

Chapter 4. Prevention for Key Affected Populations

Some women are particularly at risk of HIV acquisition due to their occupational exposures, their behavior or that of their sexual partner(s), their sexual identity and/or their sexual orientation. These women live in particularly challenging situations and have high vulnerability to HIV infection and low access to HIV services (Beyrer et al., 2011). UNAIDS defines key populations as those most likely to be exposed to HIV or to transmit HIV and therefore are key to the epidemic and the response (UNAIDS, 2011e). These groups of women—sex workers, people who inject drugs (PWIDs) or female partners of PWIDs, transgendered people, migrant women and female partners of male migrants, women prisoners and female partners of male prisoners, women and girls in complex emergencies and women who have sex with women—have specific needs in prevention and are often marginalized within their societies. [Men who have sex with men (MSM) are also a key population, however this group is beyond the scope of this resource. For evidence-based interventions for this population, please refer to Beyrer et al., 2011.]

Key affected populations often face significant barriers in access to prevention services, testing and treatment. “...Transgender persons, commercial sex workers, and injecting drug users suffer stigma and discrimination that threaten their rights and well-being and impede their access to HIV/AIDS services” (IOM, 2011: 153). “Too often national AIDS plans omit these people who face formidable legal and other structural barriers to accessing HIV services” (Chan et al., 2011). Other lesser-recognized populations at high risk for HIV acquisition are women who serve in their country’s military or in peacekeeping missions (Essien et al., 2010; Biague et al., 2010). In addition, some have argued that married heterosexual women in many countries are a key affected population. For example, in India and Cambodia, HIV prevalence is higher among married than unmarried women (Greener and Sarkar, 2010). Precisely because these married women are not considered a key affected population for HIV prevention, they may be less likely to consider themselves at risk or have adequate knowledge about HIV and/or have access or the power to ensure safe sex. [*See Prevention for Women*]

HIV prevention is not being scaled up to the extent needed among vulnerable groups. In Asia, less than one in two sex workers and only one in five PWIDs are reached with HIV prevention services. Yet modeling suggests that 60 to 80% coverage of key populations is required to reduce HIV incidence (Low-Beer and Sarkar, 2010). As of 2011 in South Africa, no national programs existed for key populations, with most services being provided by NGOs (Scheibe et al., 2011). Without addressing the needs of these key affected populations, HIV incidence will continue to escalate (Bridge et al., 2010).

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“Key populations at higher risk of HIV infection” are often not reached with HIV testing and counseling, a gateway to treatment (WHO et al., 2011b: 76). Access to antiretroviral therapy in key populations must be promoted to ensure good health outcomes, promote equity, and because antiretroviral therapy access in these populations will decrease HIV incidence in the whole population (Schwartlander et al., 2011). Yet health workers may face prosecution for providing health services to key affected populations in countries where same sex behavior, sex work or drug use is illegal (Scheibe et al., 2011). Some have suggested that key affected populations may be good candidates for pre-exposure prophylaxis (El-Sadr, 2012; Baeten, 2012), though the ethics and cost effectiveness of this strategy must be further explored.

The pandemic remains dynamic: for example, while injecting drug use has been a risk factor in Eastern Europe, it is emerging as a risk factor in Africa and simple dichotomies of concentrated versus generalized epidemics no longer characterize these complexities (Beyrer et al., 2011). While public health epidemiology can clarify which groups in which countries are the most at risk of HIV acquisition, an understanding is needed of overlapping risk behaviors and the fluidity between some groups. For example, sex workers are rarely considered as the focus of PMTCT programs, despite abundant evidence that sex workers get pregnant and have children. In some parts of the world, substantial overlap occurs between sex work and drug use: an estimated 20–50% of female injecting drug users in Eastern Europe and 10–25% of female injecting drug users in Central Asia are involved in sex work (Rhodes et al., 2002 cited in Pinkham et al., 2008). In many places, HIV prevalence among sex workers who inject drugs is higher than it is among either non-sex worker PWIDs or non-drug using sex workers (Pinkham and Malinowska-Sempruch, 2008). Further, in many countries, prison is a common experience for people who inject drugs, including women (Du Cros and Kamarulzaman, 2006). While the numbers of women who have sex with women (WSW), particularly those who are at risk of HIV acquisition, are small, WSW have been ignored and are therefore included here (Henderson et al., 2011).

The prevention needs of the groups of women listed below and the overlap between them must be considered for HIV prevention planning to be maximally effective. These groups are discussed in more depth in the following sections.

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- A. Female Sex Workers
- B. Women Who Use Drugs and Female Partners of Men Who Use Drugs
- C. Women Prisoners and Female Partners of Male Prisoners
- D. Women and Girls in Complex Emergencies
- E. Migrant Women and Female Partners of Male Migrants
- F. Transgendered Women and Men
- G. Women Who Have Sex with Women

4A. *Prevention for Key Affected Populations: Female Sex Workers*

Sex workers, whose work involves sexual relations with multiple partners, are a key group of women who need access to comprehensive sexual health services, including HIV prevention, treatment and care. Programs that enhance sex workers' ability to use condoms are also vitally important (Lafort et al., 2010, Pisani, 2008). Unprotected sex with multiple partners puts sex workers at risk of HIV acquisition. Among sex workers, the median reported rate of condom use with their most recent client in 2008 was 86% in 56 low- and middle-income countries (UNAIDS, 2009e).

Sex work is defined by UNAIDS as selling sexual services (UNAIDS, 2008 cited in Ditmore, 2009). While some progress has been made in providing HIV services for sex workers, much more remains to be done. Human rights violations and lack of safe and supportive working conditions render sex workers particularly vulnerable to HIV infection through actions such as confiscating condoms, using condoms as evidence against sex workers and violence against sex workers (Ditmore, 2009). PEPFAR guidance notes: "Even where services are theoretically available, sex workers face substantial obstacles to accessing HIV prevention, treatment care and support, particularly where sex work is criminalized" (PEPFAR, 2011b: 27). "The most effective HIV programmes for sex workers are undertaken from a rights based perspective [and] are grounded in evidence..." (Ditmore, 2009).

"Sex workers are the most conscious in regards to protective sex because for me when I was in marriage, I did not know anything about condom use. The man could come with all the infections and infect me – but now I know that when I use a condom I prevent myself from getting infections." —Ugandan sex worker (cited in Scorgie et al., 2011: 39)

"We get our condom supply from peer sex workers who are involved in doing outreach. ...I initiate condom use with my partners and use contraception as an excuse. Sometimes if my partners are against condom use I wear a female condom" —Sex worker from Kiribati (cited in McMillan and Worth, 2010:10)

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Sex Workers are Disproportionately Vulnerable to HIV Infection in Many Parts of the World

A pooled analysis of 102 articles from 2007 to 2011 representing 99,878 female sex workers in 50 countries found that overall HIV prevalence was 11.8%, with female sex workers 13.5 times more likely to be living with HIV compared with all women of reproductive age in low and middle income countries (Baral et al., 2012). A study from 2008 to 2009 in Uganda found that among 1,027 sex workers, HIV seroprevalence was 37% (Vandepitte et al., 2011). Additionally, access to condoms by sex workers is less than optimal (Pettifor et al., 2011). In Indonesia, surveys showed that HIV incidence is increasing among female sex workers (Magnani et al., 2010).

A study of sex workers in India found that targeted HIV interventions for female sex workers were highly cost-effective (Prinja et al., 2011). Astoundingly, in 40% of countries with a generalized epidemic, few services for sex workers were available in 2007 and worldwide less than 50% of sex workers have access to HIV testing and counseling and to condoms that could save them from acquiring HIV in the course of their occupation (UNAIDS, 2010 cited in Baral et al., 2012). Some studies have found that programs for sex workers received limited resources despite the high vulnerability of sex workers to acquiring HIV (Lasry et al., 2011). A recent review of prevention efforts in Asia found that “the current reality is that the bulk of prevention resources are not allocated to sex workers or most-at-risk populations, despite the centrality of these populations in the Asian epidemic” (Greener and Sarkar, 2010).

Sex Workers Are a Diverse Population

Interventions must be adapted to meet the needs of sex workers in different settings. The sex work industry is diverse and includes a broad range of workers operating in various locations including those who are street-based, brothel-based, those who work as escorts and those who work from their own homes. Some women exchange sex for cash or goods but do not see themselves as sex workers (Hawken et al., 2002; Buzdugan et al., 2010; Saggurti et al., 2011). Some sex workers are migrants and are at particularly high risk (Choi, 2011). Transgendered men and women face barriers to employment and therefore also work as sex workers and are at particularly high risk for HIV acquisition (Scheibe et al., 2011). [See also *Transgendered Women and Men*] This resource focuses on women who describe themselves as sex workers. Women are sometimes trafficked into sex work and there is currently debate about how to assess whether a woman is trafficked or whether she is a sex worker (UNAIDS, 2011f). Adolescents, however, cannot be considered to have consented to sex work and need additional interventions (Silverman, 2011; van Blerk, 2011; UNAIDS, 2011f).

Criminalization of Sex Work Hinders HIV Prevention

“Sex work is currently a criminal offense in most southern African countries, as indeed it is in [much] of the world...and much of the vulnerability of sex workers to HIV in

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southern Africa stem directly from the criminalization of their work” (Richter et al., 2010: 1 and 2). Simply decriminalizing sex work would not eliminate HIV. However, when “sensibly applied, legislative processes can be a most powerful public health ally. Equally, harmful law may obstruct and hinder public health” (Richter et al., 2010: 1 and 2). In New Zealand, which has explicitly decriminalized sex work and adopted a human rights and public health framework, sex workers report being able to negotiate safe sex and report abuse to the police (New Zealand Government, 2008 cited in Richter et al., 2010).

Criminalization of sex work as practiced in many parts of the world makes access to health services difficult. Sex workers in some studies state that the reason they do not access services is fear of arrest. Criminalization means that sex workers are less able to negotiate condom use and are more subject to violence from clients. Many have argued that impunity for violence against sex workers reduces the ability of sex workers to negotiate condom use (Shannon and Csete, 2010). They also may have difficulty accessing both legal services and post-exposure prophylaxis (PEP) in cases of rape.

Sex workers face particular challenges when confronting violence (Beattie et al., 2010) [*See also Strengthening the Enabling Environment: Addressing Violence Against Women*]. A young man in India stated: “...Prostitutes are like rough notebooks which anyway have many lines drawn upon them. One does not have to bother for condom, as an additional line on the notebook would not spoil it” (cited in Pradham and Ram, 2010: 550). These attitudes that devalue sex workers can only increase HIV risks for both the sex workers and their male clients. “The illegal status of sex work creates conditions in which exploitation and abuse can thrive” (Gould and Fick, 2008: 55). As one South African sex worker stated, “There is nothing you can do if someone is violent with you. ...you can’t go to the police...” (Gould and Fick, 2008: 49). A survey of 118 sex workers in South Africa found that 12% had been raped by police officers and 28% reported that policemen asked them for sex in exchange for release from custody (Gould and Fick, 2008).

Forcibly shutting down brothels is ineffective and can be harmful to women. A study in India found that when police destroyed a red-light district, sex workers had fewer clients and were more likely to engage in unprotected sex. In a sample of 326 female sex workers, those from the 55.3% who came from non-red light district were one hundred times more likely to report consistent condom use with clients as compared to those who used to work in a red light district that was destroyed by police and who had to disperse following demolition. According to the peer educators, “Without money to eat, health became the lowest priority” (Shahmanesh et al., 2009a: 609). “Unfamiliar territory, increased secrecy and greater reliance on intermediaries for customers weakened the women’s negotiating position” (Shamanesh et al., 2009a: 609). A study conducted by sex workers and academics interviewing 164 sex workers in Cape Town, South Africa found

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that “sex workers would rather have their work treated as a legitimate job with the legal protection that comes with that” (Gould and Fick, 2008: 7).

Police involvement can be beneficial for sex workers. Forging partnerships between police and sex workers has demonstrated effectiveness in reducing stigma and improving access to treatment. For example, after a campaign in India whereby sex workers met with police to establish lines of communication, the number of stigma and discrimination cases reported to police grew from none to 11, all of which police responded to and resolved. The percent of HIV-positive female sex workers seeking care and treatment services at antiretroviral therapy centers increased from 30% to 60% following the project (Stangl et al., 2010).

Condom Use in Sex Work is Critical to Prevent Infection but Implementation of 100% Condom Use Policies Can Violate Human Rights

While Thailand is renowned for its 100% condom use policy that had a large impact on the HIV epidemic in that country (Hanenberg et al., 1994), subsequent evidence, for example from Cambodia (Lowe, 2002), suggest that policies and programs that denigrate the rights of sex workers tend not to be successful. While 100% condom use policies may have increased condom use, they are coercive, rather than protective. In an analysis of 100% condom use policies (CUP), CASAM found that “while not all aspects of 100% CUP are negative, there exists a need to re-center HIV programming targeting sex workers within the framework of a rights-based and justice-based sex worker empowerment model” (CASAM, 2008: 2). And because 100% CUP programs tend to target sex workers rather than their male clients, these programs have not necessarily affected condom use in regular (non-transactional) partnerships. [See also *Prevention for Women: Male and Female Condom Use*]

Yet, programs that facilitate increased condom use among sex workers during sex with clients, as well as during sex with regular partners are critical – from both public health and human rights perspectives. Condom negotiation skills are essential skills for sex workers. A study in South Africa found that “sex workers identify demands for unprotected sex as one of their most significant problems” (Gould and Fick, 2008: 52). Sex workers reported a high proportion of clients seek unprotected sex. As one sex worker put it: “We haven’t really got problems with the clients here, except with the ones we call ‘condom missions’, because it’s a real mission to get them to use the condoms. You would be surprised how ignorant they are. You actually have to educate them about condoms... you say to them you have a wife and family to worry about” (Gould and Fick, 2008: 74). Most cases of violence were triggered by the refusal of the sex worker to comply with a demand for unprotected sex, with a third of street-based sex workers reporting being raped by a client.

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Educational interventions for female sex workers have proved effective in building condom negotiation skills and increasing safe sex behavior with paying partners. A systematic review of published evidence from 1998 to 2006 on condom use interventions found that fifteen of the 19 studies of condom use in commercial sex reported significantly increased levels of condom use (Foss et al., 2007) after an educational intervention.

“Effectively seen by society as criminals... sex workers may be unable to own or inherit property; register the births of their children; gain access to education, justice, health care or banking services; get a loan or purchase a house”
(UNAIDS, 2011f: 7).

Condom promotion campaigns can be cost effective. The Avahan project in India “is surely the world’s largest HIV prevention programme in a country with a concentrated epidemic...” (Bertozzi et al., 2010: i4). A significant reduction in costs was achieved during rapid scale up of a public campaign to promote rights, ensure access to justice, and meet the needs of sex workers, along with promoting condom use among sex workers and their male clients. The median cost of the Avahan program was \$76 per person based on those reached by Avahan between 2004 to 2006, including female sex workers, transgender people and men who have sex with men in 63 districts in India. Within four years, the program had scaled up to reach 226,855 people at high risk of HIV acquisition. The total cost of the program was \$16,759,189. However, the median cost of \$76 per person was higher than that expended by the Indian government, which was between \$31.02 to \$50.88 (Chandrahekar et al., 2010), raising questions about whether the Government of India would increase expenditures, leaving the legacy of Avahan in doubt (Rao, 2010).

Protecting Human Rights and Empowering Sex Worker are Vital

Government officials from the Programme National de Lutte contre le SIDA (PNLS) (National Program to Combat AIDS) in Benin have referred to sex workers as “an important mode of transmission” (Ahoyo et al., 2009: 457). In Vietnam, sex workers are considered “social evils” (Vijayarasa, 2010). But blaming sex workers as vectors of HIV to male clients and the wives of male clients, rather than in need of services for themselves, hinders prevention, testing and treatment efforts.

Legal frameworks are needed to protect human rights. Sex workers are frequently subject to punitive and mandatory measures—such as when governments impose compulsory HIV testing of sex workers, a measure that does not respect their confidentiality—that violate human rights standards. In addition to legal reform, programs that take an empowerment approach, such as the Sonagachi Project and Sagram in India, have been shown to create better working conditions and be the most effective to reduce HIV acquisition among sex workers and (Pillai et al., 2008; Goptu and Bandyopadhyay,

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2007). Sex workers themselves have led some of the most effective, evidence-based responses (Reynaga, 2008). Evidence suggests that empowering sex workers with the means to protect themselves is important both for the health of the sex worker herself and for effective HIV prevention programs.

Sex Workers Need Equitable Access to Antiretroviral Therapy

“Last but not least, sex workers have a basic human right to prevention, care and treatment” (Pettifor et al., 2011:325). Most interventions currently focus on prevention and condom use; few have ensured that sex workers have equitable access to antiretroviral therapy, and many sex workers face numerous barriers. In many countries, such as India, there is no published data on the number of female sex workers receiving antiretroviral therapy (Chakrapani et al., 2009). But as a vulnerable population, it is critical that sex workers with HIV have access to treatment (Piot, 2010). Peer educators may increase the numbers of sex workers who access antiretroviral therapy (Chakrapani et al., 2009), as well as trained, nonjudgmental providers. Antiretroviral therapy can decrease the number of sexually transmitted infections experienced by sex workers (McClelland et al., 2010), thus improving their sexual and reproductive health as well.

Interventions that improve HIV knowledge and protective behaviors, particularly condom use, as well as those that respect human rights are the key to successfully preventing HIV among sex workers. A review of the evidence highlights several strategies that have proven effective in doing this.

