Firestone-Cruz, and S. A. Strathdee. 2009. A Tale of Two Cities: Social and Environmental Influences Shaping Risk Factors and Protective Behaviors in Two Mexico-US Border Cities. *Health & Place* 15:999–1005.

Ramos, R., N. L. Green, and L. C. Shulman. 2009. Pasa la Voz: Using Peer Driven Interventions to Increase Latinas' Access to and Utilization of HIV Prevention and Testing Services. *Journal of Health Care for the Poor and Underserved* 20:29–35.

Sanchez, M. A., G. F. Lemp, C. Magis-Rodriguez, E. Bravo-Garcia, S. Carter, and J. D. Ruiz. 2004. The Epidemiology of HIV Among Mexican Migrants and Recent Immigrants in California and Mexico. *Journal of Acquired Immune Deficiency Syndromes* 37(Suppl. 4):S204–S214.

Strathdee, S. A., R. Lozada, V. D. Ojeda, R. A. Pollini, K. C. Brouwer, A. Vera, W. Cornelius, L. Nguyen, C. Magis-Rodriguez, and T.L. Patterson. 2008a. Differential effects of migration and deportation on HIV infection among male and female injection drug users in Tijuana, Mexico. *PLoS ONE* 3(7):e2690.

Strathdee, S.A., R. Lozada, R.A. Pollini, K.C. Brouwer, A. Mantsios, D.A. Abramovitz, T. Rhodes, C. A. Latkin, O. Loza, J. Alvelais, C. Magis-Rodriguez, and T. L. Patterson. 2008b. Individual, Social, and Environmental Influences Associated with HIV Infection Among Injection Drug Users in Tijuana, Mexico. *Journal of Acquired Immune Deficiency Syndromes* 47(3):369–76.

Strathdee S. A., R. Lozada, S. J. Semple, P. Orozovich, M. Pu, H. Staines-Orozco, M. Fraga-Vallejo, H. Amaro, A. Delatorre, C. Magis-Rodriguez, and T. L. Patterson. 2008c. Characteristics of Female Sex Workers with US Clients in Two Mexico-US Border Cities. *Sexually Transmitted Diseases* 35(3):263–8.

Strathdee S. A., M. M. Philbin, S. J. Semple, M. Pu, P. Orozovich, G. Martinez, R. Lozada, M. Fraga, A. de la Torre, H. Staines, C. Magis-Rodriguez, and T .L. Patterson. 2008d. Correlates of Injection Drug Use Among Female Sex Workers in Two Mexico-U.S. Border Cities. *Drug and Alcohol Dependence* 92:132–40.

JS_24197_CS.indd Sec3:14 8/16/10 2:10 PM

Strathdee, S. A., and C. Magis-Rodriguez. 2008. Mexico's Evolving HIV Epidemic. *Journal of the American Medical Association* 300(5):571–3.

Ulibarri, M. D., S. A. Strathdee, E. C. Ulloa, R. Lozada, M. A. Fraga, C. Magis-Rodriguez, A. de la Torre, H. Amaro, P. O'Campo, and T. L. Patterson. 2009. Injection Drug Use as a Mediator Between Client-perpetrated Abuse and HIV Status among Female Sex Workers in Two Mexico-US Border Cities. *AIDS Behavior* Jul 28 [Epub ahead of print].

Ulibarri, M. D., S. A. Strathdee, and T. L. Patterson. 2010. Sexual and Drug Use Behaviors Associated with HIV and Other Sexually Transmitted Infections Among Female Sex Workers in the Mexico-US Border Region. *Current Opinion in Psychiatry* 23:215–20.

Vlahov, D., A. M. Robertson, and S. A. Strathdee. 2010. Prevention of HIV Infection Among Injection Drug Users in Resource-limited Settings. *Clinical Infectious Diseases* 50(Suppl. 3):S114–S121.

RESOURCES

Documentary about Prevencasa and HIV prevention efforts in Tijuana: http://borderstories.org/index.php/tijuana-staying-negative.html

Interview with UCSD epidemiologists on the role of migration and HIV: http://www.pri.org/theworld/?q=node/8882

Washington Post article and documentary video on Tijuana's AIDS epidemic: http://www.washingtonpost.com/wp-dyn/content/article/2008/08/01/AR2008080102913.html

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JS_24197_CS.indd Sec3:15 8/16/10 2:10 PM

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JS_24197_CS.indd Sec3:16 8/16/10 2:10 PM