4A. What Works—*Prevention for Key Affected Populations: Female Sex Workers*

1. Comprehensive prevention programs that include components such as peer education, medical services and supplies, and support groups, can be effective in enabling sex workers to adopt safer sex practices.
2. Clinic-based interventions with outreach workers can be effective in increasing condom use and HIV testing among sex workers.
3. Peer education can increase condom use.
4. Creating a sense of community and empowerment among sex workers can help support effective HIV prevention.

Promising Strategies

5. Policies that involve sex workers, brothel owners and clients in development and implementation of condom use can increase condom use.
6. Providing accessible, routine, high quality, voluntary and confidential STI clinical services that include condom promotion can be successful in reducing HIV risk among sex workers.
7. Interventions targeting male clients can increase condom use and thus reduce HIV risk

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for sex workers.

4A. Evidence

1. Comprehensive prevention programs that include components such as peer education, medical services and supplies, and support groups, can be effective in enabling sex workers to adopt safer sex practices.

- A 2002 cross-sectional study randomly selected 1,512 female sex workers from two regions in southern and northern Karnataka, **India** and evaluated the impact of sex worker collectives on condom use and HIV/STI knowledge. NGO-operated female sex worker collective programs are often managed by older sex workers and not only provide members with condoms and STIs/HIV education, but also offer literacy training, medical care, and legal support for sex workers. The study found that the collectivization of female sex workers was correlated with better HIV knowledge and increased condom use. Female sex workers who were either members of collectives or had been in touch with peer educators “have knowledge that condom use can prevent [infections] and HIV,” (Halli et al., 2006: 742). Multiple logistic regression analysis found that collectivized sex workers had almost 16 times the odds of regularly using condoms with clients, reporting using condoms with clients 97% of the time. The study also found that condom usage and HIV/STI increased incrementally, in proportion to greater involvement with collectives, suggesting “in the southern Indian context, collectivization does add incrementally to the effect of peer education in reducing STI/HIV/AIDS-related risk behavior” (Halli et al., 2006: 747). (Gray II) (*sex workers, peer education, condom use, India*)
- The Sonagachi project in **India** which provided free access to STI treatment, condoms and peer education was successfully replicated, including community organizing and advocacy; peer education; condom social marketing and establishment of a small clinic. Sex workers were randomly selected in 2 small urban communities in northeastern India. One hundred sex workers participated in each community, with an 85% retention rate. Overall condom use increased significantly in the intervention community to 39% as compared to 11% in the control community. The proportion of consistent condom users increased 25% in the intervention community compared with a 16% decrease in the control community (Basu et al., 2004). (Gray IIIa) Providers initiated awareness and an offer of services at sex work sites through sex worker peer education, mobile VCT camps and community level task forces. Services include VCT; initiating antiretroviral therapy with escorting to follow-up at government clinics; treatment for opportunistic infections and TB; nutritional support; and support for a network of positive women. VCT rates between 2004 and 2005 increased almost nine times to a total of 2,578 with all who received counseling taking the HIV test. Barriers to HIV prevention and treatment were a belief that testing positive was a death sentence; lack of treatment literacy; and stigma by health provider (Saha, 2008). (Gray IIIa) A recent study of Sonagachi found that services are provided to 20,000 sex workers, along with a savings and bank cooperative and schools for children of sex workers. HIV risk reduction was also accomplished by training madams in brothels concerning the utility of condom promotion to promote the sustainability of sex work and their business; by creating a sense of empowerment among sex workers to refuse condomless sex; and creating a sense of community among sex workers, along with stable housing (Ghose et al., 2011). By providing housing for children of sex workers, sex workers were less easily coerced into unsafe sex.

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Peer discussions and problem solving increased condom use (Basu and Dutta, 2009). A recent review of Sonagachi has found that social support and addressing workplace autonomy, among other factors, were critical to the success of Sonagachi (Swendeman et al., 2009). (Gray IIIa based on Basu et al., 2004 and Saha, 2008) (*sex workers, community organizing, condom use, peer education, India*)

- A study of two communities in **China** using data from behavioral surveillance in 2003, 2004 and 2005 found that while baseline data in 2003 of the two communities was not significantly different, the county which had comprehensive HIV prevention interventions for female sex workers had significantly higher prevalence of condom use with clients and regular sex partners, higher HIV related knowledge and increased uptake of VCT and HIV services by 2005. The HIV prevention intervention consisted of a prevention committee with high government support, an outreach team, VCT sites, a needle exchange center, a methadone maintenance clinic, STI clinics, support groups, trained peer educators and social marketing of condoms. More than 150 sex workers were interviewed in each community in 2003, 2004, and 2005. By 2005, sex workers in the intervention community were seven times more likely to have appropriate responses for questions on HIV, more sex workers in the intervention community perceived themselves at risk for acquiring HIV and at least twice as likely to report condom use with clients and sex worker partners. HIV knowledge was significantly associated with condom use. While over 75% sex workers in the intervention community reported accessing VCT, less than 10% of sex workers from the community with no intervention reported accessing VCT (Lau et al., 2007a). (Gray IIIa) (*sex workers, condom use, HIV testing, China*)
- The Avahan project study with a representative sample of 400 sex workers in **India** found that increased exposure to sex worker peer educators, visiting the program clinic for services concerning sexually transmitted infections and receiving condoms from a peer educator or outreach worker was associated with consistent condom use with occasional clients and regular clients and treatment seeking behavior for sexually transmitted infections. Female sex workers exposed to any of the three core services of Avahan were using condoms consistently with 75% of occasional clients and 72% with regular clients. Those who had received any of the three core services in districts where only Avahan operated were 3.17 times more likely to have consistent condom use with occasional clients and 2.46 times more likely to use condoms consistently with regular clients. (Ramakrishnan et al., 2010:i67). In another evaluation of the Avahan project, 2,312 female sex workers were surveyed at baseline and 2,400 were surveyed 28 to 37 months later and found that compared with baseline, there was a reduction in the prevalence of HIV from 2019.6% to 16.4%. Reported condom use at last sex increased significantly for repeat clients from 66.1% to 84.1%. by follow up, 95.3% of sex workers had been visited by a peer educator, 76.6% had visited the drop-in center and 85.1% had visited the project sexual health clinic. Other sex worker populations in India without these interventions have reported sharp increases in HIV prevalence over time. However, the cross-sectional surveys were unlinked and anonymous, making it impossible to ascertain what the rate of new HIV infection acquisition was during the intervention (Ramesh et al., 2010). Additional surveys conducted on Avahan's impact demonstrated significant increases in condom use among sex workers (Verma et al., 2010, Lowndes et al., 2010) with modeling studies suggesting reductions in HIV incidence and prevalence (Ng et al., 2011, Pickles et al., 2010) (Gray IIIb) (*sex workers, condom use, peer education, India*)
- In a prospective, community-based, pre/post-intervention trial of thirty establishments in Chengjiang, thirty-four in Ruili and twenty-three in Longchuan, **China**, outreach workers visited the establishments to conduct intervention activities over six weeks. The study

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participants were female sex workers. Intervention activities included lectures, discussion, video and audiocassettes, and distribution of educational folders and condoms. Pre- and post-intervention cross-sectional surveys assessed changes in STI/AIDS knowledge and condom use. After the intervention, knowledge of the three HIV transmission routes increased from 25 to 88%, knowledge that condoms can reduce the risk of STI/HIV infection increased from 56 to 94%. Condom use at last sex and in the last three sexual encounters increased from 61 to 85% and from 41 to 70%, respectively. Multivariate analyses indicated that the intervention was an independent factor for these changes. The intervention program was effective at increasing HIV/AIDS knowledge and condom use rates among sex workers in the community (Wu et al., 2007b). (Gray IIIb) (*sex workers, community outreach, condoms, risk reduction, STIs, China*)

2. Clinic-based interventions with outreach workers can be effective in increasing condom use and HIV testing among sex workers.

- A study of 924 female sex workers from 2004 to 2008 in **Mexico's** border cities found that one 30-minute intervention based on principles of behavior change led to an increase in protected sex acts and a 40% decrease in STIs over a six month period when compared to a group that received standard presentation of prevention messages for VCT. Local health workers in the intervention group discussed with women how to negotiate safer sex, barriers to using protection, negotiation of condom use and ways to improve social support (Patterson et al., 2008). (Gray IIIa) (*sex workers, community outreach, sex behavior, condom use, HIV testing, STIs, Mexico*)
- A prospective, community-based, pre/post, intervention trial set in entertainment establishments (karaoke bars, massage parlors, dance halls, beauty parlors) where sex workers operate at sites in five provinces of **China** (Anhui, Beijing, Fujian, Guangxi and Xinjiang) showed increased condom use and decreased STI prevalence after setting up a Women's Health Clinic near participants' places of work at each site. The participants were all sex workers working in targeted entertainment establishments. Clinic-based outreach activities, including awareness-raising, condom promotion, and sexual health care, were developed and delivered to sex workers. Cross-sectional surveys at baseline and post-intervention were used to evaluate changes in condom use with the last three clients, and the prevalence of chlamydia and gonorrhea. In total, 907 sex workers were surveyed at baseline and 782 at 12 months post-intervention. Outreach teams made 2552 visits to the target entertainment establishments, approached 13,785 female sex workers, and distributed 33,575 copies of education material and 5102 packets of condoms. The rate of condom use with the most recent three clients increased from 55.2% at baseline to 67.5% at 12 months evaluation. The prevalence of gonorrhea fell from 26% at baseline to 4% after intervention, and that of chlamydia fell from about 41 to 26% (Rou et al., 2007). (Gray IIIb) (*sex workers, community outreach, condom use, STIs, China*)
- A study evaluated the impact of clinics for 1,554 sex workers in **Guatemala** and found that HIV incidence significantly declined from 1.85 per 100 person years in 2005 to .42 per 100 person years in 2008. Sex workers were offered HIV screening, condom promotion and education every six months. There was a significant increase in the proportion of consistent condom use from the baseline visit, except with regular partners (Sabido et al., 2009). (Gray IIIb) (*condom use, sex workers, HIV testing, Guatemala*)

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- A clinic in **Mozambique** for sex workers and long distance truckers established in 2001, with evaluation data from 2004 to 2009, found that the service was highly utilized by both sex workers and long distance truckers, with steep increases for HIV testing, contraceptive services and STIs, with high client satisfaction. The average clinic running cost is \$1,408 per month for guards and peer educators funded by the Flemish International Cooperation Agency, with 475 clients visiting the clinic every month. The Mozambican government covers the costs of the salaries of the three clinic nurses, drugs and medical supplies. Of the clinic visits, 43% were for contraception; 24% for HIV testing and 23% for STI care. HIV testing was introduced in 2006 and the average number of tests increased to 115 in 2009. Condoms distributed increased from 3,151 in 2004 to 9,200 in 2009. In order to provide quality care, it was concluded that the numbers of clients could not be increased without additional staff, hours and resources. A mapping and enumeration conducted in 2008 estimated 4,415 sex workers in the area near the clinic. In addition to clinic data, two focus group discussions with sex workers and six focus group discussions were held in 2008, along with interviews with clinic staff and peer educators. One sex worker noted: “Nothing compares to this clinic. The information given is clear and simple while in the hospital where I went... you are not adequately treated” (Lafort et al., 2010: 146). (Gray IIIb) (*sex workers, HIV testing, contraception, sexually transmitted infections, Mozambique*)
- A study of sex workers in **Brazil** from 2003 to 2005 that provided clinic-based health care with destigmatization of sex work and activities for dialogue among sex workers concerning discrimination, human rights and sex work resulted in fewer reported unprotected sex acts, particularly among those who perceived increased mutual aid and trust (Lippman et al., 2010). (Gray V) (*sex workers, Brazil*)

3. Peer education can increase condom use.

- A meta-analysis of 34 articles, **16 from Sub-Saharan Africa, 16 from East and Central Asia and 2 from Latin America**, of which 12 studies focused on sex workers, found that peer education was significantly associated with increased condom use (Medley et al., 2009a). (Gray I) (*sex workers, peer education, condom use, Africa, East Asia, Central Asia, Latin America*)

4. Creating a sense of community, empowerment and leadership among sex workers can help support effective HIV prevention.

- A randomized controlled trial from 2007 to 2008 of 98 female sex workers in **Armenia** found that a two-hour intervention with a three-month follow-up increased consistent condom use and increased applying condoms to clients. The two hour face to face intervention by a health educator emphasized gender empowerment, self-efficacy to persuade clients to use condoms, condom application skills and eroticizing safe sex. Participants randomized to the wait-list control were offered participation in the intervention following the completion of all follow-up assessments. The intervention was pilot-tested and revised based on sex worker feedback. During the two-hour intervention, sex workers could practice on a penile model; think about risky situations and strategies to reduce HIV risk-related behaviors, how to initiate safe sex conversations, how to negotiate condom use, and how to refuse sex without condoms. A fifteen-minute session was provided after three months to address any new barriers and to provide support. Women in the intervention group at six months were 2.8 times more likely to

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report using condoms consistently with clients, 2.8 times more likely to report using condoms consistently with their clients in the last seven days and 4.2 times more likely to apply condoms to their male clients (Markosyan et al., 2010). (Gray II) (*sex workers, empowerment, condoms, Armenia*)

- A study starting from 1980 until 2005 in **Kenya** with 3,000 sex workers found that community engagement which led to leveraging existing social capital to form a cohort community resulted in improved health and empowerment. Prior to the project, sex workers were highly stigmatized and disenfranchised. The study brought a clinic which provided nonjudgmental quality healthcare services, including STI treatment, contraception, no-cost condoms and one-on-one counseling. As one sex worker put it: “They teach us how to keep our bodies healthy....The doctors are good and keep your secrets...if they find you (HIV) positive.” The study helped to create a sense of community and support. Community meetings taught about antiretroviral therapy, and the importance of adherence. Sex workers decided to unite the women into a ‘no condom, no sex’ services campaign that “has likely averted thousands of infections over the years.” Peer educators were elected by other members who attended the clinic and conduct most of the outreach work. The study was conducted with 48 in-depth interviews; 28 peer leaders; 6 researchers; and women’s groups. Four meetings were observed. However, women’s denial of their own identities as sex worker due to stigma presents a challenge for effective community engagement (Bandewar et al., 2010). (Gray IIIb) (*sex workers, empowerment, condoms, HIV testing, Kenya*)
- Empowerment for sex workers in **India** through Sonagachi has evolved from 1992 when staff of an NGO approached sex workers to currently, where sex workers have formed their own autonomous organization, Durbar, with 65,000 sex workers in the state of West Bengal. Review of Durbar’s work as based on 22 focus group discussions with sex workers, with 5 to 25 sex workers in each focus group. In depth interviews were conducted with 10 key sex worker leaders and eight non sex worker staff of Durbar. Feedback was provided by Durbar following a dissemination workshop. A focus group discussion was held with brothel keepers and police and government officials were interviewed as well. Interviews were also held with non-Durbar sex workers. Sex workers and non-sex workers staff were given an equal status within the organization, with each having different expertise, with sex workers assuming key responsibilities within Durbar and in representing Durbar. Literacy classes which questioned social norms and used critical thinking were added to health projects, providing skills in discussion and debate. Durbar has assumed direct responsibility for running the health projects for sex workers as of 1999. Durbar was formed in 1993 by a group of sex workers who came together as peer educators through the NGO. Members of Durbar have successfully organized against maltreatment from brothels and pimps, against violence by the police and others, against forcible AIDS surveillance and against eviction of sex workers from brothels and red light areas, achieving greater power for sex workers in the sex trade. Durbar has a savings and credit cooperative. Prior to the formation of Durbar, sex workers reported a lack of control over their own lives and a sense of powerlessness. Durbar claimed prostitution as legitimate work, viewing it as “a legitimate and necessary occupation within the context of a wider economy, which offers the poor very few viable livelihood options,” (p. 256) harming no one. Now that Durbar is a collective, police, government official and politicians “behave civilly with them now and meet with them...to discuss and solve problems....” (p. 257). Durbar has given sex workers a sense of their rights, so that Durbar now claims legal recognition and enforcement of their rights by the Indian government. In addition to establishing health services to meet sex worker needs for HIV/AIDS prevention, treatment and care, Durbar has set up services for counseling and treatment for the general population, particularly the poor. Durbar has also intervened on behalf of underage girls and those

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brought forcibly to the sex trade. Durbar has raised funds for flood victims, presenting themselves as “socially responsible citizens with a conscience and a sense of duty toward the vulnerable “ rather than “weak needing rescue” (p. 265). (Gooptu and Banyopadhyay, 2007). (Gray V) (*sex workers, community organizing, violence, peer education, India*)

- SANGRAM in **India** began in 1992 with peer education and condom distribution, but evolved to create a sense of collective solidarity. SANGRAM has been incorporated into the policy process of the state of Maharashtra. Through SANGRAM, a collective of women sex workers was formed - VAMP. VAMP has grown from 150 women in 1995 to 5,000 members as of 2008. VAMP by exercising civil rights, ended police raids and has also gained the right of no cost condoms from the state government. Condom distribution by peer sex workers has increased from 6,000 to 8,000. VAMP member support members who are HIV-positive (Pillai et al., 2008). (Gray V) (*sex workers, condoms, peer education, India*)
- A systematic review of 28 interventions (Shahmanesh et al., 2008) “showed that policy-level support and empowerment strategies for sex workers can improve acceptability, adherence and coverage of HIV preventions programmes” (Padian et al., 2011b: 273). (Gray V) (*sex workers, empowerment, prevention*)
- A study of a community-led HIV prevention program by sex workers in **India** (Ashoyada) led members to report that violence from police had been reduced (Argento et al., 2011). (Gray V) (*sex workers, peer education, violence, India*)

Promising Strategies

5. Policies that involve sex workers, brothel owners and clients in development and implementation of condom use can increase reported condom use.¹

- A pre- and post-test study that compared condom use and policies in 68 sex establishments in the **Dominican Republic** from 1999 to 2000 with 200 female sex workers age 18 or older found that a combination strategy of a community-based approach combined with government policy and enforcement was most effective in increasing condom use rates. The study was approved by and involved the sex worker union of the Dominican Republic, MODEMU. The two environmental-structural interventions compared in the study included a community-based approach implemented in sex establishments in one city, and a combined community-based approach with government policy and regulations at another. All sex establishments that participated in the study implemented a 100% condom use policy, and owners were informed that ultimate responsibility for usage was their own, not their employees, and

¹ Implementation of policies varies in practice. Recent documentation with 100% condom use policies, for example in Cambodia (Lowe, 2002), suggest that some aspects of 100% condom use policies can be disempowering to sex workers and violate human rights. Some have suggested that the Kerrigan 2004 and 2006 studies, along with the Pisey, 2008 study and Morisky and Tiglaio, 2010 should not be instituted for this reason. The 100% condom campaign in Thailand “may have adversely impacted marginalized sex workers through increased corruption, police raids and mandatory HIV testing” (Shannon et al., 2009: 659). “It is critical that all programmes follow a sex worker led approach and enable sex workers to collectively determine what role brothel owners should play in HIV/AIDS intervention programmes” (UNAIDS, 2011f: 12).

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penalties in the form of warnings and fines were administered in cases where owners were found to not be compliant. All personnel, including sex workers, managers, owners, deejays, security, etc. attended activities in the form of workshops and meetings in order to strengthen relationships and collective commitment for condom use. Key elements to ensure condom usage and measure compliance included use of posters, condom availability, monthly confidential STI checkups, and a lack of a positive STI diagnosis (Kerrigan et al., 2004: 2). Quarterly meetings were held with sex workers and managers. In one site (Puerta Plata), owners were subject to graduated sanctions, such as notifications, fines, and closing. Data collected showed that consistent condom use with new clients significantly increased in Santo Domingo, from 75% to 94%. In Puerta Plata, the rate increased from 96% to 98%. Significant overall declines in the STI rates of both approach sites were observed. Furthermore, an association was found between higher rates of consistent condom use and higher levels of exposure to the workshops. Lastly, levels of compliance with the policies was found to be significantly higher in the Puerta Plata site which implemented government sanctions for non-compliance in addition to the community approach. In Puerta Plata, the rate of consistent condom use by regular and nonpaying partners rose significantly, from 13% to over 28%. Sex workers in Puerta Plata reported a significantly increased ability to reject unsafe sex, from 50% to 79%. In Puerta Plata, there was a significant decrease from over 28% to less than 17% of one or more STIs (Kerrigan et al., 2006; Kerrigan et al., 2004). (Gray IIIa) (*condom use, sex workers, Dominican Republic*) [See footnote]

- A study with 24,302 sex workers in 130 establishments from 1995 to 2001 an intervention in the **Philippines** found significantly lower rates of HIV and highly significant improvements in consistent condom use behavior among sex workers who received peer education and training by managers employing sex workers, or a combination of both peer education and training by managers, as compared to a control group that only received usual care by peers and managers. Where both manager and peer education were used with 299 sex workers, self-reported condom use increased from 35.2% to 50.8% but among the 206 sex workers in the control group, condom use decreased from 45.6% to 20.1%. At establishments where a condom use policy existed, female sex workers were 2.6 times more likely to use condoms consistently compared with establishments that did not have such a policy in place. Thirteen sex workers were HIV-positive in the usual care group compared five in the intervention group. A total of 2,346 heterosexual men were trained by male peer educators using fotonovelas and resulted in a significant effect on condom use behavior with sex workers, as well as significant differences between the intervention and control group between baseline and end line. Condom use was determined by a validated 6 item Likert-type scale and was negatively correlated with occurrence of STIs as diagnosed at the Social Hygiene Clinic. HIV testing increased from 86% from baseline to follow up among 903 sex workers at follow-up and was associated with increased condom use (Morisky and Tiglaio, 2010; Morisky et al., 2010; Chiao et al., 2009; Ang and Morksy, 2011). (Gray IIIb) (*condom use, sex workers, peer education, Philippines*) [See footnote]
- A study of 310 sex workers in **China** found that among sex workers who perceived support for condom use from “my boss” was correlated with higher rates of condom use. Sex workers with access to condoms and who agreed with the statement, “If I refuse to serve a customer who does not want to use a condom, my boss will support me” and whose manager encourages health check-ups reported more condom use. Sex workers who reported this support were 1.7 times more likely to report overall consistent condom use and 1.5 times more likely to report consistent condom use in the last three sexual acts (Hong et al., 2008). (Gray IV) (*sex workers, condom use, China*) [See footnote]

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6. Providing routine, high quality, voluntary and confidential STI clinical services that include condom promotion can be successful in reducing HIV risk among sex workers.

- A study in Guangxi, **China** evaluated the efficacy of cultural adaptation of a voluntary counseling and testing (VCT) intervention, in increasing condom use and decreasing rates of sexually transmitted infections (STIs) among a group of female sex workers. This intervention is modeled after the "state-of-the-science" VCT program that was developed and evaluated by the Center for Disease Control and Prevention's Project RESPECT. The Project RESPECT two-session VCT program was adapted with five major modifications by the investigation team in response to the social and cultural context of female sex workers in China. Four hundred female sex workers were assigned to either an intervention group receiving the VCT intervention or a control group receiving standard of care STI testing and treatment. Data were collected at baseline and 6 months post intervention. Outcome measures included HIV/STI related knowledge and perceptions, condom use, and history of STIs. Five common STIs were screened and tested through clinical examination and laboratory testing to serve as biomarkers. After controlling for potential confounders and baseline differences, the VCT intervention group was significantly higher than the control group in HIV/STI related knowledge and consistent condom use with clients at 6 months follow-up. In addition, the intervention group had a significantly lower infection rate of STIs than the control group at follow-up. This quasi-experimental trial provides evidence that the brief VCT intervention, through appropriate cultural adaptation, can be efficacious in increasing condom use and reducing STI infection rate among female sex workers in China (Li et al., 2006). (Gray IIIa) *(sex workers, counseling, HIV testing, condom use, STIs, China)*
- A re-survey of 172 HIV-negative female sex workers one year after 2002 in **Kenya** found that condom use had increased and STI prevalence had decreased. From 1998 to 2002 monthly antibiotics to prevent STI and HIV transmission were provided along with regular counseling, condoms, screening and treatment. Quarterly community meetings for sex workers in the individual villages, as well as a larger meeting including all villages in the area to address sex worker risk reduction issues as a community were ongoing after the study (Ngugi et al., 2007). (Gray V) *(sex workers, condom use, counseling, community outreach, STIs, HIV testing, Kenya)*
- An on-site clinic to provide sex workers with quality of care at a brothel in Johannesburg, **South Africa** found that condom use may have increased. Qualitative interviews showed that information sessions by nurses positively affected condom use. Through nurse counseling, sex workers understood: "Even if he promises you more money [this] cannot buy your life" (p. 461). Data were drawn from 12 focus groups and ten in-depth interviews with sex workers. Prior to the establishment of the on-site clinic, most sex workers reported not using public health services due to abusive provider attitudes to sex workers, lack of appropriate drugs and long lines. The onsite clinic provided treatment for STIs, education and condoms. Over a 15-month period, 1,243 women were screened and treated at least once for STIs. Sex workers incurred no travel costs to access the clinic. Sex workers reported that the clinic staff created an atmosphere of honesty and respectful treatment: "Everything is done through agreement...everything is explained" (p. 460). (Stadler and Delany, 2006). (Gray V) *(condom use, sex workers, STIs, South Africa)*

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7. Interventions targeting male clients can increase condom use and thus reduce HIV risk for sex workers.

- A study in **Senegal** found that a peer-mediated education and condom distribution program targeting male clients of sex workers was successful in increasing AIDS-related knowledge and consistent condom use. Twenty transport workers were elected by co-workers to attend a two-day training seminar to acquire general information on HIV/AIDS/STIs that included topics of transmission, symptoms, and preventative measures as well as condom negotiation and peer communication techniques. At the end of training peer educators were expected to provide basic HIV/AIDS information to their peers, distribute condoms and printed materials, and serve as a link to STD clinic staff. Weekly discussion groups for the educators were also held to review the training material. Baseline and follow-up surveys and interviews were conducted over a two-year period among 260 matched pairs of transport workers to determine the impact of the intervention. Forty-five sex workers were also administered pre- and post-intervention surveys concerning client behavior. Although AIDS-related knowledge was determined to be high at baseline, with 95% of the transport workers reporting at least some awareness concerning HIV/AIDS transmission and other related issues, a significant increase to 100% was observed in the follow-up interviews. Consistent condom use with regular, nonmarital partners increased from 49.4% to 90.4% and men reporting having ever used a condom increased from 30.4% to 53.5%. Sex worker survey results showed that the number of clients “always” agreeing to use a condom increased significantly from 2.2% to 42.2% and the proportion of clients offering more money for sex without a condom decreased significantly from 82.2% to 46.7%. Lastly, although the majority of sex workers reported being the supplier of condoms during sexual encounters, 29.6% of the men who had received a condom from a peer educator were carrying a condom at the time of the follow-up interview. Commercial sex work has been legal in Senegal since 1970 (Leonard et al., 2000). (Gray IIIb) (*sex workers, peer education, condoms, Senegal*)
- The Avahan project in **India** resulted in consistent condom use by male clients of female sex workers. Five stratified two-stage cluster sample surveys conducted between 2006 and 2008, with sample sizes from 1,741 to 2,041 found that two thirds of men in each survey round recalled some aspect of the intervention, which included: 1) outdoor promotional materials, 2) interpersonal communication and 3) street theater and/or interactive game shows, with small group discussions following these activities. Consistent condom use with female sex workers increased significantly from 63.6% at baseline to 86.5% at end line. Men exposure to two parts of the intervention reported higher consistent condom use than men exposed to no part of the intervention, included condom use at last sex. Affordable condoms were introduced in 65,000 retail outlets. The Avahan program with male clients was conducted from 2004 to 2008 and reached an estimated 700,000 men monthly (Lipovsek et al., 2010). (Gray IIIb) (*sex workers, condom use, India*)

4A. Gaps in Programming—Female Sex Workers

1. Health care provider training is needed to increase confidentiality and decrease discrimination against sex workers seeking health services.
2. Interventions are needed to provide sex workers with greater control and access over money and resources, which can have a positive impact on HIV-related risk reduction.
3. Changing laws and policies, ending police violence, and other mechanisms are needed to

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protect sex workers from violence and rape.

4. Efforts are needed to avoid disruption of HIV and AIDS programmes during raids and other policing measures.
5. Changes in strategies are needed for efforts that stigmatize sex workers and force mandatory testing without confidentiality.
6. Basic information on HIV such as where to access condoms and confidential HIV testing is still needed for sex workers in some settings.
7. All sex workers, but particularly sex workers living with HIV, need access to information and services for contraception and dual method use.

1. Health care provider training is needed to increase confidentiality and decrease discrimination against sex workers seeking health services. Studies found that significant proportions of female and transgender sex workers did not visit health facilities because of lack of confidentiality, discrimination, and lack of counseling when accessing HIV testing.

- Gap noted, for example, in **Nepal** (Ghimire and Tejlingen, 2009); **Vietnam** (Ngo et al., 2007); **Botswana, Namibia and South Africa** (Arnott and Crago, 2009); **Nigeria** (Munoz et al., 2010a); and **South Africa, Kenya, Uganda and Zimbabwe** (Scorgie et al., 2011).

2. Interventions are needed to provide sex workers with greater control and access over money and resources, which can have a positive impact on HIV-related risk reduction. Studies found that if sex workers had access to resources under their control, women were more likely to negotiate condom use and that female sex workers in debt were less likely to report condom use.

- Gap noted, for example, in **China** (Yi et al. 2010); **India** (Reed et al., 2010; Shahmanesh et al., 2009a and b; Karandikar and Prospero, 2010); **Dominican Republic** (Ashburn et al., 2007); **Nigeria** (Oyefara, 2007); **South Africa, Namibia and Botswana** (Arnott and Crago, 2009).

3. Changing laws and policies, ending police violence, and other mechanisms are needed to protect sex workers from violence and rape. Studies found sex workers experienced high rates of violence and rape from clients and police, and that fear of arrest was a barrier to accessing health services. Studies also found that violence was associated with inconsistent condom use and HIV incidence. Studies also found high rates of violence from intimate partners and clients, but inability to press charges.

- Gap noted, for example, in **Turkmenistan** (Chariyeva et al., 2011); **China** (Tucker et al., 2010; Choi et al., 2008); **Nigeria** (Munoz et al., 2010a); **Croatia and Montenegro** (Stulhofer et al., 2010); **Mozambique** (Lafort et al., 2010); **Kenya** (Okal et al., 2011; Tegang et al., 2010; Federation of Women Lawyers FIDA Kenya, 2007); **India** (Karandikar and Prospero, 2010; Swain et al., 2011; Go et al., 2010; Go et al., 2011a; Panchanadeswaran et al., 2010; Erausquin et al., 2011); **Russia** (Decker et al., 2012); **Brazil** (Damacena et al., 2011); **South**

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Africa (Scorgie et al., 2011, Gould and Fick, 2008); **Cambodia** (HRW, 2010c); **Botswana, Namibia and South Africa** (Arnott and Crago, 2009); **Serbia** (Simic and Rhodes, 2009); **Thailand** (Decker et al., 2010b; Ratinthorn et al., 2009); **Russia** (Aral et al., 2003 cited in Stachowiak and Peryshkina, 2007); and globally (UNAIDS, 2011f).

4. **Efforts are needed to avoid disruption of HIV and AIDS programmes during raids and other policing mechanisms.** Studies found that HIV prevention efforts are disrupted during raids and that carrying condoms is used to prosecute sex workers.
 - Gap noted in **South Africa** (Scorgie et al., 2011) and **China** (Lau et al., 2007a).
5. **Changes in strategies are needed for efforts that stigmatize sex workers and force mandatory testing without confidentiality.** Studies in China found that sex workers are mandated to be tested for HIV in re-education camps but many are not informed of their serostatus. Studies found that sex workers were sent to labor re-education camps, were publicly shamed as sex workers and IDUs and had low rates of testing, condom use and access to services. Studies also found that cities in China that detain sex workers have a higher mean HIV prevalence compared to cities that do not detain sex workers.
 - Gap noted in **China** (Xu et al., 2011; Jianhua et al., 2010; Tucker et al., 2010; Wang et al., 2011).
6. **Basic information on HIV such as where to access condoms and confidential HIV testing is still needed for sex workers in some settings.** Studies found that sex workers lacked adequate knowledge of HIV and few had sought testing. Most did not know where to obtain condoms or understand that condoms could reduce the risk of HIV acquisition. Others had misconceptions that showering could reduce risk of acquiring HIV.
 - Gap noted in globally (Overs and Hawkins, 2011); **Turkmenistan** (Chariyeva et al., 2011); **Swaziland** (Chipamaunga et al., 2010); **Sudan** (Abdelrahim et al., 2010); **Somalia** (Kriitmaa et al., 2010); and **Pakistan** (Khan et al., 2010) **Afghanistan** (Todd et al., 2011a; **Kiritbati** (McMillan and Worth, 2010); and **China** (Zhang et al., 2011b).
7. **All sex workers, but particularly sex workers living with HIV, need access to information and services for contraception and dual method use.** Studies found that sex workers, particularly HIV-positive sex workers, lacked access to contraceptive options and had high rates of abortion. [*See also Meeting the Sexual and Reproductive Health Needs of Women Living with HIV*]
 - Gap noted in **South Africa** (Scorgie et al., 2011); **India** (Wayal et al., 2011); and **Rwanda** (Braunstein et al., 2011).

4.B. Prevention for Key Affected Populations: Women Who Use Drugs and Female Partners of Men Who Use Drugs

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Despite injecting drug use being a main driver of the HIV epidemic in many parts of the world, evaluated tailored responses for women who use drugs or for female sexual partners of men who use drugs have not matched the needs of this population. Injecting drug use is globally widespread and the main driver of the HIV epidemic in

“Women who inject drugs have substantially different needs and face higher risks of disease and violence than do men who inject drugs” (Roberts et al., 2010: 7).

some parts of the world. Approximately 16 million people in 148 countries are injecting drugs users or PWID – people who inject drugs. The largest numbers are in China, the United States and Russia, with HIV prevalence among PWID at 12% in China, 16% in the United States and 37% in Russia. Worldwide, about three million PWID are also living with HIV (Mathers et al., 2008). “...Outside sub-Saharan Africa, injecting drug use accounts for about one in three new cases of HIV” (Wood et al., 2010: 3). “Ukraine...is experiencing one of the fastest growing HIV epidemics in the world” (Taran et al. 2011: 65) with 22% of those newly infected with HIV through sexual transmission reporting a PWID as a regular sexual partner in the previous 12 months (Taran et al., 2011). In Sub-Saharan Africa, PWID is a “relatively recent reported phenomenon” (WHO et al., 2011b: 27). However, among PWID in Dar es Salaam, Tanzania, HIV prevalence was 42% and 36% in Nairobi, Kenya (WHO et al., 2011b). In Mauritius, 47.4% of PWID are HIV-positive (Johnston et al., 2011). Of the new cases of HIV reported in 2007 for which information was available on the mode of transmission in countries of the former Soviet Union, 57% were attributed to injecting drug use (UNAIDS, 2009 cited in Rechel, 2010). “Despite the high burden of HIV among [people who inject drugs], national responses aimed at prevention, treatment and care for this population have been inadequate in scale” (Bergenstrom and Abdul-Quader, 2010: S26).

Injecting Drug Use is an HIV Risk for Both Women Who Use Drugs and Female Partners of Men Who Use Drugs

The HIV risks related to injecting drug use stem from, among others, sharing contaminated needles—one of the most direct transmission pathways for HIV transmission (Choi et al., 2006), exchanging sex for money or drugs, low condom use, and low levels of HIV testing and treatment. For example, a recent study in Tanzania found that of 319 males who inject drugs (MWID) and 219 females who inject drugs (FWID), 33% traded sex for money, 49% did not use condoms during vaginal sex, 31% had injected with a needle used by someone else, 41% had given a used needle to another, and 42% were HIV-positive and almost none of those who tested HIV-positive knew their serostatus (Williams et al., 2009). PWID, besides being at high risk of acquiring HIV are also at high risk of acquiring Hepatitis B and C (Cook, 2010). [See also *Preventing, Detecting and Treating Critical Coinfections*] A survey of 3,711 PWID in 16 cities in Ukraine, 25.4% female, with an HIV prevalence of 32% and found that 85.6% reported having sexual contact in the past months, and just over half reported

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using a condom during last sexual contact (Taran et al., 2011). Many may not know their HIV status: in a study in St. Petersburg, Russia, of 661 PWID (35% female), 19% reported being living with HIV but seroprevalence was 38% based on blood tests. Of 687 heterosexual dyads with a sexual partner who injects drugs, 74% reported engaging in unprotected sex; in couples that self-reported serodiscordancy, the majority engaged in unprotected sexual intercourse and FWID were more prone to sexual risk from their MWID partner (Gyarmathy et al., 2011a).

Women Who Inject Drugs Have Higher HIV Risks Than Men

Though precise data on women who inject drugs are rarely available, women are estimated to represent about 20% of drug users in Eastern Europe, Central Asia and Latin America, 17-40% in various provinces of China and 10% in some Asian countries (UNODC, 2005 cited in Pinkham and Malinowska-Sempruch, 2008). In Kazakhstan, a study found that FWID were at least twice as likely to be HIV-positive (Zhussupove et al., 2007 cited in Thorne et al., 2010). In a sample of 56 FWID in Estonia, 64.3% were HIV-positive, while of the 294 MWID, 53.4% were HIV-positive (Usukula et al., 2010). A survey of 3,711 PWID in 16 cities in Ukraine, with 25.4% female, found an HIV prevalence of 32%. Being female was significantly associated with HIV-positive status (Taran et al., 2011).

In China, prevalence of unprotected sex among 1,422 sexually active FWID was 75.4% and 43.5% reported syringe sharing, with 25.2% reported that they injected others' used syringes in the last month and 29.3% reported lending, giving or selling used syringes to others (Lau et al., 2011). A study of 2,512 MWID and 672 FWID surveyed in 10 sites in developing countries found that females were more likely to engage in risk behaviors in the context of a sexual relationship with a primary partner (Cleland et al., 2007) and that women are more likely than men to borrow or share injection equipment, particularly with their sexual partners.

A study of 570 PWID (32% female) in Russia, found that 15% had sexual partnerships, 29% reported syringe sharing, 38% had never been tested for HIV and 43% were HIV-positive (Gyarmathy et al., 2010). Unprotected sex between PWID accounts for 15 to 45% of new HIV infections in Ukraine (Strathdee et al., 2010). Women are also more likely to be injected by a friend or partner, which increases risk (Pinkham and Malinowska-Sempruch, 2008; Roberts et al., 2010). Of FWID in Pakistan, 60% were married, 66% had no education, half shared syringes with other PWID, only

Despite the limited research on females who inject drugs and HIV-related behavior, there is evidence that the high HIV risk in FWIDs is associated both with injecting and sexual risk taking (Burrows, 2004; The Global Coalition on Women and AIDS).

“Many women who use drugs lack the power to negotiate safer sex” (El Bassel et al., 2010: 8).

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22% knew that HIV can be transmitted by needles and only 3% used condoms. However, 73% wanted treatment for drug use (UNODC, 2010b).

There is also greater HIV risk in the overlap between injecting drug use and sex work. An estimated one-third of sex workers in the Russian Federation also are PWID (WHO et al., 2011b); as are a high proportion of FWID in South Africa, with high rates of HIV (Hedden et al., 2009). A study in China found that female sex workers who were also intravenous drug users had HIV prevalence rates as high as 35.5% (Jia et al., 2010). Studies in South America, Tanzania, China and Vietnam have found that sex workers who are injecting drug users are at higher risk of acquiring HIV than sex workers who are not injecting drug users (Bautista et al., 2006; Azim et al., 2006; Ross et al., 2008; Galvez-Buccollini et al., 2009; Lau et al., 2007b). Three community based surveys of 4,310 PWID in China from 2004 to 2006 found that over 30.5% of PWID who had been an PWID for less than one year were female, an increase from 17.8% for PWID who had been PWID for more than three years, with high rates of unprotected sex (Zhang et al., 2010).

In South Africa, a study found that men exercise more control over drug and sexual transactions than females, with drug-using female sex workers controlled to a great extent by male pimps, who threaten women with loss of shelter or violence if insufficient income is produced. Drugs are used to increase stamina for sex work, enhance sexual pleasure or cope with stress of sex work. Female sex workers who inject drugs may not use condoms in order to access drugs (Needle et al., 2008).

“Women who inject drugs have substantially different needs and face higher risks of disease and violence than do men who inject drugs. Given this difference, it is surprising that much of the literature on injecting drug users does not distinguish between men and women when discussing prevalence, needs, risks and outcomes of injection...where women are discussed, there is a tendency to focus on women of reproductive age who are sexually active, referring to them as ‘bridges for disease’ into the general population. This suggests the epidemiological and policy concerns around these women in most cases are based on concerns for their sexual partners and children instead of their own human rights, health and wellbeing” (Roberts et al., 2010: 7). In fact, research on drug use and HIV suffers from a dearth of sex-disaggregated data and gender analysis. Evaluated interventions that meet women’s needs are scarce.

Female Partners of Men Who Inject Drugs are Also at Higher Risk for HIV

“The majority of [MWID] have non-injecting female sex partners” (Roberts et al., 2010: 10). Some women may not be aware that their partner uses drugs. Because of traditional gender norms which value submissiveness and ignorance of their partners’ sexual practices or injecting drug use, women with MWID partners may not know they are at high risk of acquiring HIV from their partners’ sexual or needle-sharing practices. A

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profile of 1,158 injecting drug users in India, mostly male, found that most shared needles and had limited condom use, yet 45% had vaginal or anal intercourse with female partners in the last month (Solomon et al., 2010b). Another study in Vietnam with 299 MWID found that 43% were HIV-positive and 48% had had unprotected sex in the last 12 months (Go et al., 2011b). A study in Vietnam with widows living with HIV found that 18 of the 24 widows had found out after their marriage that their husband was an active drug user (Go et al., 2011b).

A study in China with 234 non-institutionalized sex workers who use drugs found that those with submissive gender attitudes, such as agreeing that “men always make decisions on sexual matters;” was positively associated with inconsistent condom use during sex work and was significantly associated with having injected with others’ used syringes (Gu et al., 2010). About half of MWID in Karachi, Pakistan are married and 47% report sex with sex workers, two-thirds of whom did not use condoms (Altaf et al., 2007 cited in Strathdee et al., 2010; Bokhari et al., 2007; Emmanuel et al., 2008 cited in Strathdee et al., 2010). In fact, numerous studies demonstrate that MWID have unprotected sex with sex workers (Todd et al., 2006 and Nashkoev and Sergeev, 2008 cited in Thorne et al., 2010; Khan and Khan, 2011).

A study in South Africa found that “there seemed to be a choice not to use condoms due to the ‘trust’ between drug users and their ‘safe partners’ or as one male intravenous drug user put it: “...because I trust my wife. I don’t use anything” (Parry et al., 2009: 895). In order to understand the dynamics of injecting and sexual risks, more research is needed “into how projects can work specifically with serodiscordant couples to break down myths of love and fate and to introduce ideas of protection” (Jianhua et al., 2010:71).

Interventions to Reduce Drug Dependency Can Reduce HIV Risk for Women Who Use Drugs and Female Partners of Men Who Use Drugs

“Harm reduction seeks to reduce the spread of HIV associated with injection drug use through outreach, education in safer practices, needle and syringe exchange programs, access to counseling and drug treatment, and non-judgmental approaches...Harm reduction programs [such as opioid agonist therapy and needle exchange programs] are supported by an extensive body of evidence to show that they are cost-effective, can reduce HIV and other blood-borne pathogen transmission and can serve as effective bridges to drug treatment and health care” (Des Jarlais and Friedman, 1998 cited in Gauri et al., 2007: 314). However, despite the evidence of effectiveness of harm reduction programs, they are usually not designed to address the specific needs of women and women usually have less access to harm reduction services than men.

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After three decades of research, there is no convincing evidence that needle exchange programs have been accompanied by serious negative consequences. Instead, needle exchange has been associated with enrollment in drug treatment programs. It's important to note that while getting clean needles through needle exchanges reduces HIV risk, cleaning needles with bleach does not reduce risk (Vlahov et al., 1994 cited in Vlahov et al., 2010). Pharmacy access can be a good source of sterile needles. Safer injection facilities have been established in Canada, but none in low or middle-income countries (Vlahov et al., 2010). Unfortunately, law enforcement can deter needle exchange implementation efficacy by challenging legality, threatening staff and arresting those who try to access clean needles.

“...It has been known since the early 1990s that HIV among IDU can be effectively [and] safely...controlled by the early and vigorous implementation of a comprehensive package of strategies known as ‘harm reduction.’ This package consists of education, needle syringe programmes, drug treatment and the community development of drug users...No country that has started harm reduction has ever regretted doing so and then terminated their programmes” (Wodak and McLeod, 2008: S81; S83; S88).

Where opioid agonist therapy such as methadone has been easily available without strict regulation, PWID have HIV prevalence rates of 1% for the last almost fifteen years, such as in Croatia (WHO, 2006 cited in Kenny and Saucier, 2010). However, most opioid agonist therapy programs in developing countries have been small scale, leading to urgent unmet needs (Vlahov et al., 2010; Mathers et al., 2010).

Unfortunately, current coverage of interventions for injecting drug use is inadequate, with 5% of drug injections covered by a sterile needle covered by a needle exchange program; eight received opioid agonist therapy for every 100 PWID and four PWID receive antiretroviral therapy for every 100 HIV-positive PWID (Degenhardt et al., 2010). “Among 107 reporting countries, 42 had needle and syringes programmes and 37 offered opioid substitution therapy. ...In the subset of 30 countries that provide data on needle and syringe programmes, the median number of syringes distributed per year per person who injects drugs was 50.7, still below the internationally recommended level of 200 syringes per person who injects drugs per year.... Less than 2.5% of people who inject drugs received opioid substitution therapy among 32 reporting countries” (WHO et al., 2011a: 17). Needle exchange was confirmed to be absent in 55 countries (Mathers et al., 2010). “Worldwide, there are few countries in which the level of intervention coverage is sufficient to prevent HIV transmission... This is a serious missed opportunity and will have long-term effects on overall public health...” (Mathers et al., 2010: 1025 and 1026).

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In both Ghana and Kenya, HIV prevalence among PWID exceeds 10% yet neither country provided opioid agonist therapy nor sterile needles (WHO et al., 2011b). However, in Iran, 84% of those who inject drugs had access to opioid agonist therapy (WHO et al., 2011b). Yet, “chemical dependence is a chronic, relapsing and treatable disease...” (Altice et al., 2010: 60). An analysis estimated the overall resource need for achieving universal access in 2009 for PWID in Asia that included access to antiretroviral therapy, opioid agonist therapy and needle exchange programs was US\$.5billion (Bergstrom et al., 2010). However, there is “scant costing and benchmark budgeting information for prevention and treatment interventions. This makes it difficult to objectively and efficiently allocate resources to those programmes that have the highest impact” (Bergstrom et al., 2010:108).

Women Face Greater Stigma and Have Less Access to Harm Reduction Programs Than Men

Although they are at high risk of HIV acquisition, women who inject drugs in every country have lesser access to services than MWID. “Drug treatment, harm reduction and HIV programmes for women are near universally underfunded despite evidence of efficacy” (El-Bassel et al., 2010: 8). In Georgia, only 12 of the 1,000 patients who have access to methadone treatment were women (Belyaeva et al., 2011). Interviews with 1,391 FWID in Pakistan found that “unlike male drug users who congregate and use drugs with other drug users, drug use is a discreet, hidden and more of an individual activity for female drug users” (UNODC, 2010a: 11; Khan and Khan, 2011).

Women lack access to harm reduction and other health services because of even greater stigmatization than male injecting drug users as well as FWID’s fear of losing custody of their children (Malinowska-Sempruch, 2001). Women who use drugs are more likely than men to have dependent children. Access to treatment should be de-stigmatized and decriminalized so that fear of losing their children is not stronger than the desire to seek help. Women also need child care while they complete treatment (Roberts et al., 2010). A study of 252 PWID including 66 FWID in Thailand found that women were less likely to access harm reduction services (Kerr et al., 2010a). Specific outreach, such as referrals from maternity hospitals and those working with PWID and sex workers, is needed to reach FWID (Pinkham and Shapoval, 2010). “Few drug-treatment and HIV prevention programs attempt to help women who suffer intimate partner violence and fewer still emphasize reproductive health” (El-Bassel, 2010: 8).

Increasing access for women who use drugs to needed services, including drug treatment, harm reduction programs, and sexual and reproductive health care services, is crucial. “Substance abuse disorders are chronic, relapsing but treatable diseases” (Bruce et al., 2010: 332). Women who use drugs also need legal services to reduce police and health service abuse, to access services and to gain custody of children (OSI, 2008). Achieving this goal requires policies that encourage women to seek drug treatment and harm

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reduction rather than punishing or stigmatizing them for drug use during pregnancy or motherhood; increasing availability of opioid agonist therapy; incorporation of sexual and reproductive health and other women's services into harm re-education programs; flexible, low-threshold services that are more convenient for women with children; and links between harm re-education, drug treatment, women's shelters, and violence prevention services" (Pinkham and Malinowska-Sempruch, 2007: 3).

Harm Reduction Programs Can be Scaled Up But Must be Tailored to the Needs of Women

An estimated 20% of the 16 million PWID worldwide are living with HIV. In at least 69 countries where injecting drug use has been documented, no program to provide even sterile needles exists. And in many countries with needle exchange programs, the number of sterile needles distributed per person using drugs is inadequate to stem the AIDS pandemic. Opioid agonist therapy is not available in 77 countries in which injecting drug use has been documented (UNAIDS, 2011a). Modeling suggests that in concentrated epidemics, an approach which dramatically increases coverage of antiretroviral therapy and access to harm reduction is much more effective than interventions that target a whole range of populations (Schwartlander et al., 2011). "Opioid substitution therapy in most countries with low and middle incomes remain in perpetual pilot status" (Wolfe et al., 2010: 53, IHRD, OSI, 2008). And even where harm reduction programs are available, women rarely have access. A recent study of 403 women who use drugs in Vietnam found that these women would like harm reduction services but had rarely been beneficiaries, with less than 58% having heard of needle exchange and less than 27% receiving free needle exchange (Oanh et al., 2011).

"...Whether we are alive or dead, nobody cares...Violence and abuse are our fate" (FWID cited in UNODC, 2010b: 37 and 40).

"I wish I had known something about HIV...because when I was diagnosed, all I knew was that...I was going to die soon...I went through treatment and I do not use drugs anymore...I am getting treatment now; I feel good. The antiretroviral drug treatment is a miracle. It is a great chance for life. Life is a miracle. Recently, I have become a mother and my daughter is also a miracle....All people, including people who use drugs, deserve the miracle of life." —Sasha Volgina, former IDU, director of Svecha, a Russian community based organization representing people living with HIV (cited in UNAIDS, 2011a: 63)

"Drug abuse treatment is HIV prevention...Drug users who enter and continue in treatment are more likely than those who remain out of treatment to reduce risky activities, such as sharing needles and injection equipment or engaging in unprotected sex" (NIDA and IAS, 2010: 23). "In contrast to the many areas in which HIV has spread rapidly in PWID populations, there are also many areas in which HIV has been contained

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at low levels (prevalence under 5%) in PWID populations...It is important to note that preventing HIV epidemics among PWID does not require elimination of injecting drug risk behavior” (Des Jarlais, 2010: 97).

“...As reported by the majority of governments, current laws and policies hamper access to and uptake of existing services” (Bergenstrom and Abdul-Quader, 2010: S26). Opioid agonist therapy using methadone and buprenorphine, which are on WHO’s list of essential medicines, can reduce HIV incidence and increase adherence to antiretroviral treatment, yet is illegal in some countries such as Russia (Uhlmann et al., 2010). In some countries, harm reduction programs are prosecuted for providing services to PWID (UNODC, 2010a). Studies in numerous countries have shown that police presence does not reduce drug use, but rather increases HIV risk behaviors, such as sharing syringes, and reduces access to opioid agonist therapy and HAART adherence (Werb et al., 2009; Strathdee et al., 2010; Mimiaga et al., 2010; Sarang et al., 2010; Chakrapani et al., 2011b). In order to prevent AIDS pandemics in those countries with large populations of HIV-positive people who inject drugs, there is a need to endorse a “public health approach that treat(s) PWID as patients,” rather than “law enforcement approaches that seek to arrest them” (Wolfe et al., 2010: 55). “Important public health funds diverted towards prisons that house largely non-violent offenders are wasted on cost-ineffective programmes. Annual costs of treating addiction are five times less than costs of incarceration,” especially for non-violent offenders (Altice et al., 2010: 75). Harm reduction programs such as needle exchange programs may be correlated with increased disclosure of HIV-positive results to sexual partners, as was the case in a needle exchange program in Hungary, but further work on this is needed (Gyamarthy et al., 2011b). “Too many opportunities to prevent new HIV infections and drug-related deaths have been missed because of our collective failure to implement evidenced-based responses to illicit drug problems” (Wood et al., 2010: 6).

It is critical to ensure that governments, donors, and service providers are aware of the HIV risk for FWID and female partners of MWID; that HIV prevention, treatment, and care interventions take account of the needs of these women; and that they participate in policy and program development. There are effective evidenced-based interventions that reduce HIV risk for women who use drugs and some of them are being brought to scale (see example on China, Sullivan and Wu, 2007 in this section). In some countries, HIV and drug services are seen as fragmented with no coordination by both service providers and IDUs (Parry et al., 2010). “Treatment of substance-use disorder should follow a chronic disease model and should be maintained in parallel to HAART treatment” (Volkow and Montaner, 2010: 1423). A recent WHO guide issued essential interventions for HIV prevention, treatment and care among people who inject drugs, along with links for guidance, but unfortunately does not have any sex-specific interventions nor are indicators for reaching targets recommended to be disaggregated by sex, (WHO et al.,

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2009k). Furthermore, women who use drugs face great barriers in accessing reproductive health services that meet their needs.

Inadequate funds are being spent on harm reduction (Stimson and Lines, 2010). It's important to begin prevention efforts early, when prevalence is under 5% and provide large-scale, legal access to sterile injecting equipment and community outreach and HIV education for PWID (Des Jarlais, 2010: 99). HIV epidemics in people who use drugs can be largely controlled...What is needed...in opioid-driven epidemics (is)...an essential minimum package of safe injection programs, opioid substitution therapy and antiretroviral treatment" (Beyrer et al., 2010a: 108).

People Who Inject Drugs Need Access to Antiretroviral Therapy

Of the 38 countries reporting antiretroviral therapy coverage for PWID in 2010, 19 reached less than 10% of PWID eligible for treatment (UNAIDS, 2011a). In Russia, HIV prevalence among PWID is 37% (Vitek et al., 2011); yet at the end of October 2009, out of 14,256 HAART patients, only 940 were PWID. In 2009, less than five PWID received ART per 100 HIV-positive PWID globally (Mathers et al., 2010). In Chile, Kenya, Pakistan, Russia and Uzbekistan, less than one HIV-positive PWID had access to ARVs (Mathers et al., 2010). In 2010 in Europe and Central Asia, people who inject drugs represented 62% of the cumulative number of reported HIV cases with a known route of transmission but only 22% of those receiving antiretroviral therapy (WHO et al., 2011a: 17).

"This is despite cost-effectiveness data showing clear benefits of targeting ART to people who inject drugs in areas with concentrated epidemics and savings ratios as high as 7:1 for providing drug treatment compared with the social and medical costs of drug use" (UNAIDS, 2011a: 59). Modeling of the HIV epidemic in a country such as Vietnam, where the highest HIV prevalence is among people who inject drugs, show that early ART initiation for this key affected population could have a major impact on Vietnam's HIV epidemic (Kato et al., 2012). Mathematical modeling that included HIV transmission to injecting drug users from sex partners who were not drug users found that reduction of the unmet need of opioid substitution, needle and syringe programs and antiretroviral therapy by 60% between 2010 and 2015 could prevent 41% of incident infections in Odessa, Ukraine; 43% in Karachi, Pakistan and 30% in Nairobi, Kenya (Strathdee et al., 2010).

A modeling study in Ukraine found that providing methadone maintenance programs can be cost effective and financially sustainable. In 2007, PWID represented more than 40% of newly registered HIV infections. In 2007, only 7,700 people with CD4 counts under 350 received ART of the 91,000 eligible patients. In 2008, only 500 of Ukraine's 400,000 PWID received agonist therapy of any kind. In 2007, Ukraine approved use of methadone for agonist therapy. Reflecting Ukrainian data and published literature on costs, the

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model assumed that baseline ART access is 10% for non-PWID, 2% for PWID not receiving methadone and 25% for PWID receiving methadone. A high methadone substitution therapy scenario would reach 25% of PWID. The model also considered a low ART treatment scenario with 20% of eligible patients receiving ART and a high treatment scenario with 80% of those eligible receiving ART. The model also assumed that PWID receiving methadone substitution therapy (MST) reduced equipment sharing by 85% and that only 5% of those receiving MST stopped injecting drugs. Costs and Quality-adjusted Life Years (QALYs) were measured. Under the status quo, 33,700 new HIV infections would occur over the next 20 years, with 18,000 in PWID and 15,700 in non-PWID. High MST with high access to ART for those eligible would avert the most infections (8,300 with 3,630 averted among PWID and 4,760 among non-PWID. After this the high MST scenario averted the most infections (4,700), with the majority (2,970) averted among PWID and 1,730 among non-PWID because of reductions in sexual transmission from PWID. The most effective strategy is “high MST, high AART with modestly lower costs but less efficient at US\$2,240/QALY gained. According to WHO guidelines, these scenarios are cost-effective as they cost less than Ukraine’s per capita gross domestic product (Alistar et al., 2011).

A study in Indonesia of hospital-based methadone maintenance treatment (MMT) also found that services are financially sustainable. The study used one-year observation period from 2006 to 2007 using a micro-costing approach and a survey of 48 methadone clients. Total costs of running the clinic for 129 clients were US\$123,672 or \$7.57 per client visit. Clients are charged \$1.64 per client visit, while actual costs are \$1.11 per client visit and thus giving the hospital a profit (Afriandi et al., 2010).

Regarding the medical implications of opioid agonist therapy and antiretroviral therapy, buprenorphine is safer, compared with methadone, for those PWID who are HIV-positive who are receiving HAART, because there are fewer known medication interactions (Carrieri et al., 2000 cited in Vladhov et al., 2010; Fainey et al., 2002 cited in Vlahov et al., 2010). For information on drug interactions associated with harm reduction and antiretroviral treatment, see (McCance-Katz, 2011).

4B. What Works—*Prevention for Key Affected Populations: Women Drug Users and Partners of Men Who Use Drugs*

1. Opioid agonist therapy, particularly maintenance programs with methadone and buprenorphine, leads to reduction in drug use, HIV acquisition and risk behavior among PWID, and is safe and effective for use by pregnant women.
2. Comprehensive harm reduction programs, including needle exchange programs, condom distribution, agonist therapy and outreach, and nonjudgmental risk reduction counseling can reduce HIV risk behaviors and prevalence among PWID.

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3. Peer education can increase protective behaviors, including condom use among women who use drugs and and female partners of men who use drugs.
4. Gender-sensitive sex-segregated group sessions for couples who use drugs can result in increased condom use and safer injection behaviors.
5. Instituting harm reduction programs for PWID in prisons can reduce HIV prevalence in female prison populations.

Promising Strategies:

6. Offering no-cost HIV testing and counseling to PWID can lead to reduced HIV risk behaviors.

4B. Evidence

1. **Opioid agonist therapy, particularly maintenance programs with methadone and buprenorphine, leads to reduction in drug use, HIV acquisition and risk behavior among PWID, is safe and effective for use by pregnant women** (Metzger and Navaline, 2003 cited in Strathdeee et al., 2006; Demaan et al., 2002 cited in Strathdee et al., 2006; Metzger et al., 2003 cited in Strathdeee et al., 2006; Ball et al., 1988 cited in Strathdee et al., 2006; Bruce, 2010; Roberts et al., 2010).

- A review of the evidence based on a **global** ‘review of reviews’ using two randomized controlled trials, four cohort studies, one case control study and one cross-sectional study found that opioid agonist therapy protects against HIV seroconversion based on biologically verified outcomes. Those who remained on methadone maintenance therapy were less likely to acquire HIV (Kimber et al., 2010). (Gray I) (*drug treatment, drug use, PWID, opioids*)
- A **Cochrane review** of randomized clinical trials of buprenorphine maintenance versus placebo or methadone maintenance with 24 studies and 4,497 participants found that methadone was the most effective at retaining patients compared to buprenorphine or placebo if prescribed at doses of between 60 mg and 120 mg per day. Buprenorphine was statistically significantly superior to placebo medication in keeping patients in treatment, with medium and high dose buprenorphine suppressing heroin use (Mattick et al., 2008). (Gray I) (*drug treatment, drug use, PWID, opioids*)
- A **Cochrane review** of randomized clinical trials of methadone maintenance therapy compared with placebo or other non pharmacological therapy with 11 studies and 1,969 participants found that methadone was statistically significantly more effective in retaining patients in treatment and in suppressing heroin use as measured by urine and hair analysis and self report (Mattick et al., 2009). (Gray I) (*drug treatment, drug use, PWID, opioids*)
- A double-blind, double-dummy placebo-controlled randomized controlled trial in **Malaysia** of 126 detoxified heroin-dependent patients were randomly assigned to 24 weeks of manual-guided drug counseling and maintenance either with naltrexone (43 IDUs); buprenorphine (44 IDUs); or placebo. Buprenorphine was significantly associated with greater time to first

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heroin use and maximum consecutive abstinent days than were naltrexone or placebo. HIV risk behaviors were significantly reduced from baseline across all three treatments due to counseling. No sex-disaggregated data was provided. Prior to randomization, all patients completed a 14-day detoxification protocol in a residential setting, during which they were given buprenorphine and naltrexone, along with medication as needed for withdrawal symptoms. Nurses received four days of training and provided individual counseling sessions of 45 minutes (Schottenfeld et al., 2008). (Gray I) (*drug use, drug treatment, PWID, Malaysia*)

- A **Cochrane review** with 33 studies involving 10,400 participants found that “studies consistently show that oral agonist treatment for opioid-dependent injecting drug users with methadone or buprenorphine is associated with statistically significant reductions in illicit opioid use, injecting drug use and sharing of injecting equipment. It is also associated with reductions in the proportion of injecting drug users reporting multiple sex partners or exchanges of sex for drugs or money” (Gowing et al., 2011: 1-2). These reductions in risk behaviors related to drug use result in lower rates of HIV (Gowing et al., 2011). (Gray IIIb) A sufficiently high dose of methadone (more than 60 mg per day is required and programs need to allow for sufficiently long treatment duration i.e. at least more than six months if concomitant drug use is to be reduced (Jurgens et al., 2009b). (Gray I) (*drug use, drug treatment, opioids, sexual partners, PWID*)
- Evidence from prospective cohort and case control studies show that continuous maintenance treatment, such as methadone, is associated with protection against HIV seroconversion (Moses et al., 1994 cited in IOM 2007; Serpellini and Carrieri, 1994 cited in IOM, 2007). (Gray IIIa) (*drug treatment*)
- A 2009 review of **international** implementation of opioid substitution found that opioid agonist treatment is the most effective treatment available for heroin dependence, resulting in reduced heroin use, HIV transmission and mortality (Larney and Dolan, 2009). (Gray IIIb) (*opioids, PWID, drug treatment*)
- A retrospective review in the **United States** of 81 mothers who received methadone and their 81 offspring found that a higher dose (mean of 132 mg compared to the lower mean of 62 mg) had a positive effect on maternal drug use with no increased risk of neonatal abstinence symptoms (McCarthy et al., 2005). (Gray IIIb) (*drug treatment, pregnancy, PWID, United States*)
- A national harm reduction was instituted in **Taiwan** in 2006. New IDU-associated HIV/AIDS cases have dropped from 60% in 2006 to 22% in 2008 (CDC, Taiwan cited in Tsai et al., 2010). (Gray IIIb) (*drug treatment, transmission, PWID, Taiwan*)
- A review of literature on methadone use for pregnant addicts in the **United States, Europe, and Australia** from 1995 to 2000 found that it is key to provide a sufficient methadone dose to pregnant women so as to reduce illicit drug supplementation (Beusekom and Iguchi, 2006). (Gray IV) (*drug treatment, pregnancy, PWID, United States, Europe, Australia*)

2. Comprehensive harm reduction programs, including needle exchange programs, condom distribution, agonist therapy and outreach, and nonjudgmental risk reduction counseling can reduce HIV risk behaviors and prevalence among PWID.

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- A review of the international evidence on needle exchange programs found that needle exchange programs reduce HIV infection among IDUs. Studies were mostly based in the **US, Canada and Europe, but included studies from Nepal and Russia**. A review of ten studies that evaluated HIV seroconversion or seropositivity as outcomes found the needle exchange programs were protective in six studies; had no effect in two studies and were negatively associated in two studies. “There is compelling evidence that increasing the availability, accessibility, and both the awareness of the imperative to avoid HIV and utilization of sterile injecting equipment by IDUs reduces HIV infection substantially... There is no convincing evidence of any major unintended negative consequences” (Wodak and Cooney, 2006: 802). (Gray I) (*drug use, needle exchange, PWID, United States, Canada, Europe, Nepal, Russia*)
- A two-armed, prospective, community-randomized trial in **China** that provided access to clean needles over a nine-month period resulted in needle sharing dropping significantly in the intervention community. Four counties and townships in Gungxi and Guangdong provinces were randomized to intervention and control in each province. The intervention effect was assessed on 443 IDUs in the intervention area and 382 in the area of no intervention at the start of the project and 415 IDUs in the intervention area and 407 in the area of no intervention at the end of the project. Of these, only 47 women received the intervention and only 32 women were in the control group that received the intervention at the end of the project. The intervention consisted of health education sessions between health workers and IDUs, peer education and dispensing and recall of needles, with increased access to safe needles. While needle sharing behaviors among IDUs were similar in the intervention and nonintervention areas (68.4% compared to 67.8%), needle sharing dropped significantly to 35.3% after a year of the intervention in the intervention area. Lab testing was conducted for both HIV and Hepatitis C (Wu et al., 2007a). (Gray II) (*harm reduction, drug use, needle exchange, health education, PWID, China*)
- A pilot clinical trial with 37 heroin-dependent IDUs in **China** were randomly assigned to either methadone maintenance therapy only or maintenance methadone therapy plus weekly individual manual-guided behavioral drug and HIV risk reduction counseling and found that at six months, those who received maintenance methadone therapy plus weekly individual manual-guided behavioral drug and HIV risk reduction counseling achieved greater reductions of HIV risk behaviors and of opiate use. Of the participants, 81% were male and 17 participated in the methadone maintenance therapy only. AIDS Risk inventory was used to measure reduction in HIV risk behaviors and opiate use was also measured by testing for opiates (Chawarski et al., 2011). (Gray IIIa) (*harm reduction, PWID, counseling, China*)
- Rates of sharing equipment at last injection declined from 55% in 2001 to 26% in 2006 in north-east **India**, with HIV prevalence declining from 52% in 2002 to 13% in 2007 (Sharma et al., 2009). (Gray IIIb) (*needle exchange, PWID, India*)
- Annual cross-sectional seroprevalence studies among attendees of sentinel needle exchange programs in **Australia** from 1995 to 2009 with data for 21,248 individual needle exchange attendees found that aggregate HIV prevalence was 1.1% and has remained stable since the late 1990s. Bipartisan political support enabled the establishment in 1986 of legal, publicly funded needle and syringe programs, which have become widespread. Needle exchange programs operate on a distribution rather than an exchange basis, with no requirement that used syringes be exchanged for sterile needles. Australia has a rate of 213 clean syringes per year per injector and a comprehensive harm reduction policy approach, thus managing to avert a generalized outbreak of HIV among IDUs (Topp et al., 2011). (Gray IIIb) (*harm*

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reduction, needle exchange, needle distribution, PWID, Australia)

- A study of a cohort of 1,228 injection drug users (38.4% women) between 1998 and 2003 in **Canada** found that syringe borrowing decreased from 201.1% in 1998 to 9.2% in 2003 and syringe lending decreased from 19.1% in 1998 to 6.8% in 2003 following a change in policy on clean needle access for IDUs. Between 2000 and 2002, health authorities modified policies so that the focus of health interventions for IDUs was syringe distribution rather than syringe exchange. This in turn led to substantial reductions in HIV incidence among IDUs (Kerr et al., 2010b). (Gray IIIb) (*harm reduction, needle exchange, needle distribution, PWID, Canada*)
- A harm reduction program by CARE SHAKTI in **Bangladesh** which instituted a harm reduction program for IDUs found that early intervention is more cost-effective than delaying activities, although this should not preclude later interventions. Economic cost data were collected and combined with impact estimates from a model the project was established in 1995. Data were collected between 1997 and 2002. In 2001, 66% of the IDUs were married. Interventions consisted of increasing the number of IDUs contacted through clinics or outreach workers; needle exchanges. Needles sharing dropped from 62% in 1997 to 18% in 2001. Condoms, STI services, and needle exchange were also part of the program. The cost per HIV infection averaged among IDUs and their partners was US\$110.40. Cost-effectiveness increased based on increasing number of years of the program (Guinness et al., 2009). (Gray IIIb) (*harm reduction, PWID, needles, Bangladesh*)
- A 2004 quantitative and qualitative study of NGO services by the Women Federation for 226 male and female IDUs in **China** resulted in safer drug and sex practices. VCT services that respected confidentiality were implemented by three male and three female counselors experienced in delivering health education to IDUs. Ten focus group discussions were held with seven males and three females in each. Exit surveys found that 63% of IDUs were 'highly satisfied' with VCT services and the remainder were 'satisfied.'" One IDU noted: "I was impressed that the Women Federation counselor did not discriminate against me and talked to me politely" (Chen et al., 2007c: 784). Sharing needles was reduced from 45% to 33%; those who always used condoms with non-main partners increased from 7% to 24%. While at the start of the project, 82% never used condoms, this decreased to 35% (Chen et al., 2007c). (Gray IIIb) (*counseling, PWID, condom use, HIV testing, needles, China*)
- A harm reduction program in Salvador, **Brazil** that focused on sexual and drug risk reduction among females for 12,198 IDUs in 2002 or 70% of the IDUs in the city resulted in a decrease of contaminated injection equipment from 60% to 18% during the 1990s. Condom use by IDUs increased from 3% to 30%. HIV prevalence among IDUs fell from 50% in 1996 to 7% in 2001. IDUs receiving health services increased from 28% to 68%. The program provided outpatient drug treatment, prevention education and care provided by community outreach workers, needle syringe programs, drug prevention programs in schools and mobile vans (PHR, 2007b). (Gray IIIb) (*PWID, harm reduction, condom use, drug treatment, Brazil*)
- A 2007 meta-analysis of literature in English on HIV and injecting risk behavior, with three core reviews and 15 supplementary reviews, found that needle exchange programs resulted in reduced self-reported injecting risk behavior but none of the studies assessed HIV prevalence and incidence as an outcome and none of the studies were randomized (Palmateer et al., 2010). (Gray IIIb) (*needles, harm reduction, PWID drug treatment*)

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3. Peer education can increase protective behavior, including condom use, among women who use drugs and female partners of men who use drugs.

- A meta-analysis of 34 articles from 1990 to 2006, 16 from **Sub-Saharan Africa**, 16 from **East and Central Asia** and 2 from **Latin America**, of which four articles were on IDUs, found that peer education was significantly associated with increased condom use (Medley et al., 2009a). (Gray I) (*PWID, peer education, condom use, Africa, East Asia, Central Asia, Latin America*)
- A study in **Vietnam** from 2008 to 2010 that implemented peer-based HIV prevention interventions for the female sexual partners of male IDUs increased self-reported consistent condom use from 16% at 12 months to 27% at 24 months. Condom use at last sex with their primary partner increased from 19% to 38%. Self-reported condom use was 3.5 times higher among those in the intervention group. The most frequently cited reason for not using condoms was that their male partner objected. The intervention reached an average of 1,513 female sexual partners of male IDUs per year of the project, with each having 34 contacts per year. The women were sexual partners of male IDUs who were former or currently put in drug detention (o6) centers and most were married with children. Interviews and surveys were conducted (Hammett et al., 2012). (Gray IIIb) (*peer education, PWID, drug use, condoms, Vietnam*)

4. Gender-sensitive sex-segregated group sessions for couples who use drugs can result in increased condom use and safer injection practices..

- A **Cochrane Review** of 35 trials with 11,867 participants found that single sex educational interventions with PWID are effective in reducing sexual and injection drug behavior associated with a greater risk of developing HIV, particularly for those in formal treatment programs (Meader et al., 2010). (Gray I) (*drug use, sexual behavior, PWID, drug treatment*)
- A study from 2005 to 2006 at Shu Polyclinic Needle Exchange Program in a city along a major drug trafficking route in **Kazakhstan** found a comparison between 40 couples who had single gender group sessions with female and male partner IDUs results in increased condom use and safe injection practices compared with 40 couples who did not have single gender group sessions. None were HIV-positive. Adapted from an HIV prevention intervention with heterosexual couples in the US, in-depth interviews were conducted with IDUs in Kazakhstan to adapt the intervention to Kazakhstan. After consent was obtained with one partner, this partner was asked to invite his or her main partner to participate. If both partners agreed to participate, they were included unless one reported violence. All couples received training consisting of practicing couples communication, problem solving and assertiveness skills. At each session, participants set a risk reduction goal for the week and this is reviewed at the following session. However, the intervention group had two sessions designed to help women anticipate and manage partner negative reactions in response to requests to use condoms or not to share needles. Current and past drug and alcohol use was assessed using the US National Institute of Drug Abuse's Risk Behavioral Assessment, validated internationally (NIDA, 1991 cited in Gilbert et al., 2010) and condom negotiation self-efficacy was assessed with a five-item scale (Wingood and DiClemente, 1998 cited in Gilbert et al., 2010). All partners reported living together and 41 of 80 reported having children. At baseline, participants reported using condoms only 2% of the time they had vaginal sex (an average of 20 sexual acts) with their study partner in the last 30 days. All reported injecting

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drugs and participants reported sharing needles with an average of 3.7 different people in the past 30 days and indicated using unclean needles 63% of the times they injected in the past 30 days. Those participants who had single gender group sessions were significantly more likely to report a higher proportion of condom use during vaginal sex with their study partners and a lower number and proportion of injection acts in which syringes were shared at three month follow-up, after adjusting for age, education and sex. In addition, those couples who had single gender group sessions were significantly more likely to increase condom use self-efficacy and couple communication skills. Future research with large randomized trials using biological markers is warranted. “Although no participants tested positive for HIV, if HIV enters the risk networks of IDUs, the pervasive patterns of drug-related and sexual HIV risk behaviors suggest that HIV will spread rapidly” (Gilbert et al., 2010: 175). (Gray IIIa) (*sexual partners, PWID, needles, Kazakhstan*)

- An NGO in **Russia** which established a woman-only IDU drop-in center; mobile bus clinics; provision of supplies, such as sanitary pads for women and diapers for their babies; and female outreach workers resulted in an increase from 2,000 women at one site in 2007 to close to 3,000 in 2009 (OSF, 2012). (Gray IIIb) (*PWID, children, Russia*)

5. Instituting harm reduction programs for PWID in prisons can reduce HIV prevalence in female prison populations. [*See Women Prisoners and Female Partners of Male Prisoners*]

Promising Strategies:

6. Offering no-cost HIV testing and counseling to women who use drugs can lead to reduced HIV risk behaviors.

- A 2004 to 2007 study in **Ukraine** with 1,798 IDUs, 30% married, (76% male) found that those who had HIV testing and counseling, and knew that they were HIV-positive were significantly more likely to practice safe sex than those who did not know their serostatus or who knew that they were HIV negative. For both those who received HIV testing and counseling and those who received HIV testing and counseling plus outreach by a former drug user showed that the proportion of respondents engaged in drug, needle and sex risk behaviors was reduced significantly from the start of the intervention through the six month follow up. HTC is as effective as “more expensive and time consuming approaches” with outreach (Booth et al., 2009: 1872). However, females were more likely to have had unprotected vaginal or anal sex and more likely to have sex with a partner who was also an IDU (Booth et al., 2009). (Gray IIIb) (*HIV testing, counseling, drug use, needle sharing, PWID, Ukraine*)
- A study in **South Africa** with 28 drug-using sex workers found that 23 accepted HIV testing when offered no cost rapid testing (Needle et al., 2008; Parry et al., 2008; Parry et al., 2009). (Gray IIIb) (*HIV testing, counseling, drug use, sex workers, PWID, South Africa*)
- A study from 2002-2004 evaluated the needle use and sexual practices of 266 injecting drug users in Tallinn, **Estonia** found that those who knew they were HIV-positive engaged in some protective behaviors. The participants had an average age of 25, were 88% male, and had HIV tests. The study found that although 93% of participants knew that HIV could be passed

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through shared needles and 98% knew that it could be spread through unprotected sex, half of the participants had shared a needle in the last ninety days and 26% had engaged in unprotected sex. However, those who knew that they were HIV-positive were found to be significantly less likely to have given their needles to others: 9% of HIV-positive participants who knew their status lent their needles after use, as compared to 25% of participants who were HIV-positive but did not know their status. Knowledge of one's HIV serostatus did not impact the likelihood of having unprotected sex (Wilson et al., 2007). (Gray V) (*PWID, sex behavior, needles, Estonia*)

4B. Gaps in Programming—Women Drug Users and Partners of Men Who Use Drugs

1. Interventions are needed to provide women and their partners with a better understanding of the risk of acquiring HIV through sexual practices as well as through injecting drug use.
2. Family-friendly interventions are needed for women and couples who use drugs so that women are not forced to choose between harm reduction programs or caring for their families.
3. Women who use drugs need access to services for violence against women, dual method use, effective contraception and reproductive health.
4. Interventions are needed to inform women who use drugs of harm reduction early in pregnancy and to ensure systematic access to opioid agonist treatment during pregnancy and in hospitals for birth and postpartum.
5. Additional research is needed to assess which opioid agonist therapy is best for pregnant women.
6. Adolescent girls who use drugs need risk reduction programs to meet their needs.
7. Integrated harm reduction programming is needed for sex workers who use drugs.
8. HIV prevention information and confidential services are needed for PWID receiving treatment for substance abuse.
9. Interventions are needed to scale up and increase access to methadone and buprenorphine—effective opioid agonist therapy for the treatment of drug dependence, as well as needle exchange/distribution programs.
10. Efforts are needed to eliminate compulsory drug detention and instead, provide PWID with HIV prevention and testing services and effective drug dependency treatment by medical professionals.
11. PWID need equitable access to antiretroviral therapy.
12. HIV prevention interventions are needed for methamphetamine, crack, midazolam and/or non-injection drug users.
13. Migrant women who use drugs are at high risk of acquiring HIV and require programming collaboration between countries.

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1. **Interventions are needed to provide women and their partners with a better understanding of the risk of acquiring HIV through sexual practices as well as through injecting drug use.** (IOM, 2007). Studies found low rates of condom use despite sexual relationships with IDUs, lack of knowledge by IDUs on sexual and reproductive health and lack of access to clean needles. A study also found that many MSM and male intravenous drug users avoid disclosure of their sexual and drug risk behavior along with their HIV status due to stigma and gender norms and that most wives reported violence and little or no condom use. HIV-positive male IDUs want help with disclosure to their wives. Most wives of IDUs reported only a single lifetime sexual partner and only a tiny proportion reported injecting drug use.
 - Gap noted, for example, in **Vietnam** (Hammett et al., 2010); **China** (Jiang et al., 2010); **India** (Solomon et al., 2010a); **Brazil** (Nappo et al., 2011); globally (Roberts et al., 2010); **Russia** (Toussova et al., 2009); **Vietnam** (Nguyen and Scannapieco, 2008, Go et al., 2006); **Brazil** (Oliveira, 2007); **Ukraine** (Strathdee et al., 2010); **South Africa** (Parry et al., 2010); and generally (IOM, 2007, Roberts et al., 2010).

2. **Family-friendly interventions are needed for women and couples who use drugs so that women are not forced to choose between harm reduction programs and caring for their families.**
 - Gap noted in **Ukraine** (Needle and Zhao, 2010) and **Kenya** and **Tanzania** (Nieburg and Carty, 2011).

3. **Women who use drugs need access to services for violence against women, dual method use, effective contraception and reproductive health.** Studies found high rates of violence, including rape, and lack of access to reproductive health services among women who use drugs. One study found high rates of unintended pregnancies.
 - Gap noted, for example, for **Russia** (Abdala et al., 2011, Sarang et al., 2010); **Cambodia** (Human Rights Watch, 2010); **Kyrgyzstan, Kazakhstan, and Tajikistan** (Shapoval and Pinkham, 2011); **South Africa** (Weschberg et al., 2008 cited in El-Bassel et al., 2010; Parry et al., 2009) and **Kenya** and **Tanzania** (Nieburg and Carty, 2011).

4. **Interventions are needed to inform women who use drugs of harm reduction early in pregnancy and to ensure systematic access to opioid agonist treatment during pregnancy and in hospitals for birth and postpartum.** Some studies have shown increased risk adverse health impacts as well as of vertical transmission among women who use drugs which may be mitigated by harm reduction [*See Safe Motherhood and Prevention of Vertical Transmission: Treatment*]

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- Gap noted, for example, in **Ukraine** (Pinkham and Shapoval, 2010); **Kyrgyzstan, Kazakhstan, and Tajikistan** (Shapoval and Pinkham, 2011); **Kenya and Tanzania** (Nieburg and Carty, 2011); **globally** (Wang and Ho, 2011).
- 5. Additional research is needed to assess which opioid agonist therapy is best for pregnant women.** A Cochrane review assesses methadone as compared to buprenorphine and oral slow morphine, but only three trials were found with 96 pregnant women and further research is needed [*See Safe Motherhood and Prevention of Vertical Transmission: Treatment*]
- Gap noted **globally** (Minozzi et al., 2010).
- 6. Adolescent girls who use drugs need risk reduction programs to meet their needs.** A study found high rates of HIV risk behaviors among adolescent girls who use drugs, especially those who lived on the streets, as well as high rates of forced sex.
- Gap noted, for example, in **Ukraine** (Busza et al., 2010; Teltschik et al., 2008)
- 7. Integrated harm reduction programming is needed for sex workers who use drugs.** Site visits and a meeting of service providers, NGOs and people who use drugs found that programs for drug users and sex workers are provided separately, with the result that drug using sex workers are excluded from most services.
- Gap noted, for example, in **Kyrgyzstan, Kazakhstan, and Tajikistan** (Shapoval and Pinkham, 2011).
- 8. HIV prevention information and confidential services are needed for PWID receiving treatment for substance use.** Increased skills training for HIV disclosure to sexual partners is needed. Despite high numbers of PWID who are HIV-positive, no HIV nor drug prevention programs focus on PWID. No national guidelines exist for drug treatment.
- Gap noted, for example, in **Hungary** (Gyarmathy et al., 2011b); **Russia** (Niccolai et al., 2010); **South Africa** (Scheibe et al., 2011, Parry et al., 2010) and **Central Asia** (Thorne et al., 2010).

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9. Interventions are needed to scale up and increase access to methadone and buprenorphine—effective agonist therapy for the treatment of drug dependence, as well as needle exchange/distribution programs. Studies found only tiny fractions of those who need maintenance medication had access. A study found that user fees for methadone maintenance programs presented a barrier to access to care. In places where no needle exchange programs are operating, high rates of borrowing of used syringes occur, placing IDUs at high risk of acquiring HIV.

- Gap noted, for example, in **Iran** (Claeson, 2011); **Ukraine** (Izenberg and Altice, 2010); **Vietnam** (Nguyen et al., 2012, Abstract); **Indonesia** (Afriandi et al., 2010); **Thailand** (Kerr et al., 2010c); **China, Russia, Vietnam, Ukraine and Malaysia** (Wolfe et al., 2010); **Mexico** (Moreno et al., 2010); **Thailand, Indonesia, Bangladesh, Myanmar, India and Nepal** (Sharma et al., 2009); and generally (Piot et al., 2008, Mattick et al., 2003; Gowing et al., 2005 cited in IOM, 2007).

10. Efforts are needed to eliminate compulsory drug detention and instead, provide PWID with HIV prevention and testing services and effective drug dependency treatment by medical professionals. Detention centers are administered by police, military or other national government public security authorities and operate outside the form criminal justice system with detainees held without trial or right of appeal and those detained do not allow people to leave voluntarily (Wolfe, 2012). Studies found that women who use drugs were not given reproductive health services, including PMTCT services in compulsory detention and/or prison settings. Detoxification programs were substandard and ineffective. Despite HIV rates of HIV, antiretroviral treatment is largely unavailable in compulsory drug detention centers. One study found high rates of injecting drug use within prison and high rates of syringe sharing within prisons plus incarceration was not associated with reduction in drug use, with over a quarter of these female drug users. PWID in and out of prison who have started antiretroviral treatment should be able to continue treatment with access to medical supervision. Treatment in compulsory drug detention takes the form of sanction rather than therapy, with high relapse rates.

- Gap noted, for example, **Azerbaijan, Georgia, Kyrgyzstan, Russia and the Ukraine** (OSI, 2009); **Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan** (UNODC, 2010a); **China** (Jia et al., 2010; HRW, 2010b; Sullivan and Wu, 2007: 121, Liu et al., 2006a: 119); **Cambodia** (HRW, 2010a); **Ukraine** (Strathdee et al., 2010); **South Africa** (Parry et al., 2010); **Thailand** (Hayashi et al., 2009); **Vietnam** (Thanh et al., 2009a); and generally (Wolfe et al., 2010; Jurgens et al., 2010; Gowan et al., 2008); **Cambodia, China, Malaysia and Vietnam** (WHO et al., 2011b).

11. PWID need equitable access to antiretroviral therapy. PWID have successfully started antiretroviral therapy in at least 50 countries but PWID are disproportionately less

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likely than other patients with HIV to receive antiretroviral therapy, even in the countries where PWID represent most of the HIV-positive population. In 2008, PWID were 67% of HIV cases in five countries with the largest HIV epidemics concentrated in PWID yet only 25% of those receiving ART (Wolfe et al., 2010). [See also Treatment]

- Gap noted, for example, in **Malaysia** (Bergstrom and Abdul-Quader, 2010); **Russia, Vietnam and China** (Wolfe et al., 2010).

12. HIV prevention interventions are needed for methamphetamine, crack, midazolam and/or heroin. People who use various drugs are at high risk of acquiring HIV and amphetamine is often used to enhance and prolong sexual pleasure and to reduce sexual inhibitions. High rates of HIV were found in a group of female crack users and sex workers using amphetamines. There is no effective pharmacotherapy, such as methadone, for cocaine or methamphetamine.

- Gap noted, for example, in **Thailand** (Martin et al., 2010); **Cambodia** (Couture et al., 2011); **Burkina Faso, Niger, South Africa, Uganda, Brazil, Mexico, Guatemala, Jordan, Saudi Arabia, Czech Republic, Latvia, Slovakia, Estonia, Ukraine, Philippines, South Korea and Indonesia** (Colfax et al., 2010); **Brazil** (von Diemen et al., 2010).

13. Migrant PWID are at high risk of acquiring HIV and require programming collaboration between countries. A study of PWID at a border town found high rates of sharing injecting equipment and that border crossing was strongly associated with sharing injection equipment.

- Gap noted for **China and Myanmar** (Williams et al., 2011).

4C. Prevention for Key Affected Populations: Women Prisoners and Female Partners of Male Prisoners

“...Prisons have been largely neglected in the global response to the HIV pandemic” (Angora et al., 2011: 1244). Comprehensive HIV prevention, voluntary testing, care and treatment are often not provided in pretrial detention, even where these services exist in the community (Csete, 2011). “Many prison systems limit access to antiretroviral therapy, according to country reports to UNAIDS” (UNAIDS, 2010a: 99). As of 2008, more than 9.8 million people were

“I do this because it is a good thing to do. It helps prevent infections and saves lives.”

—Prisoner/volunteer peer distributor of clean needles in Moldova (*Hoover and Jurgens, 2009b: 19*)

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incarcerated (Jurgens et al., 2011); of these, more than half a million were women and girls (UNODC, 2009; van den Bergh et al, 2011). A recent review by UNODC (United Nations Office on Drugs and Crime) found that “although women represent a small percentage of the total prison population, their numbers are increasing and the rate of increase is much greater than that of men” (UNODC, 2009: v). One third of people in state custody at any given time are detained on a pretrial basis (Csete, 2011). A number of studies report high levels of injecting drug use among female prisoners (Jurgens and Lines, 2010). In many countries, women in prison, detention and rehabilitation centers lack access to basic health and HIV/AIDS information and services, including treatment and care for women living with HIV. As UNODC notes: “As prison systems have been primarily designed for men...prison policies and procedures often do not address women’s health needs” (UNODC, 2009: 8; van den Bergh et al, 2011). Health care for pregnant women in prisons is often far from equivalent to that available in the community (van der Bergh et al., 2011). Interventions are clearly needed for this population.

Female partners of male prisoners are also a key affected population due to the risky behaviors of their partners. A study found high rates of HIV among prison inmates in low- and middle-income countries. HIV prevalence was greater than 10% in prisons in 20 countries: Brazil, Burkina Faso, Cameroon, Côte D’Ivoire, Cuba, Estonia, Indonesia, Lithuania, Malawi, Malaysia, Romania, Rwanda, Slovakia, South Africa, Ukraine, Vietnam, Yemen and Zambia. Injecting drug use is common in prison populations and eight countries reported greater than 10% prevalence of PWID in prison. HIV prevalence among PWID prisoners was found reported in eight countries and was greater than 10% in seven countries: China, India, Indonesia, Iran, Libya, Russian, and Serbia and Montenegro (Dolan et al., 2007). Up to 27% of inmates in Turkmenistan are drug dependent (Kerimi and Pkhidenko, 2011), and need access to effective, evidenced-based interventions for PWID (see section on PWID). “Although the single most important strategy to controlling HIV in prison is to reduce the rate of incarceration, ample evidence suggests that the criminal justice system can be an effective place to identify and treat people with HIV...” (Altice et al., 2010: 74). However, poor continuity of care adversely affects successful HIV treatment in prisons (Altice et al., 2010).

Interventions that address drug use and provide prevention education and condom use are urgently needed to reduce HIV risk among women prisoners and female partners of male prisoners. South Africa is one of a few countries in Eastern and Southern Africa that provides condoms in prisons (Muntingh and Taspescott, 2009 cited in Csete, 2011). Each year, 30 million people enter and leave prisons (Jurgens et al., 2011). “The high prevalence of HIV infection among prisoners...contributes to the HIV epidemics in the communities to which prisoners return upon their release” (Jurgens et al., 2011: Para 1). Prisons should be included in national AIDS planning (Jurgens and Lines, 2010).

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4C. What Works—*Prevention for Key Affected Populations: Women Prisoners and Female Partners of Male Prisoners*

1. Making opioid agonist treatment available in prisons can be effective in reducing HIV transmission.

Promising Strategies:

2. Harm reduction strategies such as education, peer distribution of clean needles and condom provision, within prisons can reduce the risk of HIV infection in female prison populations.
3. Providing voluntary, confidential, no-cost HIV testing (with written informed consent), along with access to antiretroviral therapy can reduce HIV transmission.

4C. Evidence

1. Making opioid agonist treatment available in prisons can be effective in reducing HIV transmission.

- A systematic review in accordance with the guidelines of the Cochrane Collaboration found that compared to inmates without access to opioid agonist treatment, the risk of injecting drug use was reduced by 55% and the risk of needle and syringe sharing was reduced by 47% for inmates treated with opioid agonists. No study reported a direct effect of prison opioid agonist treatment on HIV incidence. Opioid agonist treatment is provided in prisons in **30 countries, including Indonesia and Iran** (Larney, 2010). (Gray I) (*harm reduction, needles, prisoners, opioids, Indonesia, Iran*)
- A review with 21 studies concerning opioid maintenance treatment in prisons found that benefits of prison opioid maintenance treatment was similar to those in community settings, with an opportunity to recruit opioid users into treatment. However, all the studies done in resource-limited settings were with men only (Hedrich et al., 2012). (Gray II) (*opioids, prisoners, drug treatment*)
- “Given that many prisoners have severe problems with illegal drugs, it would be unethical not to use the opportunity that imprisonment provides for treatment” (Jurgens et al., 2009b: 62). A 2009 review of international implementation of opioid agonist, along with a **2004 Cochrane review**, found that opioid agonist treatment is the most effective treatment available for heroin dependence, resulting in reduced heroin use, HIV transmission and mortality. Opioid agonist treatment is currently available in community and prison settings in: **Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, China, Croatia, Czech Republic, Estonia, Georgia, Hong Kong, Hungary, India, Iran, Kyrgyzstan, Latvia, Lebanon, Lithuania, Macedonia, Malaysia, Mauritius, Mexico, Moldova, Myanmar, Nepal, Poland, Romania, Serbia, Slovakia, Slovenia, South Africa, Taiwan, Thailand, Ukraine, Uzbekistan and Vietnam**. However, China and Russia, countries with large prison populations, do not provide any of these services in prison (Larney and Dolan, 2009). (Gray

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IIIb) (*opioids, prisoners*)

Promising Strategies:

2. Harm reduction strategies such as education, distribution of clean needles and condom provision within prisons can reduce the risk of HIV infection in female prison populations (Farabee and Leukefield, 1999; Dolan et al., 1998, cited in Farmer, 1999).

- A study of harm reduction programs in prisons in **Moldova** from 2007 to 2008 with seven site visits to prisons, including one women's prison, and one site visit to a pretrial detention facility, along with interviews with prisoners, pretrial detainees, staff of an NGO that provides harm reduction services in prisons and penitentiary staff officials and employees at national and local levels found that comprehensive harm reduction services in prisons has suggested a reduction in the prevalence of HIV and Hepatitis C and reduction in HIV-related stigma and discrimination. Prior to the project, both guards and prisoners isolated and avoided prisoners who were thought to be HIV-positive. In 1999, legal changes made safe distribution of clean needles within prisons allowable and harm reduction is now part of the national HIV/AIDS plan from 2006 to 2010. In 1999, prison authorities allowed distribution of clean needles within prisons only because they were legally required to do so; but by 2007, prison officials realized that distribution of needles resulted in a decline in HIV cases and increased safety for staff and prisoners. Starting in 1999, peer educators within prisons distributed safe needles and razors, with almost 100% of needles distributed returned. Shared razors can transmit Hepatitis C and distribution of razors gives an incentive for all prisoners to visit peer distributors. All prison staff are trained to act as though all prisoners are HIV-positive and therefore to use rubber gloves when handling blood or other bodily fluids, thus reducing HIV stigma. Estimates are that the number of HIV-positive prisoners has decreased from 200 in 2002 to 145 in 2008, with more prisoners requesting HIV tests. Prisoners report never sharing injecting drug equipment. Used syringes are incinerated on prison grounds. Prison officials would like to conduct a scientifically rigorous evaluation to show that the reduction in HIV cases is due to the program; however, a randomized controlled trial would be unethical. (Hoover and Jurgens, 2009). (Gray IIIb) (*harm reduction, prisoners, needles, razors, Moldova*)
- Needle exchange programs have been introduced to 12 countries in **Western and Eastern Europe and Central Asia**. A comprehensive review of the published literature on harm reduction programs in prisons found that "there is evidence that needle and syringe programmes are feasible in a wide range of prison settings, including in men's and women's prisons....There is evidence that providing clean needles [is] effective in reducingHIV infections. At the same time, there is no evidence to suggest that prison-based needle exchange programs have serious, unintended negative consequences. In particular, they do not appear to lead to increased drug use or injecting, nor are they used as weapons" (Jurgens, 2007b: 5; Jurgens et al., 2009b). In addition, "since most prisoners leave prison at some point to return to their community, implementing needle and syringe programs in prisons benefits not only prisoners and prison staff, but also the people in the sexual and drug injecting networks in which prisoners participate after their release" (Jurgens et al., 2009b: 61). (Gray V) (*harm reduction, needles, prisoners, Western Europe, Eastern Europe, Central Asia*)

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3. Providing voluntary, confidential, no-cost HIV testing (with written informed consent), along with access to antiretroviral therapy can reduce HIV transmission.
[See also Treatment]

- A study in **Indonesia** with 888 incoming prisoners and 886 resident prisoners (96.5% men) found that providing written informed consent for voluntary, confidential, no-cost HIV testing along with access to antiretroviral therapy resulted in all prisoners eligible for antiretroviral therapy started on treatment. Of 888 incoming prisoners, 639 agreed to be tested, 46 were HIV-positive and had their CD4 count measured, the 17 with CD4 counts under 200 and were started on treatment. Of 886 resident prisoners, 57 agreed to be tested, 17 were HIV-positive and had their CD4 count measured. Eight had CD4 counts under 200 and initiated treatment (Newlan et al., 2010). Given that treatment reduces the risk of transmission as well as improving health, and that prisoners often return to communities where they have sexual and/or injecting drug relationships, accessing treatment within prisons can reduce overall transmission. (Gray IIIb) (*HIV testing, prisoners, treatment, Indonesia*)
- Between 2008 and 2010, a project in a prison in **Côte d'Ivoire** provided HIV testing upon request. Women represent 3% of the prison population. Among 15,355 detainees, 10,817 received counseling. Of these 73% accepted HIV testing. HIV seroprevalence was 5.6% (men, 5.1% and women 17.1%) compared with a national prevalence of 3.9%. Active TB was diagnosed in 172 of the 1,348 persons screened for TB of whom 27% were co-infected with HIV. Care and drug therapy was provided to 446 HIV-positive prisoners and guards (Angora et al., 2011). (Gray IIIb) (*HIV testing, prisoners, treatment, Côte d'Ivoire*)

4C. Gaps in Programming—Women Prisoners and Female Partners of Male Prisoners

1. Interventions are needed to provide prisoners with prevention information and condoms for at least conjugal visits.
2. Stemming the rate of incarceration may reduce HIV transmission.
3. Access to antiretroviral treatment (and minimization of treatment interruption for those with access) is needed in prisons.
4. Interventions are needed to prevent sexual violence in prisons.
5. Pregnant female prisoners living with HIV need access to HIV treatment and care for themselves and to prevent vertical transmission.

1. Interventions are needed to provide prisoners with prevention information and condoms for at least conjugal visits. A study found that prisoners did not have basic information on how condom use reduces likelihood of HIV transmission.

- Gap noted, for example, in **South Africa** (Schiebe et al., 2011).

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2. **Stemming the rate of incarceration may reduce HIV transmission.** Studies found that promoting alternatives to incarceration for nonviolent offenders might reduce HIV transmission.
 - Gap noted globally (Maru et al., 2007; Altice et al., 2010).
3. **Access to antiretroviral treatment (and minimization of treatment interruption for those with access) is needed in prisons. Screening and treatment for TB is needed in prison settings as well.** A study found that while one in three participants in HIV services has been in prison, officials report that antiretroviral therapy was available to fewer than one in ten of over 6,000 people with HIV incarcerated in 2009.
 - Gap noted in **Ukraine** (Vychavka, 2010 cited in Wolfe et al., 2010).
4. **Interventions are needed to prevent sexual violence in prison settings.**
 - Gap noted, for example, in **South Africa** (Schiebe et al., 2011).
5. **Pregnant female prisoners who are living with HIV need access to HIV treatment and care for themselves and to prevent of vertical transmission.**
 - Gap noted globally (Jurgens et al., 2011).

4D. *Prevention for Key Affected Populations: Women and Girls in Complex Emergencies*

Complex emergencies are situations of disrupted livelihoods and threats to life produced by warfare, civil disturbance and large-scale movements of people, in which any emergency response has to be conducted in a difficult political and security environment (WHO, 2002). Complex emergencies can also be generated from natural disasters. An estimated 200 million people are affected every year by humanitarian crises, in addition to the estimated 50 million uniformed services personnel (Kenny et al., 2010). Special consideration must be given to HIV prevention strategies in conflict situations. In northern Uganda, for example, “physical and structural violence (political repression, economic inequality, and gender-based discrimination) increase vulnerability to HIV infection. In settings of war, traditional HIV prevention that solely promotes risk avoidance and risk reduction and assumes the existence of personal choice inadequately addresses the realities of HIV transmission. The design of HIV prevention strategies...must recognize how HIV transmission occurs and the factors that put people at risk for infection. A human rights approach provides a viable model for achieving this aim” (Westerhaus et al., 2007). Conflict can exacerbate gender inequalities, property rights, and livelihoods (Seckinelgin et al., 2011).

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The actual prevalence of HIV in areas of conflict is difficult to assess. Reliable information is likely to be unavailable during times of civil conflict and under repressive and hostile governments (Beyrer et al., 2007). There are insufficient data to make any conclusions about prevalence in people who are internally displaced and a review of survey data from seven countries affected by conflict—Democratic Republic of Congo, southern Sudan, Rwanda, Uganda, Sierra Leone, Somalia and Burundi—found insufficient data to support assertions that conflict, forced displacement and wide-scale rape increased HIV prevalence. Of the 12 sets of refugee camps,

“As of 2008, approximately 1.8 million people living with HIV were also affected by conflict, disaster or displacement, representing 5.4% of the global number of people living with HIV” (Lowicki-Zucca et al., 2008).

“During the war...some women accepted sex for [a piece of cassava]” —Female ex-combatant from Burundi (cited in Seckinelgin et al., 2011:64).

nine had a lower prevalence of HIV infection, two a similar prevalence and one a higher prevalence than the host communities (Spiegel et al., 2007: 2193-94). Another study found no correlation between conflict, war and national HIV/AIDS prevalence rates (de Waal, 2010; IOM, 2011), while a recent study found that in Kenya following post-election violence in 2008, internally displaced persons were at increased risk of an HIV-related death (Feikin et al., 2010). While HIV prevalence may differ in each setting prior to, during and following conflict, there is significant evidence that women and girls in complex emergencies often experience rape and other sexual violence (Shannon et al., 2008). For example, a population-based, random sample survey of 991 households of internally displaced families (with a total representation of 9,166 individuals) living in three camps in Sierra Leone found that 9% of female respondents reported having been victims of sexual violence related to the war and 13% of all households reported some member (male and/or female) having experienced sexual violence. Thirty-three percent of those abused reported being gang raped. Respondents who reported having “face to face” contact with the Revolutionary United Front (RUF) also reported higher incidences of sexual violence than did those who came into contact with other combatant groups, 53% compared to 6%. Twenty-three percent of the women who reported sexual abuse also reported being pregnant at the time of assault (PHR and UNAMSIL, 2002). Services for rape survivors, including post-exposure prophylaxis, emergency contraception, counseling – and for those who test HIV-positive, HIV treatment and care – are essential.

One recent study in conflict-affected countries estimated that mass rape could cause approximately five HIV infections per 100,000 females per year in the DRC, Sudan, Somalia and Sierra Leone, double that number in Burundi and Rwanda and quadruple that number in Uganda. Under extreme conditions, 10,000 women and girls could be infected per year in the DRC and 20,000 women and girls be infected per year in Uganda

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(Supervie et al., 2010). Others, however, dispute this claiming that “it is important to dispel the myth that there is a high probability that women who have been raped will also become HIV-positive” (Spiegel et al., 2011: 391). However all agree that essential interventions for rape survivors are needed.

Public support campaigns for rape survivors and expanded services may be effective in encouraging survivors to test for HIV and access those services. Data collected between 2005 and 2007 from Malteser International, which has run a medico-social support program for rape survivors in South Kivu, Democratic Republic of Congo, registered 20,157 female rape survivors, but only a few sought medical care and psychological help, with less than 1% presenting for services before the 72 hour window when post-exposure prophylaxis can be safely used and effective. “Possible reasons include insecurity in the area, fear of stigmatization and lacking awareness about the importance of receiving timely medical treatment” (Steiner et al., 2009: 6). The percentage of women expelled from their homes after experiencing sexual violence fell from more than 12% in 2005 to 6% in 2007. This may be due to the success of awareness-raising campaigns, which aimed to lower public stigmatization and discrimination against rape survivors. With four of ten rejected rape survivors, re-integration into the family failed despite family mediation. However, between 2005 and 2007, those who had an HIV test increased from less than 2% to 57% (Steiner et al., 2009).

HIV transmission during humanitarian emergencies is influenced by the pre-existing epidemiological context. For example, if heterosexual sex is the primary mode of transmission, it is reasonable to assume that this will continue to be a primary mode of transmission during a humanitarian emergency. In such a scenario, the availability and accessibility of male and female condoms will be a key issue for the health cluster to address during the emergency response (Peltz, 2012; McGinn 2012).

The post-conflict period may also be a very vulnerable time for HIV transmission, perhaps more so than during conflict (Spiegel et al., 2007: 2193-94). A survey conducted by IRC in 1997 found that since becoming refugees, 27% of 12-49 year old female refugees living in camps in Tanzania had been victims of sexual violence (RHR Consortium, ND). Women in conflict settings are especially at risk for missed services because, as non-nationals, they are not always covered by national health and HIV/AIDS programs (RHR Consortium, ND). Host countries for refugees, such as Botswana, exclude refugees from national antiretroviral treatment programs and prevention of vertical transmission programs (UHCR, 2010).

Donors and governments must be aware that “countries in the throes of complex emergencies are unlikely to prepare successful funding proposals to bilateral, multilateral, private sector donors or the...Global Fund on AIDS, Tuberculosis and Malaria (GFATM)” (Hankins et al., 2002: 2248). National governments also exclude refugees and

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internally displaced populations from national HIV plans (Spiegel, 2010). There is still a “long way to go to ensure that HIV is adequately and appropriately addressed in humanitarian emergencies and post-conflict settings” (Spiegel, 2010). For guidelines to address HIV in humanitarian settings, please see (IASC, UNAIDS, 2010). Antiretroviral therapy has been successfully provided in conflict and post-conflict settings; for more guidance on practical measures for effective care in conflict settings please see (O’Brien et al., 2010).

4D. What Works—Prevention for Key Affected Populations: Women and Girls in Complex Emergencies

Promising Strategies:

1. Antiretroviral therapy can be provided with successful outcomes in conflict settings.

4D. Evidence

Promising Strategies:

1. Antiretroviral therapy can be provided with successful outcomes in conflict settings.

- Since 2003, Medecins Sans Frontieres has provided antiretroviral therapy in 22 programs in conflict or post-conflict settings, most in **sub-Saharan Africa**. In the 22 programs where ART was initiated, more than 10,500 people tested HIV-positive and 4,555 commenced ART. Of complete data for 4145 adults (66% female) in 20 programs, 64% remained on ART, 10% had died, 11% were lost to follow up, 10% transferred to another program and 5% had unclear outcomes. Median 12 month mortality was 9% and loss to follow up was 11%. Median six month CD4 gain was 129 cells with a median follow up time on ART of 11.8 months. All programs had a gender-based violence component, including treating STIs, emergency contraception, counseling, and access to PEP. Patient outcomes were comparable to those in stable resource-limited settings (O’Brien et al., 2010). (Gray IIIb) (*treatment, contraception, counseling*)

4D. Gaps in Programming—Women and Girls in Complex Emergencies

1. Prevention and treatment information and services are needed for women and young people in crises-affected settings, particularly at the end of an armed conflict.
2. Interventions are needed to secure the livelihoods of women affected by crises in order to

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counteract the need for survival and/or transactional sex.

3. Interventions combating rape and sexual violence are urgently needed in crises-affected settings.
4. Provision of treatment and other support services for people living with HIV in crises-affected settings should be in line with national guidelines and accomplished while respecting the confidentiality of those living with HIV.

1. Prevention and treatment information and services are needed for women and young people in crises-affected settings, particularly at the end of an armed conflict. Studies found low levels of HIV knowledge and condom use among IDPs. End of war may increase HIV transmission. Issues concerning HIV should be included in resettlement plans.

- Gap noted, for example, in **Kenya** (Mann et al., 2012); **Uganda** (Ojikutu, 2011); **Angola** (Strand et al., 2007).

2. Interventions are needed to secure the livelihoods of women affected by crises in order to counteract the need for survival and/or transactional sex. Studies found that women would exchange sex for food and fuel.

- Gap noted, for example, generally (Hankins et al., 2002, Women's Commission for Refugee Women and Children, 2002: 21) and in **Liberia** (Abdullahi et al., 2002 cited in Lawday, 2002: 10) and **Sudan** (WHO, 1999 cited in Lawday, 2002: 11).

3. Interventions combating rape and sexual violence are urgently needed in crises-affected settings. Studies found that women IDPs suffer from high rates of violence and are at high risk of acquiring HIV.

- Gap noted, for example, **Democratic Republic of Congo** (Kim et al., 2009b, United States Institute for Peace, 2001 cited in Lawday, 2002: 11); **Uganda** (Anderson et al., 2004); **Rwanda** (Mujawayo and Blewitt, 1999 cited in Lawday, 2002: 5; RHR Consortium, ND); **Tanzania** (RHR Consortium, ND).

4. Provision of treatment and other support services for people living with HIV in crises-affected settings should be in line with national guidelines and accomplished while respecting the confidentiality of those living with HIV. A study found that distribution of treatment and support for those living with HIV in IDPs did not confer confidentiality of their HIV-positive serostatus.

- Gap noted, for example, **Uganda** (Nattabi et al., 2011).

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4E. Prevention for Key Affected Populations: Migrant Women and Female Partners of Male Migrants

Women and men migrate for any number of reasons: lack of food or employment opportunities, war, etc. “In much of South Asia and sub-Saharan Africa, millions of people living in poverty have no viable employment opportunities close to home, forcing individuals to migrate from their communities in search of...a means to

“...I think the easiest way for me to get HIV/AIDS is through sex with my husband” — Migrant woman in Cambodia (cited in Webber et al., 2010b)

provide economic resources for their families. Because of changing market demands and socioeconomic norms, women have become an increasingly larger proportion of the migrant population” (Wardlow, 2007; Krishnan et al., 2008:104; Pirkle et al., 2007).

Migrants from a number of countries and regions may be at increased risk for HIV. “Where men and women are away from home for prolonged periods or seasonally, conjugal stability and social cohesion are disrupted and this increases the risk of HIV and other sexually transmitted infections, as they are likely to establish new sexual networks that present a greater risk of HIV acquisition. On their return home, gendered role expectations and dominant ideologies around marriage and procreation make it unlikely they will use HIV prevention methods such as male condoms” (Abdool Karim et al., 2010: S127). [See also *Strengthening the Enabling Environment: Transforming Gender Norms*] A review of women migrants from Asia who go to Arab States, with 307 interviews in Bangladesh, Philippines, Sri Lanka, and Pakistan; 95 interviews of female migrants in United Arab Emirates; 103 interviews in Bahrain; and 66 interviews in Lebanon with returnees of women who are HIV-positive found that migrant women have poor access to even basic information about HIV (UNDP, 2008).

In fact, as of September 2008, 66 of 186 countries for which data were available placed special entry, stay or residence restrictions on people living with HIV, adding to stigma and discrimination (HRW, 2009). These restrictions on the mobility of people living with HIV can increase stigma. Migrants with HIV may have additional barriers to accessing services.

Migrant labor systems have aggravated women’s economic dependence on their male partners to a much greater extent in Southern Africa than in other parts of the continent where women are more prominent in market trading and other forms of commercial activity. There are few income-earning activities for women with low educational attainment, heightening women’s vulnerability for HIV (Hunter, 2002 cited in Hankins et al., 2006). Migrant women often have reduced access to services and may need to engage in transactional sex for survival. Male migrant workers, such as miners and truck drivers,

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are at higher risk of acquiring HIV/AIDS than nonmigrant workers (Mbizvo et al., 1996, cited in Corbett et al., 2000), increasing the risk for their other sexual partners. For this reason, government HIV prevention efforts should be matched by private sector efforts to reduce conjugal instability in industries such as mining and trucking (Abdool Karim et al., 2010).

Although this is a group with several high risk factors for HIV acquisition and transmission, little evidence is available on interventions that work for migrant women and female partners of male migrants. Further evaluation of effective strategies is needed to identify the best way to prevent HIV among women and girls affected by migration and to treat and care for migrants living with HIV.

4E. Gaps in Programming—Migrant Women and Female Partners of Male Migrants

1. Interventions in both sending and receiving countries are needed for migrant women and female partners of male migrants who are at high risk of HIV acquisition.
2. Interventions are needed for female migrants to reduce stigmatizing attitudes toward those living with HIV.
3. Interventions are needed for communities to reduce stigmatizing attitudes toward female migrants as “vectors” of HIV.

1. **Interventions in both sending and receiving countries are needed for migrant women and female partners of male migrants who are at high risk of HIV acquisition.** Studies found that migrants, and female partners of male migrants, are often at high risk of HIV acquisition yet do not have basic facts concerning HIV transmission nor use condoms.

- Gap noted, for example, in **China** (Lin et al., 2011; He et al., 2009; Li et al., 2010f; Qin et al., 2009, Wang et al., 2007a, Choi et al., 2006); **Kazakhstan** (El-Bassel et al., 2011); **Yemen** (Al-Serouri et al., 2010); **Tajikistan** (Golobof et al., 2011); **Bangladesh** (Islam et al., 2010, Mercer et al., 2007); **Cambodia** (Webber et al., 2010a; Webber et al., 2010b); **Mexico** (Kendall and Pelcastre, 2010); **Burkina Faso** (Khan et al., 2008); **Tanzania** (Kishamawe et al., 2006).

2. **Interventions are needed for female migrants to reduce stigmatizing attitudes toward those living with HIV.** A study found that over half of female migrants in Shanghai, China agreed that people who acquire HIV through sex or drugs deserve it and

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most would not eat or buy food from a person with HIV. Most admitted fear of people living with HIV.

- Gap noted, for example, in **China** (Cao et al., 2010).
3. **Interventions are needed for communities to reduce stigmatizing attitudes toward female migrants as “vectors” of HIV.** A study found that Mexicans blamed Central American women for HIV/AIDS in Mexico.
- Gap noted, for example, on the **Mexican-Guatemalan border** (Infante et al., 2009).

F. Prevention for Key Affected Populations: Transgendered Women and Men

Transgendered women and men are at significant risk for HIV as a result of greater risk of violence and discrimination in health services. No evaluated interventions were found that provided services for transgendered women and transgendered men. Very little information has been published on HIV and transgendered women and men in developing countries. No data was found concerning what percent of transgendered women and men work as sex workers. [*See also Female Sex Workers*] Most of the literature does not specify whether those included in the study are transgendered men or transgendered women, despite the differing needs of each group. Transgendered men, who are biologically women, need sexual and reproductive health services such as screening for cervical cancer. Yet accessing needed health and HIV services, which usually operate on strict male/female gender identities, may be extremely difficult.

Transgendered women and men in many societies face marginalization and social exclusion (Ehrhardt et al., 2009). Some organizations such as Genderdynamix (www.genderdynamix.org.za) and the Triangle Project (www.triangle.org.za) in South Africa advocate and provide services for transgendered people.

While not enough studies were found to include as “what works,” some studies were found showing programs with positive impacts for transgendered women and men. Non-formal education and livelihood programs for transgendered people may improve safer sex practices. SAATHI, a capacity-building NGO in India, provided non-formal education and livelihood programs together with existing HIV prevention interventions to members of Santi Seva, a community based organization of transgender people (Sarkar et al., 2008b).

Transgendered women and men are often overlooked in HIV prevention planning and treatment programs and little evidence is therefore available on what works for transgendered women and men, though there are some promising strategies. In 2011, WHO issued recommendations and guidelines for a public health approach to HIV

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prevention, care and treatment for transgender people and men who have sex with men (WHO et al., 2011c).

4F. Gaps in Programming—Transgendered Women and Men

1. HIV prevention interventions and treatment programs are needed for transgendered people.
2. Health care settings must address the needs of transgendered people and reduce barriers to services.
3. Efforts are needed to mobilize transgendered women and men at a community level to support prevention and safety.
4. Efforts are needed to educate youth about sexual diversity in order to reduce stigma and discrimination.

1. HIV prevention interventions and treatment programs are needed for transgendered people. Studies found that despite high rates of HIV, few prevention interventions are for transgendered people. Studies showed that providers refused transgendered people any services.

- Gap noted, for example, in **South Africa, Kenya, Uganda and Zimbabwe** (Scorgie et al., 2011); **South Africa** (Scheibe et al., 2011); **Thailand** (Guadamuz et al., 2011).

2. Health care settings must address the needs of transgendered people and reduce barriers to services. One study found that transgendered women reported stigma, discrimination and violations of confidentiality by providers.

- Gap noted, for example, in **India** (Karnataka Sexual Minorities Forum, 2011).

3. Efforts are needed to mobilize transgendered women and men at a community level to support prevention and safety. One study found that in order to assure prevention and safety, community mobilization of transgendered people is needed.

- Gap noted, for example, in **Botswana, Namibia and South Africa** (Arnott and Crago, 2009); **and South Africa** (HRW, 2011a).

4. Efforts are needed to educate youth about sexual diversity in order to reduce stigma and discrimination. One study found that in no country in Latin America or the

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Caribbean was there any school-based sexuality initiatives that discussed sexual diversity. Current efforts are underway by Promundo (Greene, 2012).

- Gap noted, for example, in **Latin American and the Caribbean** (DeMaria et al., 2009).

4G. Prevention for Key Affected Populations: Women Who Have Sex With Women (WSW)

At least seventy-six countries criminalize consensual same-sex relations, making access to HIV prevention, treatment and care a challenge for women who have sex with women (UNGA, 2011). According to a report by the International Gay and Lesbian Human Rights Commission, although prevalence rates are lower than heterosexual women, same-sex practicing South African women self-report HIV prevalence between nine and fifteen percent, with no targeted HIV prevention, treatment or care services (IGLHRC, 2007). While the risk of HIV transmission is low in sex between females and HIV risk from shared sex toys is minimal (Helena et al., 2003 cited in IGLHRC, 2007), providers and programmers should not make assumptions about women's vulnerability based on sexual orientation.

Lesbian and bisexual women may be at risk also from HIV through sexual relations with partners of the opposite sex, blood transfusions, sex work, injecting drug use, artificial insemination and occupational exposure (Mora and Monteiro, 2010; Cloete et al., 2011). In Kyrgyzstan, for example, 20% of WSW reported having sex with a man during the previous six months with only half using condoms (Alisheva et al., 2007). Women who identify as lesbian may participate in riskier sexual practices with male partners as sex workers (Roberts et al., 2010). A study of 72 HIV-positive WSW found that 21 were currently married to men and 47 reported having children (Cloete et al., 2011). WSW may be at risk of HIV acquisition through rape, even if they have no male partners or injecting drug use. Many WSW in South Africa report gang rape by men who target them because of their sexual preferences (Cloete et al., 2011; Henderson et al., 2011; Martin et al., 2009). Additional consideration should be given to the effects of homophobia. The UN has reported homophobic violence in all regions of the world (UNGA, 2011).

Lesbian, bisexual and women who have sex with women have rarely been the focus of programs or research efforts with an understanding of the complexities of lesbian sex and sexuality. This can increase their risk for HIV acquisition. For example, "women who have sex with women are a population that has been largely ignored in research considering HIV risks within partnerships with people who inject drugs. While historically female same sex relationships have been considered low risk partnerships, there is evidence of significant HIV risks through the same injection and sexual risk channels that affects heterosexual partnerships" (Roberts et al., 2010: 12).

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WSW want and do have children and have needs for HIV, sexual and reproductive health services. Unfortunately, “the invisibility and marginalization of WSW is leading to the sexual and reproductive health needs not being adequately met” (Tallis, 2008). Decriminalization could potentially increase the accessibility of HIV services for WSW and some feel that the recent court ruling decriminalizing same sex activity in India will make it more likely that HIV services will reach those at risk (Misra, 2009).

Almost no data from developing countries exist to identify what works to prevent HIV in women who have sex with women. Some organizations, such as the Triangle Project (www.triangle.org.za) in South Africa advocate and provide services for lesbian, bisexual and women who have sex with women. Further efforts are needed to identify what works to prevent HIV in women who have sex with women.

4G. Gaps in Programming—Women Who Have Sex with Women

1. HIV prevention programs are needed for WSW.
2. Health care settings need to offer appropriate, non-discriminatory services—and be attentive to HIV risk behaviors—to meet the sexual and reproductive health needs of WSW.

1. HIV prevention programs are needed for WSW. Studies found that no training programs addressed the HIV-related needs of WSW, health providers discriminated against WSW and were refused treatment. WSW did not tell providers their sexual orientation and/or their relationships with men due to a need for non-judgmental services.

- Gap noted, for example, in **South Africa** (Van Dyk, 2011; Henderson et al., 2011).

2. Health care settings need to offer appropriate, non-discriminatory services—and be attentive to HIV risk behaviors—to meet the sexual and reproductive health needs of WSW. Studies found that a number of WSW also have sexual relationships with men yet did not get tested for HIV.

- Gap noted, for example, in **Brazil** (Mora and Monteiro, 2010, Pinto et al., 2005); **South Africa** (HRW, 2011a, Wells et al., N.D.); **South Africa** (Henderson et al., 2011); **Botswana** (IGLHRC, 2007) and globally (Roberts et al., 2010).

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